Level of Posttraumatic Stress Disorder Symptoms, Social Support and Quality of the Therapeutic Alliance as Predictors of Therapy Course: A Mediational Model

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Foreword

In what follows I will outline the results of my study at Foundation Centrum ’45.

To obtain these results, I have immersed myself into a highly interesting subject, during which time I created my own research question. I have obtained insights that I had not expected to obtain and I have developed both on a professional and on a personal level. I am pleased that I had the opportunity to conduct my study in Foundation Centrum ’45. For me, the opportunity to undertake research in a clinical environment was a unique experience.

For the counselling in the process of writing this thesis, I would like to thank both Marieke Sleijpen and Niels van der Aa. I want to thank the therapists and clients of Foundation Centrum ’45 as well, for their cooperation within the project. Without these people this result would not have been possible.

I hope you enjoy reading my thesis,

Anna Commandeur

Abstract

Background: Potential traumatic events can have severe consequences. No consensus has been achieved as to how several factors interact in influencing the therapy course of traumatised people. **Aims:** Firstly, investigated was if level of Posttraumatic Stress Disorder [PTSD] symptoms and social support before therapy, predicted therapy course. Secondly, investigated was if this relationship of level of PTSD symptoms and social support with therapy course was mediated by the quality of the therapeutic alliance. **Methods:** Several questionnaires were obtained from 130 clients who are being treated at Foundation Centrum ’45. To measure level of PTSD symptoms, the Dutch Zelfinventarisatielijst Posttraumatische Stressstoornis and the Harvard Trauma Questionnaire were used. The Resources Questionnaire was completed to obtain information about the level of social support someone experiences during stressful situations. The Outcome Rating Scale and the Session Rating Scale were routinely obtained to measure therapy course and quality of the therapeutic alliance respectively. **Results:** Level of PTSD symptoms and quality of the therapeutic alliance were found to influence therapy course. Social support did not prove to influence therapy course. Neither the level of PTSD symptoms nor the level of social support seemed to influence the quality of the therapeutic alliance. In this way, no mediating role for the quality of the therapeutic alliance was found. **Conclusions:** A first move has been made into the creation of clarity around the factors that influence the therapy course of people with PTSD symptoms. Indicated is that attention for the therapeutic alliance should be more integrated into therapy. More research is needed to find out why levels of PTSD symptoms influences therapy course, and what the exact role of social support is in the treatment process.

Key words: PTSD; social support; therapeutic alliance; therapy course

Level of Posttraumatic Stress Disorder Symptoms, Social Support and Quality of the Therapeutic Alliance as Predictors of the Therapy Course of Posttraumatic Stress Disorder: a Mediational Model

Potential traumatic events are rather common, and can have severe consequences. According to De Vries and Olff (2009), 80.7% of Dutch people will experience at least one potential traumatic event during their life, and, of Dutch people, 7.4% will suffer from Posttraumatic Stress Disorder [PTSD] during their lifetime. PTSD is a DSM-IV-TR disorder (American Psychiatric Association [APA], 2000) that is characterised by having been exposed to a traumatic event after which (a) re-experiencing of the traumatic event (e.g. by nightmares), (b) persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness and (c) symptoms of increased arousal come to play a significant role. A traumatic event refers to an event that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others (APA, 2000).

PTSD is often found to be a persistent and chronic disorder (Perkonigg et al., 2005) and one of the main predictors of therapy dropout (Sprang et al., 2013). To treat people with PTSD in the best possible way, it is important to understand which factors influence its therapy course and outcome, and how these factors are interrelated. Apart from well-researched factors in relation to the development and course of PTSD such as age (e.g. Drozdek, 1997; Su et al., 2010), female gender (e.g. Olff, Langeland, Draijer, & Gersons, 2007; Tolin & Foa, 2006), and comorbidity with other disorders (e.g. Perkonigg et al., 2005), it appears to be that level of PTSD symptoms before therapy (e.g. Taylor et al., 2001), level of social support (e.g. Charuvastra & Cloitre, 2008) and therapeutic alliance (e.g. Martin, Garske, & Davis, 2000) influence therapy course. However, how the last three factors interact in their influence on therapy course is not entirely clear.

Several studies that find that higher pre-treatment severity of PTSD symptoms and lower levels of social support negatively influence the development of PTSD (e.g. Brewin, Andrews, & Valentine, 2000; Koenen, Stellman, Stellman and Sommer, 2003; Tarrier & Sommerfield, 2004). Other studies suggested a negative effect of severity and number of PTSD symptoms on the therapy outcome of PTSD (Cloitre et al., 2011; Taylor et al., 2001; Van Minnen, Arntz, & Keijsers, 2002). These results imply that there is a relationship between level of PTSD symptoms and therapy course. Furthermore, according to a review by Charuvastra and Cloitre (2008) there is consensus among researchers that experienced lack of social support has a negative effect on the therapy course of PTSD. Not all studies find the positive effect of available support on therapy course (Zoellner et al., 1999), but Carlsson,

Mortensen and Kastrup (2006) reported that social support positively influences wellbeing of traumatized refugees. These results show that availability of social support can have a positive effect, whereas lack of social support can have a negative effect on therapy course.

According to a meta-analysis by Flückiger, Del Re, Wampold, Symonds and Horvath (2012) consensus exists that the quality of therapeutic alliance is a predictor of therapy course as well. Martin and colleagues (2000) define therapeutic alliance as "(1) the collaborative nature of the relationship, (2) the affective bond between patient and therapist and (3) the patient's and therapist's ability to agree on treatment goals and tasks" (p.438). It is often found that higher quality of the therapeutic alliance positively influences therapy outcome (Martin et al., 2000). A review by Lambert and Barley (2001) reported that empathy, warmth and the therapeutic relationship can be more predictive of therapy outcome than specific forms of treatment. Several factors might enhance the quality of therapeutic alliance. For example, an environment in which the client feels safe and understood is a necessary condition to explore difficulties. To achieve this condition, it is important for the therapist to be viewed by the client as empathic, genuine and trustworthy (Marshall et al., 2003). Therefore, trusting the therapist appears to be an important part of the therapeutic alliance.

Both high level of PTSD symptoms (Chu, 1992) and lack of social support (Charuvastra & Cloitre, 2008) may lead to a lack of trust in the therapist, and both factors may therefore negatively influence the therapeutic alliance. With respect to the relationship between high level of PTSD symptoms and a lower quality of the therapeutic alliance, Chu (1992) pointed out that clinicians report challenges forming a therapeutic relationship with clients who have experienced child abuse trauma, due to mistrust on the side of the clients. Furthermore, people who have been abused, can be unstable, both relationally and emotionally. This can lead to difficulties in the formation of the therapeutic alliance (Pearlman, & Courtois, 2005). The fear that is associated with PTSD causes a tendency to perceive threat in the environment, including the therapist (Charuvastra, & Cloitre, 2008). On the other hand, there is some discussion in literature about the predictive role of level of PTSD symptoms on therapeutic relationship. Keller, Zoellner and Feeny (2010) for example, did not find this predictive relationship. However, over all there appear to be indications that higher level of PTSD symptoms can lead to a lower quality of the therapeutic alliance. With regard to the level of social support, Charavustra and Cloitre (2008) suggested that being part of a social network helps forming a relationship with the therapist because being part of a social network provides a sense of safety. This might lead to more trust in the therapist. The notion that social support strengthens the quality of the therapeutic alliance is also supported

by Connors et al. (2000), who found a relationship between higher level of social support and a higher quality of the therapeutic alliance for people with a substance disorder, and by Strauss and Johnson (2006), who found that lower levels of social support and more depressive symptoms lead to a lower quality of the therapeutic alliance.

The above mentioned results lead to the presumption of a mediating model for the explanation of the quality of therapy course (see figure 1). Both the level of social support and the level of PTSD symptoms seem to have an indirect rather than a direct influence on the quality of therapy course, namely via the quality of therapeutic alliance. In this model, both factors influence the quality of the therapeutic alliance, which in turn highly influences therapy course. In this way, the influence of level of PTSD symptoms and level of social support on therapy course is explained by the quality of the therapeutic alliance.

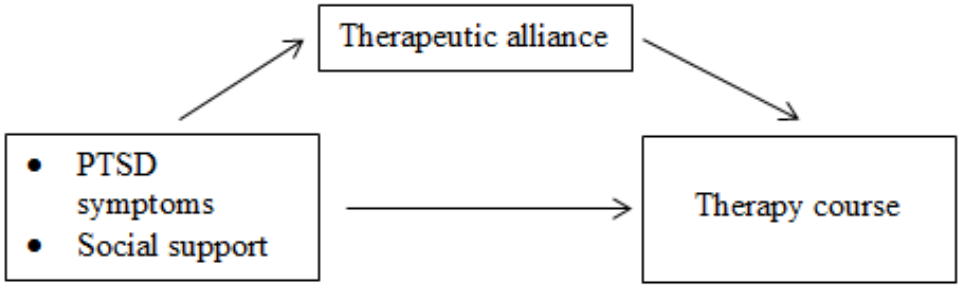

Figure 1. Both level of PTSD symptoms and social support in relationship to therapy course, and the mediating role of therapeutic alliance.

To the author's knowledge, until now, no study has investigated a possible mediating role (with regard to social support and PTSD symptoms) of the quality of the therapeutic alliance on therapy course. This leads to the following aims of this study. The first aim was to investigate if level of PTSD symptoms and social support before therapy predict therapy course. The second aim was to investigate if the relationship between both level of PTSD symptoms and level of social support with therapy course is mediated by the quality of the therapeutic alliance.

Investigating this mediational model will lead to increased insight in the factors that influence the therapy course of PTSD. This study might prove not only to be theoretically, but also clinically relevant. That is, when therapists are aware of the factors that influence their client's (lack of) progress, this gives them the opportunity to take these factors into account in the treatment of the client.

Methods

Participants

The participants were all polyclinic or day clinic clients at Foundation Centrum ’45, a national treatment and expertise centre for psychological trauma. In total, 325 clients participated. The data of the clients that met the inclusion criteria were analysed. In total, the data of 130 clients have been analysed. Inclusion criteria for the data to be analysed, were (a) a treatment duration at Foundation Centrum ‘45 of at least five months and (b) a minimum of 6 ORS measurements.

The sample consisted of 43 women (33.1%) and 87 men (66.9%). The mean age was 48 years (*SD* = 9.57), with a range from 26 to 73. Of the participants, 22 were clients with traumas related to occupation, 48 were clients from the post war generation, 21 were veterans and 39 were refugees or asylum seekers. ‘Occupational related trauma’ refers to trauma that is caused by the practising of a profession such as police officer. ‘Post war generation’ refers to clients whose parents were traumatised during World War II or the war in former Dutch East Indies. How often the ORS is obtained, differs per participant, ranging from 6 to 47 times (*M* = 20.92, *SD* = 9.49). How often the SRS is obtained, ranges from 0 to 42 times (*M* = 17.19, *SD* = 9.21). Both the ORS and SRS were obtained in 81% of the sessions.

Instruments

Outcome Rating Scale.

The Outcome Rating Scale ([ORS]; Miller, Duncan, Brown, Sparks, & Claud, 2003) is a method of routinely measuring the wellbeing of the client during the past week. In this study this scale was used to measure therapy course. It contains 4 items. The first three items of the ORS consider the individual, interpersonal and social wellbeing of the client, whereas the last item considers the general wellbeing of the client. In order to answer the questions, the client put a mark on a 10 centimetre line. The line corresponded to the feelings of the client, with the left indicating negative feelings and the right indicating positive feelings. The ORS was subsequently scored by measuring where the mark is put on each of the four lines, to the nearest millimetre. The scores were added to a total score, ranging from 0 to 40. For the ORS any score below 25 is seen as an indicator of low wellbeing (Hafkenscheid, Duncan, & Miller, 2010).

The ORS was developed as a brief alternative to other questionnaires such as the Outcome Questionnaire 45.2 (Lambert et al., 1996). The Cronbach’s alpha for the test-retest reliability ranges from 0.49 to 0.66 (Miller et al., 2003). According to Janse, Boezen-

Hilberdink, van Dijk, Verbraak, and Hutschemaekers (2013) the criterion and predictive validity of the ORS are reasonable.

Session Rating Scale.

The Session Rating Scale ([SRS]; Duncan et al., 2003) is a method of routinely measuring the therapeutic alliance. Like the ORS, it contains four items. For the SRS the first three items consider the relationship with the therapist, the goals and topics of the treatment session, and the approach or method of the treatment session. The last item considers the satisfaction with the treatment contact in general. An example of an item is: "I felt heard, understood and respected". Both individual and group SRS versions were available. A group SRS version is identical to the individual version, apart from the fact that it adds to every item: "by the therapist and/or group". An example of an item is: "I felt heard, understood and respected by the therapist and/or group". The answers on the SRS were given in the same way as on the ORS, after which a total score ranging from 0 to 40 was obtained. Any score below 36 is seen as an indicator of a problematically low therapeutic alliance (Hafkenscheid, Duncan, & Miller, 2010). The SRS was, like the ORS, developed as a brief alternative to other questionnaires such as the Session Evaluation Questionnaire (Stiles & Snow, 1984). For the SRS Duncan et al. (2003) report a test retest reliability with a Pearson's *r* of 0.64, which is satisfactory. According to Janse et al. (2013), however, the criterion and predictive validity of the SRS are limited, and more research regarding the validity is needed.

Both the ORS and the SRS are translated from English into a variety of languages. For clients who do not grasp the Dutch language sufficiently, a variety of translated versions were available, including Russian, Arabic and French. There are no substantial differences in the psychometric quality of the different versions (Hafkenscheid et al., 2010). Versions with smileys instead of or complementing written text were available as well.

Harvard Trauma Questionnaire.

The Harvard Trauma Questionnaire ([HTQ]; Mollica, Caspi-Yavin, Bollini & Truong, 1992) is developed as a bilingual and culturally sensitive measure of PTSD. In this study this questionnaire was used to measure level of PTSD symptoms. It is a questionnaire of 50 items and is divided in two parts. Part 1 considers the traumatic events someone has experienced, witnessed or heard. Part 2, which is used in this study, covers the presence and severity of traumatic symptoms, based on the three subscales (re-experience, avoidance and hyper arousal) of the DSM-IV-TR (APA, 2000). This part contains 30 items. The items assess to which extent a complaint has been a burden during the past week. Answers are given on a 4-point Likert scale, ranging from 1 (no burden at all) to 4 (an extreme burden). An example of

an item is: “Recurrent nightmares”. When the mean score exceeds the cut off score 2.5, this is an indication for the diagnosis of PTSD (Mollica et al., 1996). Mollica et al. (1992) found the reliability to be good, with a Pearson’s *r* for the interrater reliability for the trauma-related symptoms of .98. The Cronbach’s alpha for the internal consistency was .96. The test retest reliability was calculated, with a Pearson’s *r* of .92. The validity was satisfactory as well (Mollica et al., 1992). The HTQ is translated in a variety of languages, including Arabic, Farsi, Russian and Dutch. Kleijn, Hovens, & Rodenburg (2001) found positive results for the reliability and validity for translated versions of the HTQ as well.

Zelfinventarisatielijst Posttraumatische Stressstoornis.

The Zelfinventarisatielijst Posttraumatische Stressstoornis ([ZIL]; Hovens, Bramsen, & van der Ploeg, 2000) is a Dutch questionnaire that measures (like the HTQ) level of PTSD symptoms. It contains 22 items that measure to what extent PTSD symptoms (according to the DSM-IV-TR criteria) have been present during the past four weeks. It consists of 3 subscales (re-experience, avoidance, and hyper arousal). Answers are given on a 4-point Likert scale ranging from 1 (not at all) to 4 (considerably). An example of an item is ‘I had intrusive, unpleasant memories’. A total score is computed by adding the score, and a score above 52 gives an indication for the diagnosis of PTSD. According to Claes, Bastiaens and Vertommen (2002), the internal consistency of the items is good or excellent, with Cronbach’s alpha ranging from .90 to .94. The test-retest reliability of the total scale is also good, with a Pearson’s *r* of .92. The item test-retest correlation ranges from .51 to .90.The ZIL has an adequate concurrent and criterion validity (Claes, Bastiaens, & Vertommen, 2002).

Resources Questionnaire.

The Resources Questionnaire ([RESQ]; Kleijn & Smith, 1996), was used in this study to measure level of social support. It identifies the important sources of support to people during difficult circumstances. It consists of 33 items, and is divided into 8 subscales (social support, creativity/art, expression, material, sports, spirituality, positive self-image, and medical support). Every scale consists of 4 items, and 1 rest item gives the opportunity to mention a supporting source that the client feels to be missing in the list. Asked is to indicate to which extent every source of support currently supports the client during difficult circumstances. Answers are given by putting a mark on a Likert scale ranging from 1 (never) to 4 (always). Social support was the subscale used in the present study. An example of an item mentioning a source of support, in this subscale, is ‘family or children’.

The questionnaire is developed by Kleijn & Smith (1996), for Foundation Centrum ’45. The reliability of the questionnaire is high, with a Cronbach’s alpha of .85. The reliability

of the subscale that was used, namely social support, is somewhat lower (Kleijn, van Heck, & van Waning, 2001). No information is available with respect to the cross cultural validity.

Procedure

Clients of Foundation Centrum ’45 were asked by their therapists to take part in this study and notified that they would be required to regularly fill in the ORS and SRS. The clients were given a letter with information about the study, after which the clients agreed to participate via a written informed consent. Subsequently, the polyclinic clients filled in an ORS at the beginning of each session, and an SRS at the end of each session. Day clinic clients filled in an ORS at the beginning of each day, and an SRS at the end of each day. The obtained ORS and SRS questionnaires were collected and scored, after which the sub scores of each question were entered into a prepared Excel sheet. This sheet shows the progress of the ORS and SRS scores of the client over time in a graph.

The HTQ, ZIL and RESQ were filled in by using Compass. Compass is a software program (developed by Foundation Centrum ’45) with which questionnaires can be obtained digitally. After this a report with the results is automatically generated. The clients were invited to fill in questionnaires (including the HTQ, ZIL and the RESQ) through Compass, twice a year. The average timespan for filling in the questionnaires is two hours. After an informed consent was signed, the first measurement was done before treatment started. This intake measurement is the measurement that is used for this research.

Design and analysis

In order to assess the relationship between level of PTSD symptoms and social support with therapy course, two linear regression analyses were performed. The first regression analysis had level of PTSD symptoms as independent variable; the second had level of social support as independent variable. Both analyses had therapy course as dependent variable. The variable level of PTSD symptoms was based on the total scores of the HTQ and ZIL. These scores were combined by transforming the scores on the HTQ and ZIL to Z-scores. This transformation was based on the mean PTSD scale scores and standard deviations of the norm groups according to the ZIL manual (Hovens, 2000). The variable level of social support was based on the scores of the subscale social support of the RESQ. The variable therapy course was based on ORS data of clients that had filled in the ORS for at least 5 months. To actually measure course, a difference score between two mean variables was created. The first variable was the mean of the first three ORS scores; the second variable was the mean of the last three ORS scores. By subtracting the first variable from the second variable, the progress in wellbeing was computed.

Secondly, to test the relationship between level of PTSD symptoms and social support with quality of therapeutic alliance, two other linear regression analyses were performed. This was done in the same way as before, but with quality of therapeutic alliance as dependent variable. The variable quality of therapeutic alliance was based on the mean of the total SRS scores. Thirdly, to test for the relationship between quality of therapeutic alliance and therapy course, a regression analysis was performed, with quality of therapeutic alliance as independent and therapy course as dependent variable.

Lastly, in case of significant correlations between either level of PTSD symptoms or level of social support (or both) with both therapy course and therapeutic quality, a mediation analysis proposed by Preacher and Hayes (2004) was performed to test for the significance of the mediation. By downloading the SPSS macro of Preacher and Hayes (2004) and integrating this macro in SPSS, the direct and indirect effects of level of PTSD symptoms and level of social support on therapy course were obtained. If the effects of level of PTSD symptoms and level of social symptoms on therapy course became less significant by including therapeutic alliance, a mediating role of therapeutic alliance was expected. To find out if this mediating role was indeed significant, the 95% confidence interval of the indirect effects was retrieved with 5000 bootstrap resamples (Preacher & Hayes, 2004). This means that 5000 samples of the data with respect to this effect were automatically generated, using random sampling with replacement. In this way 5000 estimates of the indirect effect were retrieved, after which a mean was calculated. If the confidence interval did not include zero, the significance of the mediation was confirmed. If it did, however, include zero, no significant mediation could be confirmed. For the mediation analysis proposed by Preacher and Hayes (2004), normality of the data is not required.

Results

Checking of assumptions

The linearity of the variables and the normal distribution and homoscedasticity of the residuals of the variables were satisfactory. Only the residuals from the SRS were right-skewed. Furthermore, the SRS was slightly heteroscedastic. Nevertheless the scores were used in the computations, because corrections did not lead to improvement in normality or homoscedasticity.

Descriptive statistics

The scores of the study variables are displayed in Table 1. For the level of PTSD symptoms, the mean score shows that, on average, the scores of the participants are 3.58 standard deviations above the mean score in the general population. This means that the

participants, on average, have a high level of PTSD symptoms. For the level of social support the mean score shows to be 9.02. However, since no norm group yet exists for this specific subscale, no judgements can be made as to whether this is a high or low score. The mean score 19.35 of the quality of the therapeutic alliance is below the cut-off score of 36, therefore, on average, the quality of the therapeutic alliance was low. The therapy course variable shows the difference between the mean score of the first three sessions and the mean score of the last three sessions. In this way the mean therapy course score of the last three sessions is on average 1.39 points higher than the mean therapy course score of the first three sessions. According to Crouzen (2010) a difference of at least 5 points is indicative of a meaningful change in wellbeing over time. Therefore, on average no meaningful change has been achieved.

Table 1
The number of participants (N), range, mean score (M) and standard deviation (SD) of the different variables.

	N	Minimum	Maximum	*M*	*SD*
Level of PTSD symptoms	123	-0.48	6.23	3.58	1.68
Social support	102	4.00	16.00	9.02	2.48
Quality of therapeutic alliance	116	3.13	39.63	29.35	7.93
Therapy course	114	-15.83	23.40	1.39	7.45

Testing of the hypotheses

Five linear regression analyses were conducted for each variable of the proposed mediation model. Firstly, a regression analysis was performed to test for the significance of the relationship between level of PTSD symptoms and therapy course. It was found that there was a significant negative association between level of PTSD symptoms and therapy course (β = -.203, p < .05, r^2 =.041). Secondly, a regression analysis was performed to test the relationship between level of social support and therapy course. No significant relationship was found (β = .135, p = .211, r^2 = .018). After creating dummy variables and controlling for the variables sex, age, groups involved (occupational related, veterans, refugees) and setting (polyclinic or clinic), a significant relationship was still not found.

Thirdly, a regression analysis was performed to test the relationship between level of PTSD symptoms and quality of therapeutic alliance. No significant relationship was found (β = -.042, p = .664, r^2 = .002). After controlling for the variables sex, age, groups involved (occupational related, veterans, refugees) and setting (polyclinic or clinic), no significant

relationship was found either. Fourthly, a regression analysis was performed to test for the relationship between level of social support and quality of the therapeutic alliance. No significant relationship was found (β = .126, p = .235, r^2 = .016). After controlling for the variables sex, age, groups involved (occupational related, veterans, refugees) and setting (polyclinic or clinic), no significant relationship was found either.

Lastly, a regression analysis was performed to test for the relationship between quality of therapeutic alliance and therapy course. A significant positive relationship was found (β = .280, p < .01, r^2 = .078). The correlation coefficients of the variables are shown in Figure 2.

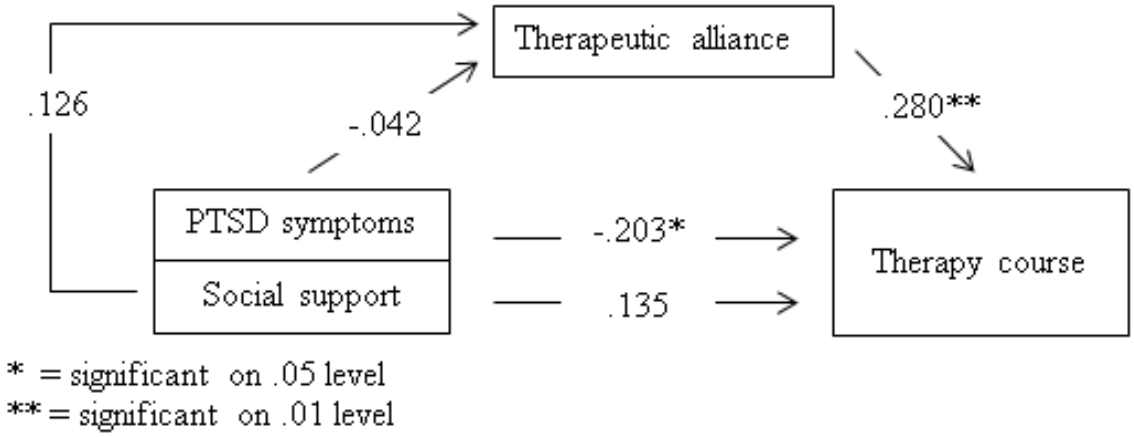

Figure 2. Proposed mediation model with level of PTSD symptoms and level of social support as independent variables, therapy course as dependent variable, and quality of the therapeutic alliance as the mediator.

Although there was no significant relationship between either level of PTSD symptoms or level of social support with quality of therapeutic alliance, a mediation analysis proposed by Preacher & Hayes (2004) was conducted. No indications were found that the relationship between level of PTSD symptoms and therapy course (*B* = .0025; CI = -.2528 to .2422), or the relationship between level of social support and therapy course (*B* = .0954, CI = -.0812 to .3837) was mediated by the quality of the therapeutic alliance. The confidence intervals include 0; this indicates an insignificant mediation effect. Furthermore, results indicated that, when controlling for quality of therapeutic alliance, the direct effects of level of PTSD symptoms did not become less significant (*B* = -.9111, t(94) = -2.13, p < .05) and the direct effects of level of social support remained insignificant (*B* = .4165, t(75) = 1.24, p = .076).

Discussion

The overall purpose of this study was to gain more insight in the factors that influence the therapy course of PTSD. First of all investigated was if level of PTSD symptoms and

social support before therapy, predicted therapy course. Secondly, investigated was if this relationship of level of PTSD symptoms and social support with therapy course was mediated by the quality of the therapeutic alliance. To the author's knowledge, no study so far has investigated this mediational model.

Confirm the expectations, lower initial PTSD symptoms were associated with more improvement of the wellbeing of the client during therapy. In contrast with the expectations, a higher level of social support was not associated with more improvement of wellbeing during therapy. Furthermore, neither lower initial PTSD symptoms, nor lower level of social support, were associated with a better quality of the therapeutic alliance. Confirm the expectations, it was found that a higher quality of the therapeutic alliance was associated with an improvement of wellbeing of the client during therapy. However, since no relationship of level of PTSD symptoms with therapeutic alliance was found, the quality of the therapeutic alliance did not seem to explain the relationship between level of PTSD symptoms and therapy course. In this way, only initial level of PTSD symptoms and quality of the therapeutic alliance showed to be influencing therapy course.

Level of PTSD symptoms predicted therapy course, in accordance with literature (e.g. Tarrier & Sommerfield, 2004; Taylor et al., 2001). In general, more initial PTSD symptoms led to less improvement in wellbeing during therapy. The hypothesis was that more PTSD symptoms would lead to a lower quality of the therapeutic alliance, caused by trust difficulties. This lower quality of the therapeutic alliance would in turn lead to a lower improvement in wellbeing during therapy. However, no relationship between level of PTSD symptoms and quality of the therapeutic alliance was found. If therapeutic alliance does not explain the relationship between PTSD symptoms and therapy course, the question remains what does explain it. Possibly, the avoidance symptoms of PTSD alone are severe enough to lead to less improvement in therapy. Tarrier and Sommerfield (2004) for example, mention that the avoidance symptoms of PTSD are crucial to long-term outcome. Becker and Zayfert (2001) suggest that people with PTSD avoid trauma related thoughts and emotions, which makes the treatment of people with PTSD extremely difficult. This might be a factor that contributes to a diminished improvement during therapy, and should receive more research attention.

Against the consensus among researchers with respect to the relationship between social support and therapy course (Charuvastra, 2008), no effect of level of social support on therapy course was found. More social support was not shown to be associated with an improvement in wellbeing during therapy. Literature generally shows that higher social

support leads to better effects of therapy (e.g. Koenen, Stellman, Stellman, & Sommer, 2003). However, some studies do not find a positive effect of the availability of social support, only a negative effect of the presence of negative social interactions. Zoellner, Foa and Brigidi (1999) for example, show that the presence of interpersonal friction predicted PTSD severity, while positive social support did not. This finding suggests that negative and positive social interactions are distinct processes (Charuvastra, 2008). An effect might have been found if social support were not only measured by the availability of social support, but also by the opposite, that is, the presence of interpersonal friction.

In contrast with suggestions in literature (e.g. Chu, 1992), level of PTSD symptoms did not seem to have a relationship with the quality of the therapeutic alliance. More PTSD symptoms were not associated with less improvement of the therapeutic alliance. Why this relationship has not been found, is not known. Possibly only certain types of experienced trauma, such as childhood related trauma lead to a lower quality of the therapeutic alliance. Kemp, Signal, Botros, Taylor, & Benrice (2013) for example, do mention a general negative relationship between PTSD and the quality of the therapeutic alliance, but a specific relationship for childhood related trauma. Childhood related trauma can have severe consequences for the ability to develop and maintain relationships (e.g. Pearlman, & Courtois, 2005). In this study the kind of trauma was not taken into account. Consequently an effect might have been found if childhood related trauma was taken into account. On the other hand, a study that had not found an effect of trauma on alliance (Keller et al., 2010), did investigate childhood related trauma. Therefore it might be that people are more resilient in their interpersonal relationships than was formerly thought (Paivio & Patterson, 1999).

Why social support and therapeutic alliance did not seem to be connected is not clear either. More social support was not associated with an improvement in the quality of the therapeutic alliance. This is not in accordance with several studies that do find a predictive role of social support (e.g. Strauss & Johnson, 2006). Perhaps the kind of social support is important in predicting the relationship. Keller and colleagues (2010) for example, found a relationship only between specifically trauma related support and alliance. Trauma related support referred to how often someone got positive reactions regarding the trauma (e.g., "how often someone told you it was not your fault") and negative reactions (e.g., "how often someone told you that you were to blame"). Trauma related support might owe its influence on therapeutic alliance to the fact that trauma related support best mirrors the therapeutic alliance, which is trauma related as well (Keller et al., 2010). In this study, only general social

support was measured. An effect might have been found if trauma related support was measured.

The influence of quality of the therapeutic alliance on therapy course that was found, was not surprising. A better therapeutic alliance led to more improvement in wellbeing during therapy. Consensus exists that therapeutic alliance is one of the most stable factors in influencing therapy outcome (Flückiger et al., 2012). It is often more influential than the kind of treatment the client receives (Lambert & Barley, 2001). It is crucial for the client to feel respected by the therapist and to like the therapist. In this way the therapist serves as a role model for good behaviour, and motivates the client to fully participate in the treatment, which in turn may lead to a better outcome (Marshall et al., 2003).

Strengths and limitations

Some limitations of this study should be noted. The validity of the measure instrument of social support is unknown. A probable lack of validity could have had a distorting effect on the results. Additionally, neither the kind of treatment that the client received, nor a possible change in social support during treatment, has been controlled for. Therefore some caution should be taken with regard to the causality of the relationships that were found. Furthermore, the group that has been studied showed a relatively large dispersion in scores for the scores of therapeutic alliance and therapy course. Because the scores differed relatively much within the group, it is harder to generalise the results to the whole group. Moreover, a highly specific group has been studied, with as participants mainly refugees, asylum seekers, police and veterans. Therefore some caution should be taken in generalising the results to the whole population.

The strengths of this study should be noted too. This study had a longitudinal design and was renewing in the application of the ORS and the SRS. By routinely obtaining the ORS and the SRS over time, both alliance and outcome were measured in a precise manner. Furthermore, research shows that regularly measuring the therapeutic alliance has positive influences on therapy outcome (Whipple et al., 2003), consequently this study has contributed to investigate ways to improve therapy course. Also, it is renewing with respect to the factors that were taken into account. No study so far had investigated the possible influence of the factors social support, PTSD symptoms and therapeutic alliance on therapy course put in a mediational model.

Recommendations

With this study a first move has been made in the creation of clarity around the factors that influence therapy course. Gaining insight in these factors is relevant for making the

treatment as effective as possible. In this way, information becomes available for the adaptation of treatments. Ways should be devised to pay more attention in therapy to people with higher initial level of PTSD symptoms, since these people show less therapy progress. Since therapeutic alliance was underlined to influence therapy course, attention to this relationship should be more integrated in therapy as well. Possibly the SRS could be implemented in therapy, by standardly obtaining and discussing it with the client. Routinely communicating about the therapeutic alliance can be incremental for therapy course (Whipple, et al., 2003).

The relationships that have not been found require more research. More information should be gained with respect to the reasons why the relationships between social support and therapy course, social support and quality of the therapeutic alliance, and PTSD symptoms and quality of the therapeutic alliance have not been found. It is also important to find out what explains the relationship between PTSD and therapy course. A question that could be asked is if the level of avoidance that comes with PTSD is one of the reasons for a decreased improvement during therapy. Another question that could be studied is if specific kinds of trauma predict the quality of the therapeutic alliance. Furthermore, insight should be created in the role of social support in both therapy course and therapeutic alliance.

Conclusion

In this study several factors in relation to therapy course have been investigated. Level of PTSD symptoms and therapeutic alliance were found to influence therapy course. This study offers reasons for the therapist to possibly integrate the SRS in therapy, to obtain a higher quality of the therapeutic alliance and in this way achieve better therapy results. Even though more research is required, this study can be a good first step into the direction of more understanding and respect for the individual need of the client and for factors that influence recovery from PTSD.

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