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# Psychological distress in ethnic minority parents of preschool children with burns

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## ABSTRACT

**Background:** Literature indicates that children from ethnic minorities are at increased risk of sustaining burns. Moreover, parents may experience more psychological distress but why this is the case is poorly investigated.

**Methods:** A prospective study including 120 mothers and 106 fathers of preschool children, of which 23 mothers and 24 fathers had an ethnic minority background, investigated levels of parental feelings of guilt, depressive and posttraumatic stress symptoms and compared Dutch parents with parents from different ethnic backgrounds on these outcomes. A qualitative study with 46 parents, 24 Dutch and 22 from different ethnic minority backgrounds, explored how they coped with the consequences of the burns.

**Results:** Results revealed more symptoms of posttraumatic stress and depression in ethnic minority parents. Ethnic minority fathers also had more guilt feelings. Lower social support, medical communication hampered by language barriers, lower health literacy and passive communication styles, (aspects of) religious coping and barriers to psychosocial care may partly explain the differences.

**Conclusions:** Parents with an ethnic minority background are at risk to experience increased distress after their child's burn injury. By exploring the aforementioned factors, health care professionals may increase the family's wellbeing. It may provide a starting point to offer tailored help.

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## 1. Introduction

Burns are an important cause of unintentional injury in children. Particularly young children aged 0–4 years old constitute a risk population predominantly because of their

rapid motor development [1]. Children with a different ethnic background than the majority population, e.g., Hispanic children in the United States [2], Asian ethnic minorities in the United Kingdom [3], and children with a non-western ethnic minority background in Denmark were overrepresented among burn patients [4]. In the Netherlands, children of the

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largest migrant groups, i.e., Turkish and Moroccan immigrants, have a higher risk to burn injuries and are overrepresented at emergency departments [5]. Factors such as low household income, unsafe cooking traditions and limited knowledge about burn prevention due to parents' low proficiency in the majority language or low health literacy are assumed to increase the risk to sustain burns [6].

Like most countries in Europe, the Netherlands saw significant changes in its demography due to migration. In the Netherlands, about 25% of the inhabitants have now 'a migrant background' (i.e. he or she is born outside the Netherlands; or one of the parents is born outside the Netherlands). Turkish and Moroccan migrants are among the largest ethnic minority groups, about 390.000 are of Turkish origin and about 350.000 of Moroccan origin. The majority lives in urban areas and they are Muslim. They often have a lower socio-economic status. A large part does not speak fluent Dutch. This is partly due to the fact that labor immigrants were joined in later years by their partners and that children of these migrants (the second generation) born in the Netherlands, often married a partner from the country of origin. As a consequence, couples of Turkish and Moroccan background who enter burn care may have mixed mastery of the Dutch language [7].

A burn event can psychologically affect both the child and parents [8]. Parents may develop symptoms of anxiety, posttraumatic stress disorder, depression and guilt feelings following their child's burn event [9,10]. There is evidence that ethnic minority background negatively influences adult patients' psychological distress [11,12] and the coping process following burn injuries [13,14]. Multiple studies showed an increased vulnerability to mental health problems in ethnic minorities in hospital settings [15,16], and after exposure to a major disaster [17,18] which subscribes the need for further investigation to understand as to why this is the case and to pay attention to it in clinical practice. To our knowledge, there are no studies that explored the psychological consequences in ethnic minority parents of children with burns compared to ethnic majority parents of children with burns.

To examine possible psychological health outcome differences between parent groups with different ethnic backgrounds after a pediatric burn, secondary analyses in an existing cohort were performed. Subsequently, qualitative interviews with ethnic minority parents living in the Netherlands and native Dutch parents explored how parents coped with the consequences of burn injury and whether there were cultural differences in dealing with burns.

## 2. Methods

### 2.1. Study 1: quantitative study

#### 2.1.1. Participants and procedure

Ethic approval was granted by the Dutch Ethics Committees METC BEBO and institutional boards of the hospitals subsequently provided local approval for the study. Local researchers explained the study purpose and offered additional written information. All families signed an informed consent form.

Data from Study 1 stem from a larger database on psychological functioning in parents whose child was admitted to a burn center in the Netherlands or Belgium. Mothers and fathers were included between 2007 and 2010 within the first month after their child's burn event. Families were eligible to participate if the child was 8 months to 4 years old, hospitalization was undertaken and if parents had sufficient Dutch language proficiency [19]. For the purpose of this study, we selected parents with an ethnic minority background and parents with a Dutch background admitted to one of three Dutch burn centers and focused on parents' feelings of guilt, depressive symptoms (assessed within the first month after burn, T1) and posttraumatic stress symptoms (Assessed at 3 months after burn, T2).

#### 2.1.2. Measures

**2.1.2.1. Demographic characteristics of parents including ethnic background.** Parents completed a questionnaire on background variables, such as age, marital and work status, and their country of birth.

**2.1.2.2. Characteristics of child and burn (event).** Child characteristics (gender, age) and burn characteristics (percentage TBSA burned, percentage deep burns, and length of stay in the hospital) were retrieved from the medical chart. The circumstances of the burn event (site of the burn event and etiology of the burns) were reported by parents.

**2.1.2.3. Guilt feelings.** Parental guilt feelings were assessed through a single item inquiring after parental emotions pertaining to the burn event. "To what extent do the following emotions apply when you think about the accident that caused the burn?". Responses were given on a 5-point Likert scale ranging from 0 "not at all" to 4 "a lot". Other emotions were anger, sadness, fear, horror, shame but these are not reported here. Guilt feelings were investigated in the present study as longitudinal studies showed that guilt feelings are highly stable and predictive for chronic PTSD symptoms [10,20–23].

**2.1.2.4. Symptoms of depression.** The depression subscale of the Hospital Anxiety and Depression Scale (HADS) [24] was used to investigate parental depressive symptoms experienced during the last two weeks. The depression subscale consists of 7 items, answered on a 4-point Likert scale resulting in a score range between 0–21. Validity and reliability of the Dutch HADS were good [25]. In this study, Cronbach's alpha for the depression subscale was .89 for mothers and .86 for fathers at T1.

**2.1.2.5. Posttraumatic stress symptoms.** Parents' posttraumatic stress symptoms were assessed using the Impact of Event Scale (IES) [26] a valid 15-item self-report measure that assesses the occurrence of two dimensions of traumatic stress reactions during the past week, i.e., symptoms of intrusion and avoidance. Parents rated the frequency of symptoms on a 4-point rating scale (0–1–3–5). The Dutch validated version was used in this study [27]. Cronbach's alpha in this study was .85 and .81 for Intrusion and .87 and .83 for Avoidance at T2 for mothers and fathers respectively.

### 2.1.3. Data analysis

Univariate differences between ethnic minority parents and Dutch parents in terms of guilt feelings (T1), depressive symptoms (T1) and posttraumatic stress reactions (T2) were tested with independent samples t-tests.

## 2.2. Study 2: qualitative study

### 2.2.1. Participants and procedure

In 2010 and 2011, parents of children who had sustained burns three months to four years preceding the interview (group 1) and parents whose child had a burn accident approximately 10 years previously at an age between 0–4 years old (group 2) were invited to participate into the study. Parents of group 1 were approached during regular outpatient visits in two Dutch burn centers. Parents were informed about the study and were given written information. Parents included in group 2 were recruited from patient registers in two burn centers. Approximately 500 children were eligible for participation. A random sample of 278 parents was invited by mail and provided with written information and contact details of the researcher (JS). They were asked to send an email to the researcher if they were willing to participate. After informed consent was given an appointment for an interview was made. Parents received a gift voucher after the interview.

The interview guide was based on scientific literature about parents of children with burns [8] as well as scientific literature about experiences of ethnic minority adults with burns [10,11]. The interview guide included open-ended questions exploring circumstances of the burn event, hospitalization, aftercare, scars, the role of religion and coping (see Table 2 for the interview guide). Interviews were conducted at the parents' home with the exception of one interview that took place in the burn center. All but one interview were conducted in Dutch by the first author (JS). In seven interviews the respondents were not fully proficient in Dutch but could make themselves clear to the interviewer. One interview was conducted in Turkish with the help of a qualified Turkish interpreter. All interviews were tape-recorded, transcribed verbatim by a research assistant and lasted 55 min on average (range 20–120 min).

Group 1 included parents of 21 children: 15 mothers, 4 fathers and 2 couples, of which 6 parents were Turkish, 6 Moroccan and 9 Dutch. Group 2 included parents of 26 children: 18 mothers, 1 father and 6 couples of which 5 parents were Turkish, 3 Moroccan, 2 other (Surinam/British Guiana) and 15 Dutch. The total sample consisted of 29 boys and 18 girls. Mean age of the children was 1.9 years at the time of the injury. The mean TBSA burned (according to parents) was 11.1% and the most frequently reported causes of the burn were scalds (boiling water and soup from pans and pots (40%), hot beverages such as tea (35%) and contact and flame burns (e.g. touching hot surfaces such as ovens and flames from barbecue; burns from firework (25%). The affected body areas were the chest (36%), arms (17%), head (14%), legs (13%) the back (9%) and the hands (8%) or a combination.

According to the Medical Research Involving Human Subjects Act, in the Netherlands, medical ethical approval of this qualitative study was not required. We followed the principles for medical research involving human subjects as put down in the Declaration of Helsinki. Each participant was

informed of the aims and methods of the study and a priori written informed consent was obtained from the participants.

### 2.2.2. Data analysis

A framework approach was used to analyze the interviews [28,29]. The transcripts were read line by line, and a label or code was applied to fragments that were deemed relevant e.g., behaviors, incidents, values and emotions. Both open coding and predefined codes were used. After coding three transcripts, the codes were compared and decisions were made about the codes that applied to all the others transcripts. This set of codes was the thematic framework, which was applied to all the subsequent transcripts. On the basis of this chart, patterns and connections were described through an iterative and comparative process of searching, reviewing, and comparing the data. The analysis was done by JS and was discussed with the other authors.

## 3. Results

### 3.1. Study 1

#### 3.1.1. Participants

Of 212 eligible families, 128 families (including 120 mothers and 106 fathers, of whom 98 were parent couples) participated at T1 and, of this group, 104 families (including 100 mothers and 86 fathers, of whom 82 were parent couples) also participated at T2. Participating families at both time points did not significantly differ from the other eligible families in terms of child age, gender, length of stay in the hospital and percentage Total Body Surface Area burned (TBSA). Of the 120 mothers and 106 fathers participating at T1, 23 mothers (19%) and 24 fathers (23%) were not born in the Netherlands. Four mothers and 8 fathers were born in Turkey, 4 mothers and 6 fathers were born in Morocco and 15 mothers and 10 fathers came from other African and Middle East countries. The groups (ethnic minority and Dutch parents) did not differ in terms of child age, gender, length of stay in the hospital and percentage TBSA burned (see Table 1). Within the group of parents not born in the Netherlands, there were no differences between parents of Turkish or Moroccan descent and parents from other origins in terms of posttraumatic stress symptoms.

#### 3.1.2. Psychological symptoms

Table 1 shows the parents' scores on guilt feelings, depressive symptoms (HADS) and posttraumatic stress symptoms (IES). Ethnic minority parents had statistically significantly higher scores on depressive and posttraumatic stress symptoms. Ethnic minority fathers had also statistically significantly higher scores on guilt feelings whereas the mothers reported somewhat higher levels of guilt feelings than Dutch mothers, but the difference was not statistically significant.

A comparison with the female norm population ( $M=3.1$ ,  $SD=3.3$ ,  $N=368$ ) and male norm population ( $M=3.6$ ,  $SD=3.6$ ,  $N=368$ ) and a population of mothers ( $M=4.5$ ,  $SD=4$ ,  $N=566$ ) and fathers ( $M=4.5$ ,  $SD=4.2$ ,  $N=123$ ) having a chronically ill child [30] revealed that Dutch mothers in this study scored higher on depressive symptoms relative to the norm population ( $t(463)=2.23$ ,  $p=.03$ ) and within the same range as mothers

**Table 1 – Child characteristics and parents' psychological outcomes - Study 1.**

Child characteristics								
	Mothers				Fathers			
	Born in Netherlands N = 97	Born outside Netherlands N = 23	t	p	Born in Netherlands N = 82	Born outside Netherlands N = 24	t	p
M (SD) Parent age	32.6 (5.1)	31.6 (5.6)	t(115) = .86	ns	35.8 (5.3)	37.3 (7.8)	t(104) = -1.1	ns
M (SD) Child age	1.7 (0.9)	1.7 (0.8)	t(118) = .27	ns	1.7 (0.8)	1.8 (1.0)	t(104) = 2.7	ns
N (%) Child male gender	63 (65%)	15 (65%)	$\chi^2$ (1) = .001	ns	55 (67%)	13 (54%)	$\chi^2$ (1) = 1.4	ns
M (SD) TBSA	7.1 (6.5)	5.7 (4.2)	t(118) = 1.0	ns	6.9 (6.3)	6.0 (3.8)	t(104) = .7	ns
M (SD) LOS	10.8 (10.2)	10.9 (10.9)	t(118) = -.04	ns	10.2 (9.6)	10.2 (7.6)	t(104) = -.01	ns
Parents' psychological outcomes								
	Mothers				Fathers			
	Born in Netherlands N = 97	Born outside Netherlands N = 23	t	p	Born in the Netherlands N = 82	Born outside Netherlands N = 24	t	p
N at T1								
M (SD) Guilt feelings T1	1.8 (1.5)	2.3 (1.6)	t(116) = 1.4	ns	1.2 (1.3)	2.1 (1.6)	t(96) = 2.7	<.01
M (SD) HADS-D T1	4.0 (4.3)	7.5 (4.7)	t(118) = 3.5	<.01	3.1 (3.7)	5.5 (4.4)	t(104) = 2.6	.01
N at T2	N = 83	N = 17			N = 70	N = 16		
M (SD) IES T2	16.4 (12.8)	29.8 (15.9)	t(98) = 3.8	<.01	9.2 (9.6)	21.0 (11.8)	t(84) = 4.3	<.01
Note. LOS = length of stay in hospital, HADS-D = Hospital Anxiety Depression Scale, Depression subscale, IES = Impact of Event Scale. T1 = first month, T2 = 3 months after burn.								

of chronically ill children. Ethnic minority mothers in this study scored higher compared to the norm population ( $t(389) = 6.03, p < .0001$ ) and mothers of chronically ill children ( $t(587) = 3.50, p < .001$ ). Dutch fathers in this study scored within the norm group range and lower than fathers of chronically ill children ( $t(203) = 2.45, p = .02$ ). Ethnic minority fathers in this study scored higher than the norm population ( $t(390) = 2.49, p = .01$ ) and within the same range as fathers of chronically ill children.

### 3.1.3. Study 2

Four themes emerged from the analysis of the interviews that may explain the higher level of distress in ethnic minority parents: limited social support, difficulties in medical communication, maladaptive aspects of religious coping, and (cultural and language) barriers to psychosocial care.

**3.1.3.1. Social support.** Whereas most native Dutch parents received social support and understanding from family members, ethnic minority parents mentioned more often problems in the area of social support. One native Dutch mother mentioned:

Everyone is so sympathetic and so understanding. And everyone says you can't help it and, not that it feels like it

changes anything, but it is nice that everyone sees it that way and doesn't say you're stupid and how could you do that. No-one does that. And I think that's quite incredible. [ . . . ] And my parents, I mean we're all really close to each other and his parents, my sisters, there's no-one who just says how is this possible. No. Everyone says gee, that's awful. And yes, that works well too, the fact that everyone keeps asking me about it and you can tell your side of the story. [Respondent 6, group 1]

Several ethnic minority parents mentioned low social support during the convalescent period due to the fact that their family lived in the country of origin. Others reported negative reactions from family members after the accident happened, for example a Turkish and Moroccan mother respectively said that:

My mother-in-law says why didn't you look properly? I say to my husband why is it only my child? Why was my husband asleep upstairs? They blamed me for the accident because I'm the mother and my husband isn't but he was asleep upstairs so it's just as much his fault. [Respondent 9, group 1] A, kind of a, brother called me, and he, well, not swearing or something, but he kind of reprimanded me, saying: 'You did not watch out, you did not watch your child'. And I just thought: I don't ever want to speak to you again, I have

**Table 2 – Topic list for the interviews — Study 2.**

<p>Burn accident</p> <p>How old was your child when he or she got burned?</p> <p>What happened?</p> <p>How did your child react?</p> <p>How did you react?</p> <p>How did your partner react? How did other family members react?</p> <p>Hospital care</p> <p>How long did your child stay in the hospital?</p> <p>How did your child feel?</p> <p>How did you feel?</p> <p>What did worry you most?</p> <p>Did your child have an operation? How was that?</p> <p>Did you have sufficient information concerning the progress of your child? About the treatment? About the future?</p> <p>Did you speak about psychosocial aftercare in the hospital? Why did you? Why not? Did it help you?</p> <p>Did other people such as family, friends, neighbors help you? How was that?</p> <p>After hospital discharge</p> <p>How was it for your child to be at home again? How did you feel about it?</p> <p>How was it to go to other places, such as the kindergarten? Visits to family?</p> <p>Did you receive information about the wounds and about the treatment?</p> <p>Were you supported by religion to deal with the accident? How? Or were you supported otherwise?</p> <p>How is your child now doing? And how are you doing?</p> <p>Scars</p> <p>Does your child have remaining scars? How does your child deal with it? How do you deal with it?</p> <p>Psychosocial aftercare</p> <p>Did you participate in specific psychosocial activities for parents of children with burns? Why did you/didn't you? If yes, How was it for you and your child?</p> <p>Did you see a psychologist or other care provider to talk about problems related to the accident? Why did you/didn't you?</p> <p>Did you speak to other parents?</p> <p>Do you have suggestions for change or improvement?</p> <p>Future</p> <p>How do you see the future of your child? (eg with regard to school, finding a job, finding a partner)</p>
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enough on my mind already. Yes. If you are going to blame me ( . . . ) then you don't have to talk to me anymore. Later on he said: 'Sorry, I did not mean it like that', but I was shocked. [Respondent 11, group 1]

These statements from others may increase psychological distress in ethnic minority parents and some parents did not feel capable of dealing with these negative reactions. They said that they did not know what to say or to do, and that this feeling of helplessness depressed them. Some ethnic minority parents reported that family members were shocked and showed disapproval when seeing the scars. A Turkish mother well remembered the first encounter with her family-in-law when seeing the scars:

When we were in Turkey then my sister-in-law and father-in-law said to her "oh she's really badly burned!" and the doctor said people shouldn't say that to her. [Respondent 9, group 1]

### 3.1.4. Medical communication

All parents, be it with a native Dutch or an ethnic minority background, thought that adequate information and communication about the child's medical and psychological condition

was crucial. Information helped parents to understand the treatment of the child and to deal with the scars. A Turkish mother explained that she was very happy with the advice of care providers not to hide the scars of her son:

They said the child will soon grow up, he'll also get a girlfriend and just let him wear short sleeves, he can go swimming, don't cover it up, keep it uncovered. And they explained all that [ . . . ]. I found that really good, because I didn't know that, so just say I hadn't heard that, maybe I would have kept it covered. [Respondent 7, group 1]

But parents also mentioned they had to actively inquire about aspects that bothered them. A native Dutch mother said:

Look, we just really want to know. And also to have the feeling it has your attention, that you know what's happening to your child [..]. So we bombarded the medical staff with questions as it were. And they were all really open to that, so that was really good. [Respondent 16, group 1]

Even though native Dutch and ethnic minority parents had similar needs for information, parents who did not have Dutch as native language expressed more difficulties to acquire all



the information they needed and emphasized that an active communication style was needed. One Turkish mother noted:

Being assertive is very important. I really do think that's very important. Because if I don't ask questions then I won't get any answers. Then they'll just reel off a standard text, what they tell everyone, and that'll be it. Because a doctor won't know what I want to hear, or what's on my mind, anyhow. [Respondent 14, group 1]

Parents that missed crucial information about their child's healing process expressed catastrophizing thoughts about the impact of the wounds. For example, a Moroccan couple believed that their child was going to die but did not discuss this worry with health care staff. Another Moroccan couple believed that their son's head burn may have affected his brain. They worried for years and frequently asked the school teacher whether their son was developing adequately.

### 3.1.5. Religious coping

Religious coping showed to have positive and negative effects. Positive effects seemed to pertain to both native Dutch and ethnic minority parents. For several parents, for instance, religious coping protected them against feelings of guilt. A Turkish mother explained:

I said to my mother some people will think it's my fault, you know. [ . . . ] That's why I cry even more. Then my mother said to me, don't think like that. Look, if you start thinking like that then that's not good in our religion, because it had to happen, you know. [Respondent 15, group 1]

Several parents, both ethnic minority parents and Dutch parents who indicated they had a strong belief in God, offered divine control as an explanation of why their child was burned. A Moroccan mother felt the burn event was predestined by Allah:

I think the accident was fate and that at the end of the day you couldn't have done anything to stop it. Whether you'd paid more attention or not, the accident would have happened anyway. [Respondent 14, group 1]

Several ethnic minority parents experienced the accident as a test, as a Moroccan mother noted:

And we say: 'God lets these things happen to the nicest people, to let them think of Him even more'. I believe strongly in that. Some bad people think oh they've done bad things, lots of bad things are going to happen to them. We think the opposite. We think these things happen to good people, so that they can belong to God, God is testing her, her patience. [ . . . ] A test.. how much you still think of God. Also for my children, I think it's not a punishment, I've been given a reward by God. Because normal children can be raised by anyone, everyone can get on well with normal children. [Respondent 14, group 2]

Some Dutch parents mentioned comparable beliefs and felt they were helped by God to accept the accident. A native Dutch mother explained:

It's given me a lot of strength. What we sang in the parish I just felt that it gave me strength to agree with it actually, that I didn't become defiant and that it was OK for my child to react like that. That you say it didn't come from me but was given to me. [Respondent 13, group 2]

For some parents, however, religious coping complicated the processing of the event. Potentially less helpful religious beliefs were solely reported by ethnic minority parents who for instance said that only God knows whether the scars will disappear, overruling the doctors' statement that the scars were permanent, and those offering a magical explanation for the burn event. This was not observed in Dutch (orthodox) parents. A Turkish mother believed that the burn accident of her daughter had the following cause:

I think that maybe when my son was born then we got a lot of visitors and then they wanted to cuddle [name of child] too and they said she was such a beautiful girl and maybe that's what brought the evil eye. [Respondent 7, group 1]

### 3.1.6. Barriers to psychosocial care

Most parents, both ethnic minority and Dutch parents, did not express a need for psychosocial aftercare. Some ethnic minority parents, however, had a need for psychosocial care but encountered barriers. For example, a Turkish father explained he had to translate for his wife who did not speak Dutch, but this task appeared too difficult and they stopped seeing the psychologist:

My wife doesn't have 100 questions, she has 1001 questions. So I asked 100 questions ( . . . ) and well to translate that Turkish, my Turkish is not so good. (Interviewer: No?) Well, I can speak it, but my Dutch is better than my Turkish. But it is about feelings, you know, certain feelings you just cannot translate into Turkish. I am sure the words exist, but I don't know them, so that makes it really hard to convey the type of feeling we are talking about. That is really difficult. [Respondent 10, group 1]

A Turkish mother explained that she went to see a psychologist, but that she kept it hidden from her husband who would not allow her to go:

I asked for help because I could not cope with the situation on my own anymore. [ . . . ] And my husband did not allow it. My husband thought it was bad. So I went secretly. [Respondent 14, group 2]

## 4. Discussion

The current study examined psychological distress in parents of children with burns and was the first to explore possible underlying reasons that might explain differences between ethnic minority parents and native born parents. The quantitative findings confirmed that ethnic minority parents experienced more symptoms of depression and posttraumatic

stress following their child's burn event when compared with native Dutch parents. Ethnic minority fathers, but not mothers, reported more guilt feelings than Dutch fathers. These findings are consistent with the extant literature in e.g., parents of children admitted to ICU, who reported higher PTSD levels [16] and in parents of children with burns [12].

The qualitative study identified factors that may explain the higher levels of distress in ethnic minority parents. These include impaired social support, hampered medical communication, maladaptive aspects of religious coping and barriers to psychosocial support. The role of social support as a buffer to develop depressive and posttraumatic stress symptoms is well established after adverse events such as in the aftermath of a disaster [31]. Limited social support may therefore well explain increased distress in ethnic minority parents with family members in the country of origin. Negative remarks from family members may be difficult to deal with and associated feelings of powerlessness may have further increased this. Although low social support may also be perceived in the ethnic majority group, other studies also found that disaster victims who were members of ethnic minority groups received less emotional support than their affected counterparts who were members of ethnic majority groups. A Dutch study suggests that ethnic minorities in the Netherlands, in general, lack an optimal social support system, possibly due to immigration stress, having to live between cultures, discrimination and low individual resources [32]. However, this still does not explain why fathers but not mothers experienced more guilt feelings and more research may be needed to explore these gender differences.

Hampered medical communication resulting from language problems or the lack of active communication skills and associated catastrophizing thoughts about the consequences of the burns can be devastating to the adjustment process of the burn event and may result in long-lasting psychological symptoms. Catastrophizing has previously been identified as a risk factor for the maintenance of posttraumatic stress symptoms [33]. Medical communication has several functions, among which providing information, managing uncertainty, responding to emotions are only few. Good doctor–patients communication is imperative for high quality care [34]. A recent study indicated that parents of children with burns found information provision not optimal. Many parents indicated they preferred to receive more information on diagnosis, treatment and prognosis [35], which is in line with a recent integrative review on parents' needs after their child's burn injury [36]. Language barriers and poor health literacy may further complicate medical communication and may provide more grounds for catastrophizing thoughts. It is therefore imperative to good care that medical information is well understood. Health care providers in burn centers may pay extra attention to parents with a different cultural background regarding possible specific inquiries related to the healing process of the child [37] and to double check whether the information is understood [38].

The helpful role of religious coping was seen in all parents irrespectively of their cultural background. However, religious beliefs such as the feeling of predestination and the evil eye were predominantly mentioned by ethnic minority parents. Religious coping often helped parents understand why the

burn event happened and prevented guilt feelings. Similar findings were reported in breast cancer survivors in the US and Canada that identified divine control, i.e., the extent to which an individual perceives God or a higher power to control both good and bad life events, as a recurrent theme among Latina women [39]. Some researchers suggest that belief in a divine control may be seen as a maladaptive avoidant coping strategy [40]. Others found this belief to be an active, rational, and empowering coping strategy to deal with adversity, to come to terms with misfortune that helped to regain a sense of control and self-esteem [41] and to be associated with lower psychological distress [42]. Both sides and perspectives on religious coping seem to be represented in this study.

This study has several clinical implications. First, burn team members may explore social support and may prepare parents that other people may react offensive with regards to the mechanism of the burn event and discuss strategies how they can cope with these unwanted reactions by offering (examples of) social skills that may be applicable in this kind of situations. Parents' religious beliefs may also be used by care providers as an active coping strategy in a way that fits within their cultural beliefs [43], although attention should be paid to potential maladaptive aspects of religious coping. Second, verification of potential misunderstanding due to low health literacy or language barriers may optimize medical communication and may prevent catastrophizing thoughts related to the child's well-being. Care providers may benefit from training to improve their skills to deliver culturally competent care tailored to the needs of children and their parents [44] to ascertain that needs are acknowledged and taken into account. This recommendation is in line with earlier research [45] that advocates culturally appropriate therapeutic support facilities for aboriginal parents with burned children in Australia.

This study has the following limitations. First, the respondents of the quantitative and the qualitative study differ in language proficiency. Parents in study 1 needed sufficient Dutch proficiency to complete the questionnaire, whereas not all parents in study 2 met this criterion. Furthermore, the timing of assessment of guilt feelings differed: study 1 assessed early guilt feelings whereas guilt feelings in study 2 were chronic. However, a recent study showed that particularly guilt feelings are highly stable over time [23]. Given these differences between respondents in the two studies, we think the results of the qualitative study add to a richer understanding why ethnic minorities may experience more psychological distress. Second, several interviews were held across language barriers which may have led to loss of nuances. Last, lumping together distinct ethnic backgrounds may limit the comparability. Nevertheless, the common themes that appeared across the ethnic groups suggest similar underlying mechanisms which is in line with other studies [37,38].

In conclusion, this study suggests that ethnic minority parents are at higher risk to experience psychological distress after their child's burn injury. A lack of perceived social support and hampered medical communication, and barriers to psychosocial care reported by ethnic minority parents may help explain this increased risk. These insights provide avenues to tailor psychological help that may improve support to ethnic minority parents in pediatric medical care settings.

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## Availability of data and materials

Quantitative and qualitative data used in this study cannot be shared due to reasons of confidentiality. Ethnic status is a personal characteristic that is confidential.

## Authors' contributions

All authors have made contributions to the paper and authorised the submission. JS, AB and NVL designed the study, interpreted results and drafted manuscript. JS analysed the qualitative data and discussed the results with AB and NVL. AB analysed the quantitative data and discussed the results with JS and NVL. All authors contributed to manuscript preparation and critical revision. All authors read and approved the final manuscript.

## Competing interests

The authors declare that they have no competing interests.

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