MORAL DILEMMAS OF COMMUNITY PHARMACISTS

Reflection on professional values

Martine Kruijtbosch

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"*Whatever is born, O Arjuna, whether it moves or it moves not, know that it comes from the union of the field and the knower of the field.*"
Bhagavad Gita, Chapter 13, verse 26.

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MORAL DILEMMAS OF COMMUNITY PHARMACISTS

Reflection on professional values

Morele dilemma's van openbaar apothekers
Reflectie op professionele waarden
(met een samenvatting in het Nederlands)

PROEFSCHRIFT

ter verkrijging van de graad van doctor aan de Universiteit Utrecht
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Martine Kruijtbosch
geboren op 31 juli 1966 te Papendrecht

Promotoren: Prof. dr. M.L. Bouvy
Prof. dr. E. van Leeuwen

Copromotor: Dr. A. Floor-Schreudering

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"Values actually inform, or should inform, every part of a professional practice. The question is not whether moral philosophy is important in professional life but, rather, how clearly professionals recognise fundamental values and how well they can connect their actions to those values."

Professor C. D. Hepler

Part 1

GENERAL INTRODUCTION

CHAPTER 1

GENERAL INTRODUCTION

GENERAL INTRODUCTION

Pharmacists' professional role

In the 1990s Hepler and Strand described pharmacists' professional role as 'pharmaceutical patient care'.[1,2] Pharmaceutical care does not only consist of applying scientific evidence. It also consists of acting in the best interest of the patient. Patients, being vulnerable in the context of their health problems, are dependent on the pharmacist's knowledge about medicines and the risks associated with their use.[3] In this new professional role the pharmacist needs to connect and bridge his scientific knowledge of the medicine to the context and life of the patient who uses that medicine. The pharmacist is responsible to strive for an optimal health outcome of patients' drug treatment. Responsible behaviour of the pharmacist and shared decision-making are important to achieve this outcome.[1,2] In addition, the pharmacist, both in primary and secondary care, has to collaborate and communicate with other health professionals. Cipolle and Strand[2] further defined the professional role of the pharmacist by four components which are equally applicable to the professional role in other health professions like medicine and nursing: (1) meeting social needs, (2) taking responsibility for patients' health goals, (3) utilising a patient-centred approach, and (4) maintaining a therapeutic relationship. This implies that pharmacists can and will be held accountable by patients as well as by society to appropriately address patients' medication related needs and concerns.[4] Hence pharmacists' decisions should be transparent for both patients and other health professionals.

Although the caring responsibilities of pharmacists were internationally recognised and promoted by the International Pharmaceutical Federation (FIP) and the WHO[5], their level of implementation varies per country. Cultural differences in how the professional role is defined, implemented and supported may explain this.[6-8] Whereas in some countries the pharmaceutical care role has only recently been introduced in the primary health sector[9], in other countries pharmacists may sometimes even prescribe in disease areas for which they have been accredited after specific training.[10]

Dutch community pharmacists' professional role

In this thesis we will focus on the professional role of Dutch community pharmacists. In the Netherlands the pharmaceutical patient care philosophy was officially embraced by the Royal Dutch Pharmacists Association (KNMP) since 1996.[8,11] In 2007 community pharmacists' role as 'responsible' care professionals was anchored in the law with the inclusion of community pharmacists in the Medical Treatment Agreement Act (WGBO). Hence, community pharmacists were recognised by Dutch society as health professionals along with physicians, nurses and other health professionals. The Dutch government's vision in general is that pharmacists in their professional role work closely with physicians to support appropriate

prescribing and use of medicines.[8,12,13] Pharmacists increasingly take up this role e.g. by performing medication reviews.[14-17] To further support pharmacists in their role as health professionals, access to laboratory values and indications for prescribing of drugs with small therapeutic windows has also been nationally regulated.[18] Community pharmacists are expected to take joint responsibility for the quality of pharmacotherapy with primary care physicians, e.g. through local Pharmacotherapy Audit Meetings.[19]

Professional guidance: the profession's core values

Pharmacists in the Netherlands are professionally guided by the Dutch Charter of Professionalism of the Pharmacist (Charter).[3] The KNMP charged a Professionalism Working Group, consisting of pharmacists working in all sectors in the Netherlands (i.e. hospital and community pharmacy, policy, education and industry), with the assignment to jointly develop this Charter. The Charter provides ethical guidance in pharmacy practice, especially in situations of moral uncertainty. Central to the Charter are the profession's core values (i.e. professional values): commitment to the patient's well-being, pharmaceutical expertise, reliability and care, social responsibility, and professional autonomy (Box 1). Pharmacists are encouraged to employ professional expertise and practical wisdom to fulfil these professional values in situations where a balance is needed between what is desirable, what is sensible and what is the right thing to do in the care for the individual patient.[3] No empirical research has yet been conducted into these values in Dutch community pharmacy practice.

Moral dilemmas

Global changes are affecting healthcare systems and their professionals. For example, new (digital) healthcare technologies are rapidly emerging, market forces in healthcare are increasing, healthcare budgets are increasingly being curtailed, regulations are growing, and payers expect coordinated and value-based healthcare. Simultaneously, health professionals such as community pharmacists are increasingly under pressure due to an ageing population that uses more medicines and demands more pharmaceutical care, and an overall increased health consumerism.[20] Health professionals' work has become more complex and their workload has increased. Community pharmacists like other health professionals increasingly experience moral dilemmas in this complex context.[21,22] Moral dilemmas are situations where it is not immediately clear what the right course of action is as all options have moral advantages as well as moral disadvantages.[23,24] In such situations values and perspectives of different parties involved are in conflict.

BOX 1: Professional core values in the Dutch Charter of Professionalism[3]

Commitment to the patient's well-being

Every pharmacist is directly or also indirectly involved in the patient's well-being: as a direct care provider, as a compounder or developer of medicines or within the educational sector or regulations.

Pharmaceutical expertise

Like any other professional, the pharmacist also has specific expertise and competences that he can use to provide the best possible service to society. The expertise is related to the pharmacist's specific knowledge domains. It is systematically and frequently maintained.

Reliability and care

Medicines in general are powerful substances. They can be highly effective, but at the same time unsafe. The quality assurance of the pharmacist's actions must therefore be beyond doubt.

Social responsibility

This core value emphasizes that the pharmacist's actions are efficient and transparent not only for the individual patient but also for society, and that the pharmacist feels a sense of responsibility for the social consequences of his actions.

Professional autonomy

The autonomy of the pharmacist stands in an independent relationship with that of other care providers, healthcare insurers and the patient's right of self-determination. The pharmacist is responsible for his decisions and adheres to the frameworks established by society. He ensures the pharmaceutical judgment whilst maintaining a balance between commitment to the patient and the socially responsible course of action.

When there is a moral dilemma the pharmacist must reflect on the values and perspectives of all parties involved and consider these in the decision-making process.[25] For example, a patients can refuse the pharmacotherapy that the pharmacist considers the best therapy for that patient based on his pharmaceutical-scientific expertise. Pharmacists must then become aware of their own and professional values and perspectives, as well as the perspectives and experiences of their patients. Likewise, the collaboration between pharmacist and physician should involve reflection on each other's values and perspectives regarding professional judgments about pharmacotherapy for the patients for which they are both responsible.

Moral dilemmas can lead to moral distress, a stress reaction that arises by acting against one's conscience and (professional) values, often accompanied by a feeling of having no control over work situations.[21]

Ethical competencies

The above examples illustrate that in order to deal with the complexity of moral dilemmas, pharmacists need ethical competencies. The pharmaceutical expertise of community pharmacists may be insufficient to resolve these dilemmas. In addition to the competencies required for their pharmaceutical expert role, community pharmacists also need competencies for their role as communicator, collaborator, health advocate, scholar,

manager and professional. These competencies are defined in the Canadian Medical Education Directions for Specialists (CanMEDS), and adopted by pharmacy educators in many countries.[26-28] Professionalism includes a reflective and ethical approach to practice. Professional accountability can only take place through reflection. In the literature on health professionalism some believe that reflection is the core competency involved in ethical decision-making and identity formation.[29,30]

When taking ethical decisions in situations of moral dilemmas a health professional makes use of four cognitive-affective processes according to Rest's Four Component Model of ethical decision-making: (1) moral sensitivity, (2) moral reasoning, (3) moral intention and (4) moral character.[31,32] See also Figure 1.

The cognitive-affective process moral sensitivity involves that health professionals recognise moral dilemmas in their practice by being aware of the conflicting (professional) values and perspectives of all parties involved in these dilemmas. It requires that professionals are sensitive to the feelings, concerns, interests and reactions of others, firstly those of the patient, and be able to interpret these. In the decision-making process moral sensitivity involves that professionals are aware of action options and know how each of these could have (negative) implications for the well-being or interests of parties involved in the dilemma. Professionals are thus in this process able to see things from the perspective of others (individuals as well groups).

Subsequently, moral reasoning entails that through contextual and value-based reflection health professionals are able to judge which of the action options of the moral dilemma is morally justifiable. Differently stated it means that they explore what ought to be done and on the basis of which (professional) values, taking into account the consequences for all parties involved.

Moral intention means that health professionals are willing and motivated to do the morally right thing. This means that they will prioritize professional values over other (personal) values.

At the end moral character by the health professional is required.[32,33] The health professional perseveres, to actually carry out what he morally intended to do.

An ethical competent health professional is able to reflect on the professional values in each of the four ethical processes in situations of moral dilemmas (moral reflectivity). As such the professional shows professional behaviour.[29,34]

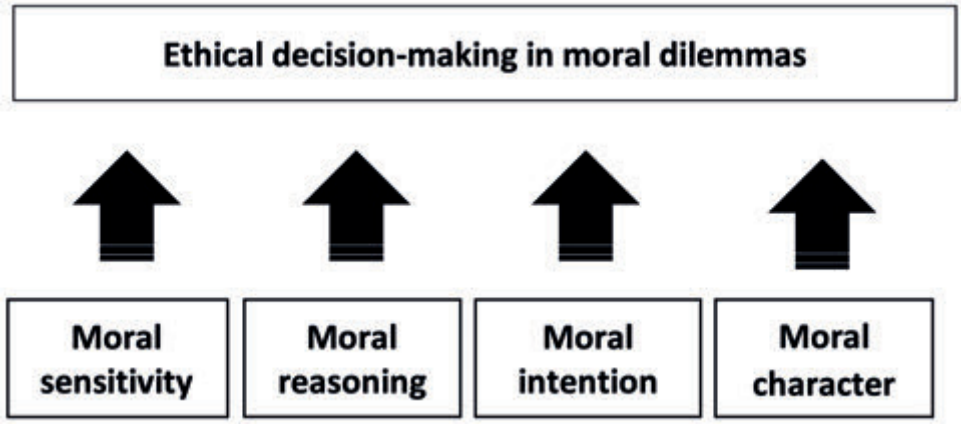

FIGURE 1: Rest's Four Component Model of ethical decision-making[31,32]

Community pharmacists' moral dilemmas and ethical competencies: what do we know already?

Research into moral dilemmas and ethical competencies of community pharmacists is relatively sparse when compared to other health professionals.[35,36] A limited number of studies has been published that highlight the moral challenges pharmacists face in contemporary health systems.[24,35,37,38]

Although previous qualitative research has shown that pharmacists were morally sensitive, pharmacists found it difficult to articulate moral dilemmas in terms of (moral) values and had problems recalling these dilemmas.[21,24,35,38-42] Their moral reasoning in dilemmas rather showed a scientific rationality and tendency to fall back on personal values.[42] The methodology mainly used in these studies was a semi-structured interview and retrospective querying of pharmacists about their experiences with moral dilemmas. Although many themes of dilemmas were collected, this methodology did not result in saturation of themes. Furthermore, the (professional) values that underpinned these dilemmas remained partly unknown.

Quantitative research on pharmacists' moral reasoning, also in relation to potential professional performance in practice, was mostly executed in US. In these studies a non-pharmacy-specific moral reasoning measure was used: the Defining Issues Test (DIT).[35,36] The DIT is a self-report measure which uses a Likert-type scale to give quantitative ratings and rankings to predefined considerations for different hypothetical moral dilemmas. Pharmacists' moral reasoning scores measured with the DIT were lowest compared to other health professionals.[34] In Australia a pharmacy-specific moral reasoning measure was

developed and validated: the Professional Ethics in Pharmacy test (PEP test).[43] It measures three developmental levels of moral reasoning: a pre-conventional level (moral reasoning oriented towards business), a conventional level (moral reasoning oriented towards rules and regulations) and a post-conventional level (moral reasoning oriented towards professional ethics). The post-conventional level of moral reasoning in the PEP test is based on the professional ethics that exists in Australia. It seems, the PEP test has not been applied in other countries.

Finally, research into training pharmacists in ethical competencies is still a mostly untrodden area. Few studies suggest that joint moral dilemma case discussions are successful, mainly for developing moral sensitivity and moral reasoning.[44-46] Moral case deliberation (MCD) among health professionals in secondary care proved to be successful in developing moral reflectivity in the context of moral dilemmas.[47-49] Only one study exists where one method of MCD (Utrecht method) was described for a moral dilemma case in pharmacy practice.[25] However, this study did not evaluate the deliberation itself and its effects on the participants' abilities how to deal with the case. It remains thus unknown whether this and other methods are effective to develop pharmacists' ethical decision-making competencies.

Objective

Community pharmacists increasingly experience moral dilemmas in a changing complex healthcare context. Therefore, it is important that community pharmacists are ethically competent in order to deal with these dilemmas professionally. Thus far, an overview of themes of moral dilemmas experienced by community pharmacists in daily practice is not available. Also a pharmacy-specific moral reasoning test is not validated for Dutch community pharmacists. Besides, it is unknown whether moral case deliberation supports community pharmacists in developing ethical decision-making competencies needed in moral dilemmas. Moreover, it has not been investigated to what extent community pharmacists are able to reflect on the professional values in the four cognitive-affective ethical processes of ethical decision-making in situations of moral dilemmas.

Therefore, the objective of this thesis is to generate understanding of community pharmacists' moral reflectivity in situations of moral dilemmas and how professional values play a role therein.

The six studies presented in this thesis focus on the moral reflectivity of community pharmacists in three of the four cognitive-affective processes of Rest's model (Figure 1): moral sensitivity, moral reasoning and moral intention. The process of moral character was practically not feasible to investigate and is therefore not addressed.

OUTLINE OF THE THESIS

This thesis consists of five parts. The first part is the general introduction. In the second part we present two studies on Dutch community pharmacists' moral sensitivity for the professional values in daily practice. For these studies moral dilemma narratives are investigated. In Chapter 2.1 we show which moral dilemmas early career Dutch pharmacists experience in daily community pharmacy practice and provide an overview of the themes of these dilemmas. Chapter 2.2 addresses which professional values (formulated in the Dutch Charter of Professionalism) and which other values could be identified in the moral dilemma narratives and present customised descriptions of the professional values for community pharmacists.

In the third part we unveil three studies on moral reasoning of Dutch early career and community pharmacists. Chapter 3.1 contains the applicability testing of the Australian pharmacy-specific moral reasoning measure, the Professional Ethics in Pharmacy test (PEP test), among early career pharmacists practicing in Dutch community pharmacy. In the studies in Chapters 3.2 and 3.3 we further investigated the three moral reasoning perspectives (MRPs) (a business orientation perspective, a rules and regulation perspective and a professional ethics perspective) which are central to the design of the PEP test. We developed a new test for the context of Dutch healthcare and community pharmacy. We investigated to what extent the three MRPs play a role in community pharmacists' handling situations of drug shortages. Chapter 3.2 presents the measurement of these MRPs in community pharmacists in the situation of three different drug shortage scenarios. Additionally, in Chapter 3.3 we describe whether these MRPs were associated with determinants and with the likelihood of intended handling options in relation to the three drug shortages.

The fourth part covers one study about moral case deliberation (MCD) for community pharmacists. Chapter 4 explores whether community pharmacists' moral reflectivity within the processes of *moral sensitivity*, *moral reasoning* and *moral intention* can be stimulated by MCD.

Finally in the General discussion (Chapter 5), the results are discussed and put in a broader perspective. In the end recommendations are summarised for education, practice, policy and research.

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"You are either part of the solution
or part of the problem."

www.quotesgram.com

Part 2

MORAL SENSITIVITY FOR PROFESSIONAL VALUES

CHAPTER 2.1

MORAL DILEMMAS OF COMMUNITY PHARMACISTS: A NARRATIVE STUDY

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ABSTRACT

Background: Pharmacists are increasingly involved in patient care. This new role in a complex healthcare system with demanding patients may lead to moral dilemmas. There has been little research into pharmacy ethics, and existing data are limited by their retrospective nature and small sample sizes. A thematic overview of the moral dilemmas experienced by community pharmacists is still missing.

Objective: To make a thematic overview of moral dilemmas experienced in daily pharmacy practice.

Setting: Dutch community pharmacy.

Methods: Dutch community pharmacists wrote a narrative about a moral dilemma they had experienced in clinical practice. The narratives were analysed using qualitative content analysis to identify underlying themes.

Main outcome measure: Themes of moral dilemmas.

Results: Twenty-two themes were identified in 128 narratives. These moral dilemmas arose predominantly during pharmacists' contact with patients and other health professionals. The relationship between the pharmacist, patient and other health professionals was complicated by other parties, such as legal representatives, health insurance companies, and regulators.

Conclusion: The moral dilemmas experienced by community pharmacists are more diverse than previously reported. The main dilemmas arose in their professional contacts, frequently when their professional autonomy was challenged by the behaviour of patients and other health professionals.

INTRODUCTION

Worldwide, the primary focus of pharmacists is shifting from products to patients.[1-7] This patient-centred approach means that pharmacists have to identify patients' concerns and needs, and collaborate closely with other health professionals in order to ensure effective and safe use of medicines.[8] Lastly, pharmacists are responsible for helping patients to achieve definite health outcomes.

Nowadays, health professionals such as pharmacists are faced with ever more regulations, financial pressure, and increased competition. At the same time, the demand for health services is growing as a result of population ageing, more chronic illnesses, and increased healthcare consumerism.[9,10] Economic and legal constraints and demanding patients challenge health professionals' autonomy to act in the best interests of society and the individual patient.[9,11-19] In this complex setting, pharmacists are frequently confronted with *moral* dilemmas[20-30] arising from conflicting personal, professional, institutional or societal values of the different parties involved.[28, 31-33]

These moral dilemmas need to be studied in order to address the challenges pharmacists face in their professional role.[24, 29, 30, 34-39] There have been few international studies of the moral dilemmas experienced by community pharmacists, and existing studies vary widely in aim, method and presentation of results.[24,25,26,27,29,30,40] In most existing studies, pharmacists were presented with scenarios of moral dilemmas and their moral reasoning was assessed. Pharmacists found it difficult to recall moral dilemmas and most studies interviewed a limited number of pharmacists.[20-23, 30, 41] Hence the themes of moral dilemmas experienced in clinical practice may still be incomplete.

Aim of the study

We aimed to make a thematic overview of moral dilemmas community pharmacists actually experienced in clinical practice.

Ethics approval

The Medical Ethics Review Committee of the University Medical Centre Leiden concluded that the Dutch Medical Research Involving Human Subjects Act (WMO) was not applicable. All participants consented that their narratives could be used for the purpose of the study. Data that could give clues about the origin of dilemmas (e.g. names of patients, cities, pharmacies, pharmacists or physicians) were removed.

METHODS

Study design and setting

Pharmacists wrote a narrative of a moral dilemma they had experienced in clinical practice, as an assignment during either pre- or postgraduate training. The pharmacists were asked to write this narrative immediately after they had experienced the dilemma. A stratified random sample of these narratives was taken. All pharmacists had been taught how to recognise moral dilemmas. This study followed scientific standards for reporting qualitative research (SRQR; Appendix).[42, 43]

Definition of moral dilemmas

On the basis of the various definitions in the literature[25, 29, 35, 40, 44, 45], a 'moral dilemma' was defined as: *a situation in which there is a choice between at least two courses of action, neither of which is obviously morally preferable*. Narratives were checked against this working definition by both the first author (MK) and a member of an expert panel consisting of eleven senior pharmacists active in the special interest group on pharmacy ethics of the Royal Dutch Pharmacists Association. All panellists had been trained in a half-day ethics course to identify moral dilemmas. If consensus was not reached, a third pharmacist from the research group (WG, MB or AF) was consulted. Narratives that did not comply with our working definition were excluded.

Data analysis

Inductive content analysis of narratives to identify themes of moral dilemmas was facilitated with ATLAS.ti (version 7.5.17).[46] Consensus on final themes and main categories was reached in two rounds, during independent validation by the research group and during a consensus meeting with both the expert panel and research group.

RESULTS

Of the 220 narratives, 92 were excluded (Figure 1). The included 128 narratives were written by pregraduates (49%: 51% male; 49% female) and postgraduates (51%: 39% male, 61% female). Twenty-two themes were identified, divided into three main categories (see Table 1). Below, we illustrate the themes with a brief summary of a dilemma and quotes from pharmacists that reflect the essence of the theme.

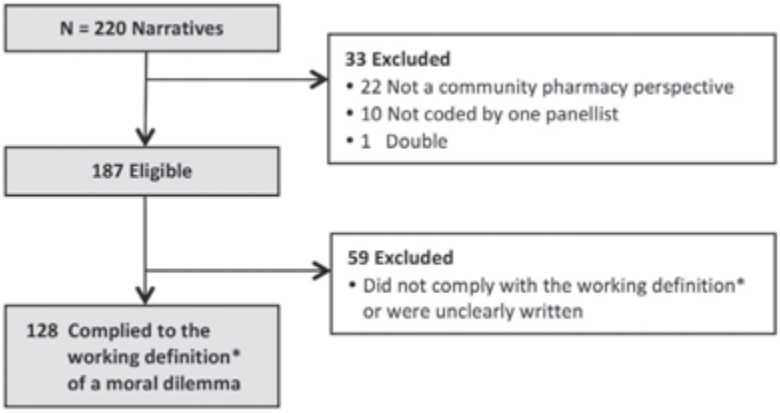

FIGURE 1: Inclusion of narratives

** A situation in which there is a choice between at least two courses of actions, neither of which is obviously morally preferable.*

Category 1: The pharmacist-patient relationship

Drug abuse or addiction

Patients who had (or were suspected to have) drug abuse or addiction problems requested for refills too soon. The drugs involved were mainly controlled drugs such as opioids or benzodiazepines. Pharmacists grappled with the problem of possibly sustaining addictive behaviour on the one hand and the need to retain patients' trust and to relieve pain or anxiety on the other.

> PHARM-276: This patient is heavily addicted to an opiate and regularly asks for, and gets, a refill too early. '*He always has excuses like 'I carried a heavy load yesterday' or 'I lost my medication during holidays'. However, he does experience pain and needs an analgesic. If he needs the opiate because he has really lost it, he should get it. But how long should I contribute to his opiate addiction.*'

Drug misuse

Drug misuse can lead to side effects or affect the effectiveness of the prescribed medicine. Pharmacists expressed concern about confronting patients without losing their trust. Dispensing *without* addressing the issue also had drawbacks.

TABLE 1: Themes of moral dilemmas experienced by community pharmacists in clinical practice (N=128)

Category 1: The pharmacist-patient relationship	**n=59**
• Drug abuse or addiction	10
• Drug misuse	6
• Deviating treatment preference	10
• Claiming and/or aggressive behaviour	7
• Medication understanding	6
• Patient's privacy	6
• Sharing relevant patient data with health professionals	5
• Public health policy and third-party payer regulations	9
Category 2: The pharmacist-colleague relationship	**n=35**
• Disruptive behaviour of a physician*	9
• Disruptive behaviour of a colleague	5
• Pharmacist and physician have a different opinion about appropriate pharmacotherapy	7
• A troubled relationship with the physician	4
• Deviating from a prescription with the physician* absent	3
• Missing relevant patient data with the physician* absent	3
• Loyalty conflicts	3
• Physician's* self-prescribing	1
Category 3: Various relationships or involved parties	**n=34**
• Reimbursement for a pharmaceutical product or pharmaceutical care	9
• Risk of harm to children	7
• Risk to the unborn child	5
• End-of-life pharmaceutical care	6
• Dispensing without a prescription	5
• Quality defects	2

** In this study dentists were also grouped as physicians*

PHARM-1082: The pharmacist is aware that a student has been collecting methylphenidate only twice a year (coinciding with exams in January and June). The prescriber is the patient's father. *'Should I cooperate, give priority to the patient's autonomy and dispense this medicine when I doubt whether the drug is actually indicated for a 'chronic' illness? Or do I need to address this presumed off-label use?'*

Deviating treatment preference

Patient treatment preferences might not be supported by evidence-based medicine or professional guidelines. In these situations, the pharmacists considered patients' preferences potentially ineffective or harmful.

> PHARM-1235: A mother requested paracetamol for her 1-year-old baby who had a high fever for a week. '*I tried to convince her to consult her GP as her baby might have a dangerous infection. She didn't agree. Her attitude frustrated me. I want to do what is best for the baby, but at the same time have to respect the mother's decision.*'

Claiming and/or aggressive behaviour

Claiming or aggressive behaviour of patients undermines the trust-based relationship pharmacists have with patients and frustrates pharmacists because it might prevent them from providing adequate care. This is a complex situation, especially if there are other patients waiting in the pharmacy.

> PHARM-1062: A patient asked the pharmacist for a prescription of oxazepam that had been faxed 2 months ago. The electronic patient record, however, suggested that the prescription had already been dispensed. The patient became furious and insisted that he had never received the drug and needed it urgently. '*I felt attacked, but also had my doubts because of his convincing manner of speaking. Did we make a mistake? Should I dispense once again without a prescription?*'

Medication understanding

Patients (or their carers) who had difficulties understanding drug information because of language deficiency or limited health literacy, posed a particular problem. Pharmacists doubted whether these patients would use the drug safely, but *not* dispensing was not an option if the patient clearly needed treatment.

> PHARM-314: An elderly Spanish speaking patient did not understand the pharmacist who explained the need for gastroprotection during NSAID use. She kept repeating that she was in pain and only needed the NSAID. This situation did not change even with a translator. '*I wanted to assist and advise her correctly but poor communication made that impossible. I had my doubts about dispensing the NSAID without gastroprotection because of the possible health risks.*'

Patient's privacy/Sharing relevant patient data

Sharing patient data with either health professionals or informal carers may be necessary from a clinical perspective. Dilemmas occurred when the pharmacist felt a need to share data, but patient's consent to share data was absent or patients even requested not to share these data.

> PHARM-252: A woman treated for a bipolar disorder told her pharmacist that she wanted to discontinue mirtazapine. She explicitly asked the pharmacist not to notify her psychiatrist. '*I explained to her that I couldn't provide proper pharmaceutical counselling because I didn't have relevant background information.*' Although the pharmacist wanted to respect her autonomy, he also felt he should notify the psychiatrist.

Public health policy and third-party payer regulations

In general, current health policy is directed at curbing increasing health expenditure. Dutch health insurance companies reimburse only generic products unless the physician has medical reasons for prescribing a branded drug. While pharmacists recognised their responsibility to reduce health expenditure, this also disturbed their relationship with patients who strongly objected to generics.

> PHARM-84: A patient, objected strongly to generic salbutamol. '*After persistently trying to explain the drug reimbursement policy to him, I convinced him to try the generic for at least 14 days. A few hours later, he reported numerous complaints. Later the patient came with a prescription for the branded aerosol and a statement from his physician declaring the necessity of him having the original drug. Somehow, I felt the patient had never really tried the generic.*' The pharmacist had doubts about whether he should start the conversation with the patient again or fill the prescription.

Category 2: The pharmacist-colleague relationship

Disruptive behaviour of a physician/A troubled relationship with the physician

Pharmacists described situations in which the relationship with physicians was troubled. Sometimes physicians even behaved disruptively e.g. by not listening to the pharmacists' pharmacotherapy suggestions. This deprived the pharmacists of relevant information and caused frustration because their expertise was not appreciated. Pharmacists had reservations about the safety or effectiveness of prescribed treatment. Not dispensing, however, was equally problematic because reasons for the chosen treatment might have been valid. Moreover, pharmacists were anxious to further disrupt their professional relationship with the physician.

PHARM-54: A cardiologist deviated from the guideline for combining antiplatelet drugs. When the pharmacist requested clarification, the cardiologist replied: '*Do you mind if I continue with my patients now?*' The pharmacist could not properly inform the patient about his doubts about the therapy. '*I had strong doubts about the safety of this combination. Informing the patient about the risks, however, might worry the patient and undermine his confidence in the cardiologist.*'

Disruptive behaviour of a colleague

Pharmacists reported disruptive behaviour of colleagues, such as gossip, lying or suspected fraud. Both neglecting and addressing such behaviour could influence the work climate in the pharmacy.

PHARM-1084: A pharmacy is reimbursed for every patient who receives instructions about a new inhaler. The senior pharmacist asked a junior pharmacist to send a list of all patients who had received a new inhaler with instructions to the insurance company for reimbursement. The junior pharmacist was reluctant to do this, struggling with going against his senior colleague's request as well as his responsibility to society. '*I was uncertain whether the instructions had always been given. Technicians didn't always document this and patients sometimes refused the instructions or had already received them elsewhere.*'

Pharmacist and physician have a different opinion about appropriate pharmacotherapy

In these dilemmas physicians 'overruled' pharmacists' proposals, although not necessarily in a brusque manner. Pharmacists had the idea that the physician did not really consider their suggestions and doubted the suboptimal or unsafe pharmacotherapy. Pharmacists felt at a disadvantage because they lacked sufficient knowledge about the patient's condition. Moreover pharmacists did not want to further disrupt their professional relationship with the physician.

PHARM-22: The pharmacist had suggestions about alternative therapy options for a patient with serious pain complaints. However, the physician said that he had tried everything and that nothing more could be done and did not want to change the medication. '*In the end, it is the physician who prescribes. I wanted to help the patient but suggesting these options directly to the patient also did not feel appropriate.*'

Deviating from a prescription or missing relevant data with the physician absent

Pharmacists had a moral dilemma when they wanted to deviate from a prescription because of potential drug related problems such as interactions or allergy warnings, or to discuss the treatment because of lack of relevant clinical data, but could not contact prescribers. Both situations impeded their judgement on the appropriateness of pharmacotherapy.

> PHARM-350: A dentist prescribed amoxicillin. The pharmacist knew that the patient had previously had an allergic reaction on amoxicillin. The dentist could not be reached, but the patient urgently needed medication. '*What if the dentist does not agree with the alternative antibiotic clindamycin?*'

Loyalty conflicts

Pharmacists had a conflict of loyalty when their decisions would either affect their professional relationship with colleagues or result in suboptimal patient care.

> PHARM-115: A physician asked the pharmacist to urgently prepare a midazolam infusion to start palliative sedation for a patient registered at a neighbouring pharmacy. The physician explained that the pharmacist of that pharmacy was not able to prepare the infusion that day. '*In my opinion not dispensing wasn't an option because of the condition of the patient. On the other hand, I didn't want to overrule the decision of my colleague-pharmacist who is the responsible professional for this patient.*'

Physician's self-prescribing

Although this is a well-known issue[47], only one case of physician self-prescribing was reported:

> PHARM-1176: A physician prescribed midazolam for himself. '*Dispensing felt problematic because sleep medication might have negative effects on the physician's daily functioning.*' Moreover, the pharmacist did not want to become the accomplice of an addicted physician. However, not dispensing could damage the professional relationship and future collaboration.

Category 3: Various relationships or involved parties

The previous categories of dilemmas involved patients or health professionals. In the following themes other 'stakeholders' were involved, such as health insurance companies and manufacturers. We also included dilemmas with (unborn) children and adolescents in this category, as pharmacists in these situations have a complex responsibility towards these unborn children, minors and their parent(s) or legal representatives.

Reimbursement for a pharmaceutical product/ care activity or additional service

Pharmacists experienced dilemmas when patients were not insured and not able to pay their medication out of pocket, because these patients needed their medicines. Also, concerns about pharmacy workload sometimes conflicted with pharmacists' wish to deliver optimal but time-consuming patient care. Providing additional services for some patients would mean compromising on other services.

> PHARM-278: A nursing home requested multidose drug dispensing systems for every patient. This would include anticoagulant medication, the dosing of which often has to be adjusted. The pharmacy did not have the capacity to change the multidose drug dispensing systems manually each week. '*I realise the importance of this request, but it would almost take an extra technician without getting any reimbursement.*'

Risk of harm to (unborn) children

Pharmacists confronted with off-label prescriptions for children and adolescents felt they could not appropriately assess the risk-benefit ratio or the correct dosing of drugs. Another dilemma was when children collected medication. Pharmacists worried about the possibility of the child misusing the medication, but also did not want the patient to be left without medication. Even more complicated moral dilemmas arose when medication was prescribed to pregnant women. In these cases, pharmacists had to weigh the benefits for the mother against the potential risks for the unborn child.

> PHARM-1202: '*A psychiatrist told me he did not want to tell a pregnant woman with a major depressive disorder about the teratogenic risks of paroxetine because he was afraid that she would not take the drug. The psychiatrist considered that the mother not taking paroxetine would potentially be riskier for the unborn child than the small teratogenic risk. I struggled with appropriate counselling.*'

End-of-life pharmaceutical care

These dilemmas concern euthanasia or palliative sedation. Dutch Pharmacists' and Physicians' Associations have a joint guideline on providing euthanasia.[48] Sometimes physicians did not adhere to the guideline recommendations; e.g. a physician requested euthanasia drugs without timely communication with the pharmacist. Pharmacists were then reluctant to cooperate. However *not* dispensing felt wrong because the patient was suffering.

The dilemmas that dealt with palliative sedation concerned both disagreement about the dose of palliative sedation and the expectations of physicians that pharmacists would have the necessary drugs readily available.

> PHARM-57: This pharmacist did not dispense drugs for euthanasia because of religious objections. Surrounding physicians knew about this. A physician from another area, unaware of the objections, requested these drugs too late in the day to find another pharmacist. '*Should I remain faithful to my personal values but then trouble both the patient and physician, or should I dispense the drugs this one time?*'

Dispensing without a prescription

Patients regularly requested (restricted) medicines without a (valid) prescription. In these situations, pharmacists had to balance the necessity and risks of dispensing. Pharmacists felt it hard to make this balance because they had insufficient clinical information and were reluctant to deviate from laws and regulations.

> PHARM-71: The middle-aged son of an elderly patient visited the pharmacy just before closing time. He showed a picture on his mobile phone of an oxycodone prescription for his father who had just been discharged from hospital. He said his father suffered from severe pain and he could not get the real prescription in time before the pharmacy closed. '*The prescription does not comply with the law but this patient could suffer unnecessarily if I don't dispense.*'

Quality defects

These moral dilemmas were related to uncertainty about the quality of a pharmaceutical product and the risks of dispensing a product that might be ineffective or harm patients.

> PHARM-309: A patient visited the pharmacy with three golimumab injections worth €3500 which had been outside the refrigerator for about 1 day. '*The manufacturer told me they expected no quality issues but could not give any guarantee.*' The pharmacist doubted whether the patient would be harmed by using the injections, and felt that, given their cost, discarding the injections was not socially responsible.

DISCUSSION

This study presents moral dilemmas experienced by community pharmacists in clinical practice. The underlying themes address the challenges pharmacists face while providing care in a complex setting with economic and legal constraints, demanding patients and limited professional autonomy. Analysis showed that most moral dilemmas concerned the relationship between pharmacists, patients and physicians. This is not surprising considering that pharmacists are responsible for helping patients achieve positive health outcomes, and this responsibility requires that they work with patients and other health professionals.[49]

As far as we know, no previous study used narratives to understand the moral dilemmas that pharmacists experience in clinical practice.[26, 29, 40] Writing a narrative shortly after a dilemma occurred avoids recall problems and enables pharmacists to reflect directly on their feelings. Previous studies generally interviewed pharmacists and asked them to recall dilemmas that occurred in the past.[29, 40] This may be the reason why, in those studies, pharmacists mainly

recalled dilemmas with a high legal impact. For example, pharmacists expressed fear of breaking the law when a patient asked for a controlled drug without a (valid) prescription.[26, 29, 40] When legal issues occurred in this study, pharmacists were more concerned about the patient's well-being and the mutual trust in the treatment relationship than about breaking the law.

Pharmacists experienced dilemmas during their professional contacts because the behaviour of patients and physicians made it difficult for them to act autonomously, according to their professional core values.[50] Since the days of Hippocrates, health professionals' core value is not to harm patients and to act in their best interest. However, conflicts may arise when more than one health professional aims to act according to that value. The degree of professional autonomy of an individual health professional depends on the extent to which other health professionals grant that autonomy.[51] Regular collaboration between pharmacists and other health professionals may promote mutual trust and respect for each other's knowledge and expertise.[52-54]

Pharmacists' autonomy may also be challenged because pharmacists are often the last link in a multidisciplinary care chain, e.g. in *end-of-life pharmaceutical care* issues. In that position pharmacists' expertise comes into play too late or is not recognised.[55, 56] Pharmacists in these situations described that their expertise was disregarded and that they were expected to dispense only. These moral dilemmas demonstrate that pharmacists need more training to convince physicians of their expertise.

The professional autonomy of pharmacists may also be restricted by patients or parties such as insurance companies or the health inspectorate. Patients may also consider physicians to have more authority than pharmacists. This can sometimes lead to claiming and/or aggressive behaviour of patients. This behaviour undermines the trust relationship between the pharmacist and the patient. This resembles healthcare consumerism, which is reported to challenge the ability of health professionals to optimally fulfil patients' and societal needs.[9-14] Dilemmas under the theme 'public health policy and third-party payer regulations' showed that health insurance companies can also undermine pharmacists' autonomous professional decision-making and actions. Insurance companies oblige pharmacists to replace expensive branded drugs with cheaper generics. Although pharmacists do not object to dispensing cheaper medicines whenever possible, this responsibility also disturbed their relationship with patients who strongly objected to generics. This finding confirms a worldwide trend that economically motivated health policies challenge the professional autonomy of all health professionals.[12-14,17,18] Health policy makers should realise that weakening health professionals' autonomy, for example due to reimbursement policies, may negatively affect patients' trust in healthcare.[19]

Limitations

This study has some limitations. Firstly, the moral dilemmas were reported by 'early career' pharmacists. These pharmacists may be more committed to patients' well-being, because of more advanced training on the patient perspective than earlier generations of pharmacists. Moreover, the training provided might have influenced their sensitivity for moral dilemmas.[57] The themes underlying the moral dilemmas were not less numerous than those in previous studies involving more experienced pharmacists. Exceptions to this are primary business dilemmas. The underreporting of these types of dilemmas might be explained by the fact that the early career pharmacists in our study generally do not own a pharmacy. A second limitation is that saturation of themes was not formally assessed. We did, however, have no clues on additional themes from the excluded narratives. Moreover, screening of an additional stratified random sample of 50 narratives by two authors (MK and MB) neither gave clues on missed themes. Therefore, we are of the opinion that the most important themes for the Dutch context are identified. This does, however, not imply that every individual pharmacist will identify these dilemmas. Furthermore, our results are not completely generalizable to countries with different health systems and a different position of the community pharmacist in healthcare. Lastly, the written narratives contained much richer information than reported in our brief summaries; some narratives were excluded because they were unclear. As we were primarily interested in the themes, we did not analyse the feelings of pharmacists in depth.

Implications for practice

This study suggests that a short training enables pharmacists to write narratives on moral dilemmas they experience in clinical practice. Reflecting on these dilemmas may help pharmacists to increase their professionalism. Hence, we suggest to integrate such ethical training in experiential learning within both pre- and postgraduate education. This will raise pharmacists' awareness on moral conflicts and will support the profession's transition to delivering pharmaceutical care.

CONCLUSION

Pharmacists experience a number of moral dilemmas in clinical practice. The narrative method enables pharmacists to reflect directly on their feelings at the time these dilemmas occur. Most dilemmas involve the pharmacists' professional relationships and often arise when the professional autonomy of pharmacists is challenged by patients' and other health professionals' behaviour.

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APPENDIX

Standards for reporting qualitative research[42, 43]		
Topic	**Check**	**Remarks**
Title	X	
Abstract	X	
Introduction		
Problem formulation	X	Included in 'Introduction'
Purpose or research question	X	Included in 'Introduction'
Methods		
Qualitative approach and research paradigm	X	Narrative research. Inductive formulation of themes. The research paradigm was interpretivist/constructivist[43] as predominantly qualitative techniques were used to formulate themes (see 'Definition of moral dilemmas' and 'Data analysis'). Rationale for the qualitative approach was the aim to find themes of moral dilemmas within written narratives
Researcher characteristics and reflexivity	X	Panellists and the research team were all experienced pharmacists and trained in a half-day ethics course to identify moral dilemmas. The first researcher is a sociologist with a pre-master in applied ethics and 12 years work experience in pharmacy practice research
Context	X	The participating pharmacists wrote their narratives as an assignment during either pre- or postgraduate training. They consented to the use of their narratives for research purposes. Only these written narratives were selected and analysed. See 'Study design and setting'
Sampling strategy	X	Included in 'Study design and setting'
Ethical issues pertaining to human subjects	X	Included in 'Ethics approval'
Data collection methods	X	The narratives were written by the participating pharmacists as an assignment during either pre- or postgraduate training
Data collection instruments and technologies		Not relevant as the participating pharmacists wrote the narratives used

Standards for reporting qualitative research[42, 43] Continued		
Topic	**Check**	**Remarks**
Methods		
Units of study	X	Early career pharmacists
Data processing	X	Included in 'Ethics approval' and 'Data analysis'
Data analysis	X	Qualitative content analysis was used to identify themes (see 'Data analysis')
Techniques to enhance trustworthiness	X	Included in 'Definition of moral dilemmas', 'Data analysis' and 'Limitations'
Results/findings		
Synthesis and interpretation	X	Included in 'Results' and 'Discussion'
Links to empirical data	X	Included in 'Results' and 'Discussion'
Discussion		
Integration with prior work, implications, transferability, and contribution(s) to the field	X	Included in 'Discussion' and 'Implications for practice'
Limitations	X	Included in 'Discussion'
Other		
Conflicts of interest	X	Not applicable
Funding	X	Unconditional research grant from the Royal Dutch Pharmacists Association and from the foundation 'Stichting Management voor Apothekers en voor de Gezondheidszorg' (MAG)

CHAPTER 2.2

MORAL DILEMMAS REFLECT PROFESSIONAL CORE VALUES OF PHARMACISTS IN COMMUNITY PHARMACY

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ABSTRACT

Objective: The aim was to recognise the professional core values in moral dilemmas of pharmacists in community pharmacy and to customise the descriptions of these values for community pharmacy practice.

Methods: The narratives of 128 moral dilemmas, collected from Dutch PharmD students and early career pharmacists who experienced these dilemmas in practice, were qualitatively analysed. An expert panel deductively coded relevant portions of these narratives with the core values as formulated by the Royal Dutch Pharmacists Association. Other values that emerged were inductively coded and if possible used to further customise the respective core values.

Results: The expert panel identified all four professional core values, i.e. *commitment to the patient's well-being* (117, 91.4%), *reliable and caring* (116, 90.6%), *pharmaceutical expertise* (72, 56.2%) and *responsibility to society* (30, 23.4%) in the 128 moral dilemma narratives. Thirteen other values that emerged in the analysis could all be used for the customisation of the professional core values in descriptions that better reflect community pharmacy practice.

Conclusion: Professional core values were identified in moral dilemma narratives of pharmacists in community pharmacy and customised for their practice. These customised core values can enable pharmacists to better recognise moral dilemmas in practice. This can add to the advancement of the profession as a pharmaceutical care practice.

INTRODUCTION

Historically, accuracy and safety in the compounding and dispensing of medicines have been the most important values for pharmacists.[1,2] Because pharmacists' focus shifted from product to patient,[3,4,5] the professional values of the profession need reformulation.[3,6,7,8,9] Professional values are the foundation of a professional practice and are thus specific to a practice.[10] The practice of pharmaceutical care implies that pharmacists take responsibility for definite outcomes of drug therapy that improve patients' quality of life.[6] To realise this practice, pharmacists should develop professional behaviour and a common professional identity that goes beyond their personal values and self-interests.[10,11,12] Therefore, clearly described professional values are needed to support pharmacists in this development.[13,14,15,16,17]

However, since the introduction of the 'pharmaceutical care practice' in the nineties, research on professional values in pharmacy is scarce.[6] The following values have been suggested as foundational to pharmacy practice as well as any other healthcare practice: self-determination, compassion, justice, respect for persons, commitment to integrity and ethical practice, and commitment to excellence.[14,16] Qualitative studies on the understanding of 'patient-centred professionalism' also emphasise that professional values are important to advance healthcare practices and to achieve definite positive health outcomes in patients.[15,17] In medicine and nursing, experts have raised awareness that professional values should be taught to starting professionals in order to create a shared culture of practice and stimulate a commitment to the profession's values.[12,18] Such a commitment may improve patients' health outcomes, as was found in a recent study among nurses.[19]

Despite limited research, professional values of pharmacy practice appear, often implicitly, in pledges of professionalism. For example, in many countries, pharmacists take public oaths, mostly at the graduation ceremonies of pharmacy schools.[3,20,21] These pledges are often inspired by oaths such as the Hippocratic Oath.[3] The International Pharmaceutical Federation (FIP) recently reached consensus on a new oath based on existing documents[22] to emphasise the professional commitment among pharmacists worldwide. In 2012 the Royal Dutch Pharmacists Association (KNMP) adopted a Charter defining the professional core values through consensus with pharmacists who work in all different practices (e.g. community and hospital pharmacy, industry, research, development and government). These values included: (1) commitment to the patient's well-being, (2) reliability and care, (3) pharmaceutical expertise, (4) social responsibility and (5) professional autonomy. These core values should guide every pharmacist, irrespective of the practice setting.[23]

Thus far, it has not been studied whether and how these professional core values of pharmacists play a role in their specific professional practices.[21] Moreover, the professional

values have not been defined for the individual practices of the pharmacy profession (e.g. community pharmacy, hospital pharmacy, industry and government).[14] The awareness of professional values can help health professionals to make appropriate decisions and behave responsibly in their patients' best interests.[24] Therefore, the aim of this study was to recognise the professional core values in moral dilemmas of pharmacists in community pharmacy and to customise the descriptions of these values for community pharmacy practice.

METHODS

Study design and setting

During classes on professionalism and pharmaceutical ethics in the pre- and postgraduate education for Dutch PharmD students and early career pharmacists, the students and pharmacists were trained to recognise moral dilemmas. The training included studying literature on pharmaceutical care practice, pharmacy ethics and pharmacists' professional values, followed by presentations by the trainers to deepen understanding of these topics. Examples of moral dilemmas were discussed in small groups to learn how to recognise a core problem and the professional values involved therein. As an assignment, the students and pharmacists were asked to write a narrative of a moral dilemma they had experienced in community pharmacy practice. The narrative had to be written shortly after they had experienced the dilemma, and they had to describe their own preferred ethical stances and values explicit therein. On the basis of the various definitions in the literature[25-29], a moral dilemma was defined as *a situation in which there is a choice between at least two courses of actions, neither of which is obviously morally preferable.*

In our previous study, we took a stratified random sample of 220 narratives written in 2010-2012 and analysed the themes of the moral dilemmas described in these narratives.[30] The 128 moral dilemma narratives that were analysed as eligible in that study were used for the present study.

Identification and coding of values

The relevant portions of 128 written moral dilemma narratives that reflected the motives, arguments and considerations of the pharmacists were deductively coded with the professional values of the Dutch Charter of Professionalism of the Pharmacist.[23] Although professional autonomy is included in this Charter as a fifth core value, this value could not be analysed because the outcome of the moral dilemma was not always clearly described in all the

narratives. See Table 1 (first column) for the four core values. Other values that emerged from the moral dilemmas, but were not covered by the Charter's professional values' descriptions, were inductively coded (see Table 1).

An expert panel consisting of the first author (MK) and eleven senior practicing pharmacists performed the coding. The pharmacists of the expert panel were members of the ethics working group of the KNMP and were trained in a half-day ethics course to identify (core) values. MK coded all narratives, and each other panellist coded twenty narratives. If consensus about coding was not reached, a third pharmacist from the research group (AF, MB or WG) was consulted. Coding and counting of values were facilitated by ATLAS.ti (version 7.5.17, GmbH, Berlin).

Customisation of professional core values for community pharmacy

After coding, the research group independently analysed the 'other values' to either match them with the professional values of the Charter or categorise them separately. The matched 'other values' were used to revise the original description of each of the professional values of the Charter into descriptions more accordant with the practice of community pharmacy. This customisation expressed the considerations of the pharmacist when deliberating on how to proceed with the dilemma. Subsequently the expert panel was consulted to reach consensus on these adapted core values descriptions.

Ethics and confidentiality

The Medical Ethics Review Committee of the University Medical Centre Leiden concluded that the Dutch Medical Research Involving Human Subjects Act (WMO) was not applicable. All participants consented that their narratives could be used for the purpose of the study. Data that could give clues about the origin of dilemmas (e.g. names of patients, cities, pharmacies, pharmacists or physicians) were removed.

TABLE 1: Professional core values customised for pharmacists in community pharmacy

Dutch Charter professional values		Identified OTHER values NOT covered by the Charter description		Dutch Charter professional values customised for pharmacists in community pharmacy
Commitment to the patient's well-being				**Commitment to the patient's well-being**
Every pharmacist is directly or also indirectly involved in the patient's well-being: as a direct care provider, as a compounder or developer of medicines or within the educational sector or regulations.	+	• Autonomy of the patient • Self-determination of patient • Protect life	→	The pharmacist is **committed to the patient's well-being**. This commitment includes **respecting the patient's preferences and values** and subsequently **facilitating shared decision-making**. The pharmacist **respects the patient's right to self-determination.**
Pharmaceutical expertise				**Pharmaceutical expertise**
Like any other professional, the pharmacist also has specific expertise and competences that he can use to provide the best possible service to society. The expertise is related to the pharmacist's specific knowledge domains. It is systematically and frequently maintained.				The pharmacist is a **competent expert who helps patients and doctors to optimise the effective and safe use of medicines**. The pharmacist's expertise emanates from specific knowledge of (patho)physiology, pharmacotherapy, pharmacokinetics, pharmacodynamics, pharmaceutics and health psychology.
Reliability and care				**Reliable and caring**
Medicines in general are powerful substances. They can be highly effective, but at the same time unsafe. The quality assurance of the pharmacist's actions must therefore be beyond doubt.	+	• Professional collaboration with colleagues and other health professionals • Privacy of the patient • Being reliable within the pharmacist-patient relationship • Personal and professional integrity • Adhering to rules and regulations • Loyalty towards colleagues and other health professionals	→	Medicines can be highly effective, but at the same time carry risks of causing harm. **Quality assurance** by the pharmacist is therefore crucial. The pharmacist **acts meticulously and carefully** (e.g. compounding or dispensing medicines, counselling patients, monitoring medicine use and keeping patient records). The pharmacist **maintains a relationship of trust with the patient**. Moreover, the pharmacist **respects the patient's confidentiality**. The pharmacist **acts reliably within the collaboration with other health professionals**.
Social responsibility				**Responsibility to society**
This core value emphasizes that the pharmacist's actions are efficient and transparent not only for the individual patient but also for society, and that the pharmacist feels a sense of responsibility for the social consequences of his actions.	+	• Sustainability of the pharmacy • Trust in pharmacy practice • Access to medicines • Continuity of care	→	The pharmacist is **responsible for the societal consequences of his or her actions**. In order to **maintain patients' and the public's trust** in the pharmacy practice and the healthcare system, the pharmacist **acts transparently and treats patients equally.** The pharmacist **guarantees access to pharmaceutical care and its continuity** by collaboration with other health professionals.

RESULTS

The 128 narratives were written by pregraduates (49%: 51% male, 49% female) and postgraduates (51%: 39% male, 61% female).

In addition to the professional core values, thirteen 'other values' initially emerged. All these 'other values', however, could be matched with the core values as the research group and the expert panel viewed them as relevant additions (Table 1). This resulted in customised descriptions of the core values reflecting community pharmacy practice, and in small adaptations in the names of two values (Table 1).

For example, the 'other value' autonomy of the patient was included in the core value commitment to the patient's well-being. The 'other value' protect life was also seen as part of this core value. However, this 'other value' was not explicitly included in the customised description because a situation can exist in which a patient prefers care that aims to end his or her life (e.g. euthanasia) rather than to protect it.

The customised core values, in comparison to their original descriptions, were adapted to the greatest degree for reliability and care and social responsibility. The first value name was changed to reliable and caring in order to reflect the caring role of the pharmacist. This was motivated by the incorporation of identified other values listed under this core value (Table 1), such as being reliable within the pharmacist-patient relationship and collaboration with other health professionals. The term responsibility to society was considered more appropriate than social responsibility because it better reflects the responsibility that pharmacists expressed in the narratives to guarantee access to medicines and pharmaceutical care for all patients. Other identified values such as trust in pharmacy practice, sustainability of the pharmacy and continuity of care contributed to that consideration.

Although no 'other values' were incorporated into pharmaceutical expertise (Table 1), the original description of this core value was adapted to the practice of community pharmacy based on the specific areas of knowledge that emerged from the narratives.

Recognition of customised professional core values

In the 128 moral dilemma narratives, the core values commitment to the patient's well-being and reliable and caring emerged most prominently. These values were identified in 117 (91.4%) and 116 (90.6%) moral dilemma narratives, respectively. Pharmaceutical expertise (72, 56.2%) and responsibility to society (30, 23.4%) were less often identified. When the combinations of the identified core values were counted, the combination of commitment to the patient's well-being, reliable and caring and pharmaceutical expertise (combination of A, B and C in

Figure 1) appeared in the majority (60, 46.9%) of the moral dilemma narratives. Only in five (3.9%) moral dilemmas did all four core values (combination of A, B, C and D in Figure 1) emerge together. In six (4.7%) moral dilemma narratives, only one core value, reliable and caring (C in Figure 1), was involved. In these dilemmas, different customised parts of that professional value played contextual roles.

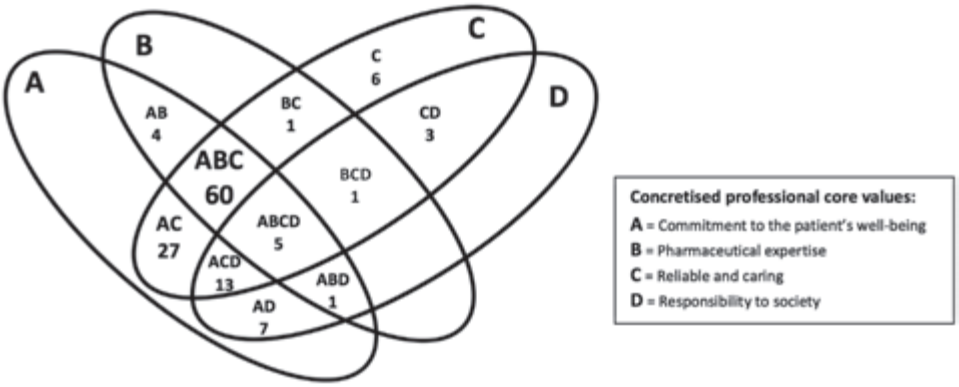

FIGURE 1: Recognition of (combinations of) customised professional core values in 128 moral dilemmas

Six examples of moral dilemmas (Tables 2-4) with coded quotes that represent the customised professional core values are available as online supplements.

TABLE 2: Moral dilemmas 1 and 2

Moral dilemma 1 (PHARM-1239)	
A patient had been dispensed 10 tablets of ibuprofen 600mg after a dental procedure the previous day. The patient returns for a refill and explains that she experienced only one hour's pain relief after one dose and had already finished her tablets. The pharmacist was uncertain on whether to dispense.	
	Customised professional core values:
'*I wanted to help her get rid of her pain.*'	**Commitment to the patient's well-being**
'On the other hand, I suspected an infection as the effect of the ibuprofen should be longer than one hour. Hence, I referred her to the physician.'	**Pharmaceutical expertise**
'She didn't want this advice and angrily persisted in demanding ibuprofen.'	**Reliable and caring** (*maintaining a relationship of trust with the patient*)
Moral dilemma 2 (PHARM-244)	
A 50-year-old woman is overusing the laxative bisacodyl. She buys several boxes per week. The pharmacist had tried to discuss the overuse and the possible harm this could cause several times. The woman was never interested in discussing it. Hence, the pharmacist decided to no longer dispense the medicine and referred her to her physician to obtain a prescription. The next day she presented a prescription.	
	Customised professional core values:
'*It is my task to inform the patient about the detrimental effects of overusing this drug.*'	**Commitment to the patient's well-being** (*facilitating shared decision-making*) **Pharmaceutical expertise**
'*Should I inform her physician about her overuse?*'	**Reliable and caring** (*respecting patient's confidentiality*)

TABLE 3: Moral dilemmas 3 and 4

Moral dilemma 3 (PHARM-79)	
Before closing time on Friday afternoon, a 12-year-old patient requested extra methylphenidate for the weekend. The prescriber could not be reached at that time. The boy needs the medication for chronic attention deficit hyperactivity disorder (ADHD). He revealed that his mother had used his medication. When the pharmacist contacted the mother, she confirmed that she was going through a rough time and had used her child's medication.	
	Customised professional core values:
'*As there was no prescription and the boy's physician could not be reached, I had a dilemma: keeping with the law that forbids to dispense without a prescription…*'	**Reliable and caring** (*acting meticulously and carefully*)
'*…my concerns about the possible harm to the mother using such a drug without having consulted a physician, and my responsibility for the child's health over the weekend.*'	**Commitment to the patient's well-being**
Moral dilemma 4 (PHARM-263)	
A patient had used paroxetine for five weeks. She asked the pharmacist for advice on how to discontinue the medicine as soon as possible because she suffered heavily from side effects.	
	Customised professional core values:
'*She persisted in her request to discontinue 'these chemicals'. She had tried to contact her physician, but he was on summer holidays and told me that she was not willing to consult another physician to discuss her problem.*'	**Commitment to the patient's well-being** (*respecting the patient's preferences and values; respecting the patient's right to self-determination*)
'*Motivating this patient to continue treatment seemed useless. However, making a scheme to discontinue the paroxetine without consulting her physician did not feel right either. We had previously agreed with the local physicians to closely monitor and counsel patients, starting with antidepressants to prevent them from stopping.*'	**Reliable and caring** (*acting reliably within the collaboration with other health professionals*) **Pharmaceutical expertise**
'*On the other hand, if I did not provide her with such a scheme, she might have stopped abruptly and experienced withdrawal symptoms.*'	**Commitment to the patient's well-being** **Reliable and caring** (*acting meticulously and carefully*) **Pharmaceutical expertise**

TABLE 4: Moral dilemmas 5 and 6

Moral dilemma 5 (PHARM-1071)	
The pharmacist noticed that a patient with diabetes II was using much more insulin, test materials and needles than prescribed. When the pharmacist asked the patient about it, he stated that this regimen was advised by the hospital physician. The pharmacist, however, had seen the letter from the hospital physician to the GP, which stated a much lower dose. The patient had family living abroad and regularly visited them. Both the pharmacist and the physician suspected that the patient probably provided relatives or friends there with insulin.	
	Customised professional core values:
'The patient used three times the dose requirements of insulin a person with this weight should use.'	**Pharmaceutical expertise**
'The earlier dispensed quantities had already cost Dutch society about 15.000 euros extra.'	**Responsibility to society** (*responsible for the societal consequences of his or her actions*)
'On the other hand, the patient actually needed medication. There might have been even other explanations for the overuse.'	**Commitment to the patient's well-being**
Moral dilemma 6 (PHARM-109)	
A woman presents a prescription for the oncolytic melphalan for her father who lives in another country. The prescription is unclearly written and is in a foreign language. She explains that her father needs the drug but that it is not available in his country.	
	Customised professional core values:
'*I doubted about dispensing because I had no clear information about the indication, nor the dose and quantity of the drug to dispense. The potential toxicity of the drug made me even more careful. Also I did not know this patient nor the prescriber, and therefore I did not have the relevant patient data in order to dispense safely.'*	**Pharmaceutical expertise** **Reliable and caring** (*acting meticulously and carefully*) **Responsibility to society** (*guaranteeing continuity of pharmaceutical care by collaboration with other health professionals*) **Commitment to the patient's well-being**
'*On the other hand, this patient, although living abroad, needed care.'*	**Responsibility to society** (*guaranteeing access to pharmaceutical care*) **Commitment to the patient's well-being**

DISCUSSION

The pharmacy profession's core values were identified in moral dilemma narratives of pharmacists in community pharmacy. The descriptions of these values were customised for community pharmacy. All four professional core values, i.e. commitment to the patient's well-being, reliable and caring, pharmaceutical expertise and responsibility to society were recognised in the dilemmas. As no other professional core values were identified, we believe the four core values are concordant with the practice of community pharmacy. The values commitment to the patient's well-being and reliable and caring were prominent in almost all narratives. This suggests that pharmacists value patient-centredness, and concomitantly have retained their traditional attitude that emerges from Good Manufacturing and Good Clinical Practice. It confirms findings of studies among pharmacists in other countries.[2,29,31] This study also reveals that pharmacists are aware of their *responsibility to society* as shown in their moral dilemma narratives. Although worldwide pharmacy associations emphasise the importance of responsibility to society[21], only in a few studies among pharmacists is this value reported.[2,27,31]

The strength of this study is that moral dilemmas were used that were actually experienced by pharmacists in community pharmacy practice. This study also has limitations. Firstly, the moral dilemmas were reported by PharmD students and 'early career' pharmacists whose recent training stimulates a patient-centred attitude. These pharmacists may be more committed to patients' well-being because of more advanced training on their care role and the concerns and needs of patients, compared to earlier generations of pharmacists whose training focused more on caring for the product. Moreover, the training provided might have influenced their sensitivity for reflecting on the professional core values. However, it has also been reported that early career pharmacists might be more rule oriented even when this is not in the patient's best interest.[32] Further research among senior community pharmacists is therefore recommended. Secondly, in the majority of the moral dilemma narratives, the outcomes were not clearly described. The actual weighing of professional core values could therefore not be analysed. As none of the professional core values is superior, it will be relevant to know to what extent the context of a moral dilemma influences the way pharmacists let one of the core values prevail in practice. Thirdly, the findings are confined to a Dutch context.

The core value commitment to the patient's well-being is not limited to 'what is best for the patient' from the perspective of the pharmacist. Patients have their own health logic, preferences and values that pharmacists must consider. The 'other value' protect life highlights that pharmacists can also be motivated by personal or religious convictions. For example, pharmacists may decline to provide pharmaceuticals for euthanasia. Such convictions may conflict with professional core values and subsequently cause moral distress.[33] To avoid

moral distress, pharmacists could proactively make agreements to refer patients in need of euthanasia to other pharmacists who have no such convictions. Conflicting values and moral distress also occur among other health professions. Unfortunately, effective strategies to deal with moral distress have not yet been developed.[34]

The customised core value *reliable and caring* reflects that pharmacists not only felt a responsibility for the quality of pharmaceutical products, but also a responsibility to foster their professional relationships both with patients and other health professionals. It has previously been identified that the health professional-patient fiduciary therapeutic relationship[9,35,36,37] as well as effective collaboration with other health professionals[38,39] are essential to (pharmaceutical) healthcare and can improve its services. However, aiming to care simultaneously for both these relationships often leads to moral dilemmas.[30]

The moral dilemmas in this study illustrate the complexity of the core value *responsibility to society*. The philosophy behind the current Dutch healthcare system is based on well-known international principles: access to care for everyone, solidarity through an obligatory and accessible health insurance policy for all and good quality of care. The spending on pharmaceuticals is on the lower end of European and other Western countries. Pharmacists are expected to contribute to the sustainability of access to medicines by advising prescribers on cost-effective prescribing and generic substitution of expensive specialties as much as possible. In some of the narratives, pharmacists are confronted with costs that will affect the sustainability of the pharmacy in such a way that guaranteeing access to pharmaceutical care for other patients will be endangered. For example, pharmacists reflect on the option to no longer freely dispense medication to patients who repeatedly cannot pay for expensive medication or on the decision to deliver additional care activities that are not reimbursed. The financial concerns/ business pressure have been reported by several studies.[2,31] However, the narratives in our study did not obviously show commercial behaviour. For example, we did not come across narratives wherein pharmacists described situations in which they were more focused on selling (more expensive) products than trying to provide the best pharmaceutical care to patients. Pharmacists, like all other health professionals, need to distinguish between healthcare practice values and business values. For pharmacists in community pharmacy, this may even be more complex, as the public often perceives them as 'shopkeepers'. For example, when a pharmacist proposes an elderly patient to start gastro-protection because the patient receives an NSAID, the patient can perceive this proposal as a 'selling practice' by the pharmacist. However, this proposal is in accordance with clinical guidelines and pharmacists' responsibility towards the patient (prevention of stomach bleeds) as well as to society (prevention of the costs of hospitalisation).

The dilemmas clearly show that the pursuit of the pharmacist to apply his or her pharmaceutical expertise to promote the appropriate use of medicines may conflict with other professional core values. In approximately half of the moral dilemmas, reliable and caring and pharmaceutical expertise played a role together with commitment to the patient's well-being. Pharmacists experienced moral dilemmas because they could not apply their expertise when patients or other health professionals did not take them seriously.[30] For example, pharmacists described that they could not provide appropriate pharmaceutical care because physicians did not listen to their pharmacotherapy suggestions. Similarly, this was the case when patients became aggressive or showed claiming behaviour in such a manner that this undermined the trust-based relationship.

The findings of this study show that professional core values play a role in community pharmacy practice. The findings can be used to train pharmacists in recognition and reflection on moral dilemmas. Clear descriptions of professional core values can support community pharmacists in their daily practice. Recognition and reflection on professional values involved in moral dilemmas will help pharmacists to act in the best interests of patients.

The findings also may stimulate the dialogue on professional values of pharmacists in other sectors and worldwide.[6,8,9,10,14,40,41] This dialogue already exists in other healthcare practices, such as medicine[11,12,42,43,44] and nursing.[45] Common in these dialogues is the importance of shared professional values. This stimulates the development of a common professional identity.[12] In contrast with physicians and nurses, pharmacists' identity is still often perceived by consumers (as well as policymakers[46]) as dual: i.e. simultaneously being care professionals as well as entrepreneurs.[10,13,46] Health professionals, acting on the basis of shared professional values that aim to serve patients and the public, do justice in fulfilling the social mandate of that practice[9]; it stimulates a shared accountability.[12] Patients and the public are more inclined to trust such professional practices. Pharmacy associations should raise awareness among policymakers, regulators and educators on the importance of the societal embeddedness of pharmacy practice.[41,46] All these stakeholders should equally understand pharmacists' societal role and contribution. Each country should, however, work out the professional core values themselves as (community) pharmacists' societal role and responsibilities vary per country.[3,10,21]

CONCLUSION

Professional core values were identified in moral dilemma narratives of pharmacists in community pharmacy and customised for their practice. All previously defined professional core values (i.e. commitment to the patient's well-being, reliable and caring, pharmaceutical expertise and responsibility to society) played a role therein. The customised core values can enable pharmacists to better recognise moral dilemmas in practice. This can add to the advancement of the profession as a pharmaceutical care practice.

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“Don’t believe all what you think.”

Loesje

Part 3

MORAL REASONING PERSPECTIVES

CHAPTER 3.1

MORAL REASONING AMONG DUTCH COMMUNITY PHARMACISTS: TESTING THE APPLICABILITY OF THE AUSTRALIAN PROFESSIONAL ETHICS IN PHARMACY TEST

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ABSTRACT

Background: Moral reasoning competence is essential in healthcare practice, especially in situations of moral dilemmas when a professional has to choose a morally justifiable action among several suboptimal action options. The Australian Professional Ethics in Pharmacy test (PEP test) measures moral reasoning among pharmacists. In Australia three levels of moral reasoning (schemas) were measured (1) business orientation (2) rules and regulations, and (3) patient rights (i.e. most advanced schema).

Objective: To test the applicability of the Australian Professional Ethics in Pharmacy test to pharmacists working in the Netherlands.

Setting: Dutch community pharmacy.

Methods: The PEP test consists of 36 statements (items) accompanying 3 moral dilemma scenarios. It was translated into Dutch and completed by 390 pharmacists. Principle component analysis (PCA) was used to investigate construct validity and Cronbach's Alpha was used to indicate internal consistency of the Dutch version of the PEP test. The eligible grouped statements and perceived possible moral reasoning schemas were compared to the Australian findings.

Main outcome measure: Moral reasoning schemas.

Results: The PCA analysis resulted in 3 components (i.e. possible moral reasoning schemas) that together accounted 27% variance in the data. The statements that represented the moral reasoning schemas 'business orientation' and 'rules and regulations' were somewhat similar when comparing these with the statements that represented these schemas in the PEP test study. The most advanced moral reasoning schema identified in Dutch pharmacists contained different statements compared to the statements that represented that schema among Australian pharmacists. This schema was labelled 'professional ethics'.

Conclusion: The PEP test needs further adaptation to the Dutch pharmacy practice context: especially the statements that should reflect the most advanced moral reasoning schema, need more accurate representations of professional pharmacy ethics that guide pharmacists in the Netherlands. Moral reasoning tests for a specific professional setting or country should be developed and adapted by experts who share the same professional values and practice as the respondents.

INTRODUCTION

Compared to other healthcare practices, like nursing and medicine, ethics receives relatively little attention in pharmacy practice.[1-7] This is surprising considering pharmacists' worldwide recognition as experts responsible for pharmaceutical care.[2,8] Like other health professionals, pharmacists experience moral dilemmas in their patient-focussed roles.[1 4,5,7,9-11] When confronted with such dilemmas, the right thing to do may not be immediately clear. Moral reasoning is needed to make sense of such dilemmas and to make sound ethical decisions.[5,12-14] This entails reflection on whose and which values are at stake for each of several possible actions as well as consideration of how potential decisions may influence patients' well-being[12,15-18] Competence in moral reasoning implies that a person has the required knowledge and skills to choose actions that are morally justifiable. Moral reasoning is viewed as one of four psychological processes involved in moral (professional) behaviour; the other three processes are moral sensitivity, moral motivation and moral implementation.[19-21] Although there is no sequential relation between these four processes, all are associated with professional behaviour.[22-24] Empirical studies examining health professionals have shown that moral reasoning can, in itself, contribute to clinical competency and improved quality of care.[15] Thus, there is a need for reliable and valid tests that can measure its development in students and health professionals.[19,25]

Moral reasoning development has been measured in pharmacy among both students and practising pharmacists[3,5,26-30], predominantly in the US[1,30] and mainly with the Defining Issues Test (DIT). The DIT, developed by Rest et al.[15], is the most widely used moral reasoning test.[15,19,31] The DIT is based on everyday moral scenarios. It was not designed specifically for professional contexts.[31] Tests that are developed for profession-specific contexts may result in more appropriate measures of moral reasoning development in professionals.[22,24,32] Thus, Chaar[33] developed the Professional Ethics in Pharmacy test (PEP test, Appendix) for community pharmacy in the Australian context.

Aim of the study

The aim of this study is to test the applicability of the Australian PEP test to Dutch pharmacists.

Ethics approval and confidentiality

As this study did not include patients who were subjected to a medical intervention, this study was not subject to formal ethical approval according to current Dutch law. All participants gave written informed consent for the use of the collected data for the purpose of the study. No data was collected that could link questionnaire data to individual participating pharmacists.

METHODS

The PEP test[33] was developed in analogy to the Defining Issues Test (DIT).

The Defining Issues Test (DIT)

The DIT is based on Kohlberg's cognitive moral development theory[15,34] Its short form uses three scenarios that contain different hypothetical moral dilemmas. Each moral dilemma scenario is accompanied by 12 statements that include - to the dilemma related - sentence fragments that can trigger moral reasoning schemas. Such schemas are a person's beliefs and cognitions in his or her long-term memory of which he or she is not explicitly aware.[35] The sentence fragments - theorised representations of these moral reasoning schemas - function as stimuli of these schemas in a person's mind. When there are stimuli that resemble previous stimuli and experiences in that person, these can trigger that person's tacitly preferred moral reasoning schema. Hence, respondents rate and rank the importance of each of the statements to the extent these match their tacitly preferred schema.[23,35] Three overall moral reasoning schemas have been postulated[15,34]: the pre-conventional (personal interest) schema, the conventional (maintaining norms) schema, and the post-conventional (principled thinking) schema (Table 1, second column). A person who reasons from a pre-conventional schema is mainly occupied with his or her own interests. A person who reasons from a conventional schema values social norms, laws and regulations. Finally, a person who reasons from a post-conventional schema bases his or her moral reasoning on universal principles such as justice, equality and societal benefit.

The PEP test

The PEP test[33] is derived from the short-form DIT. Like the DIT, it contains three moral dilemma scenarios. These were developed from the context of Australian community pharmacy practice. The first scenario in the PEP test describes a pharmacist who wants to recommend an expensive over-the-counter (OTC) product of uncertain benefit, against a background of mounting financial pressure for the pharmacy (OTC scenario in Appendix). The second scenario (morphine scenario in Appendix) depicts a client's request for morphine for her mother, who does not have a prescription. Due to breakthrough pain, this client's mother currently uses more opiates than prescribed. The request comes at a moment when a doctor is not present to provide the prescription. In the third scenario (repeat prescription scenario in Appendix), a pharmacist is asked to approve an early refill of antidepressants for a patient who is going on a holiday. The scenarios are as well accompanied by 12 statements that have to be rated and ranked (Appendix). These statements are theorised[33] to trigger three moral reasoning schemas similar to those theorised in the DIT, now adapted to the context of community pharmacists in Australia (Table 1, third column). The theorised pre-conventional,

conventional and post-conventional moral reasoning schemas were statistically confirmed in the PEP study. In that study these schemas were respectively labelled as 'business orientation', 'rules and regulations' and 'patients' rights' (Table 1, fourth column).

TABLE 1: Moral reasoning development schemas of the DIT and PEP test

Cognitive moral development	DIT[15]	PEP test[33]	PEP test[33]	PEP-NL test
	Moral reasoning schemas	**Hypothesised moral reasoning schemas of pharmacists in Australia**	**Definitive moral reasoning schemas of pharmacists in Australia**	**Definitive moral reasoning schemas of pharmacists in the Netherlands**
(1)	**(2)**	**(3)**	**(4)**	**(5)**
	Post-conventional Beyond personal interest and norms	**Post-conventional** Principles derived from bioethics conveyed in the Australian Code of Ethics: pharmacist as gatekeeper of medications and provider of primary healthcare to the public	**Patients' rights** Statements are related to patients' rights, whether legal or otherwise	**Professional ethics** Statements are related to pharmaceutical expertise, professional responsibility, counselling/shared decision making, and being professionally autonomous in using knowledge/judgment to care for patients
	Conventional Maintaining norms	**Conventional** Regulatory framework: pharmacist becomes entrenched in practice, adopts professional standards	**Rules and regulations** Statements are related to legal obligations of the profession	**Rules and regulations** Statements are related to legal obligations of the profession
	Pre-conventional Personal interest	**Pre-conventional** Personal interest: pharmacist at entry level of the profession	**Business orientation** Statements are related to client care and business viability	**Business orientation** Statements are related to client care and business viability

Translation of the test

The PEP test was translated into the Dutch language by one member of the research group (WG) and translated back to English by a professional English scientific writer. The translated PEP test (PEP-NL) was tested for face and content validity by the research team and two additional academic health researchers.

Data collection and data analysis

This cross-sectional study used the PEP-NL test with Dutch community pharmacists. These pharmacists were either early career pharmacists who completed the PEP-NL test as an assignment at the start of classes on professionalism and pharmaceutical ethics in their postgraduate education or were supervisors of early career pharmacists who completed the test at the start of a course on pharmaceutical ethics. WG distributed and collected the assignments.

There were several control questions included among the 12 statements in order to correct for respondents providing socially desirable answers.[15] If respondents ranked such a control question more than one time, their tests were excluded from the study.

First, a principal component analysis (PCA) was performed to check the PEP-NL rating scores for construct validity. The PEP-NL rating scores were checked for factorability with the Kaiser-Meyer-Olkin's measure (KMO). This measure should ideally be over 0.6. Subsequently, correlations between variables were tested with Bartlett's test of sphericity (index $p < 0.05$). Varimax rotation was used to extract the components to increase interpretability. The components were examined by their percentage of variance explained, their eigenvalues (eligible value > 1) and their component statement loadings (eligible value ≥ 0.35).[36] If statements loaded highly on more than one component (cut-off less than 0.2 difference between components), these were excluded.

Second, Cronbach's alpha was used to investigate the internal reliability of the remaining eligible statements of each component and the test as a whole. A Cronbach's alpha equal to or greater than 0.70 was considered reliable. Both the PCA and Cronbach's alpha calculations were performed using SPSS version 23.

Third, the eligible statements of each component were compared with the eligible statements of each component of the PCA performed in the PEP study[33] and checked against the moral schemas of the PEP test. In case of differences within the clustered statements per component, three members of the research group (MK, AF and MB) examined these statements and labelled, through consensus, a possible new moral reasoning schema. Final consensus on the moral reasoning schemas was reached after a consulting meeting with an expert panel of five senior pharmacists and MK, WG, AF and MB.

RESULTS

Three hundred ninety respondents (81% early career pharmacists; 19% pharmacist supervisors) completed the PEP-NL test. Fourteen pharmacists (all early career pharmacists) ranked two or more meaningless statements, and their questionnaires were therefore discarded. The PCA was performed for the data of the remaining 376 respondents. Of these respondents, 63% were women and the median age was 27 years (IQR = 25 - 35 years).

The PCA analysis confirmed the construct validity of the PEP-NL data. The KMO index was 0.74, and the Bartlett test was statistically significant ($p < .000$). The scree plot showed small increments in explained variance beyond 5 components. Therefore, the PCA-varimax rotation was performed with 3, 4 and 5 components to extract. When the rotation was set at 4 components, the explained variance increased with 5% to 32% and when set at 5 components with another 4% to 36%. However, the statements that correlated in the fourth and/or fifth component, did not provide new moral reasoning schemas on top of the first three moral reasoning schemas. So did the component with statements that represented 'rules and regulations' split in two, but all statements were related to aspects of law or regulations related to the profession. The same applied to the statements that represented the 'business orientation' moral reasoning schema. Therefore, we set the number of components to extract to 3. The three components explained 27% of the variance in the data and had eigenvalues larger than 2. Table 2 provides the scenario statements' correlation loadings for the three PCA components. Table 2 shows these loadings per scenario (moral dilemma scenarios 1, 2 and 3, Appendix).

As illustrated in Table 3, the internal reliability of the three PCA components of the PEP-NL data showed Cronbach's alpha values of 0.60 (first component), 0.63 (second component) and 0.54 (third component); for the test as a whole, this value was 0.63.

Comparing eligible statements and schemas

The comparison of eligible statements per component resulted in two moral reasoning schemas that were also found in the Australian PEP study - 'rules and regulations' (conventional schema) and 'business orientation' (pre-conventional schema) - and in one new moral reasoning schema, which we labelled as 'professional ethics' (perceived as a post-conventional schema). The statements that loaded as the 'professional ethics' moral reasoning schema deviated completely from the statements that loaded in the PEP study as the post-conventional schema (patients' rights schema). Table 4 shows the three components and eligible statements.

TABLE 2: PEP-NL PCA component correlations per three scenario statements

	PEP-NL PCA components		
	(1)	**(2)**	**(3)**
dilemma 1 - OTC scenario			
(O1) Whether you, the pharmacist, are under great financial pressure.	0.078	**0.384**	-0.370
(O2) Whether other pharmacists would approve of such a recommendation.	0.268*	0.158*	-0.162*
(O3) Whether you need to offer the client symptom relief to retain her loyalty to the pharmacy.	0.180	**0.518**	-0.116
(O4) Whether the client is a grandmother and not likely to abuse a medication.**	0.309*	0.257*	0.153*
(O5) Whether there is no criminal offence in selling OTC products in the pharmacy.	0.350*	0.238*	0.183*
(O6) Whether the Pharmacy Board recently sent out guidelines about Standards of Practice.	0.412*	0.198*	0.345*
(O7) Whether providing symptom relief to the client will help her feel less discomfort or pain.	0.187*	0.284*	0.217*
(O8) Whether it is acceptable to appropriate justice in forms amenable to the professional.**	0.414*	0.185*	0.007*
(O9) Whether a recent article in a reputable journal queried the benefit of that particular OTC for the patient.	0.123	-0.083	**0.453**
(O10) Whether it is fair to persuade a pensioner to pay for an item of uncertain benefit.	0.133*	0.135*	0.217*
(O11) Whether you don't want to disappoint her and lose her respect for you.	0.156	**0.517**	0.069
(O12) Whether you counsel and explain the options to her as per professional guidelines.	0.185	-0.017	**0.456**
dilemma 2 - Morphine scenario			
(M1) Whether you are willing to risk legal ramifications for illegal provision of an opioid to a sick patient	**0.535**	-0.103	-0.097
(M2) Whether viability of the business, by complying with patients' needs, is important.	-0.048	**0.451**	0.242
(M3) Whether the laws of the land are in place to actually protect the public.	0.422*	-0.043*	0.303*
(M4) Whether it is a patient's right to choose to take medicine even if you suspect self-harm.	0.147*	0.290*	0.133*
(M5) Whether there are strict professional regulations to abide by regardless of circumstances.	**0.432**	-0.217	0.068
(M6) Whether calling for legal advice is appropriate in this situation.	**0.731**	-0.011	0.075
(M7) Whether the ideology of bioethics and civil liberties apply to resource dissemination in general.**	0.550*	0.203*	0.126*
(M8) Whether it is a pharmacist's responsibility if a patient forgets to see the doctor in time.	0.244*	0.184*	-0.065*

TABLE 2: Continued

	PEP-NL PCA components		
	(1)	**(2)**	**(3)**
dilemma 2 - Morphine scenario			
(M9) Whether pain may be controlled by other measures within legal boundaries.	0.341*	0.091*	0.099*
(M10) Whether your medical indemnity is up to date and renewed.	**0.566**	0.061	-0.020
(M11) Whether you should respond to the trust which the patient has afforded you.	0.081*	0.437*	0.333*
(M12) Whether the professional and clinical judgment of the pharmacist in this case is relevant.	-0.248	0.274	**0.550**
dilemma 3 - Repeat prescription scenario			
(R1) Whether you (the pharmacist) are very busy and need to close shop in half an hour.	0.148*	0.319*	-0.357*
(R2) Whether you consider it important to address clients' needs otherwise business is lost.	0.308*	0.356*	-0.375*
(R3) If the patient has a logical reason for requesting supply there is no point in refusing.	-0.060	**0.505**	-0.090
(R4) Whether it is a patient's right to choose how and when to take their medicine.	0.163	**0.564**	-0.043
(R5) If the patient is adequately counselled there is no further responsibility for the pharmacist.	0.097	**0.533**	-0.209
(R6) Whether the client's neighbour is a friend and can be relied upon to report any problems.**	-0.017*	0.490*	0.009*
(R7) Whether a citizen is entitled to his or her medicine by law, if prescribed by a doctor.	0.520*	0.347*	0.027*
(R8) Whether the prescription is legal and ''Immediate Supply'' is justified and possible.	0.325*	0.370*	0.079*
(R9) Whether concerns for safety override need for medication.	0.059	-0.035	**0.539**
(R10) Whether it is a pharmacist's duty to abide by the requirements of the prescription.	**0.473**	0.215	0.035
(R11) Whether it is a pharmacist's duty to exercise professional judgment in dispensing.	-0.081	0.168	**0.649**
(R12) Whether refusing to dispense, since it is not legally due, is the preferred option.	0.218*	-0.085*	0.348*

Underlined scores are eligible PEP-NL component correlations

*Excluded

**Meaningless statement

TABLE 3: PCA component reliability of the PEP-NL test

	Number of eligible items	Cronbach's alpha
Component 1 'Rules and regulations'	5	0.60
Component 2 'Business orientation'	7	0.63
Component 3 'Professional ethics'	5	0.54
Total PEP-NL PCA components	17	0.63

Rules and regulations

As shown in Table 4, the five statements M1, M5, M6, M10 and R10 were considered to represent a moral schema that reflects keeping up with rules and regulations: (M1) 'whether you are willing to risk legal ramifications for illegal provision of an opioid to a sick patient', (M5) 'whether there are strict professional regulations to abide by regardless of circumstances', (M6) 'whether calling for legal advice is appropriate in this situation', (M10) 'whether your medical indemnity is up to date and renewed', and (R10) 'whether it is a pharmacist's duty to abide by the requirements of the prescription'. In the Australian PEP study, the rules and regulations moral reasoning schema was also identified through statements M1, M5 and R10 but *not* through statements M6 and M10. Statement M6 was excluded from this component in that study because its correlations were too low; statement M10 correlated in that study with statements that represented the business orientation moral schema.

Business orientation

Seven statements (O1, O3, O11, M2, R3, R4, R5) were considered to represent a moral schema that reflects a business orientation (Table 4): (O1) 'whether you, the pharmacist, are under great financial pressure', (O3) 'whether you need to offer the client symptom relief to retain her loyalty to the pharmacy', (O11) 'whether you don't want to disappoint her and lose her respect for you', (M2) 'whether viability of the business, by complying with patients' needs, is important', (R3) 'if the patient has a logical reason for requesting supply there is no point in refusing', (R4) 'whether it is a patient's right to choose how and when to take their medicine', and (R5) 'if the patient is adequately counselled there is no further responsibility for the pharmacist'. Although this moral reasoning schema was also identified among Australian pharmacists, in the Australian PEP study, statements R3, R4 and R5 correlated with statements that represented the patients' rights moral reasoning schema.

TABLE 4: Eligible PEP-NL PCA component correlations

Statements	PEP-NL PCA component correlations		
Component 'Rules and regulations'	**(1)**		
(M6) Whether calling for legal advice is appropriate in this situation.	0.731		
(M10) Whether your medical indemnity is up to date and renewed.	0.566		
(M1) Whether you are willing to risk legal ramifications for illegal provision of an opioid to a sick patient.	0.535		
(R10) Whether it is a pharmacist's duty to abide by the requirements of the prescription.	0.473		
(M5) Whether there are strict professional regulations to abide by regardless of circumstances.	0.432		
Component 'Business orientation'		**(2)**	
(R4) Whether it is a patient's right to choose how and when to take their medicine.		0.564	
(R5) If the patient is adequately counselled there is no further responsibility for the pharmacist.		0.533	
(O3) Whether you need to offer the client symptom relief to retain her loyalty to the pharmacy.		0.518	
(O11) Whether you don't want to disappoint her and lose her respect for you.		0.517	
(R3) If the patient has a logical reason for requesting supply there is no point in refusing.		0.505	
(M2) Whether viability of the business, by complying with patients' needs, is important.		0.451	
(O1) Whether you, the pharmacist, are under great financial pressure.		0.384	
Component 'Professional ethics'			**(3)**
(R11) Whether it is a pharmacist's duty to exercise professional judgment in dispensing.			0.649
(M12) Whether the professional and clinical judgment of the pharmacist in this case is relevant.			0.550
(R9) Whether concerns for safety override need for medication.			0.539
(O12) Whether you counsel and explain the options to her as per professional guidelines.			0.456
(O9) Whether a recent article in a reputable journal queried the benefit of that particular OTC for the patient.			0.453

O (1 – 12) = Statements of OTC scenario

M (1 – 12) = Statements of Morphine scenario

R (1 – 12) = Statements of Repeat prescription scenario

Professional ethics

The five statements that loaded on this component (O9, O12, M12, R9, R11) were considered to reflect a moral schema labelled as professional ethics (Table 4). These statements are as follows: (O9) 'whether a recent article in a reputable journal queried the benefit of that particular OTC', (O12) 'whether you counsel and explain the options to her as per professional guidelines', (M12) 'whether the professional and clinical judgement of the pharmacist in this case is relevant', (R9) 'whether concerns for safety override need for medication', and (R11) 'whether it is a pharmacist's duty to exercise professional judgment in dispensing'. In the Australian version of the PEP test, statements O9, O12 and R11 loaded as the rules and regulations moral reasoning schema. Further, statement R9 loaded in the Australian PEP study on the business orientation moral schema component. Statement M12 loaded < 0.3 in that study.

DISCUSSION

This study shows that the Dutch version of the Professional Ethics in Pharmacy test (PEP test) resulted in two identical moral reasoning schemas compared to the Australian version, and in one different schema, namely the post-conventional moral reasoning schema. However, the PEP-NL test statements need to be adapted to make the test more sensitive to the Dutch community pharmacy context. Such an adapted test would have to be validated once more before it can be applied. This suggests that a similar adaptation and validation process may be needed when applying the PEP test in other countries.

As in the Australian PEP test, our results fit quite well with the three moral reasoning schemas of the DIT. We found the pre-conventional level of moral reasoning 'business orientation', the conventional level 'rules and regulations', and the post-conventional level 'professional ethics' (Table 1, fifth column).

As described in the method section, schemas are tacit beliefs and cognitions in the long-term memory of a person. The schemas originate from the specific context wherein that person has lived, worked and still lives and works. The statements of the PEP test are designed to trigger these underlying tacit beliefs and cognitions related to the context of pharmacy practice. For an interpretation of the post-conventional moral reasoning statements of the PEP-NL test and their underlying schema ('professional ethics') the context of pharmacy practice in the Netherlands therefore has to be considered.

Pharmaceutical patient care - as a foundational philosophy - was introduced in the 1990s by Hepler[8] and embraced by the Dutch Pharmaceutical Association.[37] This patient-centred

approach and professional practice aims to ensure the effective and safe use of medicines and includes the responsibility for helping patients to achieve definite health outcomes.[8,38] This pharmaceutical care culture contributed to the development and design of the Dutch Charter of Professionalism.[39] The Charter states the profession's core values, which guide pharmacists working in all sectors in the Netherlands. Commitment to the patient's well-being, which includes protecting the patient's rights, is an important value, but so are societal responsibility, being reliable and caring, pharmaceutical expertise and professional autonomy.[40] One core value is not more important than another. Keeping in mind this Dutch pharmacy practice context, all statements in the post-conventional schema in the PEP-NL test were interpreted as 'professional ethics'. For example, the statement (M12) 'whether the professional and clinical judgement of the pharmacist in this case is relevant' (morphine scenario, Appendix), fits seamlessly with the professional autonomy in moral decision-making, which is expected from Dutch pharmacists. This statement clearly represents the professional responsibility to achieve effective and safe use of medicines in the dilemma concerned. However, the statements can be further refined and adapted to triggers closer to the context. For example, the statement (O12) 'Whether you counsel and explain the options to her as per professional guidelines' would be improved as the text 'so that the patient can understand and make an informed decision' was added as trigger for this schema.

Upon interpreting all statements in the pre-conventional level of moral reasoning 'business orientation' and the conventional level 'rules and regulations' in our PEP-NL test, it was agreed these also exist among pharmacists in the Netherlands. Although, further research is needed to find out if the related statements can be improved further in their function as triggers for these schemas for pharmacists practicing in the health system in the Netherlands.

Australian and Dutch pharmacists seem to share the pre-conventional and conventional schemas of moral reasoning. The majority of the eligible statements that represented these two schemas in our PEP-NL test were the same as those that represented these schemas in the Australian PEP study. This is in contrast to the post-conventional moral reasoning schema in which none of the eligible statements in the PEP-NL test ('professional ethics' schema) were the same as the statements that represented the post-conventional schema in the Australian PEP test ('patients' rights' schema). Apparently, different statements representing the post-conventional moral reasoning schema triggered the pharmacists in both countries, suggesting variation in underlying beliefs and cognitions and pharmacy practice context. This is surprising as in both countries pharmacists have a patient-centred pharmaceutical care practice as their highest goal.[40,41] However, the variation may come from differences in professional guidance (e.g. education, policy) to achieve this patient-centred pharmaceutical care practice and in corresponding professional language.[31]

Our results suggest that Dutch pharmacists, when reasoning with the post-conventional moral reasoning schema, are guided by professional ethics as elaborated upon earlier: pharmacists are professionally autonomous in their pharmaceutical responsibility and are socially expected to use their expertise and judgement to provide the best care for the patient. Whereas Australian pharmacists may be educated and guided (professionally) by a more juridical (rights) perspective and thereto related language. The pharmacists may therefore be more focused on performing their legal duties as being the best care for patients and - simultaneously - on avoiding legal consequences.[41]

These possible differences in professional guidance and thereto related language may explain why some statements (e.g. R3, R4 and R5) correlated as the post-conventional schema 'patients' rights' in the Australian PEP test, and did not correlate with the statements that appeared in the post-conventional schema in the PEP-NL test.

Similarly, such differences may also explain why the majority of the statements that correlated as the moral reasoning schema 'professional ethics' among Dutch pharmacists triggered the 'rules and regulations' schema among pharmacists in the Australian PEP test. For example, the statement (O12) 'whether you counsel and explain the options to her as per professional guidelines' may have been interpreted by Dutch pharmacists as a professional behaviour because they have internalised the content of the guidelines as 'good pharmacy practice', whereas for Australian pharmacists, practising on the basis of guidelines (or laws and regulations) may mean fulfilling one's (legal) duty.[41]

Besides these possible differences in professional guidance and language the variation in underlying beliefs and cognitions may be caused by cross-cultural differences not directly related to the profession. Such cross-cultural differences include the larger context of national socio-economic and healthcare systems, national laws and regulations, religion, family social structures[42-44], and personal values.[1,41] Therefore, a professional ethics test for a specific professional setting and country should be developed by experts who share the same professional values, practice and language as the respondents.[32]

Strengths and limitations

A strength of this study is the number of respondents which allowed us to test applicability with a PCA, because A PCA generally needs at least 300 respondents.[36] A limitation of the study is that the majority of participating pharmacists were early in their careers and therefore not representative of the Dutch pharmacist population in general. Future research should include a more representative cohort-mix of younger and more experienced pharmacists to

compare their moral reasoning schemas. However, we as well performed a PCA without the supervisors, who are more experienced pharmacists. That analysis did not result in different moral reasoning schemas.

Another limitation is that the PEP test had to be translated from the Australian into the Dutch language and both countries have different cultural backgrounds and (professional) guidance and language as explained above. For example some referrals to specific institutions mentioned in the PEP test statements had to be adapted and the function of these institutions may be different between countries.

CONCLUSION

We conclude that the PEP test, which was originally developed in Australia, needs to be further adapted to the context and professional language of Dutch pharmacy practice. The statements, especially those associated with the post-conventional level of moral reasoning, need adjustments in order to better reflect a moral reasoning schema that is based on professional ethics that guides pharmacists in the Netherlands.

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APPENDIX

Professional Ethics in Pharmacy Test ©[33]

Dilemma No. 1 (OTC scenario)

It was a cold winter's afternoon and business had been slow at the pharmacy all day. In fact business had been slow ever since the pharmacist took over the pharmacy 3 months ago from the previous owner. It had been difficult to keep finances under control at the time. The bank's notice for late payment instalments had arrived the day before. It was a relief to be distracted from these worries by an incoming client asking to see the Pharmacist. An elderly lady requested something for her sinuses. She had tried many medications including Paracetamol, Antihistamines and nasal sprays, but nothing seemed to have helped. There were many OTC (over-the-counter) products on the shelf with huge bonuses and great promotions. One particularly expensive item looked suitable. Perhaps it might not provide her with much symptom relief, as there was no evidence to prove efficacy, but it wouldn't do much harm either.

Should the pharmacist sell the OTC product?
Yes; Can't Decide; No

How important would each of the following be in deciding what to do?
Please rate the importance of each of the following by marking with an x:
Great; Much; Some; Little; No

1. Whether you (the pharmacist) are under great financial pressure.
2. Whether other pharmacists would approve of such a recommendation.
3. Whether you need to offer the client symptom relief to retain her loyalty to the pharmacy.
4. Whether the client is a grandmother and not likely to abuse a medication.
5. Whether there is no criminal offence in selling OTC products in the pharmacy.
6. Whether the Pharmacy Board recently sent out guidelines about Standards of Practice.
7. Whether providing symptom relief to the client will help her feel less pain.
8. Whether it is acceptable to appropriate justice in forms amenable to the professional.
9. Whether a recent article in a reputable journal queried the benefit of that OTC to her.
10. Whether it is fair to persuade a pensioner to pay for an item of uncertain benefit.
11. Whether you don't want to disappoint her and lose her respect for you.

12. Whether you counsel and explain the options to her as per professional guidelines.

From the list of questions above, please rank the statements in order of importance:
Most Important; Second most important; Third most important; Fourth most important

Dilemma No.2 (Morphine scenario)

One late Saturday evening a client, well known to the pharmacist, presented at the pharmacy in much distress. Over the last few months she had been collecting her mother's regular medications for cancer treatment and pain relief. The pharmacist had no doubt the client's mother was suffering much pain. The client approached the pharmacist imploring for an extra bottle of Morphine Mixture 10mg/mL, as her mother had used up all her repeats and had just run out. The last dispensing of the mixture had been three days earlier. Lately, her mother had needed a lot more morphine than usual for breakthrough pain. The family doctor had left for the weekend. All neighbouring doctors had also left for the weekend and she couldn't go to the emergency department of the local hospital for this.

Should the pharmacist dispense the Morphine Mixture?
Yes; Can't Decide; No

How important would each of the following statements be in deciding what to do?
Please rate the importance of each of the following by marking with an x:
Great; Much; Some; Little; No

1. Whether you (the pharmacist) are willing to risk legal ramifications for illegal provision of an opioid to a sick patient.
2. Whether viability of the business by complying with patients' needs is important.
3. Whether the laws of the land are in place to actually protect the public.
4. Whether it is a patient's right to choose to take medication even if you suspect self-harm
5. Whether there are strict professional regulations to abide by regardless of circumstances.
6. Whether calling for legal advice is appropriate in this situation.
7. Whether ideology of bioethics & civil liberties apply to resource dissemination in general.
8. Whether it is a pharmacist's responsibility if a patient forgets to see the doctor in time.
9. Whether pain may be controlled by other measures within legal boundaries.
10. Whether your medical indemnity is up to date and renewed.
11. Whether you should respond to the trust which the patient has afforded you.
12. Whether the professional and clinical judgment of the pharmacist in this case is relevant.

From the list of questions above, please rank the statements in order of importance:
Most Important; Second most important; Third most important; Fourth most important

Dilemma No.3 (Repeat prescription scenario)

It has been a very busy Monday at the pharmacy. There have been a large number of prescriptions, many with problems, then the demanding clients who couldn't wait for their turn and even lost medications. It has been difficult to maintain order in the pharmacy. In the midst of all this, one client walked in quietly, and was waiting in a corner to be served. Eventually, an assistant brings forth a repeat prescription for his tricyclic antidepressant. The prescription is not due for dispensing for at least another fortnight. The pharmacist queries this and the client shrugs rather despondently, mumbling something about going on a holiday. The pharmacist vaguely remembers this patient…something about an attempted suicide years ago. The prescribing doctor, a psychiatrist, does not like the pharmacist calling during consultation hours as the distraction upsets his patients.

Should the pharmacist dispense the repeat?
Yes; Can't Decide; No

How important would each of the following be in deciding what to do?
Please rate the importance of each of the following by marking with an x:
Great; Much; Some; Little; No

1. Whether you (the pharmacist) are very busy and need to close shop in half an hour.
2. Whether you consider it important to address clients' needs otherwise business is lost.
3. If the patient has a logical reason for requesting supply there is no point in refusing.
4. Whether it is a patient's right to choose how and when to take their medication.
5. If the patient is adequately counselled there is no further responsibility for the pharmacist.
6. Whether the client's neighbour is a friend and can be relied upon to report any problems.
7. Whether a citizen is entitled to his or her medicine by law, if prescribed by a doctor.
8. Whether the prescription is legal and "Immediate Supply" is justified and possible.
9. Whether concerns for safety override need for medication.
10. Whether it is a pharmacist's duty to abide by the requirements of the prescription.
11. Whether it is a pharmacist's duty to exercise professional judgment in dispensing.
12. Whether refusing to dispense, since it is not legally due, is the preferred option.

From the list of questions above, please rank the statements in order of importance:
Most Important; Second most important; Third most important; Fourth most important

CHAPTER 3.2

MORAL REASONING PERSPECTIVES OF COMMUNITY PHARMACISTS IN SITUATIONS OF DRUG SHORTAGES

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ABSTRACT

Background: Drug shortages affect health systems worldwide. Research in community pharmacy has focused on the nature, extent and impact of these shortages on patients and pharmacists. However, pharmacists' moral reasoning in situations of drug shortages has not been addressed.

Objective: To explore the moral reasoning perspectives of Dutch community pharmacists in situations of drug shortages.

Methods: An electronic survey was developed around three drug shortage scenarios with a varying impact on patient outcomes: a Contraceptive, a Parkinson's and an Osteoporosis scenario. Pharmacists rated the likelihood of nine handling options and rated and ranked 13 considerations that may have played a role therein. The considerations represented three moral reasoning perspectives (MRPs): a business orientation (BO), a rules and regulations (RR), and a professional ethics (PE) MRP. Principle component analysis (PCA) was used to investigate construct validity of the MRPs. MRP rating and MRP ranking scores measured the relative importance of the different MRPs of pharmacists in the three shortages.

Results: Results from 267 pharmacists were obtained. They reported mostly similar handling in the three shortages, except for the likelihood to make agreements with prescribers or other pharmacists and regarding the decision to import a product. The PCA analysis confirmed the three MRPs that accounted for 29% of variance in the data. Both the MRP rating and especially the MRP ranking scores indicated that PE-MRP considerations were most influential on pharmacists' intended handling of the shortages. In the Contraceptive and the Osteoporosis scenarios, the relative importance of a BO-MRP was higher than in the Parkinson's scenario.

Conclusion: Pharmacists predominantly reason with a PE-MRP when handling drug shortages. However, this perspective can be compromised when the drug shortage is perceived to have a lower impact on patient outcomes and when alternative drugs or therapy are expensive.

INTRODUCTION

Drug shortages affect health systems worldwide and are increasing in number and duration in both developed and developing countries.[1-7] Worldwide different national stakeholders (governments, pharmacy associations, hospitals, health insurers, wholesalers, marketing authorization holders (MAH), etc.) aim to prevent and solve drug shortages. Mostly by informing health professionals about (potential) drug shortages[1,3,6,8,9] and providing support materials and resources.[3,6] In the Netherlands, authorities and pharmacy practice detect different signals on potential drug shortages and authorities are informed later.[7] Authorities' role to assist pharmacists to solve drug shortage problems is limited. Hence, pharmacists have to deal with the problem when the patient is at the counter.

Regardless of their causes, drug shortages pose threats to the quality of pharmaceutical care and thus to patients' well-being and safety.[3,10,11] Health professionals' moral obligation to provide every citizen with access to appropriate healthcare is challenged,[2,9-14] which may result in professional and moral distress.[13,15]

Pharmacists are particularly challenged because they often must inform the patient that a certain drug is unavailable. Moreover, pharmacists are responsible for the provision of appropriate drug therapy, and this professional duty is placed under pressure when a drug is unavailable.[16] Pharmacists have to judge whether the quality of alternative drug treatments is sufficient and whether these treatments are effective and safe for a patient. Drug shortages also challenge pharmacists to address different stakeholders and health professionals who may not always support patient-level solutions necessitated by a drug shortage.[4,9,17] In several countries, legislation requires authorization from the prescribers for generic substitution even during circumstances when a drug is clearly unavailable. Therapeutic drug substitution may be even more cumbersome.[18] This places further stress and pressure on pharmacists as they are challenged to find solutions for their patients and concurrently have to make agreements with prescribers. Pharmacists can also be challenged with patients who refuse to take alternative medicines or who are noncompliant with these medicines.[11,13]

Pharmacists have reported that dealing with drug shortages has moral and economic implications.[6,11,19] Moral implications arise when pharmacists' decisions may lead to suboptimal health outcomes for patients.[6,11,19] For example, in case pharmacists have to dispense potentially less suitable alternative medicines or less appropriate dosage forms. These decisions also have economic implications as, importing alternative drugs is often more expensive, and pharmacists need extra time and personnel to find solutions for drug shortage problems. The resulting increased pharmacy operation costs[3,9,11,13,20-22] are generally not compensated and may even hamper pharmaceutical care for other patients.

Drug shortages require advanced levels of professionalism, such as a high level of pharmaceutical expertise, strong communication and collaboration skills[11,19] and advanced levels of moral reasoning. In situations that present moral dilemmas, moral reasoning entails reflection on whose and which values are at stake for any possible course of action and how professional decisions may influence patients' well-being.[23-25] Moral reasoning can be defined as deliberating about what a person ought, morally, to do, a species of practical reasoning.[26] Ethical reasoning is used in the same sense but is often more concerned with cognitive processes that persons follow in making a decision prior to behavior.[27] Ethical reasoning is therefore mostly used with respect to special fields of interest, e.g. business ethics, clinical ethics, etc. Throughout this paper the term moral reasoning is used, which can also be read as ethical reasoning. In the moral reasoning literature three developmental levels of moral reasoning perspectives (schemas) are recognised based on Kohlberg's cognitive moral development theory[28]: a pre-conventional level (reasoning focused on personal interest), a conventional level (reasoning focused on maintaining norms) and a post-conventional level (reasoning focused on universal principles, beyond personal interest and norms). Rest et al[29] developed these three moral reasoning perspectives as a response to Kohlberg's claim of six sequential cognitive stages where one moves as on a staircase one stage at a time (Table 1). Rest et al defined moral development more as a gradual shift from lower to more complex conceptions of how to organize society-wide co-operation. In their theory moral reasoning perspectives are more contextual and automatic and less reflective than Kohlberg's six stages, and are at any moment available to the individual.[30] An extensive comparison between the two models is described elsewhere.[28,31,32] In the view of Rest et al moral reasoning perspectives (MRPs) are tacit beliefs and cognitions present in a person's long-term memory of which he or she is not explicitly aware.[28,31-33] These tacit beliefs and cognitions help individuals understand new information based on prior experiences.[30] Rest et al developed thereto a moral reasoning test, the Defining Issues Test (DIT), that is able to activate a person's tacitly preferred perspective when a person reads written statements that represent these MRPs.[33] People rate and rank their tacitly preferred MRP statements more highly when making decisions.[31,33]

Pharmacists' moral reasoning has been previously studied, both without the DIT[34-36] and with the DIT.[28,32,37-40] The results of these latter studies suggest that pharmacists score low on post-conventional moral reasoning compared to other health professionals.[38] However, a recent study suggested that an educational intervention aimed at improving moral reasoning competencies, positively affected the development of these competencies in pharmacists as measured with the DIT.[41]

To date, research on drug shortages in community pharmacy has focused on the nature, extent and impact of these shortages on patients and pharmacists and on causes of and solutions to

the problem.[3,6,7,9,11,13,14,17] The aspect of moral reasoning during drug shortage situations has not been addressed. The aim of this study is to explore the moral reasoning perspectives of Dutch community pharmacists in situations of drug shortages.

TABLE 1: Moral reasoning development theorized by Rest et al[32] and Kohlberg[42,43]

Rest's moral reasoning perspectives	Kohlberg's six stages of cognitive moral development
Post-conventional moral reasoning perspective (Universal principles, beyond personal interest and norms)	Stage 6. Morality of universal ethical principles
	Stage 5. Morality of contract and of democratically accepted law
Conventional moral reasoning perspective (Maintaining norms)	Stage 4. Authority maintaining morality
Pre-conventional moral reasoning perspective (Personal interest)	Stage 3. Being-good morality of maintaining good relations, approval of others
	Stage 2. Naive instrumental hedonism, and equal exchange
	Stage 1. Punishment and obedience orientation

METHODS

An electronic survey was completed by Dutch community pharmacists. The survey explored respondents' intended actions and moral reasoning perspectives in three drug shortages.

Respondents

In November 2019, approximately 2900 community pharmacists were registered in the Netherlands. They were invited and reminded once to participate in the study by completing a survey through the weekly digital membership newsletter of the Royal Dutch Pharmacists Association (KNMP) with a membership of approximately 95% of all community pharmacists. To increase the response rate we also sent digital invitations and reminders for the survey through two other professional channels: the Utrecht Pharmacy Practice Network for Education and Research (UPPER),[44] and the largest pharmacy chain BENU Apotheken. Through these three professional channels both community pharmacists and early career pharmacists working in community pharmacy were reached. The survey was accessible from November 6 until December 9, 2019.

Drug shortage scenario construction

The investigators first selected nine drug shortages which met the following criteria: the shortage affected all Dutch pharmacies in 2018-2019 and the shortage had a duration of at least 3 months. Subsequently an expert panel consisting of seven practicing community pharmacists selected three shortages that were expected to have a varying impact on patients outcomes: a contraceptive shortage (Contraceptive scenario), a levodopa shortage (Parkinson's scenario) and an alendronic acid shortage (Osteoporosis scenario). See Table 2 for the perceived relevance of these three shortages.

TABLE 2: The three drug shortages used in the study

Drug shortage scenario	Duration	Average number of users per pharmacy[a]	Perceived relevance of the shortage (impact on patient outcomes)
1 – Contraceptive (Ethinylestradiol/ Levonorgestrel 0.03/0.15 mg [oral] tablet)	May 2018– November 2019	500[b]	Medium; although alternative treatments were available, women had to switch to oral contraceptives with a different composition of active ingredients
2 – Parkinson's medicine (Levodopa/Carbidopa 125 mg tablet)	January 2018–Present (Irregular supply persists)	19[c]	High; switching to alternative treatment required a pharmacotherapeutic substitution with a potentially reduced ability to control Parkinson's symptoms
3 – Osteoporosis medicine (Alendronic acid 70 mg tablet)	February 2019–Present (Irregular supply persists)	61[c]	Low; alternatives were available but were less practical (e.g. daily alendronic acid, 10 mg instead of 70 mg once a week) and temporary discontinuation of bisphosphonates did not jeopardize patients' health

[a] 1.996 community pharmacies in the Netherlands per January 1, 2018, published by the Foundation for Pharmaceutical Statistics in The Hague in its Annual Report ''SFK Data en feiten 2019''.

[b] Stichting Farmaceutische Kengetallen, 2019[45]

[c] National Health Care Institute. The drug information system. https://GIPdatabank.nl.

Survey development

An electronic survey was developed by the research team (MK, AF and MB); this survey was based on cognitive moral development literature,[28,29,32] (inter)national pharmacy practice literature,[16,39,46-49] and the context of Dutch pharmacy practices (see the survey in Appendix, Table 6). For each of the three drug shortage scenarios, the respondents had to use a four point scale (very likely, likely, unlikely, very unlikely) to rate the likelihood that they would use each of nine options of intended action to address the shortage. A four-point scale for rating the likelihood of the intended action options was chosen to force respondents to choose

their intended action either negatively or positively, as all respondents have experienced the shortages in their pharmacy. The respondents then had to rate the extent to which 13 considerations played a role in handling the drug shortage problem using a five-point scale (very strong, strong, weakly, very weakly, no role). This five-point scale from very strong to no role was chosen because a consideration might not play a role in the intended actions. Finally, the respondents had to rank the four most relevant considerations. Participants also answered general questions about their gender, age, type of pharmacy and job profile.

Measuring moral reasoning perspectives

The profession-specific moral reasoning measure developed for this study was based on earlier research.[46,49] In that research, based on Kohlberg's cognitive moral development theory and the DIT,[28] Rest's three MRPs have been adjusted to the community pharmacy practice context: (1) at the pre-conventional level, pharmacists' MRP is focused on maintaining a viable business and included personal interests (this MRP has been named business orientation and is labelled BO-MRP); (2) at the conventional level, pharmacists' MRP is centred around adhering to rules and regulations (this MRP has been named rules and regulations and is labelled RR-MRP); and (3) at the post-conventional level, pharmacists' MRP is guided by professional ethics (this MRP has been named professional ethics and is labelled PE-MRP).[16,49] In this study, the research team (MK, AF and MB) designed the to be rated and ranked considerations for these MRPs in the context of the three drug shortages and the professional values of Dutch pharmacy practice.[47,48] The team used the three drug shortage scenarios to develop four different considerations for each MRP. Some considerations were used in more than one scenario.

Validation of the survey

The survey was validated by using an intensive process to reach consensus between the research team (MK, AF and MB) and an expert panel of five experienced pharmacists over the course of three meetings. All five pharmacists were active in the special interest group on pharmacy ethics of the Royal Dutch Pharmacists Association. Four of the five experts were also practicing senior community pharmacists. First, the accuracy, readability and content of the drug shortage scenarios, options of intended action and considerations were assessed. Further, every consideration was judged on its representation of the MRP, which for the PE-considerations contains the professional values.[47] If no consensus was reached, a consideration was reformulated or discarded. The top four considerations for each MRP and scenario were chosen for use in the survey. The entire survey was tested by seven community pharmacists to make final adjustments.

Data analysis

SPSS 25 was used for all data analysis.

Control considerations

One of the 13 considerations per drug shortage scenario was a control consideration (i.e. a meaningless consideration, labelled 'M'), which was formulated to correct for respondents providing potentially unreliable answers.[32] If respondents ranked such a control consideration more than one time, their surveys were excluded from analysis.

Validation of moral reasoning perspectives

First, a principal component analysis (PCA) was performed to check the rating scores for construct validity, searching for a confirmation of the three MRPs in three distinguishing components. The rating scores were thus checked for factorability with the Kaiser-Meyer-Olkin's measure (KMO, ideal value < 0.6). Subsequently, correlations between variables were tested with Bartlett's test of sphericity (index $p < 0.05$). Varimax rotation was used to extract the components to increase interpretability of the data. The components were further examined by their percentage of variance explained, their eigenvalues (eligible value > 1) and their component statement loadings (eligible value ≥ 0.35, or a difference of > 0.2 between the correlation values if a statement loaded highly on more than one component).[49,50]

Measuring moral reasoning perspectives: the MRP rating and ranking score

In order to measure the relative influence of the three moral reasoning perspectives (BO, RR and PE), rating and ranking scores were calculated for each MRP.

MRP rating score: For this score the meaningless considerations were excluded, leaving 12 considerations per scenario, of which four represented the BO-MRP, four the RR-MRP and another four the PE-MRP. Each consideration in a scenario was given a numerical weight from four (the consideration played a very strong role) to zero (the consideration played no role). Hence, for each MRP in a scenario a respondent could have a maximum MRP rating score of (4 times 4) 16 points if all four considerations of one MRP (BO, RR or PE-MRP) played a very strong role in handling the drug shortage, and a minimum MRP rating score of 0 points if none of these four considerations played any role. For each respondent the BO-MRP, the RR-MRP and the PE-MRP rating score were expressed as a percentage of the maximum score. Finally, these three MRP score percentages were normalised to 100% to present their relative percentages.

MRP ranking score: A numerical weight from four (first ranked) to one (fourth ranked) was given to each ranked consideration.[51] Ranked meaningless considerations were assigned

a weight of zero points. Per MRP per scenario the weights were added up. A respondent could receive a maximum score per MRP per scenario of 10 points (if four considerations of one MRP were ranked) and a minimum of 0 points (if no considerations of one MRP were ranked). The three MRP ranking scores per scenario were calculated per respondent by dividing the summed weights by the maximum score. Additionally the number of times each consideration was ranked, was counted.

Ethics approval

The Institutional Review Board Utrecht of the division Pharmacoepidemiology & Clinical Pharmacology, Utrecht University formally approved the research.

RESULTS

Two hundred sixty-seven respondents (94% community pharmacists and 6% early career pharmacists practicing in community pharmacy) completed the survey. Of these respondents, 63% were women, 39% worked in a (small)chain pharmacy, 79% were primary responsible pharmacist at their pharmacy, and the median age was 42 years (IQR = 32–52 years). Reference of these characteristics to national data were included in Appendix, Table 7. No respondents ranked more than one meaningless consideration (although seven respondents ranked one), so no surveys were excluded.

Handling of the drug shortage

According to the survey results, pharmacists rated the likelihood of six of the nine intended actions in the three shortages almost equally (Table 3). More pharmacists were likely to make alternative drug agreements with prescribers in the Contraceptive and Osteoporosis scenarios (80% and 70%, respectively) than in the Parkinson's scenario (55%). Slightly fewer pharmacists were likely to make agreements with other pharmacists in the Parkinson's and Osteoporosis scenarios (39% and 41%, respectively) than in the Contraceptive scenario (50%). Finally, most pharmacists (80%) were unlikely to import an osteoporosis medicine, but they were likely to import a contraceptive and a Parkinson's medicine (61% and 75% of pharmacists, respectively).

Moral reasoning perspective considerations

The principle component analysis (PCA) confirmed that the BO-, RR- and PE-considerations represented the respective MRPs. The PCA was performed using the rating data of all 267 respondents. The analysis confirmed the construct validity of the data: the KMO index was 0.75, and Bartlett's test was statistically significant ($p < 0.000$). The scree plot did not

indicate relevant increments beyond five components. Therefore, the PCA-varimax rotation was performed with three, four and five components. The three components explained 29% of the variance in the data and had eigenvalues larger than two. When four components were used for the rotation, the explained variance increased by 5%, and when five components were used, the explained variance increased by an additional 4%. However, interpreting the considerations that correlated when using four or five components did not provide new moral reasoning perspectives. Therefore, we set the number of components to three.

Table 4 presents the correlation loadings of the three PCA components for each scenario's considerations and indicates that the majority of the considerations with eligible correlations represent the same MRPs, either a BO-MRP, a RR-MRP or a PE-MRP. Only one eligible consideration (O2) loaded on more than one component (i.e. loaded on two MRPs), and only two eligible considerations (C5 and O13) correlated with considerations of another MRP.

MRP rating and ranking score

The MRP rating score percentages in Table 5 suggest that all three moral reasoning perspectives play a role in pharmacists' reasoning when handling the three drug shortages. The BO-MRP rating score percentage is the lowest in each drug shortage scenario (28.9%, 23.2% and 24.4% for the Contraceptive, Parkinson's the Osteoporosis scenarios, respectively), and the PE-MRP rating score percentage is the highest (39.0%, 44.4% and 45.3%, respectively). The MRP ranking score percentages demonstrate that the PE-MRP is even more dominant in all three scenarios (60.2%, 72.1% and 68.6%, for the Contraceptive, Parkinson's and Osteoporosis scenario, respectively). The difference between the BO-MRP and the PE-MRP is larger in the Parkinson's scenario than the other two scenarios. The same trend was found when the MRP rating and ranking scores were corrected for the considerations that matched the criteria of eligibility and when the considerations that loaded with another MRP (O2 and C5) were given the scores for that MRP (see the Methods section for the criteria of eligibility and Table 4 for the eligible considerations used for this correction. See Appendix, Table 8 for the scores based on these corrections.)

TABLE 3: Self-reported likelihood of handling three drug shortage scenarios by Dutch community pharmacists (N = 267)

Intended action option	Scenario	Very unlikely/ Unlikely (%)	Likely/Very Likely (%)
1. I explain to the patient that I cannot dispense the medicine due to its shortage	Contraceptive	26.2	73.8
	Parkinson's	24.3	75.7
	Osteoporosis	15.4	84.6
2. I refer the patient to the prescriber for possible alternative (pharmaceutical) treatments	Contraceptive	59.9	40.1
	Parkinson's	61.0	39.0
	Osteoporosis	73.4	26.6
3. I propose a possible alternative pharmaceutical treatment to the prescriber	Contraceptive	10.5	89.5
	Parkinson's	9.4	90.6
	Osteoporosis	6.7	93.3
4. I discuss possible alternative (pharmaceutical) treatments with the patient	Contraceptive	9.4	90.6
	Parkinson's	14.2	85.8
	Osteoporosis	8.6	91.4
5. I import the medicine of which there is a shortage	Contraceptive	39.0	61.0
	Parkinson's	25.1	74.9
	Osteoporosis	79.8	20.2
6. I have made agreements in advance with the prescribers in my area related to alternatives for this drug shortage	Contraceptive	19.9	80.1
	Parkinson's	44.6	55.4
	Osteoporosis	29.6	70.4
7. I have made agreements in advance with pharmacists in my area related to alternatives for this drug shortage	Contraceptive	50.2	49.8
	Parkinson's	61.0	39.0
	Osteoporosis	59.2	40.8
8. I advise the patient to check whether another pharmacy has this medicine in stock	Contraceptive	87.6	12.4
	Parkinson's	85.8	14.2
	Osteoporosis	88.8	11.2
9. I check other pharmacies in my area on behalf of the patient to see if they still have this medicine in stock	Contraceptive	31.1	68.9
	Parkinson's	17.2	82.8
	Osteoporosis	32.6	67.4

TABLE 4: PCA component correlations of considerations in the three drug shortage scenarios

	Consideration[a]	PCA components			MRP[b]
		1	2	3	
P8	That the patient may go to another pharmacy if I do not solve this problem	**0.722**[c]	0.019	0.019	**BO**
O11	That the extra time I spend searching for an alternative will not be reimbursed	**0.716**	0.039	-0.055	**BO**
O1	That the patient may go to another pharmacy if I do not solve this problem	**0.715**	0.074	0.050	**BO**
P13	That the extra time I spend searching for an alternative is not reimbursed	**0.682**	0.053	-0.054	**BO**
O6	Whether the patient has read about the medicine on the Internet	**0.640**	0.092	0.049	**M**[d]
O9	That when I receive a prescription, I always want to deliver the medicine because I am paid per prescription-line	**0.610**	0.166	-0.069	**BO**
O2	That I receive a complaint from the Community Pharmacists Disputes Committee	**0.591**	**0.366**	0.112	**RR**
P12	That the neurologist recognises my pharmaceutical expertise with Parkinson's	**0.522**	0.086	0.235	**BO**
P6	That the treating neurologist is a good friend of mine	**0.454**	-0.154	0.122	**M**
P3	That this patient is a regular customer who takes many medications	**0.440**	0.106	0.119	**BO**
C8	Whether the patient's neighbour comes to the pharmacy where I work	**0.423**	0.001	0.064	**M**
C6	The number of patients for whom I may have to import a foreign oral contraceptive	**0.382**	0.267	0.010	**BO**
C11	Whether pharmacists in the vicinity of my pharmacy import this oral contraceptive	**0.375**	0.176	-0.026	**BO**
C13	The relative price of imported ethinylestradiol/levonorgestrel	0.298	0.234	-0.169	BO
O3	That weekly administration is preferable to daily administration for ease of use	0.217	0.155	0.183	PE
O5	Whether not using alendronic acid for a few weeks is a problem	0.155	-0.021	0.062	PE
P11	Whether the Health and Youth Care Inspectorate consents to the import of levodopa/carbidopa 125 mg tablets	-0.007	**0.799**	-0.024	**RR**
O8	Whether the Health and Youth Care Inspectorate consents to the import of alendronic acid 70 mg	0.112	**0.731**	0.025	**RR**
C4	Whether the Health and Youth Care Inspectorate consents to the import of this oral contraceptive	0.012	**0.710**	0.030	**RR**
C7	That I do not deviate from professional guidelines	-0.049	**0.506**	0.170	**RR**
O7	That I have a valid prescription if I were to substitute	0.195	**0.494**	0.127	**RR**
P2	That I adhere to the contract with the health insurer	0.295	0.432	0.048	RR
O13	Whether the health insurer will reimburse the/an alternative	0.268	0.418	-0.078	BO

TABLE 4: Continued

Consideration[a]		PCA components			MRP[b]
		1	2	3	
C5	Whether the patient is willing to pay the extra cost of an imported oral contraceptive	0.129	**0.409**	-0.103	**BO**
O4	That I do not deviate from the Fracture Prevention Guideline of The Dutch College of General Practitioners	0.070	0.401	0.242	RR
C9	Whether I run the risk of a complaint from a disciplinary court for healthcare	0.399	0.400	0.142	RR
P4	That in the case of Parkinson's medication I never deviate from the KNMP Drug Substitution Guideline	0.111	0.347	0.332	RR
C1	That I adhere to the advice regarding this shortage on the Farmanco website	-0.046	0.344	0.095	RR
C12	The expected duration for which the patient cannot use ethinylestradiol/levonorgestrel 0.03/0.150 mg tablets	0.174	0.193	-0.015	PE
P5	That Parkinson's can worsen when the patient receives alternative treatment	0.043	0.053	**0.615**	**PE**
O12	That the patient worries that he will break a bone again	0.197	0.037	**0.582**	**PE**
P7	That I can trust the quality of imported levodopa/carbidopa 125 mg tablets	-0.002	0.147	**0.564**	**PE**
P9	Whether I can do something for this patient with my pharmaceutical expertise	0.055	-0.152	**0.535**	**PE**
C3	That every patient has equal access to this oral contraceptive	-0.003	0.143	**0.533**	**PE**
C10	Whether I can answer the care question of this patient with my pharmaceutical expertise	-0.037	-0.018	**0.464**	**PE**
O10	Whether there is evidence that alternative bisphosphonates are equally effective	0.118	0.168	**0.461**	**PE**
C2	That the patient may suffer from menstrual pain without contraception	0.041	-0.111	**0.383**	**PE**
P10	That I adhere to the advice/prescription of the treating prescriber	0.024	0.283	0.318	RR
P1	That every patient has equal access to levodopa/carbidopa 125 mg	0.004	0.187	0.244	PE

[a] *Considerations:*
- C (1 – 13) = Considerations of Contraception drug shortage scenario
- P (1 – 13) = Considerations of Parkinson's drug shortage scenario
- O (1 – 13) = Considerations of osteoporosis drug shortage scenario

[b] Moral reasoning perspectives (MRPs):
- BO = Business orientation MRP
- RR = Rules and regulations MRP
- PE = Professional ethics MRP

[c] Underlined component correlations are eligible values (i.e. values are ≥ 0.35 or the difference between the correlations is > 0.2 if a statement loaded highly on more than one component)

[d] M = Meaningless consideration

TABLE 5: MRP rating and MRP ranking score percentages of Dutch community pharmacists (N = 267) for three moral reasoning perspectives in three drug shortage scenarios

	MRPs[a] in the Contraceptive scenario			**MRPs[a] in the Parkinson's scenario**			**MRPs[a] in the Osteoporosis scenario**		
	BO	**RR**	**PE**	**BO**	**RR**	**PE**	**BO**	**RR**	**PE**
Considerations[b]	C5, C6, C11, C13	C1, C4, C7, C9	C2, C3, C10, C12	P3, P8, P12, P13	P2, P4, P10, P11	P1, P5, P7, P9	O1, O9, O11, O13	O2, O4, O7, O8	O3, O5, O10, O12
MRP rating score[c] percentage (%)	28.9	32.1	39.0	23.2	32.4	44.4	24.4	30.3	45.3
MRP ranking score[d e] percentage (%)	15.3	24.4	60.2	6.5	21.3	72.1	14.1	16.9	68.6

[a] Moral reasoning perspectives (MRPs):

BO = Business orientation MRP

RR = Rules and regulations MRP

PE = Professional ethics MRP

[b] Considerations:

C (1 – 13) = Considerations of Contraception drug shortage scenario

P (1 – 13) = Considerations of Parkinson's drug shortage scenario

O (1 – 13) = Considerations of Osteoporosis drug shortage scenario

[c] The MRP rating score percentage for each MRP is based on the rating data for four considerations that represent each perspective

[d] The MRP ranking score percentage for each MRP is based on the ranking data and only for the ranked considerations of each perspective

[e] The MRP ranking score percentages for the three MRPs in each drug shortage scenario do not add up to 100 because seven respondents ranked one meaningless consideration (0 points); for these participants, the three MRP ranking scores for each scenario do not reach a total of 10 points

DISCUSSION

This study indicates that professional ethics (PE-MRP) is the dominant moral reasoning perspective for Dutch community pharmacists in the three presented drug shortages. The business orientation perspective is the least important perspective but was more important in pharmacists' reasoning in the Contraceptive and Osteoporosis scenarios than in the Parkinson's scenario. This result is also reflected in how pharmacists handle the three drug shortages. Pharmacists prefer to take responsibility for solving a drug shortage problem (by, for example, proposing alternatives to prescribers and patients or by importing drugs) instead of leaving the patient or physician to solve the drug shortage problem.

That pharmacists in this study reasoned mostly through PE-MRP considerations is in line with a recent study in which pharmacists received an educational intervention aimed at improving moral reasoning competence[41] but contrasts with earlier studies in which community pharmacists predominantly had very low post-conventional MRP scores[23,38,52] and studies that suggested that pharmacists were more influenced by a rules and regulation or legal perspective.[35,36,53] This difference in moral reasoning perspective may be rooted in (national) pharmacists' professional guidance (e.g. education, policy) and in the professional culture in each country (e.g. the role of community pharmacists).[49,54-58] In the Netherlands professional ethics entails that pharmacists are professionally autonomous in providing the best pharmaceutical care for the patient. They are responsible for dispensing medicines and have a role which is comparable with clinical pharmacists in many other countries.[59,60] Also, their professional relationship with primary care physicians is often stronger than in other countries.[61,62] In Australia pharmacists seem to be influenced in their PE-MRP reasoning by the principle of patient rights, as a study regarding the validation of the Professional Ethics in Pharmacy (PEP) test among Australian pharmacists showed.[46] In the Netherlands, where the applicability of the PEP test was studied among Dutch pharmacists, pharmacists' PE-MRP was not influenced by these patient rights considerations.[49]

The PE considerations that were ranked by a large number of pharmacists as being the most influential in handling the shortages suggest that during drug shortages, pharmacists base their moral reflections especially on their professional values. For example, the professional value 'commitment to the patient's well-being' is reflected in the frequently ranked PE-consideration P5 ('That Parkinson's can get worse when the patient receives alternative treatment'), which was ranked by 235 out of 267 pharmacists (Appendix, Table 9). Similarly, pharmacists base their moral reasoning on the professional values 'pharmaceutical expertise' and 'responsibility to society'. These values are respectively reflected by the often-ranked PE

considerations O5 ('Whether not using alendronic acid for a few weeks is a problem'), which was ranked by 192 pharmacists, and P1 ('That every patient has equal access to the medicine'), which was ranked by 174 pharmacists.

When dealing with the Parkinson's scenario, pharmacists ranked PE-considerations more frequently than in the other drug shortage scenarios. This difference is not surprising as we purposely selected three drug shortages with potentially different impacts (i.e. perceived relevance) on patients' health outcomes (Table 2). We envisaged that pharmacists' intended actions and moral reasoning may be dependent on the scenario. A patient with Parkinson's disease is more likely to experience serious health complications from switching drugs, which may explain why professional ethics considerations were most prominent and why more pharmacists intended to import a drug that was not originally authorized for the Dutch market in this scenario than in the other two scenarios.

Further, when the pharmacists reason from a BO-MRP in these drug shortage scenarios, it was mainly because they perceived the following considerations to be of importance in the handling of these shortages: (1) a patient's willingness to pay the extra cost for the imported medicine (BO-consideration C5: 'Whether the patient is willing to pay the extra costs of an imported oral contraceptive,' which was ranked by 101 pharmacists) or (2) whether the health insurer would reimburse an alternative (BO-consideration O13: 'Whether the health insurer will reimburse the/an alternative,' which was ranked by 119 pharmacists). The former consideration was ranked in the Contraceptive scenario, the latter, in the Osteoporosis scenario. In the Netherlands, contraceptives are not reimbursed for women who are above 20 years. Although more pharmacists were inclined to import the contraceptive (Table 3, intended action option 5), pharmacists may have reasoned that this would only make sense when women are willing to pay the extra costs. At the time of the contraceptive shortage, the relative price of the imported contraceptive was higher than the listed price in the Netherlands. Pharmacies would incur an economic burden as the higher price of the imported medicine would not be reimbursed.[20] The large number of contraceptive users may also have influenced the reasoning of some pharmacists. The frequently ranked BO-consideration C5 can be better understood in this context. For the osteoporosis medicine (Table 3, intended action option 5), alternatives were available in the Netherlands, so importing was not necessary for most of the patients. However, these alternatives were either less practical (e.g. daily doses of 10 mg alendronic acid instead of 70 mg once a week) or more expensive (e.g. combining alendronic acid with vitamin D). Besides, from a pharmacotherapeutic perspective, a patient may experience no negative health effects from temporary ceasing to take a bisphosphonate such as alendronic acid. Nevertheless, the pharmacist would have to explain these options to the patient. If the pharmacist and the patient decide together that importing the 70 mg alendronic acid is the most appropriate decision, the pharmacist or the

patient may be impacted economically. In the Netherlands, every patient is compulsorily insured for their (pharmaceutical) healthcare. The insurer would either have to pay for the imported drugs, which would generally be more expensive, or patients would have to pay for the imported drug themselves. Of course a BO-MRP does not imply that the pharmacist who reasons from that perspective lacks patient-centredness completely. When pharmacists rank considerations about 'patients' ability or willingness to pay for the alternative medicine' as very influential in handling a drug shortage, they might reason from the perspective that the patient cannot afford a drug, but might also reason from the perspective of their own business interests because this can imply that they won't get paid.

Lastly, pharmacists' reasoning with respect to rules and regulations mainly concerned their adherence to drug shortage advice issued by the Royal Dutch Pharmacists Association, KNMP (RR-consideration C1: 'That I adhere to the advice regarding this shortage on the Farmanco website,' which was ranked by 133 pharmacists). This consideration can be explained by the Dutch drug shortage problem, which has increased substantially over the last 10 years. Between 2008 and 2018, new cases of drug shortages (mainly temporary shortages) increased from 190 medicines to 769, and the number of shortages nearly doubled to 1500 shortages in 2019.[63] Pharmacists are professionally supported by their professional organisation, which runs a website to provide advice on the expected duration of shortages and potential solutions. This information may save time and help pharmacists choose the optimal solution for an individual patient.

Overall, pharmacists' moral reasoning perspectives regarding the three drug shortages suggest that Dutch pharmacists are particularly challenged in their PE-MRP when an alternative treatment is either expensive and not covered by the health insurer or when they perceive the drug shortage's impact on a patient's health outcome as low to medium (Table 2). In these cases, a business orientation reasoning may become more prominent.

Strengths and Limitations

Because three methods to recruit community pharmacists to complete this study were used, it is expected that all community pharmacists (N ≈ 2900) in the Netherlands could have received at least one invitation. However, we are aware that many pharmacists receive large amounts of emails and newsletters every day and probably a significant proportion of the invited pharmacists might not have actually read the invitation. We achieved a response of 10%, which is reasonable for this type of study. The respondents were representative of all pharmacists working in Dutch community pharmacy except for the percentage of primary responsible pharmacists. Their relatively higher percentage may be due to two reasons: their

end responsibility for drug shortage problems and thereto related decisions, and a lower number of locum pharmacists since 2017. Furthermore, it might be that pharmacists with a more strongly developed sense of professional ethics may have been more likely to respond.

Another strength of this study is that we used three scenarios that were very likely to be familiar to all respondents. Moreover, handling options and moral considerations were formulated with the aid of a panel of practicing pharmacists who share the same professional values, practice and language as the participants.[49] The validity of the survey was confirmed by the PCA. The three scenarios were also intentionally chosen for the perceived differences in their potential impact (i.e. perceived relevance) on patients' health outcomes. However, with these three drug shortages we have not captured all drug shortages and thereto related potential handling options. We therefore cannot generalize pharmacists' MRPs to all sorts of drug shortages.

Insights into moral reasoning can help individual pharmacists to reflect on their motives for handling drug shortages and can also be used for pre- and postgraduate education on professional ethics development. Since drug shortages are still increasing and likely to remain present in the coming years,[6] pharmacists must prepare themselves and develop their professional ethics MRP to professionally act in situations of drug shortages. This ability may improve patient care and protect pharmacists from moral distress. In order to develop pharmacists' professional ethics MRP more attention should be given to the reflection on and handling of moral dilemmas both in pre- and postgraduate education. The technique of moral case deliberation may be suitable for this.[64,65]

CONCLUSION

We conclude that pharmacists do consider responsible pharmaceutical care for patients in drug shortage situations. However, this professional ethics moral reasoning perspective can be overruled by a business orientation perspective when the drug shortage may be perceived to have a lower impact on patient outcomes and when alternative drugs or therapy are expensive.

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APPENDIX

TABLE 6: Survey of moral reasoning of community pharmacists in situations of drug shortages

Drug shortage scenario 1 – Contraceptive
Mrs. B., 22, is at the counter with a repeat prescription for ethinylestradiol/levonorgestrel 0.03/0.150 mg tablets (oral). Mrs. B. says that without this contraceptive pill she will be bedridden for at least two days during her period due to severe menstrual pain. Ethinylestradiol/levonorgestrel 0.03/0.15 mg tablets will only be available again in 6 months, and the pharmacy has nothing in stock. This contraceptive is not available anywhere in the Netherlands.
Question 1. How likely would you be to handle this situation the following way? *Rating options: very likely, likely, unlikely, very unlikely*
1. I explain to the patient that I cannot dispense the medicine due to its shortage
2. I refer the patient to the prescriber for possible alternative (pharmaceutical) treatments
3. I propose a possible alternative pharmaceutical treatment to the prescriber
4. I discuss possible alternative (pharmaceutical) treatments with the patient
5. I import the medicine of which there is a shortage
6. I have made agreements in advance with the prescribers in my area related to alternatives for this drug shortage
7. I have made agreements in advance with pharmacists in my area related to alternatives for this drug shortage
8. I advise the patient to check whether another pharmacy has this medicine in stock
9. I check other pharmacies in my area on behalf of the patient to see if they still have this medicine in stock
Question 2. To what extent do the following considerations play a role in handling this drug shortage scenario? *Rating options: very strong, strong, weakly, very weakly, no role*
1. That I adhere to the advice regarding this shortage on the Farmanco website
2. That the patient may suffer from menstrual pain without contraception
3. That every patient has equal access to this oral contraceptive
4. Whether the Health and Youth Care Inspectorate consents to the import of this oral contraceptive
5. Whether the patient is willing to pay the extra costs of an imported oral contraceptive
6. The number of patients for whom I may have to import a foreign oral contraceptive
7. That I do not deviate from professional guidelines
8. Whether the patient's neighbour comes to the pharmacy where I work
9. Whether I run the risk of a complaint from a disciplinary court for healthcare
10. Whether I can answer the care question of this patient with my pharmaceutical expertise
11. Whether pharmacists in the vicinity of my pharmacy import this oral contraceptive
12. The expected duration for which the patient cannot use ethinylestradiol/levonorgestrel 0.03/0.150 mg tablets
13. The relative price of imported ethinylestradiol/levonorgestrel

TABLE 6: Continued

Question 3. Choose the four considerations most important for you to deal with this scenario and rank these four considerations as follows: position 1 (most important) to position 4 is (fourth-most important).
Drug shortage scenario 2 – Parkinson's
The wife of 78-year-old Mr G. is standing at the counter with a prescription for her husband. Her husband has Parkinson's and does not go outside without her. Six-times daily levodopa/carbidopa "125" and 1-time daily ropinirole 8 mg have been prescribed by a neurologist. Mr G.'s wife states that her husband is well-adjusted to levodopa/carbidopa. The levodopa/carbidopa '125' combination has not been available for some time and is expected again in 3 months.
Question 1. How likely would you be to handle this situation the following way? *Rating options: very likely, likely, unlikely, very unlikely*
1. I explain to the patient that I cannot dispense the medicine due to its shortage
2. I refer the patient to the prescriber for possible alternative (pharmaceutical) treatments
3. I propose a possible alternative pharmaceutical treatment to the prescriber
4. I discuss possible alternative (pharmaceutical) treatments with the patient
5. I import the medicine of which there is a shortage
6. I have made agreements in advance with the prescribers in my area related to alternatives for this drug shortage
7. I have made agreements in advance with pharmacists in my area related to alternatives for this drug shortage
8. I advise the patient to check whether another pharmacy has this medicine in stock
9. I check other pharmacies in my area on behalf of the patient to see if they still have this medicine in stock
Question 2. To what extent do the following considerations play a role in the handling of this drug shortage scenario?
1. That every patient has equal access to levodopa/carbidopa 125 mg
2. That I adhere to the contract with the health insurer
3. That this patient is a regular customer who takes many medications
4. That in the case of Parkinson's medication I never deviate from the KNMP Drug Substitution Guideline
5. That Parkinson's can worsen when the patient receives alternative treatment
6. That the treating neurologist is a good friend of mine
7. That I can trust the quality of imported levodopa/carbidopa 125 mg tablets
8. That the patient may go to another pharmacy if I do not solve this problem
9. Whether I can do something for this patient with my pharmaceutical expertise
10. That I adhere to the advice/prescription of the treating prescriber
11. Whether the Health and Youth Care Inspectorate consents to the import of levodopa/carbidopa 125 mg tablets
12. That the neurologist recognises my pharmaceutical expertise with Parkinson's
13. That the extra time I spend searching for an alternative will not be reimbursed

TABLE 6: Continued

Question 3. Choose the four considerations most important for you to deal with this scenario and rank these four considerations as follows: position 1 (most important) to position 4 is (fourth-most important).
Drug shortage scenario 3 – Osteoporosis
Mr. M., 76, is in the pharmacy with a repeat prescription for alendronic acid 70 mg. He has been using this medicine every week for three years for his osteoporosis. A year ago, he broke his arm due to a fall. Alendronic acid 70 mg will probably not be available again for a month. Mr M. indicates that he no longer has this medication left at home.
Question 1. How likely would you be to handle this situation the following way? *Rating options: very likely, likely, unlikely, very unlikely*
1. I explain to the patient that I cannot dispense the medicine due to its shortage
2. I refer the patient to the prescriber for possible alternative (pharmaceutical) treatments
3. I propose a possible alternative pharmaceutical treatment to the prescriber
4. I discuss possible alternative (pharmaceutical) treatments with the patient
5. I import the medicine of which there is a shortage
6. I have made agreements in advance with the prescribers in my area related to alternatives for this drug shortage
7. I have made agreements in advance with pharmacists in my area related to alternatives for this drug shortage
8. I advise the patient to check whether another pharmacy has this medicine in stock
9. I check other pharmacies in my area on behalf of the patient to see if they still have this medicine in stock
Question 2. To what extent do the following considerations play a role in the handling of this drug shortage scenario?
1. That the patient may go to another pharmacy if I do not solve this problem
2. That I receive a complaint from the Community Pharmacists Disputes Committee
3. That weekly administration is preferable to daily administration for ease of use
4. That I do not deviate from the Fracture Prevention Guideline of The Dutch College of General Practitioners
5. Whether not using alendronic acid for a few weeks is a problem
6. Whether the patient has read about the medicine on the Internet
7. That I have a valid prescription if I were to substitute
8. Whether the Health and Youth Care Inspectorate consents to the import of alendronic acid 70 mg
9. That when I receive a prescription, I always want to deliver the medicine because I am paid per prescription-line
10. Whether there is evidence that alternative bisphosphonates are equally effective
11. That the extra time I spend searching for an alternative will not be reimbursed
12. That the patient worries that he will break a bone again
13. Whether the health insurer will reimburse the/an alternative

TABLE 6: Continued

Question 3. Choose the four considerations most important for you to deal with this scenario and rank these four considerations as follows: position 1 (most important) to position 4 is (fourth-most important).
Remaining general questions on Gender/Age/Pharmacy type/Job profile

TABLE 7: Characteristics of responding pharmacists in comparison to national data

	Our study	**National data**
Gender (female)	63.0	65.4[1]
Age (IQR)	32-52 years	30-50 years[1]
Working in a (small) chain pharmacy	39.0	30.5[2]
Job position		
• Primary responsible pharmacist	79.0	65.0[3]
• Locum pharmacist	17.6	
• Missing	3.4	

[1] Statistics Netherlands (CBS), 2017: Quantitative data on the number of BIG-registered pharmacists working in the Dutch care sector.

[2] National data on 1,996 community pharmacies per January 1, 2018, which were published by the Foundation for Pharmaceutical Statistics in The Hague in its Annual Report ''SFK Data en feiten 2019''.

[3] National data on 1,994 community pharmacies per January 1, 2017, which were published by the Foundation for Pharmaceutical Statistics in The Hague in its Annual Report ''SFK Data en feiten 2017''.

TABLE 8: Corrected MRP rating and MRP ranking score percentages of Dutch community pharmacists (N = 267) for three moral reasoning perspectives in three drug shortage scenarios

	Moral reasoning perspective (MRP)[1] within Contraceptive scenario			**Moral reasoning perspective (MRP)[1] within Parkinson's scenario**			**Moral reasoning perspective (MRP)[1] within Osteoporosis scenario**		
	BO	**RR**	**PE**	**BO**	**RR**	**PE**	**BO**	**RR**	**PE**
Eligible Consideration[2]	**C6, C11**	**C4, C5, C7,**	**C2, C3, C10**	**P3, P8, P12, P13**	**P11**	**P5, P7, P9**	**O1, O2, O9, O11**	**O7, O8**	**O10, O12**
MRP rating score[3] percentage (%)	25.1	34.5	40.4	22.9	32.5	44.6	18.6	34.0	47.4
MRP ranking score[4] percentage (%)	6.7	26.4	66.9	7.9	17.1	74.9	8.0	21.9	70.1

[1] MRP = Moral reasoning perspective: BO = Business orientation MRP
RR = Rules and regulations MRP
PE = Professional ethics MRP

[2] Consideration: C (1–13) = Considerations of Contraception drug shortage scenario
P (1–13) = Considerations of Parkinson's drug shortage scenario
O (1–13) = Considerations of Osteoporosis drug shortage scenario

[3] MRP rating score percentage per MRP is based on the rating data and therein on the eligible PCA correlations of considerations of each perspective (PCA correlation value ≥ 0.35, or a difference of > 0.2 between the correlation values if a statement loaded highly on more than one component), and based on a corrected MRP (RR-consideration O2 has been analysed as a BO-MRP rating score; BO-consideration C5 has been analysed as a RR-MRP rating score).

[4] MRP ranking score percentage per MRP is based on the ranking data and only on ranked considerations of each perspective (percentage is based on the same rules as for the MRP rating score percentage).

TABLE 9: Number of times ranked considerations by Dutch community pharmacists (N = 267)

	Contraceptive scenario consideration	Moral reasoning perspective (MRP)	Number of times ranked
C5	Whether the patient is willing to pay the extra costs of an imported oral contraceptive	BO	101
C13	The relative price of imported ethinylestradiol/levonorgestrel	BO	55
C6	The number of patients for whom I may have to import a foreign oral contraceptive	BO	46
C11	Whether pharmacists in the vicinity of my pharmacy import this oral contraceptive	BO	10
C1	That I adhere to the advice regarding this shortage on the Farmanco website	RR	133
C7	That I do not deviate from professional guidelines	RR	38
C4	Whether the Health and Youth Care Inspectorate consents to the import of this oral contraceptive	RR	84
C9	Whether I run the risk of a complaint from a disciplinary court for healthcare	RR	24
C10	Whether I can answer the care question of this patient with my pharmaceutical expertise	PE	188
C3	That every patient has equal access to this oral contraceptive	PE	127
C2	That the patient may suffer from menstrual pain without contraception	PE	124
C12	The expected duration for which the patient cannot use ethinylestradiol/levonorgestrel 0.03/0.150 mg tablets	PE	137
C8	Whether the patient's neighbour comes to the pharmacy where I work	M	1
	Parkinson's scenario consideration	**MRP**	**Number of times ranked**
P12	That the neurologist recognises my pharmaceutical expertise with Parkinson	BO	30
P3	That this patient is a regular customer who takes many medications	BO	35
P8	That the patient may go to another pharmacy if I do not solve this problem	BO	5
P13	That the extra time I spend searching for an alternative will not be reimbursed	BO	24
P10	That I adhere to the advice / prescription of the treating prescriber	RR	88
P4	That in the case of Parkinson's medication I never deviate from the KNMP Drug Substitution Guideline	RR	89

TABLE 9: Continued

	Parkinson's scenario consideration	MRP	Number of times ranked
P11	Whether the Health and Youth Care Inspectorate consents to the import of levodopa/carbidopa 125 mg tablets	RR	76
P2	That I adhere to the contract with the health insurer	RR	12
P9	Whether I can do something for this patient with my pharmaceutical expertise	PE	190
P5	That Parkinson's can get worse when the patient receives alternative treatment	PE	235
P1	That every patient has equal access to levodopa/carbidopa 125 mg	PE	174
P7	That I can trust the quality of imported levodopa/carbidopa 125 mg tablets	PE	109
P6	That the treating neurologist is a good friend of mine	M	1
	Osteoporosis scenario consideration	**MRP**	**Number of times ranked**
O13	Whether the health insurer reimburses the/an alternative	BO	119
O1	That the patient may go to another pharmacy if I do not solve this problem	BO	22
O11	That the extra time I spend searching for an alternative will not be reimbursed	BO	32
O9	That when I receive a prescription, I always want to deliver the medicine because I am paid per prescription-line	BO	3
O4	That I do not deviate from the Fracture Prevention Guideline of The Dutch College of General Practitioners	RR	65
O7	That I have a valid prescription if I were to substitute	RR	65
O8	Whether the Health and Youth Care Inspectorate consents to the import of alendronic acid 70 mg	RR	59
O2	That I receive a complaint through the Community Pharmacists Disputes Committee	RR	8
O12	That the patient worries that he will break a bone again	PE	167
O5	Whether not using alendronic acid for a few weeks is a problem	PE	192
O10	Whether there is evidence that alternative bisphosphonates are equally effective	PE	169
O3	That weekly administration is preferable to daily administration for ease of use	PE	162
O6	Whether the patient has read about the medicine on the Internet	M	5

CHAPTER 3.3

POTENTIAL PATIENT OUTCOME INFLUENCES COMMUNITY PHARMACISTS' MORAL REASONING IN DRUG SHORTAGE SITUATIONS

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ABSTRACT

Background: Although the nature, extent and impact of drug shortages on patients have been researched extensively, the impact on pharmacists' moral reasoning and pharmacists' dominant moral reasoning perspective (MRP) has not.

Objective: To identify determinants of community pharmacists' dominant MRPs in situations of drug shortages.

Setting: Dutch community pharmacy

Methods: An electronic survey about three drug shortage scenarios with a varying impact on patient outcomes (a Contraceptive, a Parkinson's and an Osteoporosis scenario) was distributed among 267 community pharmacists. Pharmacists provided several characteristics (gender, age, type of pharmacy and job profile), rated the likelihood of nine intended handling options and rated and ranked 13 considerations that may have played a role in the situations. The considerations represented three MRPs: a business orientation, rules and regulations and professional ethics MRP.

Main outcome measure: Associations between determinants and dominant MRPs.

Results: When confronted with the Osteoporosis, Contraceptive and Parkinson's drug shortage scenarios, 199 (74.5%), 164 (61.4%) and 212 (79.4%) pharmacists had dominant PE-MRPs, respectively. Managing pharmacists (adjusted odds ratio (OR), 0.51; 95% confidence interval (CI), 0.32-0.83) and the Contraceptive scenario (OR, 0.42; 95% CI, 0.28-0.62) were significantly associated with a lower likelihood of a dominant PE-MRP. Only in the Parkinson's drug shortage scenario, pharmacists with dominant PE-MRPs were significantly more likely to import the medicine (OR, 3.04; 95% CI, 1.62-5.72).

Conclusion: Community pharmacists' dominant PE-MRPs are especially influenced by the potential impact of a drug shortage scenario on patient outcomes rather than by pharmacists' characteristics.

INTRODUCTION

Worldwide drug shortages present serious challenges to pharmacists. Pharmacists are professionals that have the responsibility to deliver appropriate drug therapy. This professional duty is hampered when drugs become unavailable. Most research on drug shortages in community pharmacy has focused on the nature and extent of these shortages, on the impact of these shortages on patients and pharmacists and on practical solutions to solve these shortages.[1-7] Although these studies make clear that drug shortages have moral as well as economic implications for pharmacists, the problem is not discussed in terms of its impact on pharmacists' ethical decision-making in daily practice.[8] 'What is the 'right' thing to do?' is a moral question for pharmacists when confronted with a shortage of a drug that a particular patient needs for possibly chronic health problems. In such a situation, what is most appropriate for a patient, to dispense a potentially less suitable alternative medicine or a less appropriate dosage form[2,4,9] or to not dispense an alternative medicine at all?

In a previous study[10], three developmental levels of moral reasoning perspectives (MRPs) among pharmacists in situations of drug shortages were investigated. A moral reasoning measure then was developed and validated. That study showed that pharmacists' intended handling of these shortages was influenced predominantly by the professional ethics MRP (PE-MRP) and to a much lesser extent by the business orientation MRP (BO-MRP) and the rules and regulations MRP (RR-MRP). The moral reasoning scores for each perspective for the total group of pharmacists were calculated. Such scores represent the relative importance participants give to a certain MRP in their moral decision-making process.[11]

However, relative MRP scores do not provide information on a dominant MRP in the reasoning of a pharmacist, which may characterize that pharmacist.[12] Thus, it is still unknown if pharmacists differ in their dominant MRPs. It would be interesting to know if there are pharmacist characteristics that may explain different dominant MRPs and if pharmacists with different MRPs handle situations of drug shortages differently.

The aim of the present study is to identify determinants of community pharmacists' MRPs in situations of drug shortages.

METHODS

In our previous study, an electronic survey was developed and validated (Appendix (Table 6) of Chapter 3.2). The survey explored Dutch community pharmacists' MRPs when handling three situations of drug shortages: a contraceptive shortage (Contraceptive scenario), a levodopa shortage (Parkinson's scenario) and an alendronic acid shortage (Osteoporosis scenario; Table 2 in Chapter 3.2).

Data collection

The survey was developed to measure the extent to which the three MRPs (i.e. the BO-MRP, RR-MRP and PE-MRP) played a role in pharmacists' reasoning in the three situations of drug shortages. For this, the respondents had to use a 4-point scale (very likely, likely, unlikely and very unlikely) to rate the likelihood that they would use each of the nine options of intended action in the three drug shortage situations. The respondents then had to rate the extent to which 13 considerations would play a role in their handling of each drug shortage problem using a 5-point scale (very strong, strong, weakly, very weakly and no role). Finally, the respondents had to rank their four most relevant considerations.

The respondents also provided their gender, age, type of pharmacy (chain or non-chain) and job profile (managing or locum pharmacist).

Identifying pharmacists' dominant MRPs

For each responding pharmacist an MRP ranking score was calculated for each drug shortage scenario. For that ranking score, a numerical weight from 4 (first-ranked) to 1 (fourth-ranked) was given to each ranked consideration.[10] Per MRP per scenario, the weights were totalled. A respondent could receive a maximum score per MRP per scenario of 10 points (if four considerations of one MRP were ranked) and a minimum score of 0 points (if no considerations of one MRP were ranked). A dominant MRP within each drug shortage scenario was defined by an MRP ranking score of at least 6 points (i.e. from 6 onwards to 10, the numerical weight of the score suggests a higher presence of the MRP in the respondent) and a score of at least 18 points in all three scenarios together. For example, if respondents scored 6 out of 10 points for their PE-MRP ranking scores for one drug shortage scenario, these respondents would be counted as having a dominant PE-MRP for their intended handling options in that drug shortage scenario. Per drug shortage scenario and in all three scenarios together, pharmacists with a dominant BO-, RR- and PE-MRP ranking score were counted and numbered in three groups: pharmacists with a dominant BO-, RR- or PE-MRP, respectively. The pharmacists who did not receive such identification were labelled as 'unclear MRP'.

Data analysis

The determinants are gender, age, type of pharmacy, job profile and type of drug shortage (Appendix (Table 7) of Chapter 3.2). Along with these determinants, pharmacist MRP in itself was used as a determinant for possible variation in likelihood of intended actions to address the shortages. SPSS 25 was used for all data analysis.

Differences in determinants between the pharmacists with different dominant MRPs were first tested with a univariate and then multivariate binary logistic model.

Possible associations between pharmacists with different dominant MRPs and the likelihood of the nine intended action options were tested with a chi-square test.

Ethics approval

The Institutional Review Board Utrecht of the division Pharmacoepidemiology & Clinical Pharmacology at Utrecht University formally approved the research.

RESULTS

Two hundred sixty-seven respondents (94% community pharmacists and 6% early career pharmacists practising in community pharmacy) completed the survey. Of these respondents, 63% were women, 39% worked in chain pharmacies and 79% were managing pharmacists (primarily responsible pharmacists) at their pharmacies, and the median age was 42 years (IQR = 32–52 years). References of these characteristics to national data are included in Appendix (Table 7) of Chapter 3.2. Nine pharmacists did not provide information about their job profiles. The data from these nine respondents were excluded from the determinant analysis. For the remaining 258 pharmacists, dominant MRPs were calculated for 3 scenarios*258 respondents = 774 scenarios (Table 2). For testing possible associations between pharmacists with different dominant MRPs and the likelihood of the nine intended action options, the data of all 267 respondents were included (Table 3).

Table 1 shows the number of identified pharmacists with dominant PE-MRPs, RR-MRPs and BO-MRPs and unclear MRPs in the Osteoporosis, the Contraceptive and the Parkinson's drug shortage scenarios and in all these scenarios together. Because the number of identified pharmacists with dominant RR- or BO-MRPs is too small, no further determinant analysis could be performed within these groups of pharmacists. Therefore, for the determinant analysis, the group of identified pharmacists with dominant PE-MRPs was compared with the total group of pharmacists who did not have dominant PE-MRPs (i.e. pharmacists with dominant RR-MRPs, dominant BO-MRPs and unclear MRPs).

TABLE 1: Pharmacists' dominant MRPs per drug shortage scenario (267 pharmacists)

Drug shortage scenario	Pharmacists with dominant PE-MRPs	Pharmacists with dominant RR-MRPs	Pharmacists with dominant BO-MRPs	Pharmacists with unclear dominant MRPs
	n (%)	n (%)	n (%)	n (%)
Osteoporosis	199 (74.5)	13 (4.9)	13 (4.9)	42 (15.7)
Contraceptive	164 (61.4)	24 (9.0)	8 (3.0)	71 (26.6)
Parkinson's	212 (79.4)	16 (6.0)	0 (0.0)	39 (14.6)
All three scenarios	124 (46.4)	1 (0.4)	0 (0.0)	142 (53.2)

TABLE 2: Determinants of a dominant PE-MRP (774 scenarios)

Determinants	Number of scenarios (%) in which pharmacists				Odds ratio (95% CI)[a]	
	have dominant PE-MRPs n = 551		do not have dominant PE-MRPs n = 223		Crude	Adjusted[b]
Gender						
Female	348	(63.2)	141	(63.2)	1 (reference)	1 (reference)
Male	203	(36.8)	82	(36.8)	1.00 (0.73–1.38)	1.06 (0.76–1.49)
Age						
< 45 years	315	(57.2)	126	(56.5)	1 (reference)	1 (reference)
45 years and above	236	(42.8)	97	(43.5)	0.97 (0.71–1.33)	1.12 (0.79–1.58)
Job profile						
Locum pharmacist	113	(20.5)	28	(12.6)	1 (reference)	1 (reference)
Managing pharmacist	438	(79.5)	195	(87.4)	**0.56 (0.36–0.87)**	**0.51 (0.32–0.83)**
Type of pharmacy						
Not working in a chain pharmacy	340	(71.7)	134	(60.1)	1 (reference)	1 (reference)
Working in a chain pharmacy	211	(38.3)	89	(39.9)	0.93 (0..68–1.28)	1.02 (0.73–1.42)
Scenario						
Parkinson's disease (high impact on patient outcomes)	203	(36.8)	55	(24.7)	1 (reference)	1 (reference)
Contraceptive (medium impact on patient outcomes)	157	(28.5)	101	(45.3)	**0.42 (0.28–0.62)**	**0.42 (0.28–0.62)**
Osteoporosis (low impact on patient outcomes)	191	(34.7)	67	(30.0)	0.77 (0.51–1.16)	0.77 (0.52–1.16)

[a] Bold values indicate statistical significance.

[b] Adjusted for all other variables.

As shown in Table 2, only managing pharmacists and the Contraceptive scenario were significantly associated with a lower likelihood of a dominant PE-MRP.

Table 3 shows that only the intended action option 'I would likely import the medicine of which there is a shortage' in the Parkinson's drug shortage scenario (i.e. the scenario perceived to have a high impact on patient outcomes) is significantly associated with a dominant PE-MRP compared with the Osteoporosis and Contraceptive scenarios, where this association was not found. Pharmacists with dominant PE-MRPs are, in that situation, three times more likely to import the medicine of which there is a shortage than pharmacists without PE-MRPs. Apart from that, none of the other intended actions were associated with pharmacists having PE-MRPs.

TABLE 3: Association between the likelihood of nine intended actions and pharmacists with and without dominant PE-MRPs in three drug shortage scenarios (267 pharmacists)

Intended action in three drug shortage scenarios	Pharmacists with dominant PE-MRPs	Pharmacists without dominant PE-MRPs	Odds ratio[a]
	n (%)	n (%)	(95% CI)
1. I would likely explain to the patient that I cannot dispense the medicine due to its shortage			
Osteoporosis (low impact on patient outcomes)	167/199 (83.9)	59/68 (86.8)	0.80 (0.36–1.77)
Contraceptive (medium impact on patient outcomes)	119/164 (72.6)	78/103 (75.7)	0.85 (0.48–1.49)
Parkinson's (high impact on patient outcomes)	156/212 (73.6)	46/55 (83.6)	0.54 (0.25–1.18)
2. I would likely refer the patient to the prescriber for possible alternative (pharmaceutical) treatments			
Osteoporosis (low impact on patient outcomes)	52/199 (26.1)	19/68 (27.9)	0.91 (0.49–1.69)
Contraceptive (medium impact on patient outcomes)	61/164 (37.2)	46/103 (44.7)	0.73 (0.44–1.21)
Parkinson's (high impact on patient outcomes)	82/212 (38.7)	22/55 (40.0)	0.95 (0.52–1.73)
3. I would likely propose a possible alternative pharmaceutical treatment to the prescriber			
Osteoporosis (low impact on patient outcomes)	186/199 (93.5)	63/68 (92.6)	1.14 (0.39–3.31)
Contraceptive (medium impact on patient outcomes)	148/164 (90.2)	91/103 (88.3)	1.22 (0.55–2.69)
Parkinson's (high impact on patient outcomes)	190/212 (89.6)	52/55 (94.5)	0.50 (0.14–1.73
4. I would likely discuss possible alternative pharmaceutical treatments with the patient			
Osteoporosis (low impact on patient outcomes)	182/199 (91.5)	62/68 (91.2)	1.04 (0.39–2.74)
Contraceptive (medium impact on patient outcomes)	148/164 (90.2)	94/103 (91.3)	0.89 (0.38–2.09)
Parkinson's (high impact on patient outcomes)	186/212 (87.7)	43/55 (78.2)	2.00 (0.93–4.27)
5. I would likely import the medicine of which there is a shortage			
Osteoporosis (low impact on patient outcomes)	36/199 (18.1)	18/68 (26.5)	0.61 (0.32–1.17)
Contraceptive (medium impact on patient outcomes)	102/164 (62.2)	61/103 (59.2)	1.13 (0.68–1.87)
Parkinson's (high impact on patient outcomes)	169/212 (79.7)	31/55 (56.4)	**3.04 (1.62–5.71)**
6. I would likely have made agreements in advance with the prescribers in my area related to alternatives for this drug shortage			
Osteoporosis (low impact on patient outcomes)	141/199 (70.9)	47/68 (69.1)	1.09 (0.60–1.98)
Contraceptive (medium impact on patient outcomes)	137/164 (83.5)	77/103 (74.8)	1.71 (0.93–3.14)
Parkinson's (high impact on patient outcomes)	123/212 (58.0)	25/55 (45.5)	1.66 (0.91–3.01)

TABLE 3: Continued

Intended action in three drug shortage scenarios	Pharmacists with dominant PE-MRPs	Pharmacists without dominant PE-MRPs	Odds ratio[a]
	n (%)	n (%)	(95% CI)
7. I would likely have made agreements in advance with pharmacists in my area related to alternatives for this drug shortage			
Osteoporosis (low impact on patient outcomes)	85/199 (42.7)	24/68 (35.3)	1.37 (0.77–2.42)
Contraceptive (medium impact on patient outcomes)	87/164 (53.0)	46/103 (44.7)	1.40 (0.85–2.30)
Parkinson's (high impact on patient outcomes)	85/212 (40.1)	19/55 (34.5)	1.27 (0.68–2.36)
8. I would likely advise the patient to check whether another pharmacy has this medicine in stock			
Osteoporosis (low impact on patient outcomes)	22/199 (11.1)	8/68 (11.8)	0.93 (0.39–2.20)
Contraceptive (medium impact on patient outcomes)	20/164 (12.2)	13/103 (12.6)	0.96 (0.46–2.03)
Parkinson's (high impact on patient outcomes)	26/212 (12.3)	12/55 (21.8)	0.50 (0.23–1.07)
9. I would likely check other pharmacies in my area on behalf of the patient to see if they still have this medicine in stock			
Osteoporosis (low impact on patient outcomes)	129/199 (64.8)	51/68 (75.0)	0.61 (0.33–1.14)
Contraceptive (medium impact on patient outcomes)	109/164 (66.5)	75/103 (72.8)	0.74 (0.43–1.27)
Parkinson's (high impact on patient outcomes)	174/212 (82.1)	47/55 (85.5)	0.78 (0.34–1.78)

[a] Bold values indicate statistical significance.

DISCUSSION

This study showed that a professional ethics moral reasoning perspective (PE-MRP) was the dominant reasoning perspective for the majority of pharmacists independent of those pharmacists' characteristics. The perceived impact of a drug shortage scenario showed a stronger association with the MRP than with the characteristics of the pharmacists. Pharmacists confronted with the Parkinson's drug shortage scenario were more likely to have dominant PE-MRPs compared to pharmacists confronted with the Contraceptive drug shortage scenario. Compared to the Osteoporosis scenario, the Parkinson scenario showed a trend towards an association with a dominant PE-MRP. Managing pharmacists were less likely to have a dominant PE-MRP compared to locum pharmacists. As for the association

between a PE-MRP and the likelihood of the nine intended actions, only the intended action 'I would likely import the medicine of which there is a shortage' was positively associated with a dominant PE-MRP and only within the Parkinson's disease scenario.

This study clearly shows that the potential impact of a drug shortage on patient outcomes has the strongest association with a PE-MRP. Pharmacists confronted with the Contraceptive drug shortage, with a perceived medium impact on patient outcomes, were significantly less likely to have dominant PE-MRPs compared to pharmacists confronted with the Parkinson's drug shortage, with a perceived high impact on patient outcomes.

Being a managing pharmacist was negatively associated with a PE-MRP in situations of drug shortages. Managing pharmacists may have reasons to give higher priority to both rules and regulations and business orientation considerations. Dutch managing pharmacists may experience more conflicts of professional ethics with adherence to rules and regulations and the financial impact of solutions to drug shortages on the continuity of the pharmacy. Concerns regarding the financial aspects of pharmacy practice in relation to patient safety have been discussed in various studies.[4,13] Managing pharmacists may make some concessions regarding their PE-MRPs in the Contraceptive scenario. They might decide to offer an alternative contraceptive dependent on the ability of patients to pay for it rather than import it, whereby the pharmacy may have a financial loss. In the case of the Parkinson's drug shortage, with a potential high impact on patient outcomes, financial concerns seem to become less important in the moral reasoning of managing pharmacists as well as locum pharmacists, as both would import the Parkinson's disease medicine with no (financial) strings attached for the patient. The large number of contraceptive users in an average pharmacy in the Netherlands, compared to the much lower number of users of a Parkinson's disease medicine, may play an important role in this difference (see Appendix B). In addition, pharmacists may take into account the frailty of patients with Parkinson's disease. Concurrently, managing pharmacists probably have less patient contacts compared to locum pharmacists.[14] This may also explain managing pharmacists' lower likelihood of a predominant PE-MRP, as patient orientation is not a major day-to-day aspect of the pharmacy work of a managing pharmacist.

In this study, gender, age and working in a chain pharmacy were not significantly associated with a dominant PE-MRP. Although gender has sometimes been associated with moral development, there is no clear consensus that gender plays an important role.[15,16] This is confirmed by our study. Age differences may also reflect duration of practice. Viewed in that way, the result of the present study contrasts Latif's study, which showed that greater years of pharmacists' tenure was negatively associated with higher levels of moral reasoning.[17] Perhaps the reason for this is not the age difference but the fact that older pharmacists are

more often also managing pharmacists. In our study, increasing age showed a trend of a negative association with a dominant PE-MRP in a univariate model. In the multivariate model, this trend reversed, suggesting a confounding effect of job profile.

We did not find an association between pharmacists working in a chain pharmacy and a PE-MRP (shown in both the crude as well as the adjusted odds ratios). The effects of working in a chain pharmacy may be complex. On the one hand, the pharmacist may not perceive any personal financial impact of solutions for drug shortages. On the other hand, pharmacy chain management may make different ethical decisions compared to the pharmacists they employ. More research is recommended here in order to gain in-depth insights into the motivation and MRPs of pharmacists employed by pharmacy chains.

Strengths and limitations

A strength of this study is that we used three scenarios that were very likely to be familiar to all respondents.[10] Moreover, because these scenarios were selected for their impact on patient outcomes, this study allowed for comparisons between their possible associations with dominant MRPs. However, more research is warranted with other drug shortage scenarios and practice scenarios other than drug shortages to be able to say something in general about the association between determinants and a dominant PE-MRP.

Because the majority of the participating pharmacists had dominant PE-MRPs, the determinant analysis was only performed for pharmacists with that level of moral reasoning against the pharmacists not having dominant PE-MRPs in each drug shortage scenario. Therefore, we cannot say anything about the MRPs of the pharmacists which we classified as not having dominant PE-MRPs.

CONCLUSION

This study showed that a dominant PE-MRP is especially influenced by the potential impact of a drug shortage scenario on patient outcomes rather than by pharmacists' characteristics.

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"A thought, an action,
an action, a habit,
a habit, a character."

G. de Purucker

Part 4

MORAL REFLECTION IN DIALOGUE

CHAPTER 4

MORAL CASE DELIBERATION WITH DUTCH COMMUNITY PHARMACISTS USING VIDEOCONFERENCING

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Submitted

ABSTRACT

Introduction: Community pharmacists are regularly confronted with moral dilemmas. These may cause moral distress and subsequently may negatively affect the quality of patient care. Moral case deliberation (MCD) is increasingly being used as a method to support medical health professionals to deal with their moral dilemmas by systematic and joint moral reflection. MCD has only been implemented in multidisciplinary groups of secondary care professionals and is unavailable for community pharmacists.

Objective: To explore whether MCD fosters the moral reflectivity required for community pharmacists to make ethical decisions in moral dilemma cases.

Method: A descriptive explorative study of two MCD sessions using videoconferencing with 14 community pharmacists (seven pharmacists per session) and two facilitators was performed. Both sessions were structured using the dilemma method and recorded. All transcribed quotes were deductively coded with the profession's core values as formulated by the Royal Dutch Pharmacists Association to qualitatively analyse on the basis of which of these values the pharmacists deliberated during the sessions. A questionnaire was used to evaluate the participants' experiences with the sessions afterwards.

Results: All profession's core values played a role in the participants' reflections during the image-formation, judgement-formation and decision-making phases of the MCD sessions. The participants reported the MCD sessions as useful and felt supported in all the relevant phases of ethical decision-making.

Conclusion: MCD has potential to foster community pharmacists' moral reflectivity in the context of professionally resolving moral dilemmas. Participants became more aware of their professional values and the role those values play in substantiating their ethical decision-making.

INTRODUCTION

Most health professionals experience moral dilemmas on a daily basis. Moral dilemmas are characterized by a choice between options neither of which is a clear 'best' course of action, because there always will be a conflict between the values and perspectives of the different parties involved (the patient, other health professionals, institutions, society).[1] Moral dilemmas may cause moral distress in health professionals, which subsequently may negatively affect the quality of care they provide.[2,3] Community pharmacists experience a diversity of moral dilemmas.[4] Although the best scientific evidence, clinical experience and critical thinking are fundamental for appropriate pharmacotherapy, they do not provide a sufficient basis for deciding what to do in situations of moral dilemmas. Reflection on the values and perspectives of all parties involved, especially patients, is essential to good clinical decision making.[5-7] Dealing with moral dilemmas thus requires ethical competencies that accompany clinical competencies. In medical professions, moral case deliberation (MCD) is increasingly used to teach such ethical competencies.[7-10]

MCD is a structured meeting in which answers to a moral question in a concrete case of one of the participants is jointly examined by a group of health professionals under the guidance of a trained facilitator.[11] This method is characterized by participants' systematic moral reflections (i.e. value judgments in relation to the case) and continuous dialogical understanding (i.e. learning from other participants' perspectives) in several methodical steps.[12-14]

Research has shown that MCD may improve ethical competencies, reduce moral distress, stimulate collaboration among health professionals, and enhance quality of care.[3,9,15] As far as we know, MCD has only been evaluated among professionals working in multidisciplinary teams in hospitals and long-term care institutions[8,10,11,14,16,17], and within care for specific patient groups like elderly care [15,18], mental healthcare[16,19] and care for the homeless[20]. Hence, it would be interesting to explore the effects of MCD among community pharmacists.[4,21] Their dilemmas often happen with the patient waiting at the counter and thus need quick settlement. This leaves limited possibilities for extensive moral deliberation at the time of the dilemma. MCD may stimulate the ethical competencies necessary for community pharmacists. Although in some countries systematic step-wise decision-making approaches are available, targeted at the self-learning of individual pharmacists and pharmacy students,[22-25] MCD seems not well-established for community pharmacists yet.[26]

The aim of this study is to explore whether MCD fosters the moral reflectivity required for community pharmacists to make ethical decisions in moral dilemma cases.

METHODS

Study design

This is a descriptive explorative study of community pharmacists' moral reflectivity in two MCD sessions.[27,28] The two dilemma cases are instrumental in investigating the potential effect of the deliberation on the ability to reason based on the pharmacy profession's core values.

Case presenters, participants, facilitators

Ten early career community pharmacists, who had written a moral dilemma narrative during the postgraduate community pharmacist specialisation program they had recently completed, were approached to present their dilemma case during an MCD session. The first three pharmacists who responded positively to the invitation became case presenters (CPs). All CPs were contacted beforehand to prepare them to present their cases in the MCD sessions.

A minimum of five participants per session, excluding the CP, is recommended to perform an MCD session.[8,11] These participants were recruited through the CPs' networks and the electronic newsletter of the Utrecht Pharmacy Practice network for Education and Research.[29]

Two facilitators (MK and EvL), both members of the research team, facilitated the MCD sessions.

Moral case deliberation

During an MCD session, participants learn to systematically unravel a dilemma case by joint reflection and critical investigation of each other's (moral) viewpoints regarding the case.[14,30-32] From their gained shared understanding and moral insights, participants may reach a consensus about what the morally good action for resolving the dilemma case would be, but this is not required. In case no consensus is reached, the conclusion may lead to new questions about what the different viewpoints and ideas may mean for dealing with similar situations in daily practice.[14,33] Participants' decision-making and social performance in moral dilemmas in practice may improve as well.[16,34]

In this study, the dilemma method[11,14,20] was used as the conversation method to structure the deliberation. This well-known method formulates the ethical issue as a dilemma, presented as at least two mutually exclusive options.[11,14,20] The facilitator MK was trained to use the dilemma method.[35] The dilemma method consists of 10 methodical steps, each with a clear aim, as shown in Box 1. The 10 steps are subdivided into three phases[36]: (1) the image-formation phase (steps 2-6), (2) the judgment-formation phase (step 7) and (3) the decision-making

phase (steps 8 and 9). The facilitator's task is to activate participants' ethical competencies without interfering with the content of the dilemma case.[3,33] In this role, the facilitator stimulates the deliberation by encouraging the participants to reflect, ask open questions and listen carefully to each other. The facilitator challenges presuppositions and prejudices with critical questioning to stimulate participants to substantiate those assumptions with moral arguments. The facilitator sees to it that the participants' underlying values become transparent and meaningful in the context of the dilemma case.

During phase 1, the CP shares the dilemma case as a factual situation in a timeline. The CP explains why that situation posed a moral dilemma to him or her and when the dilemma was most strongly felt.[14] In steps 2–4, facts, their meaning, related emotions and values are jointly investigated. The contextual knowledge and insights gained, help the CP to identify and formulate the moral question underlying the dilemma as authentically as possible. The CP also shares the action options at the time of the dilemma and elaborates on those options' negative moral consequences. In step 5, the value perspectives and related actions of the different parties involved are investigated in the context of the facts as experienced by the CP. The CP explains which value perspectives would mostly motivate him or her to choose the different action options, revealing the value conflict of the dilemma. Sometimes, other participants choose conflicting values. In step 6, the participants brainstorm alternative action options for handling the moral dilemma. The clear picture of the dilemma obtained in phase 1 is a prerequisite for the judgment-formation phase (step 7). Here, the participants elaborate on their personal moral judgments regarding the handling of the dilemma case by answering five questions (Box 1). In phase 3, the decision-making phase, the participants formulate answers. In steps 8 and 9, the deliberation focuses on consensus and differences in moral arguments between the participants regarding their personal decisions formulated individually in the judgment-formation phase. Lastly, in step 10, the participants evaluate the MCD session.

The aims and procedures of each step were summarized in a facilitator manual by MK to be able to compare both MCD sessions.

Given the limitations for physical meetings due to COVID-19, Microsoft Teams videoconferencing was used for both MCD sessions.

BOX 1: Dilemma method: three phases and 10 methodical steps[11,14]

Phase	Methodical step
	Step 1 – Introducing **Aim:** To welcome the participants and introduce the case presenter (CP). To explain the aim and procedure of moral case deliberation (MCD) including the 10 methodical steps. To explain the rules of the dialogical inquiry to participants (e.g. open communication and questioning, providing moral arguments for judgments, listening to others). To inform the participants about the roles of the facilitator and the flipchart. To emphasize the confidentiality of the meeting.
1 **Image-formation**	**Step 2 - Presenting the case** **Aim:** To focus on the experiences of the CP who presents the dilemma case. The CP is asked to share the moment of the case in which he/she experienced the moral dilemma most strongly.
	Step 3 - Asking clarification questions **Aim:** To clarify everything that is still unclear in the situation of the moral dilemma by the CP. To (re)construct the situation in order to investigate the moral dilemma.
	Step 4 - Formulating the moral question and action options **Aim:** To make explicit the moral question underlying the moral dilemma (i.e. the question the CP wants to answer in the MCD session) as well as the action options the CP saw at the time of the dilemma, the negative consequences of these action options and the (professional) values involved.
	Step 5 - Analysing the case in terms of perspectives, values and norms **Aim:** To investigate the moral perspectives of all relevant parties involved in the dilemma. To formulate these parties' values and a normative rule of action (a norm) that stems from each value.
	Step 6 - Brainstorming alternative action options **Aim:** To jointly brainstorm alternative action options on top of the options already mentioned by the CP in step 4.
2 **Judgment-formation**	**Step 7 - Making an individual choice of action and making explicit one's moral considerations** **Aim:** To formulate participants' personal and professional views on the dilemma case. The participants answer the following five questions: a. It was morally justified that I choose action option...(A, B or alternative) b. Because of...(which value or norm)? c. Despite...(which value or norm)? d. How can you limit the negative consequences of your choice mentioned under (c)? e. What do you need to do, according to your answer under (a)?

3 **Decision-making**	**Step 8 - Conducting dialogical inquiry on similarities and differences** **Aim:** To examine the similarities and differences in moral judgments, considerations and values between the participants as formulated in step 7. The focus is on understanding one's own and others' viewpoints. **Step 9 - Concluding (harvesting)** **Aim:** To conclude the findings of the MCD session. In prospective cases, the aim may also be to make a plan of action or communicating how the dilemma will be handled and by whom. **Step 10 - Evaluating** **Aim:** To jointly evaluate the MCD session, including the dialogue, atmosphere, results and facilitator.

Pilot

First, a pilot MCD session was performed with four pharmacists plus the CP. It was split into two videoconferences: a 15-min videoconference to introduce all participants and test the videoconference system and the two-hour MCD videoconference itself. MK moderated the pilot MCD session with the second facilitator EvL and AF, also a member of the research team, as listeners. The facilitator used a shared screen within Microsoft Teams as a flipchart. The flipchart is an important tool to keep the group focused on the same facts of the case, as these are formulated by the CP and based on what has been said during the deliberation in the different methodical steps. Moreover, the flipchart helps to delay participants' thought processes and stimulates short and precise formulation. All participants received the descriptions of the profession's core values beforehand in their mailboxes.

In 2012 the Royal Dutch Pharmacists Association (KNMP) adopted a Charter defining these professional values.[37] Recently , the descriptions of these values were customised for community pharmacists (see Chapter 2.2. and Box 2 with the descriptions of the customised values).[38]

The pilot was not transcribed, but the content and process were jointly evaluated by MK, EvL and AF directly after the session.

The pilot MCD session indicated two problems. First, the discussion in steps 1–3 was limited. This may have been caused by the videoconferencing medium as well as the order and duration of the first three methodical steps. Second, not enough time was left for the dialogue about the participants' moral judgments and decisions in steps 8 and 9.

To solve these problems, the facilitator manual for the MCD sessions was adjusted as follows: (1) the time slots of the first three steps were shortened, (2) step 4 (asking clarification

questions) was moved up one step and (3) the role of the facilitator became more intensive in terms of Socratic questioning of the participants' reflections. Socratic questioning seeks to encourage other participants to answer their own queries by putting the spotlight on their own thinking and knowledge they are not aware of.

Two MCD sessions

With the adjusted facilitator manual, two MCD sessions with other groups of pharmacists were held. These sessions were moderated by one facilitator and observed by another facilitator (MK or EvL) and were recorded and transcribed by MK.

Evaluation

The two MCD sessions were evaluated with a mix of qualitative and quantitative methods. To be able to evaluate the moral reflectivity of the participating pharmacists, we qualitatively analysed if the pharmacists deliberated on the basis of professional values during the MCD sessions, and if so, which values those were. Two researchers (AF and MB) deductively and independently coded all the transcribed quotes with the Dutch profession's core values (Box 2). Additionally, directly after the MCD session all participants were invited by e-mail to complete an online questionnaire. As there is no validated questionnaire for MCD available, we based our questionnaire on the Maastricht evaluation questionnaire[16] and adapted it to the context of community pharmacy practice (Appendix, Evaluation questionnaire). It contained questions about the general evaluation of the moral case deliberation, the lessons participants learned, the influence on participants' reflection on moral dilemmas, and the role of the facilitator and other participants. It consisted of closed questions with statements that were to be scored on a 4-point scale or with 'yes' or 'no' as well as a set of open questions. The answers were analysed in Microsoft Excel.

This study followed scientific standards for describing qualitative data (SRQR; Table 4 in the Appendix).[39,40]

Ethics and confidentiality

This study is compliant with the requirements of the institutional review board of the division of Pharmacoepidemiology and Clinical Pharmacology at Utrecht University. All participants signed a letter of consent to the recording of their reflections and the use of these for the study. Data in the two MCD session transcripts that could give clues about the origin of dilemma cases (e.g. names of patients, cities, pharmacies, pharmacists or physicians) were removed.

BOX 2: Professional core values customised for community pharmacy[38]

Commitment to the patient's well-being

The pharmacist is committed to the patient's well-being. This commitment includes respecting the patient's preferences and values and subsequently facilitating shared decision-making. The pharmacist respects the patient's right to self-determination.

Pharmaceutical expertise

The pharmacist is a competent expert who helps patients and doctors optimize the effective and safe use of medicines. The pharmacist's expertise emanates from specific knowledge of (patho)physiology, pharmacotherapy, pharmacokinetics, pharmacodynamics, pharmaceutics and health psychology.

Reliable and caring

Medicines can be highly effective but at the same time carry risks of causing harm. Quality assurance by the pharmacist is therefore crucial. The pharmacist acts meticulously and carefully (e.g. compounding or dispensing medicines, counselling patients, monitoring medicine use and keeping patient records). The pharmacist maintains a relationship of trust with the patient. Moreover, the pharmacist respects the patient's confidentiality. The pharmacist acts reliably within collaboration with other health professionals.

Responsibility to society

The pharmacist is responsible for the societal consequences of his or her actions. In order to maintain patients' and the public's trust in the pharmacy practice and the healthcare system, the pharmacist acts transparently and treats patients equally. The pharmacist guarantees access to pharmaceutical care and its continuity through collaboration with other health professionals.

Professional autonomy

No customisation[37]

The autonomy of the pharmacist stands in an independent relationship with that of other care professionals, healthcare insurers and the patient's right of self-determination. The pharmacist is responsible for his or her decisions and adheres to the frameworks established by society. The pharmacist uses pharmaceutical judgment whilst maintaining a balance between commitment to the patient and the socially responsible course of action.

RESULTS

Participants

In April–May 2020, a total of 14 community pharmacists (two males and 12 females), along with the two facilitators, participated in two MCD sessions (session 1: six participants and one CP; session 2: six participants and one CP). Each CP was also a participant in the other MCD session. The participating pharmacists practised in different cities and villages in the Netherlands. The pharmacists had an average of 12 years of work experience in community pharmacy (range: 2–36 years). Their average age was 36 years (range: 26–63 years). Ten of the 14 pharmacists experienced moral dilemmas in practice on a daily or weekly basis, four pharmacists on a monthly basis. Seven pharmacists almost always discussed these dilemmas with colleagues, and seven sometimes discussed these dilemmas with colleagues.

Two MCD sessions

The summary of the dilemma cases investigated in MCD sessions 1 and 2 can be found in Box 3. The results from the two MCD sessions are presented along two lines: (1) the participants' moral reflectivity within the three phases of the dilemma method and (2) the participants' evaluations of the MCD sessions. Each session had a duration of two hours.

BOX 3: Summary of the two moral case deliberation (MCD) dilemma cases

Moral dilemma case 1, case presenter 1

For a 74-year-old man, the pharmacist had received a discharge prescription for double anticoagulant therapy (i.e. Pradaxa 2 dd 110 mg and acetylsalicylic acid 1 dd 80 mg) from a geriatrician at a rehabilitation centre. The man's wife consulted the pharmacist about her husband's medication. Neither the surgeon (first prescriber) in the hospital nor the geriatrician who had treated her husband had explained to her why certain medicines were prescribed or changed. She had lost trust in these physicians and asked the pharmacist for advice. In the consult, the pharmacist was confronted with a very worried wife because her husband was suffering from blue bruises and was restless and anxious.

The pharmacist could not clarify the indication for the double anticoagulant therapy from the prescribers who had been involved in the patient's treatment. The geriatrician had continued the therapy after the surgeon in the hospital and did not know the indication. The surgeon was absent. Moreover, the patient's renal function was not known. The pharmacist could therefore not advise regarding the double anticoagulant therapy.

Moral dilemma case 2, case presenter 2

A patient with a mild intellectual disability and bipolar disorder demanded extra lithium tablets for two days because he had lost them. Earlier that month, the patient had a similar request. His most recent (one year ago) serum lithium level was 0.63 mmol/L. His dosage regimen had not been changed since then. Renal function was adequate. The patient told the pharmacist of his fear of running out of lithium because of previous manic episodes.

The pharmacist approached the primary care physician two times, but the physician was not willing to prescribe extra lithium. He did not feel any responsibility for the lithium treatment that had been initiated by a former psychiatrist of the patient long ago. The patient's serum lithium level had not been monitored in a year. The pharmacist wanted the approval of a physician to dispense the extra lithium. In the meantime, the patient had left the pharmacy slightly irritated. The patient's anxiety and the repeated disruptive attitude of the primary care physician confronted the pharmacist with a dilemma in which the right action was not immediately clear.

Phase 1: Image formation

In MCD session 1, the initial image the participants received from the CP was that she could not advise the wife of a patient about taking double anticoagulant medication because the CP did not know the indication. The CP shared her two action options with the participants: not dispensing (action option A) or dispensing (action option B) the double anticoagulant medication. She also shared that the professional values pharmaceutical expertise, commitment to the patient's well-being and reliable and caring were equally problematic to realise in both action options:

> '*I had no information about the indication, so was I doing the right thing by just dispensing what is mentioned on the prescription? I did not know what was best for the patient.*' (CP, step 4)

The dialogue and factual questions in the different steps revealed that the CP felt her dilemma most strongly in her communication with the wife when hearing the wife's worries about her husband's health and not knowing how to deal with these worries. This feeling was substantiated by the CP in the professional values pharmaceutical expertise and reliable and caring:

> '*The wife told me about her husband's suffering. I had doubts about the double anticoagulant therapy. I did not know the indication and could only contact the first prescriber after a few days. The wife needed my knowledge and expertise to take away her worries and demanded advice about the best medicines for her husband.*' (CP, step 2)

The moral question that was underlying her dilemma and that the CP wanted to answer in this MCD session was reformulated from '*Should I advise the wife of this patient now directly to continue using the double anticoagulant therapy in this situation?*' into *'Do the concerns of the wife justify stopping one of the two anticoagulants?'* (step 4). Step 5 consolidated the image of the CP's dilemma with the value perspective of the geriatrician in the rehabilitation centre and the reason why that geriatrician could not help the CP in her decision of what to tell the wife. One participant formulated this:

> '*He had to say that the double anticoagulation is right to continue because otherwise others would think of him that he had acted wrongly with continuing it all six weeks the patient stayed in the rehabilitation centre without knowing the indication.'* (Participant, step 5)

In step 6, the participants formulated four alternative action options: (C) '*I advise the patient to contact the surgeon himself*', (D) '*I only stop the Pradaxa and advise to continue the acetylsalicylic acid*', (E) '*I contact the patient myself*' and (F) '*I contact the alternate specialist in the hospital again*'. Alternative action option E shed new light on answering the CP's moral question as is described below in phase 3, decision-making. The CP had not seen that as an action option and substantiated this with the argument that she knew the situation of this patient from the recent past and was convinced no new information could be gathered from the alternate specialist.

In MCD session 2, the picture the participants received in the image-formation phase was that the CP had emotional difficulty with the repeated disruptive attitude of the primary care physician and simultaneously had emotional problems because of an anxious patient who had fled the pharmacy. The participants also understood that the CP felt very bad that no

primary or secondary care physician was involved in the patient's treatment while medicines were prescribed. The CP did not know what to do and was worried about the patient's health condition and possible unpredictable behaviour due to lack of or overuse of lithium pills. The participants helped the CP formulate her provisional moral question so that it reflected both moral uncertainties:

> '*Is it responsible to let the patient wait two days for extra lithium pills, or do I pass the primary care physician and contact the psychiatrist?*' (Participant, step 4)

The CP formulated in step 4 three action options she felt were available to her at the time of the dilemma: (A) '*I dispense the two extra lithium pills without the consent of the primary care physician*', (B) '*I do not dispense the two extra lithium pills and align with the primary care physician's treatment plan*', and (C) '*I contact the psychiatrist*'. The value perspectives and the related normative actions of all the parties involved were formulated in step 5 (Table 1). Subsequently, the CP was asked to make known which value would motivate her the most to choose action option A, B or C (last column in Table 1). This reflection makes clear the conflicting values involved in the three action options A, B and C that the CP experienced at the time of the dilemma. For example, the participants understood that the CP had serious problems with disruptions in the healthcare chain. She explained that the professional value *responsibility to society* would motivate her to choose action option B:

> '*What image do pharmacist[s] and primary care physician[s] present to society and towards the patient they treat: to what extent do they collaborate, or do they treat diametrically opposite?*' (CP, step 5)

Opposite, the professional value commitment to the patient's well-being would motivate the CP most strongly to choose action options A or C. Moreover, with action option C, the CP struggled with her professional autonomy although that professional value did not play a role in her motivation to choose action options A, B or C:

> '*Our relationship with the primary care physician is close with informal gatherings, so now and then. So contacting the psychiatrist felt like passing [the primary care physician]. Will that primary care physician be even more disruptive with [the] next patient?*' (CP, step 5)

The other participants felt the disruptive behaviour of the physician resonated more with professional autonomy than responsibility to society. Professional autonomy perceived from the pharmacist's perspective motivated one participant to choose action option C (Table 1, last column). In step 6, the participants brainstormed several alternative action options to handle the dilemma: (D) '*I consult with a colleague*', (E) '*I approach the patient again to start a*

conversation', (F) '*I contact the primary care physician to open the conversation again*', (G) '*When the primary care physician does not want to prescribe the extra lithium, I tell him that I will contact the psychiatrist*' and (H) '*I hide behind the law: refer the patient back to the primary care physician*'.

TABLE 1: Moral case deliberation (MCD) session 2: Step 5 - Analysing the case in terms of involved parties' perspectives, values and norms

Involved party	Value	Norm to realise the value	Action option* chosen because of this value
Patient	Own well-being	*'I ask for the extra two lithium pills because I am terrified of falling back into another (mental) episode again.'*	A,C (case presenter [CP])
Primary care physician	Reliable and caring	*'I realise that I have partly failed because I have not monitored the lithium blood levels and have taken over the patient (from the psychiatrist) just like that, without care. I do not dare; I am unwilling to take responsibility.'*	
	Professional autonomy	*'I make a professional judgment to not dispense in order to discard responsibility.'*	B (participant)
	Commitment to the patient's well-being	*'I do not know what is and what is not good for the patient. I take it the easy way.'*	
Pharmacist (i.e. the CP)	Commitment to the patient's well-being	*'I take away the patient's restlessness.'*	
	Responsibility to society	*'I cooperate with the primary care physician in his treatment plan.'*	B (CP)
	Professional autonomy	*'I undermine the primary care physician's authority by contacting another care professional. I will pass the primary care physician.'*	C (participant)
	Pharmaceutical expertise	*'I provide arguments for and against dispensing lithium based on the information I do have. I realise that no appropriate monitoring of the patient occurred.'*	
	Reliable and caring	*'The patient can rely on me to deliver responsible care, whether or not I dispense.'*	

*The CP's action options formulated in step 4 were the following:

Action option A: *'I dispense the two extra lithium pills without consent of the primary care physician.'*

Action option B: *'I do not dispense the two extra lithium pills and align with the primary care physician's treatment plan.'*

Action option C: *'I contact the psychiatrist.'*

Phase 2: Judgment formation

In step 7, the judgment-formation phase, all participants were given 10 minutes to answer five questions in which they made an individual choice of action and made their moral considerations explicit (Box 1, step 7). In order to facilitate the dialogue in the decision-making phase (phase 3) the facilitator may choose two contrasting choices of action or moral considerations. See Box 4 for an example of two of such contrasting judgements between participant x and participant y.

BOX 4: Judgement formation moral case deliberation (MCD) session 1: Step 7 - Contrasting choices of action and moral considerations of participants x and y

Participant x	**Participant y**
a) It is morally justified that I choose option ... (A, B or an alternative) *'I firstly choose option B: I contact the replacement physician and thereafter dispense the double anticoagulant medication.'*	**a) It is morally justified that I choose option ... (A, B or an alternative)** *'I firstly choose option E: I contact the patient and thereafter dispense the double anticoagulant medication.'*
b) Because of.... (which value or norm?) *'Reliable and caring, I want confirmation from the physician.'*	**b) Because of.... (which value or norm?)** *'Commitment to the well-being of the patient, I want to know the perspective from the patient himself, and not from what I think of the situation, or what the physician or patient's wife think of the situation.'*
c) Despite of.... (which value or norm?) *'Continuation of possibly incorrect double anticoagulation for a number of days with bleeding risk.'*	**c) Despite of.... (which value or norm?)** *'I don't know to what extent this man is actually competent and accountable. Perhaps he is suffering from dementia and pretends to be better than reality or does not actually have an opinion. When I stop or start the anticoagulant unjustly, I might not be acting in the right way.'*
d) How can you limit the disadvantages of your choice mentioned under c? *'I would inform the wife of the patient about the signs of oral anticoagulant toxicity such as bleeding and agree when she should call.'*	**d) How can you limit the disadvantages of your choice mentioned under c?** *'By formulating questions in a careful manner, for example by saying: 'I would like to ask you some more information, because you are the one who stayed in the rehabilitation centre.'*
e) What do you need to act according your answer under 'a'? Not answered in the session.	**e) What do you need to act according your answer under 'a'?** Not answered in the session.

Phase 3: Decision-making

In MCD session 1, the deliberation in phase 3 revolved around the moral arguments of four participants who chose action option B ('*I dispense the double anticoagulant therapy as per prescription and contact the specialist on Tuesday*') and two participants who chose alternative action option E ('*I first contact the patient myself*'). The moral arguments behind the two decisions differed in the necessity of the pharmacist knowing the perspective from the patient himself to be able to provide the wife with advice about the medication. Based on the profession's core values reliable and caring, commitment to the patient's well-being and pharmaceutical expertise, two participants substantiated their judgment for alternative action option E:

> *'We always feel ourselves the home pharmacist of the patient; like the case presenter says, she knows the family, she knows the couple, but that can sometimes be a trap. So if I have the possibility to talk to the patient, then I prefer that action, because then I might prevent a lot of unrest'* (Participant). '*I see the bleeding risk, but I want to assess that from my own observation . . . What are the patient's experiences? . . . And then on the basis of that information, I can choose the next action.*' (Participant)

The CP became more aware of the relevance of these viewpoints:

> '*Maybe the worries of the wife are not justified. Yes, if I had talked to the patient himself, if he was open to that, then you would get a little more background and then you might be able to substantiate better which actions you will choose next.*' (CP)

Due to the moral deliberation, the CP and two other participants changed their initial judgments made in step 7 and chose alternative action option E accordingly. Although contacting the patient himself was agreed upon as being important in answering the CP's moral question, some participants still did not see that as the action to take, as one participant formulated this in the context of the value pharmaceutical expertise:

> '*What information could the patient give you on the basis of which you are now going to stop one of the two anticoagulants? I can make the risk judgment with my pharmaceutical expertise alone with the thought that the specialist has started that double anticoagulation after all and that it has been used for six weeks thereafter in the revalidation centre; that is sufficient information. I will still reassure the wife of the patient on the basis of my pharmaceutical expertise.*' (Participant)

In MCD session 2, the participants were divided in their viewpoints regarding the decision-making phase over action option A ('*I dispense the two extra lithium pills without consent of the primary care physician*' [three participants]), action option C ('*I contact the psychiatrist*' [two

participants]), action option F ('*I contact the primary care physician again and open the discussion with him*' [one participant]) and action option G ('*I tell the primary care physician that I contact the psychiatrist if the former does not want to prescribe*' [one participant]). The differences were rooted in different viewpoints regarding the pharmacist's attitude in relation to the disruptive behaviour of the primary care physician. The CP wanted a physician's consent to dispense the extra lithium pills. She felt that her professional autonomy was equivalent to 'bypassing' the primary care physician when she would contact the psychiatrist instead. The dialogue revealed here that other participants were not so hampered by the primary care physician's disruptive attitude in their actions to help the patient. Participants choosing action option A would dispense the extra lithium and, after that, talk to the physician. Participants choosing action option F would confront the physician with their shared care responsibility towards the patient's well-being. Based on the professional values commitment to the patient's well-being, pharmaceutical expertise and reliable and caring, one of the participants who chose action option A expressed the following:

> '*It is important for me that the patient attaches importance to his treatment adherence. That is important with this therapy. I think that I have insufficient reason to doubt that the patient is not adherent to the treatment. But given the risks of two days of dispensing the (extra) lithium pills, I would choose to reassure the patient so that he can continue with his therapy. But, of course, afterwards share your concerns with the primary care physician: where is the follow-up, when is the patient monitored.*' (Participant)

The participant who chose action option F shared her view on the handling of the dilemma case in the light of professional autonomy and responsibility to society:

> '*You understand that the primary care physician may not have the expertise to optimally treat the patient and may therefore withdraw from it. You can interfere with the treatment, but ultimately, the primary care physician has a more coordinating role in this. So somewhere it is not going well in the care chain . . . I think it is very good that you as a pharmacist show the physician . . . that the relationship is not quite right, and that by confronting him, you show that you want to treat the patient together. And that is not the case now.*' (Participant)

Participants' evaluation of the MCD session

All participants reported in the online questionnaire that the MCD session was useful and they felt supported in all the relevant phases of ethical decision-making (Tables 2 and 3). One participant evaluated the MCD session as follows: '*Ultimately, it helps to choose a more well-founded conclusion and course of action. I think it is a nice method to be involved in the profession. More fun than intervision.*' (Intervision is a meeting in which peer supervision and methodical discussions help participants to reflect on their personal and professional development.[41]

The participants became more aware of their own arguments, as well as those of other participants, with underlying values. One participant wrote in the open space of the questionnaire: '*Awareness. Interesting to see how others would handle a situation. You often take moral decisions in which you weigh risks, etc. . . . you are not aware on the basis of which professional values you are doing that.*'

The participants evaluated the image-formation phase of the dilemma method to be important in making an appropriate judgment of the situation. For example, one participant wrote: '*The case indicated well that every obvious action option has disadvantages in the quadrilateral patient-treating physician–pharmacist–primary care physician.*' Another participant's evaluation given was: '*Also looking to the disadvantage of a choice is not in my normal course of action*'. When it came to the judgment-formation and decision-making phases, six of the eight participants changed their views on the case due to the MCD session. Participants appreciated the insights into the moral reasoning and intentions of others with regard to their individual judgments and decision-making. One participant wrote, '*The MCD session led to new insights, and you realise that sometimes you want to find a solution too quickly.*' Another participant wrote, '*There are several ways to reach the same decision. There is not necessarily a right or wrong way. It is useful to see a different approach, which you would not immediately choose yourself.*'

The majority of participants indicated they would like to participate in MCD sessions more often and think that their colleagues would be open to participating, as well. However, some participants also expressed they did not understand the procedure in some steps: '*The CP knew what she had to do in the steps. But I had difficulty at the beginning of a step [understanding] what the procedure would be*' (Participant 8). Another participant criticised the quality of the facilitation of the dialogical inquiry in step 8 of the MCD session: '*Step 8 (dialogical inquiry) went a little too fast. I would have liked to hear all participants' considerations, as these were asked in step 7.*'

TABLE 2: General questions regarding the moral case deliberation (MCD) session (N = 14)

	Yes	No
• Have you ever participated in an MCD session before?	3	11
• Was the MCD session useful?	14	0
• Have you changed your view on the dilemma case due to the MCD session?	6	8
• Have you become more aware of your own arguments and their underlying values due to the MCD session?	12	2
• Have you become more aware of the arguments with underlying values of other participants due to the MCD session?	14	0
• Would you like to participate in MCD sessions more often?	13	1
• Do you think your fellow pharmacists are open to participating in an MCD session?	10	4

TABLE 3: Statements about the facilitator, participants and support from the MCD session (N = 14)

	Disagree	Agree
The facilitator:		
• Facilitated an open atmosphere where I felt safe to say something	0	14
• Encouraged participants to keep asking each other open (factual) questions instead of judging	0	14
• Ensured that the focus remained on the moral core question during the deliberation	1	13
• Encouraged the participants to critically reflect	0	14
• Ensured that participants always substantiated opinions with arguments and in relation to the facts	0	14
• Encouraged the participants to investigate possible mutual similarities and differences in arguments	2	12
The participants:		
• Respected each other's arguments/viewpoints	0	14
• Were interested in the theme of the dilemma case	0	14
The MCD session supported participants in:		
• Recognising the moral problem (i.e. the moral dilemma) in the dilemma case	0	14
• Determining the necessary relevant (pharmaceutical) information in relation to the moral problem	2	12
• Recognising conflicting (professional) values in the action options of the dilemma	0	14
• Determining the wishes/expectations of the patient (patient perspective)	1	13
• Determining the perspectives of all parties involved in the dilemma	1	13
• Expressing arguments for and against the action the pharmacist chose to handle the dilemma	0	14
• Morally justifying the final decision the pharmacist made to handle the dilemma	0	14
• Identifying the decisive (professional) value	0	14

DISCUSSION

This explorative descriptive study shows that MCD and the dilemma method may have the potential to foster moral reflectivity in community pharmacists facing moral dilemmas.

The quantitative results regarding the participants' evaluation of the MCD session are in line with the qualitative results described for the image-formation, judgment-formation and decision-making phases. The participants positively reported in the online questionnaire that the facilitated MCD session helped them identify the moral dilemma and underlying moral question. The deliberation and understanding of the CP's and other participants' viewpoints and perspectives of parties involved in the dilemma cases made them more aware of their professional values, what these meant to them and what these meant to others in the context of ethical decision-making.[14] The session also encouraged the participants to substantiate their decisions with moral arguments based on their professional values. The deliberation provided space for each participant to compare their own pharmaceutical community care practice with that of other participating pharmacists in the context of the CP's moral dilemma. For some, this revealed new knowledge about their own professionalism. This was reflected in changes in their initial judgments and their decisions about how to handle the dilemma case. The dilemma method and facilitation thus stimulated systematic moral reflectivity, and this has been found in other studies with health professionals in medical care.[3,14]

This study indicates that MCD may stimulate competence-based learning for pharmacists, and this has been shown in other studies with medical professionals.[14,20] In this study, MCD supported and challenged pharmacists' reflective professionalism as included in the Canadian Medical Education Directions for Specialists' (CanMEDS) role of a professional.[30,42] The joint imagining, questioning, listening, delaying of judgment and moral reasoning may have enabled the participants to become more sensitive of the role professional values play in a moral dilemma and to understand and reason on the basis of these professional values. They were able to prioritize those values within the justification of the handling of the dilemma case to provide the best care for the patient. In daily pharmaceutical care practice, there is hardly time for such rational deliberation or delayed reflection. As pharmacists make pharmaceutical care decisions throughout the day, with the moral reflectivity developed through MCD, they may do that more consciously and explicitly.

MCD has mostly been studied with the aim to structurally implement MCD in a clinic or organisation.[8,10,11,14,16,17] Hence, participants in those studies evaluated a series of MCDs, often within a multidisciplinary team. In our explorative study, rather than introducing MCD to a pharmacy team or pharmacy institution, we aimed to introduce MCD to community pharmacists as individual professionals. In Dutch community pharmacy, besides a team

of technicians, normally only one or two pharmacists are on the work floor and have end responsibility for the pharmaceutical care of each patient. There are few chances to meet more colleagues to systematically discuss the moral dilemmas they experience in practice and share viewpoints. The two MCDs in our present study were performed once for two different groups of community pharmacists of whom the majority was not working in the same pharmacy. This may explain the enthusiasm of the participants about the MCD sessions. Some even preferred MCD to intervision meetings.

As a consequence of the practice, in community pharmacy, dilemma cases will mostly be dealt with retrospectively. This may be another explanation of why the pharmacists in this study were focused on and enthusiastic about learning from each other's moral viewpoints rather than on reaching consensus about what the best care for the patient would be. Future research should therefore also address what participants want to achieve with MCD and compare MCD aims with actual harvest.[13] This has not been studied here.

Strengths and limitations

First, only two MCD sessions were used for the study. This was justified because this study is explorative and of a contextual nature only. It should be followed by more qualitative and quantitative research. With two dilemma cases, this study allowed for the exploration of differences within and between the two MCD sessions and had more opportunity to show replication of the outcomes than it would if only one MCD session was explored.[28,43] The pilot helped optimize the online setting so that the best reflection could take place in the two subsequent MCD sessions. The three implemented adjustments proved successful, as participants were quickly activated and remained so throughout the MCD sessions. Also, more time for deliberation in the decision-making phase (steps 8 and 9) in the two MCD sessions resulted there in more substantial harvest than in the pilot session. The outcomes are promising enough to conduct more research. Such research should examine whether more community pharmacists are interested in online MCD and if similar outcomes can be generated.

Second, the MCD sessions were not held in physical locations but through online videoconferences due to COVID-19. A disadvantage of videoconferencing is that body language can be missed by the facilitator. Also, heavy emotions due to the dilemma case cannot be adequately addressed. Although this was not the case in the MCD sessions in this study, such unaddressed heavy emotions may create an unsafe atmosphere.[44] An advantage experienced in this study was that the videoconference allowed pharmacists from cities and villages all over the Netherlands to attend the same session.

Third, the results cannot be generalized to all community pharmacists, as only a limited number of community pharmacists participated (N = 14). More MCD sessions are required-perhaps even series of MCD sessions with the same group as has been done in studies with other health professionals.[16,20] A clearly described facilitator MCD manual, with the 10 steps of the dilemma method described therein, is now available and enables the replication of this study by newly trained facilitators with lack of experience.[28]

Last, the trustworthiness of the data was determined through the triangulation[27,43] of two different data sources: audio recordings of the deliberation in all the methodical steps generating participants' own experienced moral reflectivity and an anonymous online questionnaire. The online questionnaire data allowed for confirmation of findings within the two MCD sessions. However, both facilitators of the MCD sessions were also members of the research team. These facilitators may have influenced the deliberation and participants to positively evaluate the sessions.[10] This effect was minimized because both facilitators were present in the MCD sessions: one facilitator in the background checked the other facilitator on involvement with the content or other actions that could cause bias in the participants' deliberation and evaluation. Also, the participating pharmacists were self-motivated to participate, which could also have influenced the positive results.

CONCLUSION

Community pharmacists are confronted with moral dilemmas on a daily basis. Online MCD structured by the dilemma method has been evaluated positively as having the potential to foster moral reflectivity in community pharmacists in the context of professionally resolving moral dilemmas. This explorative study showed that through the deliberation, community pharmacists became more aware of their professional values, what these meant to themselves and other participants and the role those values play in substantiating ethical decision-making in the context of moral dilemmas. MCD also fostered the ability to listen to other perspectives and thereby to come to new (moral) understandings regarding the pharmacists' own professionalism and that of their colleagues. This study indicates that MCD could be introduced in professional ethics pharmacy education. More research is recommended to continue gathering empirical evaluation data of MCD with community pharmacists.

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APPENDIX

Evaluation questionnaire

1 - Do you ever experience moral dilemmas in your daily pharmacy practice?
- Never
- Monthly
- Weekly
- Daily

2 - Do you discuss these with other pharmacists in your area?
- Usually
- Sometimes
- Never

2a - Please indicate why/why not.

3 - Was the moral reflection helpful?
- Yes
- No

3a - If so/if not, please indicate why this was the case for you.

4 - Please describe below what you learned during the moral deliberation session.

5 - Did the moral deliberation make you look differently at the approach to the moral dilemma?
- Yes
- No, I would still act in the same way to tackle the dilemma case

6 - Has moral reflection made you more aware of your own arguments with underlying values?
- Yes
- No

7 - Did moral deliberation make you more aware of the arguments with underlying values of other participants?

- Yes
- No

8 - Would you like to participate in such moral deliberation more often?

- Yes
- No

8a - If so, how often?

- Every month
- Once every two months
- Once every six months
- Other, namely _____

9 - Do you think that your fellow pharmacists are open to participating in moral deliberation?

- Yes
- No

10 - Please respond to the following statements (Likert scale: strongly disagree/disagree/agree/strongly agree).

This facilitator . . .

- Facilitated an open atmosphere where I felt safe to say something.
- Encouraged the participants to keep asking each other open (factual) questions instead of judging.
- Ensured that the focus remained on the moral core question during the deliberation.
- Encouraged critical reflection from the participants.
- Ensured that participants always substantiated opinions with arguments in relation to the facts of the case.
- Encouraged the participants to investigate possible mutual similarities and differences in arguments for the chosen (interim) action of the pharmacist as an approach to the dilemma.

The participants . . .

- Respected each other's arguments.
- Were interested in the theme of the dilemma case.

Moral deliberation helps with . . .

- Recognising the core moral problem (i.e. the moral dilemma) in the dilemma case.

- Determining the necessary relevant (pharmaceutical) information in relation to the moral core problem.
- Recognising conflicting (core) values in the options for action in the dilemma.
- Determining the patient's wishes/expectations (patient perspective).
- Determining the perspective of the other parties involved in the dilemma case.
- Articulating arguments for and against the action the pharmacist chose to approach the dilemma.
- Supporting the final decision the pharmacist made to approach the dilemma with moral arguments.
- Naming the decisive (core) value.

11 - Do you have any general comments?
- ° Yes
- ° No

12 - Please record your comments in the space below.

13 - What is your gender?
- ° Male
- ° Female
- ° Other, namely _____

14 - What is your age?

15 - What qualification do you have?
- ° Community pharmacist (specialist)
- ° I am currently in training in community pharmacy to become a community pharmacist
- ° Pharmacist

16 - How many years have you worked in a pharmacy?

17 - Have you ever taken part in moral case deliberation before?
- ° Yes
- ° No

TABLE 4: Standards for reporting qualitative research[39,40]

Topic	Check	Remarks
Title	X	
Abstract	X	
Introduction		
Problem formulation	X	Included in 'Introduction'.
Purpose or research question	X	Included in 'Introduction'.
Methods		
Qualitative approach and research paradigm	X	Descriptive explorative study. Deductive coding of quotes with professional values. The research paradigm was interpretivist/constructivist[40] as predominantly qualitative techniques were used.
Researcher characteristics and reflexivity	X	MK is a sociologist with a pre-master in applied ethics, a trained MCD-facilitator,[35] and has 18 years' work experience in pharmacy practice research. EvL is an experienced senior MCD-facilitator for more than 20 years and emeritus professor in medical ethics. AF and MB are pharmacists with a long experience in pharmacy practice research, including both quantitative and qualitative work.
Context	X	The participating pharmacists who presented their moral dilemma case consented to use their cases for the MCD-sessions See 'Method section'.
Sampling strategy	X	Included in 'Method section'.
Ethical issues pertaining to human subjects	X	Included in 'Ethics and confidentiality'.
Data collection methods	X	
Data collection instruments and technologies		MCD-sessions were audio-recorded and transcribed manually.
Units of study	X	Community pharmacists.
Data processing	X	Included in 'Method section'.

TABLE 4: Continued

Topic	Check	Remarks
Methods		
Data analysis	X	Deductive coding.
Techniques to enhance trustworthiness	X	Independent coding by AF and MB; Audio recordings of the deliberation in all the methodical steps generating participants' own experienced moral reflectivity and, an anonymous online evaluation questionnaire of which the data allowed for confirmation of findings within the two MCD sessions.
Results/findings		
Synthesis and interpretation	X	Included in 'Results' and 'Discussion'.
Links to empirical data	X	Included in 'Results' and 'Discussion'.
Discussion		
Integration with prior work, implications, transferability, and contribution(s) to the field	X	Included in 'Discussion' .
Limitations	X	Included in 'Discussion'.
Other		
Conflicts of interest	X	Not applicable.
Funding	X	Not applicable.

“Excellence" is not a gift, but a skill that takes practice. We do not act "rightly" because we are "excellent", in fact we achieve "excellence" by acting "rightly".”

Plato

Part 5

GENERAL DISCUSSION

CHAPTER 5

GENERAL DISCUSSION

GENERAL DISCUSSION

Worldwide pharmacists' professional role is in a transition from being product-centred to patient-centredness. A patient-centred role brings additional moral responsibilities: pharmacists have to identify patients' health related needs and concerns and have to collaborate with other health professionals to achieve effective and safe use of medicines. The transition towards that role takes place in more complex health systems with more advanced (digital) healthcare technologies rapidly emerging, enhanced scientific knowledge, increased emphasis on shared decision-making in healthcare, an ageing population, increasing health consumerism, and growing pressure to contain rising healthcare costs.[1-8] In this complex context health professionals increasingly face moral dilemmas when personal, professional, institutional or societal values are in conflict while they aim to provide care in patients' best interest.[9-12] These value conflicts may cause moral distress among health professionals, including pharmacists.[13,14] Moral distress occurs when one is not able to act according to one's moral beliefs, i.e. one's personal or professional value perspective.[14,15] This distress may even affect the quality of care.[16,17] This thesis focuses on community pharmacists who as primary care professionals are directly challenged in their patient-centred care practice. They may be held accountable when patients' health is negatively affected by suboptimal or inappropriate pharmaceutical care. Community pharmacists may need appropriate competencies and support to be able to deal with moral dilemmas. Dealing with such situations of moral uncertainty in professional practice presupposes a reflective ability informed by the professional values, hereafter written as moral reflectivity.

However, there still is a dearth of empirical studies on how community pharmacists recognise their professional values, notwithstanding the many national codes of ethics that aim to guide pharmacists in situations of moral dilemmas.[18-20] Dutch pharmacists are guided by professional values from the Dutch Charter of Professionalism.[21] They are expected to reflect on these values during their day-to-day clinical care. These values have been formulated after a consensus process with Dutch pharmacists active in all sectors. In order to be able to develop (Dutch) community pharmacists' competencies further to optimise their pharmaceutical care role, especially in situations of moral dilemmas, we need more insights in these dilemmas and how (professional) values play a role in them.

Therefore the overall objective of the thesis was to generate understanding of the moral reflectivity of community pharmacists in situations of moral dilemmas and how professional core values play a role therein.

Main findings of this thesis

In this thesis, several studies are presented that provide information about the moral reflectivity of Dutch community pharmacists in situations of moral dilemmas. These dilemmas were either experienced by participating pharmacists themselves (Chapters 2.1, 2.2 and 4), by colleagues (Chapter 4), or were presented to them as possible pharmacy practice scenarios (Chapters 3.1, 3.2, and 3.3).

- In Chapter 2.1 we present a taxonomy of moral dilemmas that Dutch pregraduate and postgraduate pharmacists working in community pharmacy experienced in daily practice. Pharmacists faced their moral dilemmas predominantly within their professional relationships, i.e. with patients and other health professionals. Within the context of these relationships pharmacists' professional autonomous decision-making was often hampered by the behaviour of patients and other health professionals. Other parties such as health insurance companies and regulatory bodies further complicated these troubled relationships.
- Chapter 2.2 shows that all professional values (i.e. commitment to the patient's well-being, reliable and caring, pharmaceutical expertise and responsibility to society) played a role in the moral dilemmas that pharmacists experienced, with social responsibility being the least present. The descriptions of these professional values as given in the Charter were customised for community pharmacists in order to better reflect community pharmacy practice.
- In Chapter 3.1 we show that the Australian Professional Ethics in Pharmacy moral reasoning test (PEP test) could be adapted for Dutch pharmacists taking into account the professional values and healthcare context of Dutch community pharmacy practice. The test measures three moral reasoning perspectives: a business orientation perspective (pre-conventional), a rules and regulation perspective (conventional) and a professional ethics perspective (post-conventional). Especially the statements which represented the post-conventional moral reasoning perspective in Dutch pharmacists differed from the statements which represented that level in Australian pharmacists. These differences were perceived to be rooted in differences in professional ethical guidance in both countries.
- In Chapter 3.2 we developed a new moral reasoning test on the basis of the Charter's professional values and focused on drug shortages. The pharmacists predominantly reasoned with a professional ethics moral reasoning perspective (PE-MRP), although the business orientation (BO-MRP) and the rules and regulation (RR-MRP) perspectives played a role as well. When the pharmacist perceived the drug shortage to have a lower impact on patient outcomes and the costs of alternative drugs or therapy are expensive, the BO-MRP became more important.

- The study in Chapter 3.3 shows that being a managing pharmacist as compared to being a locum pharmacist was (negatively) associated with having a dominant PE-MRP. Also, being confronted with the Contraceptive drug shortage (a drug shortage with a perceived medium impact on patient outcomes) as compared to being confronted with the Parkinson's drug shortage (a drug shortage with a perceived high impact on patient outcomes) was (negatively) associated with having a dominant PE-MRP. Within the Parkinson's scenario pharmacists' intended action 'importing the drug concerned in the drug shortage' was (positively) associated with a dominant PE-MRP.
- In the last study in Chapter 4 we show that pharmacists appreciated participating in moral case deliberation (MCD). The MCD increased understanding of the perspectives of all parties involved in the dilemma cases. Furthermore MCD increased participating pharmacists' awareness of their professional values in the context of potential ethical decision-making within the moral dilemma cases.

In this last Chapter 5 we discuss our findings regarding pharmacists' moral reflectivity in situations of moral dilemmas by structuring these along the processes of ethical decision-making as developed by Rest in his Four Component Model of ethical decision-making.[22,23] Finally, we provide recommendations for education, practice, policy and research.

Pharmacists' moral reflectivity within the ethical decision-making processes

Rest's Four Component Model of ethical decision-making distinguishes four cognitive-affective processes involved in ethical decision-making in situations of moral dilemmas.[22,23] These processes are associated with professional (moral) behaviour: (1) moral sensitivity (the individual's ability to recognise moral dilemmas), (2) moral reasoning (the individual's ability to reflect on the moral ideal course of action), (3) moral intention (the motivation that prioritises the moral ideal course of action) and (4) moral character or action (the ability to hold on to the morally ideal intended action). Rest views these four processes not as a linear process of ethical decision-making but as a process wherein these four processes interact backward and forward.[22,24] One can be skilled in one process and not in the other. A person can fail to act morally due to a deficiency in any of the four processes. Moral sensitivity, as an exception, is most likely to precede moral reasoning, intention and character.[25-28] When professionals do not have the ability to recognise (professional) value conflicts, it is unlikely that they will reflect on these values in the decision-making process in real practice.[29-31]

The studies of Chapters 2.1, 2.2, 3.1-3.3 focus on the individual moral reflection of community pharmacists' in the processes of moral sensitivity and reasoning in situations of moral dilemmas. Chapter 4 presents the moral reflection of pharmacists in dialogue in the processes of moral sensitivity, reasoning and intention. See Figure 1 below.

FIGURE 1: Position of the thesis studies within the ethical decision-making processes

Thesis studies			**Four cognitive-affective processes of ethical decision-making**			
			Moral sensitivity	**Moral reasoning**	**Moral intention**	**Moral character**
Individual moral reflection	Chapters 2.1 + 2.1	Finding themes and professional values in moral dilemmas	✓	✓		
	Chapter 3.1	Testing the Australian moral reasoning test		✓		
	Chapters 3.2 + 3.3	Measuring moral reasoning perspectives in drug shortage situations		✓		
Moral reflection in dialogue	Chapter 4	Evaluating moral case deliberation	✓	✓	✓	

We have not studied community pharmacists' moral reflections in the process of moral character. In recommendations for future research we will shortly elaborate on the need to study community pharmacists' reflections in that process. The discussion will be structured along the first three processes of ethical decision-making: moral sensitivity, moral reasoning and moral intention.

Moral sensitivity

Moral sensitivity in healthcare means that health professionals recognise the conflicts between (professional) values during decision-making in clinical practice.[22,23] Moral sensitive professionals have the ethical competence to see the perspectives of patients and other health professionals, and to see the legal, institutional, and social perspectives. They realise how one's actions can affect the well-being or interests of others.[32-35]

Moral sensitivity requires a capacity to feel and express relatedness.[26,28] Within situations of moral dilemmas relatedness is shown by respecting and accepting the perspectives and values of others. Through dialogue with others, e.g. patients and health professionals, new perspectives are created[26] that inform the right thing to do in a moral dilemma.[36-38]

The importance of moral sensitivity, as a first step to safe and effective patient-centred care, has been described previously for other health professions, such as medicine and nursing.[26,34,39,40] Empirical studies even showed that moral sensitivity improves moral reasoning and ethical decision-making in the best interest of patients.[35,39,41] It is therefore not surprising that the awareness of common professional values is considered important to improve clinical practice.[42-44] Health professions are moral communities with common professional values, that are morally grounded.[45] Similarly, pharmacists make part of a moral community with a collective responsibility to society. In the execution of their social role, pharmacists make use of the professional values that substantiate the pharmacy profession. Only through a common practice and the ability to articulate professional values in clinical decisions, pharmacists will be granted professional autonomy.

Moral sensitivity in the pharmacy profession

Pharmaceutical care implies that pharmacists take responsibility for patients' medication-related needs and the achievement of positive health outcomes from drug therapy. Moral sensitivity helps pharmacists to recognise the medication-related needs, concerns and preferences of patients. Moreover, pharmacists need to realise that this patient perspective may change over time due to changes in health status and medication use. Moral sensitivity enables pharmacists to align patients' medication-related needs with decisions regarding pharmacotherapy. A process of continuous reflection on professional values in the context of these needs enables pharmacists to come to a shared decision about the best care for the patient. Hence, an optimal pharmaceutical care practice involves a combination of both clinical competencies and moral sensitivity.

Empirical studies regarding pharmacy ethics showed that pharmacists had problems articulating their moral dilemmas.[10,46,47] Overall pharmacists were not able to articulate professional values beyond the most obvious core value *responsibility for the patient's best interest.*[19,46] A reason may be that pharmacists have not been explicitly trained to recognise professional values and moral dilemmas.[19,48,49] The retrospective nature of most previous studies may also have contributed to the inability of pharmacists to describe moral dilemmas. They may have forgotten the frequently occurring cases with relatively low impact on patients and only remembered the 'high drama' cases.

Dutch pharmacists' moral reflections in the process of moral sensitivity

We investigated Dutch pharmacists' moral reflectivity in situations of moral dilemmas through written narratives of early career pharmacists' self-experienced dilemma cases. These pharmacists wrote these narratives as part of their postacademic professional training in which moral reflection is a central activity. The narratives were written down shortly after they were experienced. Written narratives produced in this manner have the advantage that pharmacists have no problems recalling their moral dilemmas and the emotions when they experienced these dilemmas. This enabled them to clearly describe their feelings about the potential negative consequences of certain potential decisions or actions for both patients and other parties involved. This enabled us, as researchers, to check whether the narratives actually reflected moral dilemmas. Subsequently we could easily identify themes in these dilemmas (Chapter 2.1) and identify the moral arguments that kept pharmacists from realising their (professional) values (Chapter 2.2).

These findings add to the literature that professional ethics education may benefit from experiential learning methods such as reflection on self-experienced moral dilemmas. The narratives show that community pharmacists recognise moral dilemmas and the professional values that played a role therein. This novel method of individual moral reflection in written narratives may help community pharmacists to explore the values involved in their gut feelings when being confronted with situations of moral dilemmas.[50,51,52] Thereby, narratives may foster the process of moral sensitivity needed to make ethical decision-making a regular aspect of pharmaceutical care decisions.

Our results highlight the need to teach pharmacy ethics. Pharmacists in our studies were not always able to distinguish moral dilemmas from other complex situations (Chapter 2.1; excluded narratives). Some pharmacists wrote a narrative about a complex problem they had experienced, but which could not be described in terms of a value conflict of different parties. Although we had to exclude the narratives which were not a moral dilemma, the content showed which competencies pharmacists need. Pharmacists, for example, described their difficulties in dealing with claiming or aggressive behaviour of patients due to psychic, cognitive or physical problems these patients were suffering from. Pharmacists felt compassion for these patients, but missed that there was no moral conflict. Similarly, moral conflict was missed in dilemmas where the uncertainty was actually about clinical risk-benefit assessments (clinical dilemmas) or who pays for the medicines (financial dilemmas). The pharmacists in these clinical dilemma narratives seemed to have deficiencies in their clinical reasoning skills. Further, in some narratives pharmacists described conflicts with their employer or employees. Even though these difficulties may have moral elements these

are not directly related to care for individual patients. Professional values are not (directly) involved in these situations. General professional training may help pharmacists to improve other competencies than ethical competencies when dealing with complex situations.

Pharmacists experienced many moral dilemmas due to disruptive behaviour of either patients or physicians (Chapter 2.1). For example, within the themes 'Drug abuse and addiction' and 'Claiming and aggressive behaviour' pharmacists often experienced difficulties to maintain a trust-based relationship with patients having drug abuse and addiction problems or showing claiming and aggressive behaviour. Underneath these dilemmas limited experience of pharmacists with behavioural issues and communication techniques may play an important role. Within the themes 'Disruptive behaviour of physicians' and 'Pharmacist and physician have a different opinion about appropriate pharmacotherapy' pharmacists had worries regarding their relationship with physicians. Often the professional value of reliable and caring (acting reliable within the pharmacist-physician relationship) was in conflict with the professional value commitment to the patient's well-being. Although we have not systematically studied which values prevailed in these moral dilemmas, we have the impression that the first value often was decisive in many cases. Pharmacists being overruled by physicians has also been signalled in other studies[19,46,47] and has been described as a form of moral passivity[46]. Pharmacists who are being overruled in their moral intentions compromise what is in patients' best interest.[46] An explanation could be that pharmacists do not want to jeopardize their relationship with physicians as that might also affect the care for other patients. Pharmacists may thus be constantly weighing the importance of the well-being of individual patients to the well-being of *all* their patients.

These dilemmas exemplify that pharmacists may find it difficult to adopt the right attitude when the professional relationship with either patients or other health professionals is troubled. Professional education could help pharmacists to foster professional competencies that make others grant their professional autonomy.[52] Although community pharmacists and primary care physicians in the Netherlands often collaborate fruitfully, there is ample room for improvement of mutual trust in each other's expertise and inter-professional communication.[53] The best practices of inter-professional collaboration, are the result of a long process. Good inter-professional communication was a prerequisite for such a process.[53] This may prevent the perpetuation of a perceived asymmetrical relationship with physicians.[54] The focus will then shift from managing a troubled relationship to achieving a common patient-centred perspective.

Moral reasoning

Once a health professional has identified a moral dilemma, moral reasoning - also known as moral judgement formation - is required to judge what morally would be the best care

for the patient. Moral reasoning involves a cognitive-affective reflection process: possible options for action are explored by reflection on professional values, taking into account the consequences for all parties involved.[22,23] It is a prerequisite that health professionals are committed to the professional values of their healthcare practice. These values are often expressed in professional documents such as the Hippocratic oath[55], national codes of ethics, and the Charter of Professionalism for Dutch pharmacists[21]. Being competent in moral reasoning empowers professionals to know what can be done to resolve complex moral dilemmas. Moreover, moral reasoning guides them to professional behaviour which is in line with their social role.[56,57] However, in daily practice moral dilemmas often need quick settlement. Professionals do not have enough time to reflect on the values and perspectives, with the result that the most appropriate judgement is not always made. Therefore, they need to be competent in moral reasoning. For community pharmacists this is especially the case as most of the time the patient is waiting at the counter of the pharmacy.

Pharmacists' social role

Community pharmacists continuously make judgements and choices regarding pharmaceutical treatments for their patients. These treatments should be safe and appropriate and meet patients' medication-related needs and concerns. As a profession, community pharmacy is grounded in a specific knowledge domain and based on professional values.[21,58] Therefore, society grants pharmacists a monopoly on the provision of medicines and pharmaceutical care. Also society holds pharmacists accountable for the appropriateness of pharmacotherapy. This accountability is comparable to other health professions.[45,47] For appropriate pharmacotherapy pharmacists need to be competent in clinical reasoning. This competency involves that pharmacists think, reason and ultimately make decisions about pharmacotherapy.[59,60] Clinical reasoning deals with uncertainty with regard to clinical risks and benefits of pharmacotherapy. During the clinical reasoning process pharmacists combine scientific knowledge, clinical experience and critical thinking with information from the patient.[60] This process is (un) consciously guided by professional values. It is surprising that this guidance is not mentioned in studies on clinical reasoning.[59,61] Especially because the clinical reasoning process may be hampered by factors such as lack of information, and relationship issues with physicians or patients (Chapters 2.1 and 2.2). When personal, professional, institutional or societal values are in conflict, clinical problems turn into moral dilemmas. Moral doubt arises about what is the right thing to do. In such dilemmas where involved parties have different values and perspectives, clinical reasoning may not be sufficient and moral reasoning may be needed to come to a good clinical decision. In these situations pharmacists need to identify which professional values cannot be realised and for what reasons, to negotiate, incorporate conflicting ideas, and make effort to respect differences.

Moral reasoning involves the following processes: inquiring what the moral dilemma constitutes, identifying gaps in medication-related patient information, identifying the relevant parties involved, identifying the perspectives and values of these parties, and identifying possible courses of action and moral consequences of these actions (i.e. possible harms and benefits affecting all parties involved).[62] Moral reasoning guides professionals to choose the best possible treatment also taking into account evidence-based-medicine. [36-38,62]

Moral reasoning perspectives

In the moral reasoning process pharmacists also integrate their own perspectives and values (moral reasoning perspectives [MRPs]). Pharmacists have to be transparent about their MRP to maintain the trust of patients, health professionals and society when they advise regarding pharmacotherapy.[63]

Both qualitative and quantitative studies have investigated pharmacists' MRPs when they handle moral dilemmas.[18,20,64] The qualitative studies showed that pharmacists generally found it evident to work in patients' best interest. However, the science-based background of pharmacists results sometimes in a tendency to paternalism.[47,65] Also pharmacists' reasoning was rather based on personal values and common sense than professional values, or was oriented towards keeping with rules and laws rather than towards the healthcare needs of patients.[19,47,65] Another study showed pharmacists also reasoned from a business perspective.[66] Although there is a negative image of community pharmacists being both business- and care-oriented[67-70], the business orientation is part of a professional ethics orientation.[71] Pharmacists need a business orientation because they have the responsibility to society to contribute to the sustainability of access to medicines (Chapters 2.1, 2.2, 3.1 and 3.2).

The quantitative studies predominantly use the Defining Issue Test (DIT).[18,20] The DIT is able to measure three developmental levels of moral reasoning perspectives (MRP): a pre-conventional perspective (reasoning focused on personal interest), a conventional perspective (reasoning focused on maintaining norms) and a post-conventional perspective (reasoning focused on universal principles beyond personal interest and norms).

In the US, studies using the DIT showed that pharmacists had the lowest post-conventional scores compared to other health professionals such as physicians and nurses.[56] The author suggested that the relatively low post-conventional moral reasoning perspective scores among community pharmacists can be explained from their business perspective.[56] In contrary, others suggested this business orientation is not the perspective of the pharmacist, but results from social, economic, and cultural factors in which pharmacy practice is embedded.[47,72] These contextual factors challenge the patient-centred perspective and should be considered when one aims to understand how both society and pharmacists perceive pharmacists' social

role. Factors that were mentioned were: entrepreneurship in pharmacy practice, the culture of subordination to physicians, the culture within larger pharmacy chains, the challenges with remuneration of pharmaceutical care activities, and the strict regulation with potential consequences for their own business.[18,19,46,47,64,72-74]

Although our study showed that in situations of drug shortages Dutch pharmacists' predominantly have a professional ethics (patient-centred) MRP (Chapter 3.2), they are also challenged by contextual factors. For example, being a managing pharmacist was negatively associated with a dominant professional ethics MRP in situation of drug shortages (Chapter 3.3). This indicates that pharmacists who are responsible for the viability of the community pharmacy, may be more sensitive for financial factors in their moral reasoning than locum pharmacists. Another example can be found within the theme 'Public health and third-party payer regulations' in the moral dilemma narratives (Chapter 2.1). The reflections of pharmacists in these dilemmas suggest that pharmacists are hampered in their professional autonomous decision-making by health insurance companies. Payers expect pharmacists to dispense a selection of generic drugs only and provide standard contracts without appropriate remuneration for patient care, while society and patients expect patient-centred care that takes into account patient preferences.[75]

A last example indicates the culture of subordination to physicians. Within the theme 'Pharmacist and physician have a different opinion about appropriate pharmacotherapy' physicians overruled pharmacist' proposals without discussing these professionally (Chapter 2.1).

Taking into account the above contextual factors one can imagine that the professional ethics MRP of Dutch pharmacists is challenged, which may result in suboptimal pharmaceutical care for patients. Dutch community pharmacists, as individuals and common practice, need support to deal with these challenges. The professional association of pharmacists should come up with an implementation strategy for the Dutch Charter of Professionalism, including a strategy to realise the preconditions for a patient-centred care role.[8,21]

As part of this strategy individual pharmacists should be educated on the Dutch Charter and on moral reasoning to identify all contextual factors. Improving moral reasoning skills of community pharmacists will increase the acceptance of their social role by others. And better moral reasoning skills may be even more important than expanding patient-centred services.[76]

Strategies for other preconditions should also be developed. For example, for the precondition that physicians share necessary medication-related patient information with community pharmacists in order to reduce prescribing and dispensing errors.[77-79] But also

for a remuneration model that rewards pharmaceutical care rather than logistics. Besides, a strategy could be to include the Dutch Charter in the procedure for development of the professional guidelines for community pharmacists.[80] Overall the strategy should be that policymakers and leaders in pharmacy promote the social role and underpinning values of pharmacists. Especially, they should more clearly emphasise the trust-based relationship between pharmacist and patient.[81]

Moral intention

Once a health professional has judged what morally would be the best care for the patient, this does not automatically lead to professional behaviour.[82] Moral intention, also referred as moral motivation, is the cognitive-affective reflection process needed between moral judgement and moral character to perform professional behaviour.[83,84] Moral intention is the motivation that prioritises the moral ideal course of action.[23,85] It not only implies that a health professional is committed to the professional values that underpin the moral best action, but also means that a health professional is motivated to overcome, for example, self-interest or concerns about rules and regulations.[23,62] Health professionals who have internalised their professional values may be more consistent in prioritising the moral ideal course of action.[86-88] Such professionals have internalised their professional ethics.[62]

Moral intention among pharmacists

Like for any health professionals, moral intention is essential for pharmacists to act professionally. Unfortunately, research on moral intention among pharmacists is scarce. A qualitative study among seven community pharmacists in the United States showed that pharmacists, who suspected an opioid use disorder, carefully balanced the risk of abuse and the genuine need for analgesic treatment when patients presented potentially falsified prescriptions. Their moral intentions were clear. However, the pharmacists also considered that their license or reputation of their pharmacy could be compromised when they dispensed the falsified prescription. Therefore, this concern sometimes overruled their moral intention.[84] Another study among 23 community pharmacists in the United Kingdom showed that pharmacists frequently prioritised other values, such as keeping with the law, above the professional values. Some pharmacists, however, did feel uncomfortable with legal obligations, for example when a genuine mistake of a physician could imply that a patient would be deprived of necessary medication. The ethical passivity of pharmacists was considered as potentially deleterious for patients' well-being.[46]

In our studies Dutch pharmacists showed that their moral intentions were more consistent with the professional value commitment to the patient's well-being. For example, the reflections of pharmacists in the moral dilemma narratives under the theme 'Dispensing

without a prescription' showed that pharmacists felt it hard to make a choice because they had insufficient clinical information and were reluctant to deviate from laws and regulations. But overall the moral dilemma narratives gave the impression that the pharmacists were more concerned about the patient's well-being and the mutual trust in the treatment relationship than about breaking the law (Chapter 2.1). This tendency was confirmed in situations of drug shortages. Dutch community pharmacists' moral intentions in situations of drug shortages (i.e. reflected in the ranking of the moral reasoning considerations in the handling of the drug shortage scenarios [Chapter 3.2]) were based on a rules and regulation perspective as well but the moral intentions based on a professional ethics perspective were more dominant (Chapters 3.2 and 3.3). An explanation may be that Dutch community pharmacists have a strong professional relationship with primary care physicians[89,90] and are professionally more autonomous than community pharmacists in other countries. Their social role is comparable with the role of clinical pharmacists in many other countries.[91,92] Also, Dutch community pharmacists are legally recognised as health professionals and share the responsibility for drug therapy of their patients with physicians according to the Dutch Medical Treatment Agreement Act (WGBO). This law became applicable for community pharmacists in 2007. Moreover, since 2016 community pharmacy is recognised as an official specialisation, thereby giving a similar status to the profession as general practitioners and other medical specialists. Dutch community pharmacists may therefore be regarded more as health professionals with thereto granted professional autonomy than that is the case in some other countries.

Moral reflectivity in dialogue

The challenge of decision-making in healthcare practice is managing uncertainty.[93] It is for health professionals essential to view uncertainty as a productive component of clinical reasoning. All clinical judgements require moral reflection since professional values always play a role. Each uncertainty may be an opportunity for new insights and may ultimately improve patient care. In any case, finding solutions requires moral sensitivity and reasoning, but even more so moral intention and courage from pharmacists to be prepared to endure that uncertainty till it is resolved in a best possible way for the patient. Providing health professionals with ethical guidelines only is not enough.[94] Ethical competencies need to be trained.

Professional ethics education aims to train health professionals to internalise the professional values, overcome concerns, build moral intention and courage, and as such to develop a professional identity. An education method that has proven to be successful in developing ethical competencies among secondary care professionals is moral case deliberation (MCD).[95-97] During MCD health professionals systematically and jointly reflect on a moral dilemma. Although we have not come across studies which have explored and described MCD with

pharmacists, studies exist that made mention of reflection methods such as moral dilemma case discussions. These studies showed positive effects regarding the development of pharmacists' and pharmacy students' ethical decision-making processes.[18,20,98,99]

Our study regarding MCD (Chapter 4) showed that this method of joint reflection has potential to foster community pharmacists' moral reflectivity. Moreover, our results indicate that MCD may help pharmacists to further increase sensitivity for the moral dimension of decision-making, and to enhance reflection on and commitment to professional values (moral sensitivity, reasoning and motivation). Pharmacists who participated in the MCD sessions learned from each other's views regarding the perspectives of the parties involved in the dilemma and their moral judgements and intentions how to deal with the dilemma. The deliberation increased their awareness of the professional values underneath their reasoning. Pharmacists were generally less consciously aware of these values before participating in these MCD-sessions as care decisions in daily practice are often made on the basis of their gut feelings.[50,51] The MCD method should be explored further in the context of the development of ethical competencies of community pharmacists, both qualitatively as well as quantitatively. Besides, methods should be developed to measure outcomes of MCD with pharmacists. A recent study has developed such a method for MCD with health professionals working in secondary healthcare institutions.[100]

Recommendations for education, practice, policy and research

We demonstrated that community pharmacists experience a diversity of moral dilemmas in their daily pharmacy practice. We argued that community pharmacists need moral reflection in the processes of moral sensitivity, reasoning and intention to cope with these moral dilemmas. In this final section, we give recommendations to improve the ethical decision-making processes of pharmacists. Although we specifically studied the ethical decision-making of community pharmacists, we are of the opinion that these recommendations apply for pharmacists in general, especially those with clinical roles. Pharmacists should be more aware that moral dilemmas arise mostly in their professional relationships and often when their professional autonomy is challenged by the behaviour of patients and other health professionals. Pharmacists should use their professional values to better recognise and reflect on the moral dilemmas in practice (Chapters 2.1 and 2.2). Moral reasoning tests for pharmacists can be used to monitor the moral reasoning perspective (MRP) of pharmacists in general and in specific situations such as in case of drug shortages (Chapter 3.2 and 3.3). Moral case deliberation (MCD) sessions can aid community pharmacists to develop moral reflectivity to make appropriate pharmaceutical care decisions in daily practice (Chapter 4).

Recommendations for education

It has been suggested that pharmacists especially struggle with moral dilemmas due to a lack of professional ethics training throughout their academic training. Professional ethics training should therefore be an integral part of all phases of academic education and should continue during postacademic training.

In the Netherlands, educators from both the Bachelor's and the Master's pharmacy degree programs, along with representatives from the Royal Dutch Pharmacists Association (KNMP), (re)formulated a pharmacy-specific frame of reference and competence standards framework for pharmacists.[101] This document clearly states that Dutch pharmacists are trained to execute their pharmaceutical expert role on the basis of the highest pharmaceutical, scientific and ethical standards as formulated in the Dutch Charter of Professionalism.[21] Training is aligned with the postacademic education curriculum for pharmacists to become specialists.[102] It means that all Dutch pharmacy (post) academic institutions are dedicated to teach (future) pharmacists on the basis of the Charter and the therein included professional values. All master degrees in the Netherlands have attention for ethical education in their curricula and the postgraduate community pharmacist specialisation program in the Netherlands reserves classroom courses to professional ethics training.[102] There are different approaches, but reflection on professional values and dilemma case discussions, partly on the basis of self-collected and experienced moral dilemmas, is generally included. These institutions should jointly monitor the implementation of the usage of the Charter in the curricula and its effects on students' moral reflectivity, and learn from each other's methods to teach the ethical competencies in line of it.

Professional ethics education should firstly include developing moral sensitivity which means professional value awareness and recognition of moral dilemmas. It should provide experiential reflective learning methods, such as writing narratives about self-experienced dilemma cases, and hypothetical and self-experienced moral dilemma case discussions with peers. These discussions can be informal as well as formal and structured like in moral case deliberation. In these methods the development of moral reflection as well as Rest's four cognitive-affective processes involved in ethical decision-making (moral sensitivity, reasoning, intention and character) should all be integrated.[22,32] Furthermore, professional bodies can stimulate moral case deliberation (MCD) sessions for (community) pharmacists. A short MCD format could be developed for such educational purposes and as a tool for quick moral reflection and judgement in daily practice. To generate attention for the ethical aspects of the pharmacy profession, professional bodies could regularly share moral dilemmas through newsletters or professional journals.

A major part of Dutch pharmacists' moral dilemmas are related to the behaviour of patients with potential drug addiction and drug misuse problems or patients who behave aggressively. Therefore, special attention should be given to increase knowledge of and develop moral sensitivity for human behaviour and specific patient characteristics in the context of mental illnesses, drug addiction and dependency. Also, iatrogenic stigmas in the context of these characteristics should be taught. Similarly, moral sensitivity and communication with other patient groups that may need specific attention should be reinforced. For example, patients with impaired cognitions, low literacy, parents of young children and pregnant women may have specific medication related needs.

In order to increase understanding of the perspectives and values of patients and other parties such as physicians, health insurers, government, pharmaceutical industry, regulating bodies, science, society, (early career) community pharmacists could perform role-plays. In these they have to defend the values and perspectives of such parties which often are involved in moral dilemmas. Role plays may deepen moral sensitivity. It may stimulate identifying and respecting values and perspectives of pharmacists in relation to these of other parties in the context of the care for patients in moral dilemmas.

Specific attention in professional ethics education should as well be given to the difference between reasoning from a professional ethics perspective as compared to reasoning from a rules and regulations or business orientation perspective. The possible effect on decisions based on either of these MRPs on patient outcomes should be illustrated. Moral reasoning tests such as used in situations of drug shortages (Chapter 3.2 and 3.3) can be used to monitor convergence towards a professional ethics moral reasoning perspective as a result of the professional ethics education and used learning methods.

Simultaneously, (post)academic professional ethics education should address the difference between clinical and moral reasoning and teach how these complement each other to resolve moral dilemmas in the best possible way for patients.[103] Experiential learning methods such as collecting dilemma cases in practice and discussing these can support pharmacists to understand such differences.

In order to teach professional ethics competencies to students and early career pharmacists, role models are essential. Special attention should therefore be given to ethics education for more senior pharmacists, who will supervise students and early career pharmacists. During workplace learning - and this is recommended in the context of students as well as early career pharmacists apprenticeships - the trainee can learn and demonstrate ethical competencies and

the supervisor is responsible for giving feedback and assessing the progress of the trainee. It makes sense the supervisors should as well be educated in the professional values, moral reflectivity and MCD.

A special interest group with members who are experienced in moral reflection in pharmacy could function as role models for all pharmacists. They could provide specialised support on demand, but could also assess MCD cases on paper, i.e. assignments for (post)academic professional ethics pharmacy education. In the Netherlands there is such a special interest group and members of that group are involved in (post)academic professional ethics education as teachers as well as assessors of MCD reflections of pharmacists in the specialisation program. They regular meet to calibrate assessment strategies.

Often community pharmacists experience moral dilemmas due to a disruptive attitude of physicians who for example do not want to provide their value-based arguments for prescribed pharmacotherapy or do not want to listen to alternative pharmacotherapy options (Chapter 2.1). In order to stimulate inter-professional collaboration (later) in practice, both pharmacy and medical students in academic education, and both pharmacists and physicians in postacademic education, should have mixed (professional ethics) classes. In these classes they discuss moral dilemma cases and distinguish their separate and common professional responsibilities. Combined education of community pharmacists and physicians may also promote mutual trust and respect for each other's knowledge and experience. Community pharmacists depend on these parties as they grant them professional autonomy when they are partners in therapy judgements.

Furthermore, pharmacy students and (early career) community pharmacists must be regularly asked about their own conceptions of a professional identity and standards of professional behaviour, and compare these with the expectations of the profession and the society. Such expectations are often reflected in documents like pharmacist oaths and ethical codes such as the Dutch Charter of Professionalism.

Recommendations for practice and policy

It goes without saying that professional bodies will have to play a crucial role to improve the ethical competencies of both practicing pharmacists, and future pharmacists.

Pharmacists working in community pharmacy and in other sectors (e.g. hospital pharmacy, industry) should be trained to use the professional values in their practice. The operationalised descriptions of these values for community pharmacists (Chapter 2.2) may facilitate this

training for them. Other sectors in pharmacy in the Netherlands may reflect on the need to adapt the operationalisations of the professional values for their setting (i.e. hospital pharmacy, pharmaceutical industry, public health pharmacy).[104]

Professional bodies such as the Royal Dutch Pharmacists Association (KNMP) should place ethical development of pharmacists on top of their agenda and internalise the mission towards professional-ethics competence building of their members. This requires a strategy which starts with the development and implementation of a national charter of professionalism. In the Netherlands such a charter has already been developed (Chapter 2.2). Remarkably, an implementation and evaluation strategy for the Dutch Charter of Professionalism in the Netherlands is still lacking. Such an implementation strategy should focus on how the values as professional ideals are used in policy, (scientific and juridical) rules, regulations and guidelines and (post) academic education. For example, in the procedure for the development of professional guidelines[80] a check whether these guidelines are in line with the Charter should be a standard procedure. Eventually the effects of the Charter on the quality of pharmaceutical care should be evaluated.

Professional bodies need to raise awareness among policymakers, regulators and educators on the importance of fostering the ethical competencies of community pharmacists. As stated before, professional bodies should cooperate with (post)academic education institutions to foster ethical competence development of (future) pharmacists. The Dutch Special Interest Group Professionalism and Pharmaceutical Ethics, for example, advises the Royal Dutch Pharmacists Association (KNMP) on ethical issues in the light of (the development) of pharmacists' social role substantiated by the professional values. However, such interest groups are often informal and this may not be sufficient. Special interest groups should therefore receive full mandate and appropriate support from the professional bodies.

Professional bodies should emphasise the importance of a pharmacy reimbursement system that fosters the social role of the pharmacist, and strengthens pharmacists' professional autonomy. The current Dutch remuneration model for pharmacists, that rewards logistics rather than pharmaceutical care, does not contribute to the social role of a healthcare professional that society expects from community pharmacists and affects patients' trust in pharmaceutical care negatively.[75] The challenge will be to develop a reimbursement system that stimulates pharmaceutical care and concurrently curbs healthcare costs. As pharmaceutical care has been shown to be cost-saving such a reimbursement system that improves patient outcomes and saves money may actually be feasible.[105]

To further support community pharmacists in their healthcare role and realisation of their professional autonomy within collaboration with physicians, professional bodies should

continue their lobby for the availability of clinical information such as laboratory values and indication for prescribing for pharmacists. This information can help pharmacists in their clinical role and may prevent moral dilemmas e.g. in case of doubt when physicians are not available to share such medical information. Moreover, parties that collaborate in patient care should have dialogues with each other and work out the difficulties that hamper appropriate care. Sometimes difficulties may have a mere technical nature such as incompatible information systems, but different interpretation of regulations such as the General Data Protection Regulation of the European Union on data protection and privacy[106] may also play a role.

Professional bodies should stimulate that moral case deliberation (MCD) becomes an obligatory item within lifelong learning of community pharmacists. They could additionally stimulate that pharmacists take part in MCD together with primary care physicians, for example as part of joint pharmacotherapy audit meetings, also called quality circles or peer review groups.[107,108] The advantage is that MCD is clearly structured, which may result in improved standards of practice.[109] Moreover, MCD with other primary health care professionals may help them to recognise each other's values and perspectives towards care in patients' best interest. Hence, also medical professional bodies could stimulate MCD in primary care along with community pharmacists.

Finally, policy makers could line up with professional bodies to build a public communication strategy that promotes pharmacists as health professionals that can aid patients beyond solely dispensing medicines.

Recommendations for research

This thesis contains the first studies into the ethical competencies of Dutch community pharmacists. The studies have proven the importance of professional value awareness and moral reflectivity in the processes of moral sensitivity, reasoning and intention in ethical decision-making in situations of moral dilemmas. There is, still ample opportunity for continued research.

Future research should focus on (1) the longitudinal moral development of students and pharmacists throughout their career, (2) the effectivity of interventions that aim to improve ethical competencies, (3) barriers and facilitators that influence the professional (ethical) behaviour in the best possible interest of patients, and (4) the extent of moral distress and the consequences of such distress among pharmacists.

Regarding the first type of research, it should firstly focus on structurally measuring, monitoring and evaluating students' and (early career) pharmacists' moral sensitivity (qualitatively as well as quantitatively) and their progression towards reflection on and commitment to professional values.

Hence, this automatically implies that the second focus of research - developing and testing of (experiential) learning methods or interventions - is in place. For example, in order to be able to measure moral development quantitatively and monitor that development regularly, the test we developed in this thesis to measure moral reasoning perspective levels (Chapter 3.2) can be adjusted for situations of moral dilemmas other than drug shortages. It should be emphasised once more, moral reasoning tests that aim to measure moral reasoning perspective levels among pharmacists should be designed on the basis of professional values, practice (role and guidance) and language of the responding pharmacists who are tested. Hence each country should design such tests in alignment with local professional circumstances.

Future research could evaluate the effects on moral sensitivity and moral reflectivity of interventions such as written narratives and MCD in the processes of moral reasoning and intention. When such interventions also include teaching the difference between clinical and moral reasoning, such research could as well investigate the dynamics between these two types of reasoning in order to optimize the patient-centred decision-making in pharmacy practice.

In order to evaluate MCD more substantially, future studies could identify the aims that pharmacists want to achieve with MCD and evaluate whether these aims are actually reached.[100] Moreover, the effect of these learning methods on professionally and ethically handling moral dilemmas in practice should be investigated. Finally the effect of ethically handling of pharmacists on patient outcomes could be studied, e.g. by qualitative studies among patients who were involved in these dilemma cases.

The third type of studies focuses on the cause of the moral intention-professional behaviour gap. It is essential to identify which (contextual) factors influence community pharmacists' moral intentions when they act or not act in line with these intentions. Anthropological research methods could be used where the researcher observes pharmacists in practice. More simple, less time-consuming and less expensive methods could be to interview pharmacists directly after they experienced a moral dilemma and ask these pharmacists to reflect on their considerations and actions.

Lastly, as has been mentioned several times in this thesis, pharmacists and many other health professionals experience moral distress in the context of moral dilemmas. Moral distress can

lead to anger, fear, frustration, and even burn-out when health professionals are unable to execute their moral intentions and feel they provide suboptimal care for patients. Moral distress can lead to losing work satisfaction and may even cause pharmacists to exit the profession. Moral distress has not been studied among Dutch community pharmacists. Research should provide evidence to what extent Dutch pharmacists experience moral distress as a result of moral dilemma encounters.

CONCLUSION

This thesis has given new insights regarding the moral reflectivity of community pharmacists in the context of ethical decision-making and the professional values that play a role therein. Awareness of professional values is crucial for pharmacists to understand their moral dilemmas within their professional relationships. This awareness may enable pharmacists to reflect on these values and will help them to take appropriate decisions in the best interest of patients and society.

However, pharmacists need support here. National pharmacists associations and policy makers should realise the preconditions for a health system and remuneration model wherein the healthcare role of pharmacists is adequately assured and by which pharmacists' social role is promoted. A national strategy should be developed for implementation of the professional core values in all segments of the profession. The most relevant stakeholders to support pharmacists in this are the national pharmacists associations, universities, policy makers and payers. Part of this strategic plan should be incorporation of ethics education in pharmacists' (lifelong) professional education. Stakeholders should structurally invest in empirical research that aims to measure progress in moral reflectivity of community pharmacists and the effect of it on the quality of pharmaceutical patient care.

Pharmacists themselves must give time to moral reflection away from the hectic day-to-day practice and strengthen their inner moral compasses. Taking cue from Shakespeare, moral reflection is not reason's labour, but calm repose.

It is without saying that moral reflectivity is the key and should become a natural attitude of community pharmacists with the aim to achieve positive health outcomes for patients who are in need of pharmaceutical care.

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APPENDICES

SUMMARY

The introduction of this thesis, **Chapter 1**, provides a brief overview of the evolving professional role of the community pharmacist from the 1990s to the present. Central to that evolution is that the work of the pharmacist became more patient oriented instead of primarily product oriented. Although safe compounding and dispensing continue to be important features of their work, pharmaceutical care for patients became more prominent in the thinking and practice of pharmacists. The specific responsibilities and competencies which pharmaceutical care demands of pharmacists were elaborated. Patients, who are vulnerable by their health problems, depend on the pharmacist's expert knowledge about medicines and the risks associated with their use. In order to optimally provide pharmaceutical care, pharmacists must adequately apply their scientific knowledge of medicines to the context and life of their patient. Pharmacists take responsibility for their patients' drug-related preferences and needs. Such responsible practice implies that pharmacists work closely together with patients, their carers, and other health professionals involved in patients' care. Within this collaboration pharmacists need to be aware of their own values and perspectives.

The introduction further presents what the professional role of Dutch community pharmacists constitutes in the Netherlands. Professionally, Dutch pharmacists are guided by the Dutch Charter of Professionalism which describes the profession's core values, i.e. commitment to the patient's well-being, pharmaceutical expertise, reliability and care, social responsibility, and professional autonomy. Dutch pharmacists are encouraged to employ professional expertise and practical wisdom to fulfil these professional values in situations where the most optimal solution for an individual patient is not always obvious. We noted that so far no empirical research has been conducted into the professional values of Dutch community pharmacists.

Health professionals, including community pharmacists, work under challenging conditions with an ageing population that needs more care, rapidly emerging healthcare technologies, market forces in healthcare, the curbing of healthcare budgets, and demanding third party payers and patients. These circumstances threaten their professional autonomy. Furthermore, pharmacists may be held accountable by patients as well as society when patients' health is negatively affected by suboptimal or inappropriate care. As a consequence, health professionals increasingly experience moral dilemmas. Moral dilemmas are situations where it is not immediately clear what the right course of action is as all options have moral advantages as well as disadvantages. In such situations of moral uncertainty, the values and perspectives of the different parties involved are in conflict, and health professionals cannot

do justice to them all simultaneously. As a consequence health professionals may develop moral distress, a stress reaction in the form of feelings of guilt or fear that arises when one acts against one's conscience and values, often accompanied by a feeling of lack of control.

Community pharmacists need ethical competencies that enable them to deal with moral dilemmas. For example, in situations of moral dilemmas, pharmacists must reflect on the professional values and their meaning in the context of the values and perspectives of all parties involved. This ethical competency is termed 'moral reflectivity' in this thesis.

There is still a lack of studies on community pharmacists' moral dilemmas and the professional values that play a role therein. Also, the development of pharmacists' ethical competencies required to deal with these dilemmas is hardly researched. To further develop Dutch community pharmacists' competencies so that they can optimise their pharmaceutical care role in situations of moral dilemmas, we need more insight into the ethical competency of moral reflectivity. The objective of this thesis was to generate understanding of community pharmacists' moral reflectivity in situations of moral dilemmas and how professional values play a role therein. We investigated moral reflectivity in the context of Rest's Four Component Model of ethical decision-making. According to that model health professionals make use of four cognitive-affective processes when making an ethical decision in situations of moral dilemmas: (1) moral sensitivity (the individual's ability to recognise moral dilemmas), (2) moral reasoning (the individual's ability to reflect on the moral ideal course of action), (3) moral intention (the motivation that prioritises the moral ideal course of action) and (4) moral character or action (the ability to hold onto the morally ideal intended action). The last process was not investigated because that was practically not feasible.

This thesis consists of five parts. **Part 1** contains the general introduction. In **Part 2** we investigated community pharmacists' moral sensitivity for moral dilemmas and the professional values that play a role therein (**Chapters 2.1** and **2.2**). The narratives of 220 dilemmas of early career Dutch pharmacists (pregraduate and postgraduate pharmacists working in community pharmacy) were used. The pharmacists had written these narratives shortly after they had experienced the dilemmas in practice. This method made it possible for them to directly reflect on their feelings during these encounters and vividly remember the frustrations and other emotions they experienced.

In **Chapter 2.1** we described the themes that emerged from 128 eligible moral dilemmas. We found 22 themes which could be further divided into three categories: themes of moral dilemmas experienced within 1) the pharmacist-patient relationship, 2) the pharmacist-colleague relationship, and 3) a variety of relationships. The moral dilemmas and their themes revealed that pharmaceutical care and professional autonomy in decision-making by pharmacists was

hampered mostly because of the behaviour of patients or other health professionals. The interventions of third parties, such as legal representatives, regulators, or health insurers sometimes further complicated the pharmacist-patient relationship. Pharmacists often felt that patients and other health professionals disregarded their pharmaceutical expertise and undermined the trust vital to the pharmacist-patient relationship. This lack of regard and trust impeded pharmacists' decisions regarding appropriate and safe pharmacotherapy because, for example, relevant patient information needed for these decisions was not shared. We concluded that the themes were more diverse than in previous studies.

Our study in **Chapter 2.2** aimed to address which professional values (formulated in the Dutch Charter of Professionalism) and which other values could be identified in the same 128 eligible moral dilemma narratives as analysed in Chapter 2.1. We also aimed to present customised descriptions of the professional values for pharmacists working in community pharmacy. All professional values played a role in the moral dilemmas. 'Commitment to the patient's well-being' and 'reliability and care' were present the most and 'social responsibility' was present the least. We found thirteen other values which could all be categorised under the existing professional values. These values could also be used for the customisation of the value descriptions for community pharmacists. The descriptions were adapted the most for the professional values 'reliability and care' and 'social responsibility'. Moreover, we changed the names of these two values to 'reliable and caring' and 'responsibility to society' to better fit with the descriptions. We concluded that these customised professional value descriptions can enable community pharmacists to better recognise moral dilemmas in practice, and support them to advance their pharmaceutical care practice.

In **Part 3** we presented three studies on moral reasoning of Dutch (early career) community pharmacists. We tested the applicability of the Australian moral reasoning test for community pharmacy, the Professional Ethics in Pharmacy test (PEP test), to early career Dutch pharmacists (**Chapter 3.1**). The PEP test is designed to measure three developmental levels of moral reasoning (i.e. moral reasoning perspectives [MRPs]): (1) a business orientation MRP, (2) a rules and regulation MRP and (3) a professional ethics MRP. The PEP test consists of three moral dilemma scenarios from pharmacy practice wherein the respondent is asked what should be done to resolve the dilemma. The scenarios are accompanied by thirteen statements that represent the three MRPs. Respondents rate and rank the importance of each of these statements to the extent these match their (tacitly) preferred MRP from which they usually - often unknowingly - reason when making and taking decisions in pharmacy practice. In the studies in **Chapters 3.2** and **3.3**, we adapted the PEP test for use in the context of Dutch pharmacy and professionalism (PEP-NL test) and investigated to what extent community pharmacists made use of the three MRPs in their intended handling of drug shortages.

In **Chapter 3.1** the Dutch-translated version of the PEP test, the PEP-NL test, was completed by 376 early career pharmacists working in a community pharmacy. The results showed the same three MRPs for Dutch pharmacists' moral reasoning as for Australian pharmacists. However, Dutch pharmacists' professional ethics MRP was expressed in different statements than the Australian pharmacists' professional ethics MRP. We perceived these differences to be possibly rooted in the country-specific professional ethical guidance. We concluded that the Australian PEP test can be used for pharmacists in the Netherlands when the test is appropriately adjusted to the Dutch pharmacy practice context and professional language. Moreover, the statements that represent the professional ethics MRP should be adjusted to reflect the professional ethics that guide community pharmacists in the Netherlands.

In **Chapter 3.2** we adjusted the PEP-NL test (Chapter 3.1) to the context of three drug shortage dilemma scenarios. We explored from which MRPs Dutch pharmacists reason in their decision-making process in these drug shortage scenarios. The scenarios concerned an osteoporosis medicine shortage, a contraceptive shortage and a Parkinson's medicine shortage. These three scenarios were deliberately chosen for their various perceived levels of impact on patient outcomes (i.e. a low, medium and high impact respectively). The adjusted PEP-NL test was completed by 267 community pharmacists. The three MRPs were significantly present in the community pharmacists' moral reasoning. We found that the pharmacists handled the three shortages in similar ways. However, pharmacists would be more likely to import the medicine in the case of a contraceptive and Parkinson's medicine shortage than for an osteoporosis medicine shortage. Further, pharmacists' intended handling of the three drug shortages was predominantly influenced by professional ethics MRP statements. When the drug shortage was perceived to have a lower impact on patient outcomes (i.e. in the contraceptive and osteoporosis medicine shortages) and alternative drugs or therapy were expensive (i.e. in the osteoporosis medicine shortage) community pharmacists were more influenced by business orientation MRP statements. We concluded that in such drug shortage situations pharmacists' professional ethics MRP can be compromised.

In **Chapter 3.3** we made use of the same dataset of 267 community pharmacists as in Chapter 3.2. We aimed to find groups of pharmacists with a dominant MRP and detect determinants (i.e. characteristics of pharmacists or the different drug shortage scenarios) that may be associated with such dominant MRPs. The determinants analysed were gender, age, type of pharmacy, job profile, and the type of drug shortage scenario (three different levels of impact on patient outcomes). We found that pharmacists who have the job profile of a 'managing pharmacist' or who are confronted with a shortage with a lower impact on patient outcomes (i.e. the contraceptive drug shortage) have a significantly lower likelihood to reason with a dominant professional ethics MRP. This likelihood was in the latter case the lowest.

We therefore concluded that the perceived impact of drug shortages on patient outcomes explains community pharmacists' dominant professional ethics MRP in situations of drug shortages better than their personal characteristics.

In **Part 4** in **Chapter 4** we presented the last study in this thesis on pharmacists' moral reflection in dialogue. We explored whether moral case deliberation (MCD) fosters the moral reflectivity of community pharmacists. Moral reflectivity is required to make ethical decisions in situations of moral dilemmas. A total of 14 community pharmacists (seven pharmacists per session) and two facilitators participated in two MCD sessions using videoconferencing. In each session, a real life moral dilemma case concerning one of the participants was central to the deliberation. The facilitator led an exploration of the case with the aim of stimulating the participants to understand and discover the facts and values involved for the pharmacist, the perspectives and values of all other parties involved in the dilemma, and the arguments for the best possible action, and to find a resolution to the core moral question. We concluded that MCD has the potential to foster community pharmacists' moral reflectivity in the context of professionally resolving moral dilemmas. Participants became more aware of their own professional values and the role these values play in recognising the moral dilemma and the values and perspectives of other parties involved. MCD also enabled participants to substantiate their ethical decision-making with professional values in the context of resolving the dilemma.

Part 5 presented the final **Chapter 5** where we discussed the main outcomes of this thesis. We structured these results along the three cognitive-affective processes involved in professional behaviour: moral sensitivity, moral reasoning and moral intention. We clarified the importance of professional value awareness and moral reflectivity for pharmacists in all ethical decision-making processes to provide appropriate, safe and effective pharmaceutical care in the best interests of patients and society. We emphasised that moral reflectivity is crucial in prioritising the best possible course of action in situations of moral dilemmas. Pharmacists need support from professional bodies, the law and society to realise the best possible care. These parties should recognise pharmacists as health professionals and facilitate their professional autonomy. To develop moral reflectivity in pharmacists we stressed the need for further exploration of the use and applicability of moral case deliberation.

We formulated recommendations for education, pharmacy practice and policy, and research. Professional ethics education should be an integral part of all phases of (post)academic education. Moral sensitivity should be taught. Special attention should be given to increasing the knowledge of human behaviour and patient characteristics. Pharmacists should be taught how moral reasoning complements clinical reasoning in the resolution of moral dilemmas. The implementation of professional ethics education and its effects on students' and pharmacists'

moral reflectivity should be jointly monitored by all the pharmacy educational institutions in a country. Professional ethics education for senior pharmacists and supervisors in pharmacy practice is needed as they are the role models for young pharmacists. Special interest groups of pharmacists professionals with experience in moral reflection should be organised as they can inspire and support these role models. Combined professional ethics education classes or MCD with both pharmacists and physicians might stimulate interprofessional collaboration and prevent moral dilemmas in the context of that collaboration.

We emphasised that professional bodies will have to play an important role in establishing ethical competencies of (future) pharmacists. They could develop and implement a national charter of professionalism. They could raise awareness among policy makers, regulators and educators on the importance of fostering ethical competencies of community pharmacists. They could emphasise the importance of a pharmaceutical care reimbursement system that fosters pharmacists' social role and strengthens their professional autonomy. They should lobby for the availability of clinical information for prescribing for pharmacists. They could make MCD mandatory, including as part of community pharmacists' lifelong learning. Moreover, they could promote the healthcare role of pharmacists, also beyond dispensing, in public communication.

Finally, we recommended investigation of the longitudinal moral development of students in pharmacy and pharmacists throughout their career. Further research is needed to measure the effectiveness of interventions that aim to improve ethical competencies, to measure the extent of moral distress among community pharmacists and to explore the consequences of such distress, and to study the barriers and facilitators that influence professional behaviour in the context of providing pharmaceutical care in the best interests of patients.

SAMENVATTING

Dit proefschrift begint met een inleiding (**hoofdstuk 1**) waarin een kort overzicht wordt gegeven van de ontwikkelende professionele rol van de openbaar apotheker sinds de jaren negentig. Deze rol werd meer patiëntgericht in plaats van vooral productgericht. Hoewel veilig bereiden en afleveren belangrijk bleven, kreeg farmaceutische zorg voor patiënten een prominentere plaats in het denken en de praktijk van apothekers. Deze farmaceutische zorg vraagt specifieke verantwoordelijkheden en competenties van apothekers. Patiënten, die kwetsbaar zijn vanwege hun gezondheidsproblemen, zijn afhankelijk van de deskundigheid van apothekers en de kennis de zij hebben van geneesmiddelen en de risico's van het gebruik ervan. Voor een optimaal gezondheidsresultaat moeten apothekers hun wetenschappelijke kennis van het geneesmiddel verbinden met de context en het leven van hun patiënt. Apothekers nemen de verantwoordelijkheid voor de medicatie- en gezondheidsgerelateerde voorkeuren en behoeften van hun patiënten. Een dergelijke verantwoordelijkheid houdt in dat apothekers nauw samenwerken met hun patiënten, hun verzorgers en de andere betrokken zorgprofessionals. Binnen deze samenwerking dienen apothekers zich tevens bewust te zijn van hun eigen waarden en perspectieven.

De inleiding geeft vervolgens de professionele rol van de Nederlandse openbaar apotheker in Nederland weer. Voor Nederlandse apothekers zijn de kernwaarden van het beroep, welke in het Handvest voor Professionaliteit (*Handvest van de apothekers. Grondslag voor het professioneel en ethisch handelen*) zijn beschreven, leidend in hun handelen. De vijf kernwaarden zijn betrokkenheid op het welzijn van de patiënt, farmaceutische deskundigheid, betrouwbaarheid en zorgvuldigheid, maatschappelijke verantwoordelijkheid en professionele autonomie. Het Handvest stimuleert Nederlandse apothekers professionele expertise en praktische wijsheid in te zetten om deze professionele waarden te realiseren in situaties waar de meest optimale farmaceutische zorg voor een individuele patiënt niet altijd voor de hand ligt. Tot nu toe is geen empirisch onderzoek gedaan naar de professionele waarden van Nederlandse openbaar apothekers.

Zorgprofessionals, waaronder openbaar apothekers, werken onder uitdagende omstandigheden, met een ouder wordende bevolking die meer zorg nodig heeft, snel opkomende zorgtechnologieën, marktwerking in de zorg, toenemende besparingen op zorgbudgetten, en veeleisende zorgverzekeraars en patiënten. Deze omstandigheden zetten de professionele autonomie van zorgprofessionals onder druk. Bovendien kunnen zorgprofessionals verantwoordelijk worden gehouden door zowel patiënten als de samenleving wanneer de gezondheid van patiënten negatief wordt beïnvloed door suboptimale of onjuiste zorg. Zorgprofessionals ervaren hierdoor steeds vaker morele dilemma's. Morele dilemma's zijn situaties waarin het niet meteen duidelijk is wat de juiste handelwijze is, aangezien alle

handelingsopties zowel morele voor- als nadelen hebben. In dergelijke situaties van morele onzekerheid zijn waarden en perspectieven van verschillende betrokken partijen met elkaar in conflict en kunnen zorgprofessionals niet alle partijen tegelijkertijd recht doen. Als gevolg hiervan kunnen zorgprofessionals morele stress ontwikkelen. Dit is een stressreactie gebaseerd op schuld- of angstgevoelens die ontstaan wanneer men handelt tegen het eigen geweten en (professionele) waarden in. Het gaat vaak gepaard met een gevoel van gebrek aan controle.

Openbaar apothekers hebben ethische competenties nodig om morele dilemma's het hoofd te kunnen bieden. Dilemma's vergen van apothekers dat zij reflecteren op de professionele waarden en hun betekenis in de context van de waarden en perspectieven van alle (andere) betrokken partijen. Deze ethische competentie wordt in dit proefschrift 'moreel reflecteren' genoemd.

Onderzoek naar morele dilemma's van openbaar apothekers en de professionele waarden die daarbij een rol spelen ontbreekt nog. Ook is nauwelijks onderzoek gedaan naar de ontwikkeling van ethische competenties van apothekers die nodig zijn om met dilemma's om te gaan. Om de competenties van Nederlandse openbaar apothekers verder te ontwikkelen zodat zij hun rol als farmaceutische zorgverleners kunnen optimaliseren in situaties van morele dilemma's, hebben we meer inzicht nodig in de ethische competentie moreel reflecteren van openbaar apothekers. Het doel van dit proefschrift was om inzicht te krijgen in het moreel reflecteren van openbaar apothekers in situaties van morele dilemma's en hoe professionele waarden daarin een rol spelen. We hebben het onderzocht in de context van Rest's Vier Componenten Model van ethische besluitvorming. Volgens dat model maken zorgprofessionals gebruik van vier cognitief-affectieve processen bij het nemen van een ethische beslissing in situaties van morele dilemma's: (1) morele sensitiviteit (het vermogen van het individu om morele dilemma's te herkennen), (2) moreel redeneren (het vermogen van het individu om te reflecteren op de moreel gezien beste handelwijze), (3) morele intentie (de motivatie die de moreel gezien beste handelwijze prioriteert) en (4) moreel karakter of handelen (het vermogen om de moreel gezien beste handelwijze ook uit te gaan voeren). Het laatste proces is niet onderzocht omdat dat praktisch niet haalbaar was.

Dit proefschrift bestaat uit vijf delen. **Deel 1** bevat de algemene inleiding. In **deel 2** onderzochten we de morele sensitiviteit van openbaar apothekers voor morele dilemma's en de professionele waarden die daarbij een rol spelen (**Hoofdstuk 2.1** en **2.2**). De narratieven van 220 dilemma's van Nederlandse apothekers (pre- en postdoctorale apothekers werkzaam in de openbare apotheek) werden geanalyseerd. De apothekers schreven deze verhalen kort

nadat ze de dilemma's in de praktijk hadden ervaren. Deze methode maakte het voor hen mogelijk om na deze ervaringen direct te reflecteren op hun gevoelens en zich de emoties en frustraties die ze hadden levendig te herinneren.

In **hoofdstuk 2.1** hebben we de thema's beschreven die naar voren kwamen uit 128 in aanmerking komende morele dilemma's. We vonden 22 thema's die we konden indelen in drie categorieën: thema's van morele dilemma's die worden ervaren binnen 1) de apotheker-patiëntrelatie, 2) de apotheker-collega relatie en 3) verschillende relaties. Uit de morele dilemma's en de thema's bleek dat farmaceutische zorg en professionele autonomie van apothekers vooral werden belemmerd door het gedrag van patiënten of andere zorgprofessionals. Derden, zoals wettelijke vertegenwoordigers of zorgverzekeraars, bemoeilijkten de apotheker-patiëntrelatie soms verder. Apothekers waren vaak van mening dat patiënten en andere zorgprofessionals hun farmaceutische deskundigheid negeerden en de vertrouwensrelatie tussen apotheker en patiënt ondermijnden. Dit negeren en gebrek aan vertrouwen belemmerden apothekers beslissingen te nemen ten aanzien van juiste en veilige farmacotherapie, bijvoorbeeld omdat relevante patiëntinformatie die nodig was voor deze beslissingen niet werd gedeeld. We concludeerden dat de thema's meer divers waren dan in eerdere onderzoeken.

Ons onderzoek in **hoofdstuk 2.2** had tot doel na te gaan welke professionele waarden (geformuleerd in het Handvest) en welke andere waarden geïdentificeerd konden worden in dezelfde 128 morele dilemma's die in hoofdstuk 2.1 waren geanalyseerd. We wilden daarnaast de beschrijvingen van de professionele waarden uit het Handvest specifieker maken voor apothekers die werkzaam zijn in de openbare apotheek. Bij de morele dilemma's speelden alle professionele waarden een rol, waarbij 'betrokkenheid op het welzijn van de patiënt' en 'betrouwbaarheid en zorgvuldigheid' het meest een rol speelden en 'maatschappelijke verantwoordelijkheid' het minst. We vonden dertien andere waarden die allemaal onder de bestaande professionele waarden konden worden gecategoriseerd. Deze konden vervolgens alle dertien worden gebruikt voor het aanpassen van de waardenbeschrijvingen voor openbaar apothekers. De beschrijvingen zijn het meest aangepast voor de professionele waarden 'betrouwbaarheid en zorgvuldigheid' en 'maatschappelijke verantwoordelijkheid'. Bovendien hebben we de namen van deze twee waarden veranderd in 'betrouwbaar zijn en zorgen voor' en 'verantwoordelijkheid naar de maatschappij' zodat deze de aangepaste beschrijvingen beter vertegenwoordigden. We concludeerden dat deze op maat gemaakte professionele waardenbeschrijvingen openbaar apothekers kunnen helpen morele dilemma's in de praktijk beter te herkennen en hun farmaceutische zorgpraktijk vooruit te helpen.

In **deel 3** presenteerden we drie onderzoeken naar moreel redeneren van Nederlandse (startende) openbaar apothekers. We hebben gekeken of de Australische moreel redeneertest,

de Professional Ethics in Pharmacy-test (PEP-test), ook voor Nederlandse apothekers gebruikt kon worden (**hoofdstuk 3.1**). De PEP-test is ontworpen om drie ontwikkelingsniveaus van moreel redeneren te meten, d.w.z. moreel redeneerperspectieven (MRP's): (1) een MRP vanuit een bedrijfsoriëntatie, (2) een MRP vanuit wet- en regelgeving en (3) een MRP vanuit beroepsethiek. De PEP-test bestaat uit drie moreel dilemmascenario's uit de apotheekpraktijk waarbij de respondent wordt gevraagd wat er moet gebeuren om het dilemma op te lossen. De scenario's gaan vergezeld van dertien stellingen die de drie MRP's vertegenwoordigen. Respondenten beoordelen en rangschikken de invloed van elk van deze stellingen op het afhandelen van de dilemma's. De invloed van een bepaalde MRP-stelling zal voor respondenten groter zijn naarmate zo'n stelling meer overeenkomt met het MRP dat hun (stilzwijgende) voorkeur heeft en van waaruit zij gewoonlijk - veelal onbewust - redeneren bij het nemen van beslissingen in de apotheekpraktijk. In de onderzoeken in **hoofdstuk 3.2** en **3.3** hebben we de PEP-test aangepast aan de context van de Nederlandse openbare farmacie en professionaliteit (PEP-NL-test) en onderzocht in hoeverre openbaar apothekers redeneren vanuit de drie MRP's bij hun beoogde aanpak van geneesmiddelentekorten.

In **hoofdstuk 3.1** is de Nederlands vertaalde versie van de PEP-test, de PEP-NL-test, ingevuld door 376 startende apothekers werkzaam in een openbare apotheek. De resultaten bevestigden dat de PEP-NL-test dezelfde drie ontwikkelingsniveaus van moreel redeneren voor de Nederlandse apothekers meet als de Australische test voor Australische apothekers. Het beroepsethische MRP van Nederlandse apothekers werd echter vertegenwoordigd door andere stellingen dan de stellingen die dit MRP vertegenwoordigden in het Australische onderzoek. Deze verschillen hebben mogelijk te maken met hoe apothekers in hun eigen land professioneel-ethisch opgeleid worden. We concludeerden dat de Australische PEP-test gebruikt kan worden voor apothekers in Nederland mits de test wordt aangepast aan de context van de Nederlandse openbare apotheekpraktijk en de Nederlandse beroepstaal. We concludeerden ook dat voornamelijk de MRP-stellingen die de beroepsethiek vertegenwoordigen verder aan de beroepsethiek en professionele waarden van openbaar apothekers in Nederland dienen te worden aangepast.

In **hoofdstuk 3.2** hebben we de PEP-NL-test (hoofdstuk 3.1) aangepast aan de context van drie dilemmascenario's voor geneesmiddelentekorten. We onderzochten vanuit welke MRP's Nederlandse apothekers redeneren in hun besluitvorming bij deze geneesmiddelentekorten. De drie scenario's gingen over een tekort van een osteoporose geneesmiddel, een tekort van een anticonceptivum en een tekort van een geneesmiddel voor de ziekte van Parkinson. Deze drie tekorten zijn bewust gekozen vanwege hun mogelijk verschillende niveaus van impact op patiëntuitkomsten (respectievelijk een lage, gemiddelde en hoge impact). De aangepaste PEP-NL-test is ingevuld door 267 openbaar apothekers. De drie MRP's waren significant aanwezig in het moreel redeneren van de openbaar apothekers. Bijna alle apothekers gingen

op dezelfde manier om met de drie tekorten. Bij een tekort van een anticonceptivum en van een Parkinson geneesmiddel zouden apothekers echter eerder importeren dan bij een tekort van een osteoporose geneesmiddel. Verder werd het redeneren van de apothekers bij de afhandeling van de drie geneesmiddelentekorten voornamelijk beïnvloed door stellingen behorende bij het beroepsethische MRP. In het geval het tekort een mogelijk beperktere invloed heeft op patiëntuitkomsten (d.w.z. het tekort van een anticonceptivum en van een osteoporose geneesmiddel) en wanneer alternatieven voor het tekort duur zijn (d.w.z. het tekort van een osteoporose geneesmiddel) werden apothekers meer beïnvloed door stellingen die bij een bedrijfsoriëntatie MRP horen. We concludeerden dat in dergelijke situaties van geneesmiddelentekorten het moreel redeneren vanuit de beroepsethiek van apothekers op de achtergrond kan geraken.

In **hoofdstuk 3.3** hebben we gebruik gemaakt van dezelfde dataset van 267 openbaar apothekers als in hoofdstuk 3.2. We wilden groepen apothekers vinden met een dominant MRP en determinanten detecteren die mogelijk geassocieerd zijn met dergelijke dominante MRP's. De determinanten waren geslacht, leeftijd, type apotheek, functieprofiel en het type geneesmiddeltekort (d.w.z. verschillende niveaus van impact op patiëntuitkomsten). We ontdekten dat apothekers met het functieprofiel 'beherend apotheker' of apothekers die geconfronteerd worden met een type geneesmiddeltekort met 'een lagere impact op patiëntuitkomsten' (d.w.z. het anticonceptivum tekort) een kleinere kans hebben om voornamelijk te redeneren vanuit een beroepsethisch MRP. Deze kans was in het geval van het anticonceptivum tekort het kleinst. We concludeerden daarom dat in de situatie van geneesmiddelentekorten een dominant beroepsethisch MRP van apothekers beter verklaard wordt door hun opvatting over het mogelijke niveau van impact op patiëntuitkomsten dan door hun persoonlijke kernmerken.

In het laatste onderzoek in **deel 4** en **hoofdstuk 4** van dit proefschrift hebben we onderzocht of moreel beraad (MB) het moreel reflecteren van openbaar apothekers bevordert. Moreel reflecteren is vereist om ethische beslissingen te nemen in situaties van morele dilemma's. In twee MB-sessies met behulp van videoconferencing participeerden in totaal 14 openbaar apothekers (zeven apothekers per sessie) en twee gespreksleiders. In elke sessie stond een moreel dilemmacasus, welke was ervaren door één van de deelnemers, centraal. Een dialoog aangemoedigd door de gespreksleider had tot doel de deelnemers te stimuleren om de feiten en (professionele) waarden die voor de casusinbrenger een rol speelden in het dilemma te onderzoeken en te begrijpen, de perspectieven en waarden van alle bij het dilemma betrokken partijen te formuleren, de argumenten voor het best mogelijke handelen te formuleren, en de morele kernvraag te beantwoorden. We concludeerden dat MB potentie heeft om het moreel reflecteren van openbaar apothekers te bevorderen. Deelnemers werden zich meer bewust van hun professionele waarden en de rol die deze spelen bij het herkennen van het morele

dilemma en de waarden en perspectieven van de betrokkenen. MB ondersteunde hen verder om hun besluitvorming in het kader van het afhandelen van het dilemma te onderbouwen met professionele waarden.

In het laatste **hoofdstuk 5** in **deel 5** hebben we de belangrijkste resultaten van dit proefschrift besproken en deze bediscussieerd aan de hand van drie cognitief-affectieve processen die betrokken zijn bij professioneel gedrag: morele sensitiviteit, moreel redeneren en morele intentie. We verduidelijkten waarom het belangrijk is dat openbaar apothekers zich bewust zijn van de professionele waarden en competent zijn in moreel reflecteren binnen ethische besluitvormingsprocessen om passende, veilige en effectieve farmaceutische zorg te bieden in het belang van patiënten en de maatschappij. We benadrukten dat moreel reflecteren cruciaal is voor het prioriteren van de best mogelijke handelwijze in situaties van morele dilemma's. Apothekers hebben ondersteuning van professionele instanties, de wet en de maatschappij nodig om de best mogelijke zorg te leveren. Deze partijen dienen apothekers te erkennen als zorgprofessionals en hun professionele autonomie te faciliteren. Om moreel reflecteren bij apothekers te ontwikkelen, hebben we het belang benadrukt om moreel beraad en de toepasbaarheid ervan verder te onderzoeken.

We formuleerden aanbevelingen voor onderwijs, de apotheekpraktijk en beleid en onderzoek. Beroepsethiekonderwijs zou een integraal onderdeel moeten zijn van alle fasen van het (post)academisch onderwijs. Morele sensitiviteit moet worden onderwezen. Speciale aandacht moet worden besteed aan het vergroten van de kennis van het menselijk gedrag en de kenmerken van de patiënt. Ook moet worden onderwezen hoe moreel redeneren een aanvulling vormt op klinisch redeneren bij de aanpak van morele dilemma's. De implementatie van beroepsethiekonderwijs en de effecten ervan op moreel reflecteren van studenten en apothekers moeten gezamenlijk worden gemonitord door alle onderwijsinstellingen voor farmacie aanwezig in een land. Beroepsethiekonderwijs is ook nodig voor senior apothekers en supervisors, aangezien zij de rolmodellen zijn voor jonge apothekers. Special interest groups met professionals die ervaring hebben met moreel reflecteren moeten worden gestimuleerd, omdat zij deze rolmodellen kunnen inspireren en ondersteunen. Beroepsethiekonderwijs of MB met zowel apothekers als artsen kan interprofessionele samenwerking stimuleren en morele dilemma's in het kader van die samenwerking voorkomen.

We benadrukten dat beroepsorganisaties een belangrijke rol moeten spelen bij het realiseren van de ontwikkeling van ethische competenties van (toekomstige) apothekers. Ze zouden een nationaal handvest voor professionaliteit kunnen ontwikkelen en implementeren. Ze zouden beleidsmakers, regelgevende autoriteiten en onderwijskundigen bewust kunnen maken van het belang van het bevorderen van ethische competenties van openbaar apothekers. Ze zouden het belang kunnen benadrukken van een vergoedingssysteem voor farmaceutische

zorg welke de sociale rol van apothekers bevordert en hun professionele autonomie versterkt. Zij zouden moeten lobbyen voor het beschikbaar stellen van klinische informatie bij het voorschrijven aan apothekers. Zij zouden MB kunnen verplichten binnen lifelong learning van openbaar apothekers. Bovendien zouden de beroepsorganisaties de rol van apothekers als zorgprofessionals in externe communicatie uitingen kunnen bevorderen en kunnen benadrukken dat deze rol meer behelst dan het afleveren van medicatie.

Ten slotte hebben we aanbevolen om de morele ontwikkeling van studenten en apothekers gedurende hun hele loopbaan te onderzoeken. Ook is onderzoek nodig naar de effectiviteit van interventies die gericht zijn op het verbeteren van ethische competenties, naar de mate (openbaar) apothekers morele stress en de gevolgen daarvan ervaren, en naar de bevorderende en belemmerden factoren die het professioneel (ethisch) gedrag beïnvloeden welke farmaceutische zorg in het best mogelijke belang van patiënten realiseert.

DANKWOORD

Hoera, het is een proefschrift!

Mijn ouders hadden één tegeltje: "Doen kunnen we alles maar dan ook alleen allen tezamen". En zo is het ook voor een promotietraject. Tijd voor reflectie over hoe dit alles ontstond, hoe dat wat onmogelijk leek toch kon worden volbracht en de schijnwerpers te richten op degenen die dit traject mogelijk maakten, het kruisten, (tijdelijk) meeliepen, meedachten, meewerkten, meelachten, meeleefden.

Als eerste wil ik Henk Buurma bedanken, de 'founding father' van SIR Institute for Pharmacy Practice and Policy en de directeur op het moment in 2002 dat ik vanuit India kwam aanwaaien (hij is inmiddels met pensioen). Ik was net teruggekeerd uit zuid India alwaar ik bijna vier jaar met hart en ziel in een project tegen kinderarbeid had gewerkt. Eenmaal van dat avontuur in Nederland teruggekeerd had Marcel Bouvy mij bij de SIR geïntroduceerd. Het klikte enorm met het SIR team. Grappen in het Gronings, praten over het leven en alles van waarde. Henk, jij inspireerde me meteen in die beginjaren, jouw visie op de zorgverlenende rol van de apotheker, jouw frustraties over wat die rol in de weg zat, jouw grenzeloze interesse om de farmaceutische patiëntenzorg te verbeteren door haar goed te onderzoeken, je sprak altijd vanuit je hart over de kern van het vak van de openbaar apotheker. Ook ik ging een beetje van apothekers houden. In die jaren ontdekte ik dat de ethische kant van de openbare farmacie nog niet was onderzocht in Nederland. Daarbij stuitte ik op internationale artikelen waar naar voren kwam dat apothekers morele dilemma's ervaarden in de zorg die zij aan patiënten verlenen. Ik was daar meteen door gegrepen en wilde dat onderzoeken. Je gaf me de mogelijkheid een minor in toegepaste ethiek te volgen. Daar ben ik je nog altijd zeer erkentelijk voor. Na dat jaar liet ik het onderwerp niet meer los. Jij vroeg of ik niet gewoon wilde promoveren. Dank dat je mij dat vroeg omdat ik daar zelf nooit aan gedacht zou hebben. Ik promoveren? Nee dat was niet een van de dingen op mijn bucketlist, die waren toch wat wilder en romantischer. Je bracht me in contact met Wilma Göttgens. Zij bleek een paar jaar eerder een vergelijkbaar onderzoeksonderwerp gehad te hebben, echter was de tijd er toen nog niet rijp voor om de morele dilemma's van apothekers te onderzoeken en het lukte destijds niet om het gefinancierd te krijgen. Omdat Wilma al vele morele dilemma casus van apothekers in de vervolgopleiding had verzameld welk materiaal anders bleef liggen en enthousiast was deze door mij te laten onderzoeken werd ook ik enthousiast. Zo begon ik in 2014 aan dit promotietraject. Dank aan Stichting Management voor Apothekers en voor de Gezondheidszorg (MAG), de KNMP en SIR Institute for Pharmacy Policy and Practice voor de financiële ondersteuning. Het werd een grote ontdekkingstocht voor iedereen die er direct bij betrokken was. Omdat het een nieuw onderwerp was moesten we voor bijna alles het wiel uitvinden.

Beste Wilma, als eerste wil ik je heel hartelijk danken voor het feit dat je bereid was jouw data aan mij ter beschikking te stellen. Deze vormden de kern van mijn eerste drie deelonderzoeken: de thema's van de morele dilemma's, het onderzoek naar de kernwaarden die in deze dilemma's een rol spelen en het onderzoek naar de toepassing van de Australische moreel redeneertest onder Nederlandse apothekers. Mede onder jouw leiding kwam er voor de professie in 2012 een Handvest van de apotheker waarin de grondslag voor het professioneel en ethisch handelen beschreven wordt. De kernwaarden van de apotheker maken daar een prominent onderdeel vanuit en juist deze kernwaarden vormden de 'meetlat' waarlangs alle onderzoeken van dit proefschrift zijn gelegd. Dankjewel voor al jouw inzichten die je inbracht bij de analyse van de morele dilemma casus waar ik veel van heb geleerd. Ook dank voor jouw inbreng bij de artikelen waar je co-auteur was.

Beste Marcel, jij bent een goede vriend van mij. Wij kennen elkaar vanuit de studententijd, we waren lid van dezelfde studentenvereniging en werden sindsdien vrienden. We hadden altijd veel lol, maar ook diepe gesprekken over het leven, veelal tot in de late uurtjes. We hielden contact over de jaren en ook tijdens mijn tijd in India. Zo kwam het, toen ik terugkeerde, dat je me vroeg om bij SIR wat klusjes te komen doen met onderzoeksdata. Ik bewonderde jou om je kennis van de farmacie en grote onderzoekservaring. Ik leerde van alles van je, met name hoe met grote databestanden om te gaan, analyses uit te voeren (SPSS, Access), hoe onderzoek te doen, en dan om vooral binnen onderzoek dicht bij de praktijk te blijven, pragmatisch te zijn en het niet te ingewikkeld te maken. Ik leerde hoe ik complexe onderwerpen aan de man moest brengen: if you can't convince them, confuse them. We lieten anderen dan van allerlei en vooral heel veel tabellen zien. Je werd mijn eerste promotor. Dat was soms een grijs gebied waarin formeel en informeel niet goed van elkaar te onderscheiden was, waar delibereren over het onderzoek ook zo kon omdraaien in een foute grap of ontboezemingen over privézaken die ons bezig hielden. Enfin, in de rol als promotor was je van onschatbare waarde, al was het alleen maar om mij te stimuleren om alle dingen, die ook voor jou nieuw en moeilijk waren, helder aan anderen te kunnen uitleggen. We leerden hier van elkaar, soms moest ik op socratische wijze ook jou ondervragen, doorvragen wat je precies bedoelde en dat leverde dan nieuwe inzichten op waarmee we weer verder konden. We begonnen langzaam dezelfde taal te spreken met betrekkling tot dit onderwerp. Jijzelf werd ook telkens enthousiaster omdat je besefte dat het onderwerp ook jouw leerstoel farmaceutische patiëntenzorg verdiepte. Je begon steeds beter morele dilemma's te herkennen. Dank je voor je eeuwige geduld, je humor en relativering, je creativiteit, je groot schrijftalent waarmee je telkens weer opnieuw al mijn veeeeeel te lange zinnen in kleinere behapbare stukjes opdeelde, je openheid om telkens weer opnieuw te kijken naar de essentie, want vaak verloren we die uit het oog. Dank voor het vertrouwen dat je altijd in mij stelde door me telkens weer bemoedigende woorden

toe te spreken als ik door de bomen het bos niet goed meer zag. Ik hoop dat we nog veel mooi onderzoek op dit terrein gaan doen en samenwerken om de morele ontwikkeling van studenten en apothekers middels onderwijs verder te stimuleren.

Beste Annemieke, je was mijn copromotor. We zijn al heel lang collega's en zolang als ik je ken konden we het goed met elkaar vinden. We denken over vele dingen in dezelfde richting en hebben altijd vele inspirerende gesprekken gevoerd, wat in dit traject niet veranderde. Tijdens het promotietraject was jij altijd degene die of aanzette om te versnellen of zeer kritische vragen stelde. Je lette goed op en zag altijd nog weer issues die niet helder of niet consistent waren. Ik dank je daarvoor. Ook wij samen kregen telkens meer vat op het onderwerp en voerden vaak lange en intensieve gesprekken daartoe. Je werd ook zeer enthousiast over moreel beraad en begon de waarde daarvan in te zien. We zaten veelal op één lijn en beraamden ons hoe we dat aan de twee promotoren moesten duiden, dat was niet altijd makkelijk. Ook je schrijftalent heb ik meer dan gewaardeerd. Als een ware copromotor ging je op het allerlaatst zelfs een stukje meeschrijven aan de laatste conceptversie van de discussie. Dat was super fijn. De druk die op ons lag ontaarde gelukkig soms ook in de slappe lach….helemaal toen je 'toot' schreef in plaats van 'taught'. Annemieke, dank voor je nauwkeurigheid en verfijnen van inhoudelijke stukken, de boodschap werd daardoor vaak verhelderd en beter. Je bent al weer een aantal jaren directeur van de SIR en bezig om het bedrijf verder te professionaliseren. Ik hoop dat ik je toch af en toe uit die rol kan lokken om samen vervolgonderzoek/projecten op te zetten die de ontwikkeling van de professionaliteit van de openbaar apotheker als zorgverlener tot doel hebben.

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LIST OF PUBLICATIONS

International publications presented in this thesis

- Kruijtbosch M, Göttgens-Jansen W, Floor-Schreudering A, van Leeuwen E, Bouvy ML. Moral dilemmas of community pharmacists: A narrative study. *Int J Clin Pharm* 2018;40:74-83.
- Kruijtbosch M, Göttgens-Jansen W, Floor-Schreudering A, van Leeuwen E, Bouvy ML. Moral dilemmas reflect professional core values of pharmacists in community pharmacy. *Int J Pharm Pract* 2019;27:140-148.
- Kruijtbosch M, Göttgens-Jansen W, Floor-Schreudering A, van Leeuwen E, Bouvy ML. Moral reasoning among Dutch community pharmacists: Testing the applicability of the Australian professional ethics in pharmacy test. *Int J Clin Pharm* 2019;41:1323-1331.
- Kruijtbosch M, Floor-Schreudering A, van Leeuwen E, Göttgens-Jansen W, Bouvy ML. Moral reasoning perspectives of community pharmacists in situations of drug shortages. *Res Soc Adm Pharm* 2020. Available online 20 November 2020.

Abstracts presented at (international) conferences

- Morele dilemma's van apothekers. *Prisma symposium, 20 May 2014, Amersfoort, The Netherlands.*
- Thema's van morele dilemma's van apothekers. *Prisma symposium, 19 May 2015, Amersfoort, The Netherlands.*
- Themes of moral dilemmas of community pharmacists. *44th ESCP Symposium on Clinical Pharmacy, 28-30 October 2015, Lisbon, Portugal.*
- Professionele kernwaarden binnen morele dilemma's van apothekers. *Prisma symposium, 24 May 2016, Amersfoort, The Netherlands.*
- De bruikbaarheid van de Australische *Professional Ethics in Pharmacy test* in Nederland. *Prisma symposium, 15 May 2018, Amersfoort, The Netherlands.*
- Moreel redeneer perspectieven van openbaar apothekers in situaties van geneesmiddelentekorten. *Prisma symposium, 18 May 2021, online, The Netherlands.*

ABOUT THE AUTHOR

Martine Kruijtbosch was born on 31 July 1966 in Papendrecht, the Netherlands. She lives in the Hague. Since childhood she was interested in ethics and started studying Theosophia or divine wisdom. She performs Theosophia study groups from home. She studied Sociology in the city of Groningen and got her master degree in the year 1992. Shortly after, she became tour leader in India and Nepal and guided Dutch tourists from Mumbai to Kathmandu. Between 1993 and 2001 she did voluntary service and research in various Indian non-governmental organisations (NGOs) working against child labour. From 1998 to 2001 she lived in a village in Andhra Pradesh. The years in India changed her live and learned her more about ethics and values and what these can mean to people.

After the period in India, she returned to the Netherlands and was introduced to the SIR Institute of Pharmacy Practice and Policy. Although the subject of pharmaceutical patient care was new to her she joined SIR since 2002. After some years of getting acquainted with research on various topics related to pharmaceutical care she discovered that the ethical part of the practice had not been studied in the Netherlands. After a minor in applied ethics with the Ethics Institute in Utrecht, the idea for a PhD project on the professionalism of the community pharmacist was born. This PhD project started in 2014 with the main objective to generate understanding of the moral reflectivity of community pharmacists in situations of moral dilemmas and how professional core values play a role therein.

During her PhD research she completed a one year training as a facilitator for moral case deliberation (MCD) at the VU University Amsterdam and a training as a facilitator for Socratic dialogue. The MCD training formed the input for the last research project of this thesis.

Since 2011 she is a member of the Special Interest Group "Ethics and Philosophy of Pharmacy" of the Royal Dutch Pharmacists Association (KNMP). Since 2020 she facilitates MCD with community pharmacists. She teaches professionalism and ethics in the Master Pharmacy programs at Leiden University, Utrecht University and in the Dutch postgraduate community pharmacist specialisation program of the KNMP.

After completing this PhD, she will continue teaching and facilitating moral case deliberation with pharmacists. She aims to further research ethical competencies and moral development of pharmacy students and (community) pharmacists and the effects of moral case deliberation on moral reflectivity of pharmacists.

Worldwide the work of the community pharmacist became more patient oriented instead of primarily product oriented. Within their changing and complex healthcare context community pharmacists increasingly experience moral dilemmas. In order to deal with these moral dilemmas professionally pharmacists need ethical competencies. The ethical competency 'moral reflectivity' implies that pharmacists must reflect on the professional values and their meaning in the context of the values and perspectives of all parties involved. Martine Kruijtbosch (1966) discovered that 'moral reflectivity' was not researched among pharmacists in the Netherlands. This motivated her to start this thesis with the main objective to generate understanding of community pharmacists' moral reflectivity in situations of moral dilemmas and how professional values play a role in these dilemmas.