

# **Videoconferencing Therapy Satisfaction in Trauma-Exposed Patients**



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## Abstract

**Background:** During the COVID-19 pandemic mental health care offered less face-to-face therapy (FT) and videoconferencing therapy (VCT) usage increased. Aim of this study is to examine the patients' VCT satisfaction. Therefore, the study examines the relationship between perceived symptom change, psychological symptoms severity, demographic variables (gender and age), therapeutic alliance satisfaction, and technical quality satisfaction and VCT satisfaction.

**Methods:** For main outcomes, 493 patients were invited to complete the assessment, which consisted of the Brief Symptom Inventory and additional COVID-19 questions about their symptoms and therapy satisfaction. For exploratory outcomes, 20 patients participated in semi-structured interviews, including three questions about VCT-, patient-therapist-, and technical quality satisfaction rated on a 7-point Likert scale. A multiple regression analysis and exploratory analyses were conducted, and two-tailed Spearman's rank correlations coefficients were calculated.

**Results:** 318 (64.5%) patients completed the assessment. Main outcomes showed a mean VCT satisfaction of 6.35 on a 10-point Likert scale. Also, the independent variables accounted for 9% of the variability in VCT satisfaction,  $R^2 = .09$ ,  $F(5, 214) = 5.319$ ,  $p < .001$ . Women ( $M = 6.96$ ,  $SD = 2.19$ ) tended to be more satisfied with VCT than men ( $M = 5.93$ ,  $SD = 2.18$ ),  $\beta = 0.2$ ,  $t(214) = 3.08$ ,  $p < .01$ . Exploratory outcomes showed a mean therapeutic alliance satisfaction of 4.89 on a 7-point Likert scale, and a significant positive relationship between technical quality and VCT satisfaction,  $\rho(17) = .55$ ,  $p = .016$ .

**Conclusion:** Trauma-exposed patients are somewhat satisfied with VCT and it is possible to develop a good therapeutic-patient relationship using VCT is. Therefore, continuation of VCT for trauma and stress-related disorder during the COVID-19 pandemic is recommended. The findings are of relevance and interest, and can serve as a foundation for further research.

## Introduction

On March 11, 2020, the World Health Organization officially confirmed the COVID-19 as a pandemic. Worldwide there are over 125 million confirmed COVID-19 cases across 220 countries, areas, or territories (WHO, 2021). Countries are trying to decrease the COVID-19 spread by taking measures. A measure that countries took is a (partial) lockdown, which has a huge impact on different sectors of countries.

An important sector that is affected by a (partial) lockdown is mental health care. In the Netherlands, more than 6% of the Dutch population between 18 and 64 years old used mental health care in 2007, with expenses of over four billion dollars (De Graaf et al., 2010; Slobbe et al., 2011). It is plausible to expect both numbers to be higher in 2020 and 2021 due to the COVID-19 pandemic, since emotional distress levels are higher (Pfefferbaum & North, 2020). In addition, a recent study of Khan et al. (2020) reported elevated anxiety, fear of death, and post-traumatic symptoms in individuals due to the COVID-19 pandemic. Also, therapists are offering less face-to-face therapy (FT) due to the partial lockdown (Wind et al., 2020).

The current study focuses on patients suffering from trauma-related disorders, such as post-traumatic stress disorder (PTSD). PTSD is characterized by the appearance of complaints after experiencing a traumatic event (American Psychiatric Association, 2013). Patients suffering from PTSD experience increased distress and hyperarousal. Also, re-experiencing traumatic events is a typical PTSD symptom. The distress increase, fear of death, and anxiety indicates a high possibility that patients suffering from PTSD are negatively affected by the COVID-19 pandemic (Khan et al., 2020; Pfefferbaum & North, 2020). The mental health care unavailability due to governmental measures will also increase the risk of retaining PTSD symptoms, since they will not be treated (Priebe et al., 2009). To prevent symptoms worsening and higher mental health costs it is important to at least continue the mental health care during the COVID-19 pandemic.

As a solution to continue mental health care, therapists are offering alternatives to FT. Well-known, upcoming alternatives are internet interventions, also known as E-health (Wind et al., 2020). The most common E-health intervention is videoconferencing therapy (VCT). VCT is therapy using a webcam and microphone to interact with the patient. Several studies showed that PTSD interventions using VCT are promising alternatives to FT. Berryhill et al. (2019) included 21 studies in a systematic review. The most evaluated interventions were cognitive behavioral therapy (CBT) and behavioral therapy (BT). Fourteen studies showed a significant reduction in anxiety and PTSD symptoms following VCT. Another study reported that cognitive processing therapy (CPT) using VCT for veterans with PTSD can be as effective as CPT using FT (Liu et al., 2020). In addition, Germain et al. (2009) conducted research on the VCT CBT effectiveness in which the dropout group and the treatment group were compared and findings supported the effectiveness of VCT. Studies also indicated promising results using Eye Movement Desensitization and Reprocessing (EMDR) with VCT (Lenferink et al., 2020; Verstappen, 2020). Even though the results are promising, there is some evidence that VCT is more effective for milder disorders forms than for more severe forms (Topooco et al., 2017).

To investigate if VCT is a promising alternative to FT for trauma-related symptoms, it is important to consider not only therapy effectiveness, but also patients' satisfaction. A reason why it is important to consider patients' satisfaction is that satisfied patients have a higher chance to engage with and adhere to therapy than dissatisfied patients (Miglietta et al., 2018). In addition, studies suggest that patients' therapeutic satisfaction is associated with quality of care (Druss et al., 1999; Edlund et al., 2003). Even though there is limited research on the impact of demographic variables (gender and age) on VCT satisfaction, Blenkiron and Hammill (2003) showed that there is no relationship between gender and age, and FT satisfaction. Patients' therapeutic satisfaction can be divided into two factors, quality of care and therapeutic alliance.

Quality of care exists of three key elements: structure, process, and clinical outcome (Kilbourne et al., 2018). Structure includes adequate personnel, facilities, and technologies. Process includes the question if care processes are evidence-based. Since literature showed online evidence-based therapies, it is assumed that the element process, and therefore satisfaction, is not drastically affected by the shift to E-health (Berryhill et al., 2019; Lenferink et al., 2020). Clinical outcome includes the question if the care has improved clinical outcomes. Studies showed promising clinical outcomes using VCT, but less promising outcomes for more severe disorders, and therefore it is likely that clinical outcomes are affected by disorder severity (Topooco et al., 2017; Berryhill et al., 2019). Structure, a factor of quality of care and therefore of satisfaction, might also be affected by the shift to E-health, since technologies should be available, stable, and reliable (Vis et al., 2018). Preschl et al. (2011) reported qualitative interview results indicating that technical issues might be a barrier for E-health implementation. Preschl et al. did not focus on VCT, but on an automatic Activities of Daily Living monitoring system. Interian et al. (2018) conducted research on VCT technical issues. Patients experienced frustration and distress when technical issues, such as poor sound or an unstable internet connection, during VCT appeared. Therefore, it is likely that the element structure is affected by technical issues. The frustration and distress might harm patients, especially patients suffering from PTSD since it is a stress-related disorder and irritability is a common symptom (American Psychiatric Association, 2013).

The second factor of patients' therapeutic satisfaction is therapeutic alliance (Kim et al., 2008). Therapeutic alliance consists of four factors: collaboration, integration, empowerment, and communication (Kim et al.). The first factor, collaboration, focuses on establishing a mutual goal and commitment to reaching that goal, with the participation of both patient and therapist. The second factor, integration, includes the perceived respect received from the therapist, its goal is to reduce the power differential between patient and therapist. The third factor,

empowerment, is about the question whether the patient is part of the decision-making process or not. The last factor is communication, which includes the extent to which patient-therapist bonding occurs. It also focuses on the quality of exchanged information.

Since clinical outcome is a significant factor of quality of care, and quality of care is a factor of therapeutic satisfaction, it is plausible to suggest that therapeutic alliance affects therapeutic satisfaction (Druss et al., 1999; Edlund et al., 2003; Kilbourne et al., 2018). Even though there is limited evidence of a relationship between therapeutic alliance and patients' satisfaction, Kim et al. (2008) showed that therapeutic alliance predicted approximately one-third of patients' satisfaction. Furthermore, there is strong evidence that therapist alliance affects therapy effectiveness. A study conducted by Krupnick et al. (2006) reported a significant effect of therapeutic alliance on clinical outcome. This is supported by Ardito and Rabellino (2011) who suggest that the quality of patient-therapist alliance is a predictor of clinical outcome.

It is important to discuss literature about the therapeutic alliance in E-health interventions. In one study, patients experienced a collaborative, bonding relationship with the therapists using E-health (Cook & Doyle, 2002). In addition, a study of Berger (2017) conducted research on the therapeutic alliance in VCT. Berger stated that independently of the intervention groups and amount of contact between patient and therapists, the patient-rated alliance scores were high and roughly equivalent to FT therapeutic alliance ratings. Knaevelsrud and Maercker (2007) conducted a study on online CBT for PTSD. In this study therapeutic alliance and treatment effectiveness were examined. Of the 49 patients, 37 experienced a positive and stable therapist relationship. In addition, 42 patients described a personal relationship.

In the past year, the COVID-19 pandemic caused an increasing and forced E-health interventions usage and it is likely that this will increase more (Wind et al., 2020). Several

studies on E-health effectiveness show promising results, but research on E-health satisfaction is still scarce. Ter Heide et al. (in press) conducted a study on the relationship between demographic variables (age, level of education, gender) and levels of wellbeing, VCT use and VCT satisfaction during the pandemic. By gaining insight in E-health satisfaction, E-health interventions might be improved. To that end, for the current study the dataset acquired by Ter Heide et al. will be used to conduct further research on the relationship between various variables and VCT satisfaction of patients suffering from trauma-related disorders.

The present study will aim to examine the VCT satisfaction during the COVID-19 pandemic, and therefore the following four questions. Firstly (1), does perceived symptom change affect VCT satisfaction? Secondly (2), does psychological symptoms severity affect VCT satisfaction? Thirdly (3), do demographic variables (gender and age) affect VCT satisfaction? Lastly (4), do therapeutic alliance, and technical quality satisfaction affect VCT satisfaction?

In response to the mentioned studies and literature, we expected (1) a relationship between perceived symptom change and VCT satisfaction; (2), a negative relationship between psychological symptoms severity and VCT satisfaction; (3), no relationship between demographic variables (gender and age) and VCT satisfaction; (4), a positive relationship between therapeutic alliance and VCT satisfaction, and between technical quality satisfaction and VCT satisfaction.

## **Method**

### **Design**

The current cross-sectional study used existing quantitative data. In addition, semi-structured interviews were conducted to collect both quantitative data for exploratory purposes and qualitative data for internal purposes.

### **Procedure**

Between June 3 and July 31, 2020, data were collected. Patients of 21 years and older who were able to independently complete a Dutch-language online assessment and who had agreed at enrollment to receive email invitations were invited. The ‘COVID-19 assessment’ was inserted as an additional assessment between regular routine outcome monitoring (ROM) assessments. Outcomes are available in the patient’s medical file. The ROM assessments at the concerned institute are declared by the Leiden University medical ethics committee to be exempt from the obligation for medical-ethical review. Also, ROM data may be used for scientific purposes. Patients are informed of this policy before completing the assessment and data of those who disagreed are not included. To the purpose of the extra assessment an automatic email was sent. Questionnaires were made available through an internet link in a secure electronic system with limited data access. Reminders were sent out after four and six weeks.

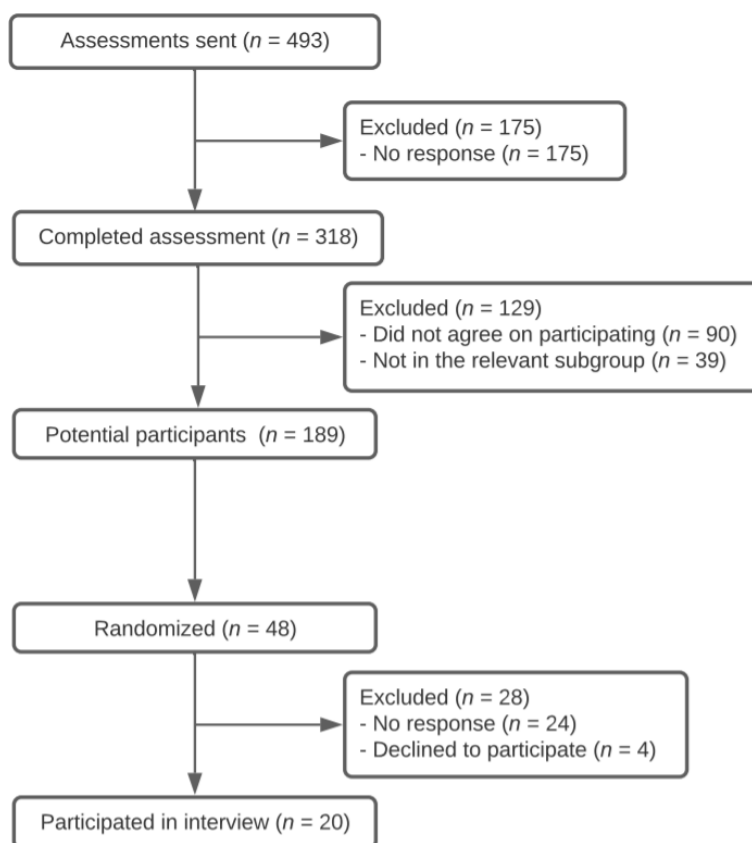
For conducting the interview, an approval of the Facultaire Ethische ToetsingsCommissie was received. In the quality study, participants indicated if they agreed on participating in further research. The participants that agreed on participating in further research were included as follows. Five subgroups were selected; post-war generation, occupational trauma, military veterans, patients affected by World War II, and refugees. For each subgroup a maximum of five participants participated in the interview. To find a balance between men (50%) and women (50%), stratification was used. Of each subgroup men and women, based on the stratification, were randomly selected using [www.random.org](http://www.random.org). Except for the subgroup refugees; all refugees that met the inclusion criteria, were invited for the interview. The inclusion process is visualized in figure 1. In December 2020, the participants received an email containing interview information (Appendix A). A week after receiving the information, participants were called to schedule an interview appointment. Before the appointments took



place, participants received a confirmation email including two consent forms, which they were asked to fill in before the interview started (Appendix B).

## Figure 1

*Flowchart of participants*



## Participants

The participants are Dutch patients who are forced by the COVID-19 pandemic to continue treatment for psychotrauma-related disorders by using VCT. A total of 493 invitations were sent, 318 patients (64.5%) completed the assessment. Of those, a total of 227 participants (71.4%) used VCT. Of those, 135 (59.5%) were men and 92 (40.5%) were women. The participants mean age was 52 years old ( $SD = 10.8$ ) representing an age range of 29-83. Of the 227 participants, 185 (81.5%) were born in the Netherlands. The remaining participants were from 25 different countries of origin. The largest participant group was from the post-war generation ( $n = 74$ ; 32.6%), followed by occupational trauma ( $n = 58$ ; 25.6%), military veterans

( $n = 38$ ; 16.7%), and refugees ( $n = 16$ ; 7.0%). The majority of patients ( $n = 171$ ; 70.9%) were in treatment for PTSD, followed by anxiety or mood disorders ( $n = 41$ ; 18.1%), and for various other disorders ( $n = 23$ ; 10.1%). Patients had been in treatment for an average of 16.9 months ( $SD = 20.6$ ).

A total of 228 of the 318 (71.7%) participants agreed on participating in additional questions in an interview. Of those, five subgroups were selected ( $n = 189$ ); post-war generation ( $n = 75$ ; 40.0%), occupational trauma ( $n = 53$ ; 28.0%), military veterans ( $n = 39$ ; 20.6%), patients affected by World War II ( $n = 11$ ; 5.7%), and refugees ( $n = 11$ ; 5.7%). Of those subgroups, 121 (64.0%) were men and 68 (36%) were women. A total of 20 participants, 11 (55.0%) men and 9 (45.0%) women participated in the interview. Of those, four were part of the post-war generation, three were veterans, five were part of occupational trauma, four were patients affected by World War II, and four were refugees. The participants mean age was 55.4 years old ( $SD = 15.2$ ) representing an age range of 30-84 years old.

## Measures

### *Brief Symptom Inventory (BSI)*

The BSI (Derogatis & Spencer, 1993) assesses general psychological symptom severity during the past week. A 5-point Likert scale, ranging from 0 (*not at all*) to 4 (*extremely*), is used to score the 53 items. A mean severity score was calculated for the total scale. In comparison with a norm group of Dutch psychiatric outpatients, scores may be interpreted as followed: .00-.23 very low; .24-.55 low; .56-.89 below average; .90-1.26 average; 1.27-1.75 above average; 1.75-2.53 high; 2.54-4.00 very high (De Beurs & Zitman, 2005). The BSI is a reliable and valid questionnaire (Adawi et al., 2019). Cronbach's alpha for the BSI in the present study was .97.

### *COVID-19 questions*

In addition, to assess perceived symptom change and VCT satisfaction, the following questions were asked. (1) In the past two months, did your symptoms increase/decrease/stay

the same? (2) How did you stay in touch with your therapist during the past two months: face-to-face, via clinical videoconferencing, by telephone, through e-mail/chat, not (multiple options possible)? (3) How satisfied were you with this form of contact, rated on a scale from 0 (*not at all satisfied*) to 10 (*as satisfied as can be*)?

### ***Semi-structured interview***

A semi-structured interview was conducted online using Zoom Video Communications version 5.4.6. The option ‘record’ in Zoom Video Communications was used to record. The semi-structured interview included five topics: COVID-19 pandemic in general, VCT, online modules, therapeutic alliance during E-health, and technical quality of E-health. The length of the interviews were approximately 30 minutes. The semi-structured interview is displayed in Appendix C. In this study, only the quantitative data obtained during the interview will be used for explorative analysis. The qualitative data are for internal purposes.

### ***Interview Likert scale***

In addition to the semi-structured interview, we added three quantitative questions to assess VCT satisfaction, therapeutic alliance satisfaction, and technical quality satisfaction. The questions were rated on a Likert scale from 1 (*not satisfied at all*) to 7 (*very satisfied*). (1) How satisfied are you with VCT? (2) How satisfied are you with the patient-therapist relationship during VCT? (3) How satisfied are you with the technical quality of VCT?

### **Statistical analyses**

All analyses were conducted using IBM SPSS Statistics version 23 for Windows. To examine the mean scores of perceived symptom change, psychological symptoms severity, and VCT satisfaction, descriptive analyses were conducted. To test the relationships between perceived symptom change, psychological symptoms severity, age, gender, and VCT satisfaction a multiple regression analysis was performed. Dummy variables for perceived symptom change were made, with ‘stay the same’ as the reference group. In addition, dummy

variables were made for gender, with ‘male’ as the reference group. To guarantee that no violation of the relevant assumptions of both analyses occurred, preliminary analyses were performed. For exploratory purposes, exploratory analyses were performed, and two-tailed Spearman’s rank correlations coefficients were calculated to examine outcomes on the interview Likert scales. P-values less than .05 were considered statistically significant.

## Results

### Missing Values

Seven participants had one or more items missing on the BSI, pairwise deletion was used for the missing variables. One participant had one or more items missing on the Likert scale, listwise deletion was used for the missing variables.

### Descriptives

Descriptives of the BSI, symptom change, and VCT satisfaction are presented in Table 1.

Table 1

*Means, Standard Deviations, Sample Sizes of Brief Symptom Inventory, Symptom Change, and Videoconferencing Therapy Satisfaction.*

Variable	<i>n/N (%)</i>				
	<i>M</i>	<i>SD</i>	Symptoms decrease	Symptoms increase	Symptoms stayed the same
BSI ( <i>n</i> = 220)	1.53	0.77	-	-	-
Symptom change	1.94	0.90	42/227 (18.5%)	99/227 (43.6%)	86/227 (37.9%)
VCT Satisfaction ( <i>n</i> = 227)	6.35	2.24	-	-	-

*Note.* BSI = Brief Symptom Inventory, VCT = Videoconferencing therapy.

The BSI mean total score is 1.53, which may be interpreted as above average in comparison with a norm group of Dutch psychiatric outpatients (De Beurs & Zitman, 2005). For symptom change, most participants ( $n = 99$ ; 43.6%) reported symptoms increase during the past two months, followed by symptoms stayed the same ( $n = 86$ ; 37.9%), and symptoms decrease ( $n = 42$ ; 18.5%). In addition, VCT satisfaction mean was 6.35, which can be interpreted as somewhat satisfied on the 10-point Likert scale.

### Main results

To examine the relationship between perceived symptom change, psychological symptoms severity, age, gender and VCT satisfaction, a standard multiple regression analysis was performed. In combination, the independent variables accounted for 9% of the variability in VCT satisfaction,  $R^2 = .09$ ,  $F(5, 214) = 5.319$ ,  $p < .001$ . Unstandardized ( $B$ ), and standardized ( $\beta$ ) regression coefficients, confidence intervals (CI), standard error ( $SE$ ), and p-values are reported in Table 2.

Table 2

*The Relationships Between Symptom Change, Symptoms Severity, Gender, Age and VCT Satisfaction.*

	$B$ [95% CI]	$SE$	$\beta$	$p$
Constant	7.070 [5.38, 8.76]	0.857	-	.000
Symptoms decrease	0.678 [-0.15, 1.50]	0.418	0.119	.106
Symptoms increase	-0.522 [-1.19, 0.14]	0.337	-0.116	.123
Symptoms severity	-0.259 [-0.67, 0.16]	0.210	-0.089	.220
Women	0.902 [0.32, 1.48]	0.293	0.199	.002
Age	-0.011 [-0.04, 0.02]	0.014	-0.053	.415

*Note.*  $N = 219$ . CI = Confidence interval

No significant relationship between perceived symptom decrease or symptom increase and VCT satisfaction was found. Therefore, the hypothesis that there is a relationship between perceived symptom change and VCT satisfaction was rejected. In addition, there was no significant relationship between symptoms severity and VCT satisfaction. The hypothesis that there is a negative relationship between psychological symptoms severity and VCT satisfaction is rejected. Further, there was a significant positive relationship between sex and VCT satisfaction, indicating that women ( $M = 6.96$ ,  $SD = 2.19$ ) are more satisfied with VCT than men ( $M = 5.93$ ,  $SD = 2.18$ ),  $\beta = 0.2$ ,  $t(214) = 3.08$ ,  $p < .01$ . Therefore, the hypothesis that there is no relationship between gender and VCT satisfaction is rejected. Age did not have a significant relationship with VCT satisfaction, and therefore the hypothesis that there is no relationship between age and VCT satisfaction is accepted.

### **Exploratory results**

To examine therapeutic alliance satisfaction and technical quality satisfactions as measured during the interview, and VCT satisfaction, exploratory analyses were performed, and Spearman's rank correlations coefficients ( $\rho$ ) were calculated. Mean VCT satisfaction on a 7-point Likert scale was 4.89, which can be interpreted between neutral and somewhat satisfied. In addition, the therapeutic alliance satisfaction mean was 6.6, which can be interpreted between satisfied and very satisfied. Lastly, mean technical quality satisfaction was 5.56, which can be interpreted between somewhat satisfied and satisfied.

The Spearman's correlation between therapeutic alliance satisfaction and VCT satisfaction were not significant,  $\rho(17) = .33$ ,  $p = .17$ . Therefore, the hypothesis that there is a positive relationship between therapeutic alliance satisfaction and VCT satisfaction was rejected. Spearman's correlation between technical quality satisfaction and VCT satisfaction was significant,  $\rho(17) = .55$ ,  $p = .016$ . This indicates that there is a positive relationship between

technical quality satisfaction and VCT satisfaction. Therefore, the hypothesis that there is a relationship between technical quality satisfaction and VCT satisfaction was accepted. Sample sizes, means, and Spearman's correlation coefficients are shown in Table 3.

Table 3

*Sample Sizes, Means, Standard Deviations, and Spearman's Correlation Coefficients of the Interview Likert Scales.*

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3
1. VCT satisfaction	19	4.89	1.88	-		
2. Therapeutic alliance satisfaction	20	6.60	0.82	.33	-	
3. Technical quality satisfaction	19	5.26	1.52	.55*	.31	-

*Note.* VCT = Videoconferencing therapy.

\*  $p < .05$ .

## Discussion

The aim of this study was to assess the relationship between clinical and demographic factors and trauma-exposed patients' VCT satisfaction during the COVID-19 pandemic. The present main findings suggest that patients are somewhat satisfied with VCT, with a mean of 6.35 on a 10-point Likert scale. In 2019 the overall treatment, which was mostly FT, satisfaction reported by patients was 8.01, which is higher (Ter Heide et al., in press). Although VCT satisfaction score is lower compared to FT satisfaction, being somewhat satisfied could still be sufficient for an alternative to FT.

### Main outcomes

Against the expectations, no significant relationship between perceived symptom change and VCT satisfaction was found. The findings contradict findings of several studies. Quality of care is a factor of patient's satisfaction, with clinical outcome as a key element, and symptom change is an element of clinical outcome (Druss et al., 1999; Edlund et al., 2003; Kilbourne et al., 2018). This suggests that symptom change impacts patients' satisfaction. But,

findings of the current study suggest that perceived symptom change does not affect VCT satisfaction or vice versa. This indicates that both patients that perceived symptom change and patients that did not perceived symptom change could be satisfied with VCT.

Likewise against the expectations, no significant negative relationship between general symptom severity and VCT satisfaction was found. Findings of Topooco et al. (2017) showed that VCT is less effective for severe symptoms than for mild symptoms. This indicates that VCT for severe symptoms results in less beneficial clinical outcomes. As described above, clinical outcome affects patients' satisfaction and therefore it suggests lower VCT satisfaction for severe symptoms than for mild symptoms. However, findings are substantiated by Ahern et al. (2018) in which there was no relationship found between symptom severity and VCT effectivity. Present findings suggest that VCT can be offered for both mild and severe symptoms, without negative consequences for satisfaction.

Against the expectations, a significant relationship between gender and VCT satisfaction was found. In the current study, women were more satisfied with VCT than men. However there is limited research on the relationship between gender and VCT satisfaction, Blenkiron and Hammill (2003) did not find a relationship between gender and FT satisfaction. On the other hand, according to Backhaus et al. (2012) it is possible that gender influences feelings of alliance or comfort with the technology generally, but there is limited research on this topic. Although present findings suggest that women are more satisfied with VCT than men, both genders are somewhat satisfied. This indicates that VCT could be offered to both women and men.

In line with the expectations, no significant relationship between age and VCT satisfaction was found. There is no research found on the relationship between age and VCT satisfaction, but the literature indicated that there is no relationship between age and FT satisfaction (Blenkiron & Hammill, 2003). Findings of the current study suggest that age does



not affect the VCT satisfaction. In clinical practice, this means that VCT could be offered independent of age.

### **Exploratory outcomes**

During the interviews, additional quantitative data about VCT satisfaction, therapeutic alliance satisfaction, and technical quality satisfaction were collected. The interview sample was too small for quantitative analyses, and therefore the data were analyzed exploratively (Kotrlik & Higgins, 2001). The most interesting result is the high therapeutic alliance satisfaction mean score. This indicates the possibility of creating a good therapeutic alliance using VCT. However, contrary to the hypothesis, therapeutic alliance satisfaction seemed not to be related to VCT satisfaction. In addition, there was a positive relationship between technical quality satisfaction and VCT satisfaction, which is in line with the expectations. Also, the VCT satisfaction mean score is equal to the main outcomes. The exploratory outcomes show promising results, but further research with larger sample sizes is necessary to make statements about the relationships.

### **Strengths and limitations**

The current study knows several strengths. Firstly, the participants consisted of an ethnically diverse group, with a range of trauma backgrounds and a sufficient sample size (Kotrlik & Higgins, 2001). Besides that, the current study's response rate was high (64.5%). In addition, the BSI is known to be a reliable and valid questionnaire and therefore a good measuring instrument. Lastly, both the main outcomes and the exploratory outcomes are relevant due to the increased VCT use caused by the COVID-19 pandemic.

On the other hand, it is possible that several limitations of the current study have contributed to the unexpected findings. First, the variable perceived symptom change was assessed on a nominal 3-point scale. Therefore, it was impossible to assess the degree of symptom change and dummy variables were necessary. It is desirable to assess perceived

symptom change in more detail, for example by using repeated measures. Second, it is expected that the patients who filled out the assessment were more motivated than the patients who refused to fill out the assessment. This could have a negative impact on the generalizability of the findings. Last, COVID-19 related stressors, such as fear of infection, were not taken into account.

### **Recommendations**

For future research it is desirable to measure symptom change in more detail on the basis of repeated measures. In addition, the sample of the current study were patients suffering from trauma and stress-related disorders. Therefore, it might be interesting to examine the VCT satisfaction of patients suffering from different disorders. Furthermore, the present study focused only on VCT satisfaction, while for future research it is interesting to compare VCT satisfaction with FT satisfaction. Also, for future research it is recommended to pay attention to COVID-19 related stressors. According to Sher (2020), the COVID-19 pandemic is associated with among other things anxiety, depression, and distress. Therefore, it is important to examine whether the stressors impact patients' VCT satisfaction or not. Also, it might be interesting to conduct more research on the relationship between additional demographic variables (e.g. nationality and socioeconomic status) and VCT satisfaction. In addition, the explorative results of the current study have laid a foundation to examine the relationship between the therapeutic alliance satisfaction and technical quality satisfaction, and VCT satisfaction. Therefore, it is important for future research to use sufficient sample sizes and more detailed questions about both variables.

### **Conclusion**

In conclusion, although most of the findings deviated from expectations based on the used literature, they are still relevant and of interest. In general, patients were somewhat satisfied with VCT and according to the literature VCT effectiveness is high. This indicates that

VCT is a sufficient alternative to FT, even though FT satisfaction is higher. In addition, perceived symptom change, symptoms severity, and age does not affect patients' VCT satisfaction. Women tend to be more satisfied with VCT than men, but both genders are somewhat satisfied. Based on the literature and the relevant findings, careful continuation of VCT for trauma and stress-related disorder during the COVID-19 pandemic is recommended; regardless of symptom change, symptom severity, and demographic variables. Also, current findings suggest that creating a sufficient therapeutic alliance using VCT is possible. Lastly, findings suggest that technical quality satisfaction affects VCT satisfaction. The findings are of relevance and interest, and can serve as a foundation for further research.

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## Appendix A

### *Onderzoek naar betekenisgeving en behandeling tijdens de coronacrisis*

## INFORMATIEBRIEF

Diemen/Oegstgeest, 14-12-2020

Geachte heer/mevrouw,

Met deze informatiebrief willen we u graag uitleg geven over een onderzoek waar u wellicht aan wilt deelnemen.

### **Klachtenmeting juni 2020**

Begin juni heeft u een extra klachtenmeting ingevuld. Deze meting was erop gericht de behandelaren van ARQ Centrum'45 meer inzicht te geven in het welzijn van hun patiënten tijdens de coronacrisis, en in hun gebruik van en tevredenheid over online behandeling. In het onderzoek heeft u aangegeven dat wij u zouden mogen benaderen voor aanvullende vragen.

### **Interview**

Graag zouden wij u een aantal aanvullende vragen stellen over hoe u de coronacrisis tot nog toe ervaart en hoe u uw behandeling tijdens de coronacrisis ervaart. Het beantwoorden van deze vragen gebeurt tijdens een interview dat maximaal 45 minuten beslaat. Uw antwoorden worden gebruikt door de behandelaren en onderzoekers van ARQ Centrum'45 om meer te leren over het effect van de coronacrisis op patiënten van ARQ Centrum'45 en om de behandeling te verbeteren.

### **Privacy**

Alle onderzoeksgegevens worden strikt vertrouwelijk verwerkt en beveiligd opgeslagen op de servers van ARQ Centrum'45. In overeenstemming met de richtlijnen van de Vereniging van Universiteiten (VSNU) en de Europese privacywetgeving zullen wij alle geanonimiseerde data minstens 10 jaar opslaan. Voor meer informatie over uw privacy kunt u de website van de Autoriteit Persoonsgegevens raadplegen:

<https://autoriteitpersoonsgegevens.nl/nl/onderwerpen/avg-europese-privacywetgeving>.

### **Stopzetten deelname**

Deelname aan dit onderzoek is geheel vrijwillig en u kunt uw deelname op ieder moment stoppen, zonder opgave van redenen en zonder gevolgen. Indien u klachten heeft over dit onderzoek, kunt u deze mailen naar de klachtenfunctionaris via [klachtenfunctionaris-fetcsocwet@uu.nl](mailto:klachtenfunctionaris-fetcsocwet@uu.nl).

### **Contact**

Graag nemen wij in de loop van deze week contact met u op om te horen of u aan het onderzoek deel wilt nemen. Als u aan het onderzoek deel wilt nemen, zullen wij een afspraak met u maken voor het interview en zullen wij u vragen een formulier te tekenen waarin u toestemming geeft voor het gebruik van uw antwoorden voor wetenschappelijk onderzoek.

Mocht u al eerder zelf contact met ons willen opnemen dan kunt u een e-mail sturen naar [j.ter.heide@arq.org](mailto:j.ter.heide@arq.org).

Wij danken u bij voorbaat heel hartelijk voor uw medewerking.

Met vriendelijke groet,

Dr. Jackie June ter Heide,  
klinisch psycholoog/psychotherapeut

Dr. Simone de la Rie,  
klinisch psycholoog/psychotherapeut

## Appendix B

### *Onderzoek naar betekenisgeving en behandeling tijdens de coronacrisis*

#### TOESTEMMINGSVERKLARING

Om uw gegevens (antwoorden) officieel te mogen gebruiken voor ons onderzoek, is het noodzakelijk dat u hiervoor schriftelijk toestemming geeft.

Als u ermee akkoord gaat dat uw gegevens worden gebruikt voor onderzoek, dan verzoeken wij u om deze toestemmingsverklaring in te vullen. U dient weliswaar persoonlijke gegevens in te vullen, maar die gegevens worden niet gebruikt bij de verwerking van de gegevens. Uw gegevens worden dus anoniem verwerkt.

- Ik verklaar hierbij dat ik op de hoogte ben van het doel van het onderzoek “Betekenisgeving en behandeling tijdens de coronacrisis” van dr. Jackie June ter Heide, dr. Simone de la Rie, en prof. dr. Trudy Mooren van de Universiteit Utrecht.
  - Ik heb de informatiebrief gelezen.
  - Ik ga ermee akkoord dat de antwoorden die ik heb gegeven anoniem verwerkt worden in het onderzoek en 10 jaar worden bewaard.
- 
- Ik weet dat deelname aan dit onderzoek vrijwillig is, en ik kan mijn toestemming voor deelname op ieder gewenst moment, zonder opgaaf van reden intrekken.

Naam:

Adres:

Postcode:

Woonplaats:

Datum:

E-mailadres:

## *Onderzoek naar betekenisgeving en behandeling tijdens de coronacrisis*

### **TOESTEMMINGSVERKLARING AUDIO OPNAME**

Voor dit onderzoek willen wij graag een interview afnemen waarbij we vragen zullen stellen over betekenisgeving en behandeling tijdens de coronacrisis.

Om de interviews goed uit te kunnen werken, willen wij u vragen of u ermee akkoord gaat dat het gesprek wordt opgenomen met ofwel een beeldbelprogramma, ofwel een audiorecorder. Nadat de gesprekken op de computer zijn uitgewerkt, zullen de opnames direct verwijderd worden.

Als u ermee akkoord gaat dat het interview wordt opgenomen, dan verzoeken wij u om deze toestemmingsverklaring in te vullen.

- Ik ga ermee akkoord dat het interview wordt opgenomen en na uitwerking gewist zal worden.
- Ik weet dat deelname aan dit onderzoek vrijwillig is, en ik kan mijn toestemming voor deze opname op ieder gewenst moment, zonder opgaaf van reden intrekken.

Naam:

Adres:

Postcode:

Woonplaats:

Datum:

E-mailadres:

Semi-structured interview

## Appendix C

<p><i>Introductie:</i></p>
<p><i>Voorstellen:</i></p> <p>(...) en ik studeren klinische psychologie aan de Universiteit Utrecht. Samen met ARQ Centrum '45 willen wij de tevredenheid over het online behandelen tijdens de Corona crisis in kaart brengen. U heeft in juni een vragenlijst over de behandeling ingevuld, daar zijn wij u erg dankbaar voor.</p> <p><i>Het interview:</i></p> <p>In dit gesprek willen wij dieper op een aantal onderwerpen ingaan. Wij stellen u een aantal vragen over uw beleving van de coronacrisis en over uw behandeling tijdens de coronacrisis. Dit zal in totaal 30 tot 45 minuten duren.</p> <p><i>Toestemming + anonimiteit:</i></p> <p>Zou u willen tekenen voor het gebruik van uw antwoorden voor wetenschappelijk onderzoek? Als ik uw toestemming hiervoor heb, zou ik graag dit interview opnemen. Dan kan ik na afloop uw antwoorden rustig uitwerken. Daarbij wil ik benadrukken dat alle gegevens volledige anonimiteit blijven en worden opgeslagen op de servers van ARQ Centrum '45. Nadat ik de interviews uitgetypt heb, worden de opnames gewist. Bent u daarmee akkoord? Zou u dan dit formulier willen tekenen?</p>
<p><i>Algemene vragen:</i></p>
<p><b>Dan wil ik nu graag met de vragen beginnen. Hoe ervaart u tot nog toe de Corona crisis?</b></p> <ol style="list-style-type: none"> <li>Positief getest (zelf of directe omgeving); quarantaine; ziekte</li> <li>Klachten (denk aan angst/stress)</li> <li>Maatregelen (denk aan isolement/eenzaamheid/aantal prikkels)</li> <li>Informatie vanuit (sociale) media</li> </ol> <p>Likertschaal van 1 tot en met 7 (1 = niet stressvol, 7 = zeer stressvol)</p>
<p><b>Hoe ervaart u de behandeling tijdens de Corona crisis?</b></p> <ol style="list-style-type: none"> <li>Heeft u tijdens de Corona crisis face-to-face behandeling gehad?</li> <li>Welke soorten onlinebehandeling heeft u gehad?</li> </ol>
<p><i>Indien patiënt gebruik heeft gemaakt van beeldbellen:</i></p>

**Hoe heeft u het beeldbellen ervaren?**

- a. Technische mankementen (kwaliteit, toegankelijkheid etc.)
- b. Voor- en nadelen (praktische en inhoudelijk)
- c. Traumatische ervaring thuis bespreken (is dit gebeurd en hoe was dit?)
- d. Therapeut niet fysiek aanwezig, spannender of minder spannend?
- e. Omgeving + privacy
- f. Tips

Likertschaal algemene ervaring beeldbellen 1 tot en met 7 (1 = niet tevreden, 7 = zeer tevreden)

*Indien patiënt gebruik heeft gemaakt van online modules:*

**Hoe heeft u het gebruik van modules ervaren?**

- a. Technische mankementen (inloggen, toegankelijkheid etc.)
- b. Voor- en nadelen (praktisch en inhoudelijk)
- c. Omgeving + privacy
- d. Begeleiding
- e. Tips

Likertschaal algemene ervaring modules 1 tot en met 7 (1 = niet tevreden, 7 = zeer tevreden)

*Indien patiënt zowel face-to-face behandeling als online heeft gehad:*

**Wat zijn voor u de belangrijkste verschillen?**

- a. Voor- en nadelen?

*Vragen gericht op de therapeutische relatie:*

**Hoe zou u de relatie met uw therapeut omschrijven tijdens de coronacrisis?**

- a. Veranderd ten opzichte van face-to-face.
- b. Betrokkenheid
- c. Vertrouwensband

Likertschaal algemene relatie 1 tot en met 7 (1 = niet tevreden, 7 = zeer tevreden)

*Vragen gericht op de techniek in het algemeen:*

**Hoe heeft u de gebruikte techniek over het algemeen ervaren?**

- a. Hulp bij vragen
- b. Kwaliteit
- c. Mankementen (hoe zijn deze opgelost?)
- d. Updates

Likertschaal algemene techniek 1 tot en met 7 (1 = niet tevreden, 7 = zeer tevreden)

### *Afsluitfase:*

#### *Tips en aanbevelingen:*

Ik denk dat wij richting het einde van dit gesprek zijn gekomen. Ik vroeg mij af of er nog onderwerpen niet besproken zijn, die u wel graag wil bespreken?

Zo ja, welke?

Zo nee, heeft u nog tips of aanbevelingen voor ons?

#### *Advies:*

Tot slot vroeg ik mij af wat voor advies u anderen zou geven voor het omgaan met coronastress, aangezien u ervaring heeft met langdurige blootstelling aan stress?

#### *Hoe was het interview voor u?*

Wat gaat u hierna doen? (als patiënt spanning heeft)

Wil u eventueel nog contact met uw behandelaar? (indien ja: doorgeven aan behandelaar).

#### *Bedanken:*

Ik wil u graag bedanken voor uw tijd en openheid en u een fijne dag wensen!