

## PERITRAUMATIC FACTORS AND POSTTRAUMATIC SYMPTOMS IN CHILD SEXUAL ABUSE CASES

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**Key words:** child sexual abuse, trauma, peritraumatic distress, peritraumatic dissociation, posttraumatic reactions.

### Summary

Health and legal professionals are aware of adverse effects child sexual abuse (CSA) can have on child development as well as the individual differences in severity of psychological outcomes. The objective of this pilot study was to identify possible explanations that could account for the CSA psychological outcome variability and give insights for further research. A sample of 25 Russian speaking girls by the decision of the person directing the proceedings were recognized as CSA victims and were assigned to psychological or complex psychiatric and psychological expert examination. During examination demographical data was collected and several self-report measures regarding peritraumatic and posttraumatic experiences were applied. Correlation analysis revealed that the only demographical characteristic associated with posttraumatic symptoms (familiarity with abuser, type of abuse, age at onset of abuse, time after last episode) was age at onset of abuse. Peritraumatic measures overall were associated with all of the posttraumatic symptoms and stepwise regression analysis showed that age at onset of abuse and peritraumatic experiences explained nearly 50% of variation of several posttraumatic symptoms. Further research directions are discussed.

### Introduction

Depending on vagueness of CSA definitions, approximately 5% - 50% people have suffered from it [1]. Latvian Protection of the Rights of the Child Law [2] states that “CSA is the involving of a child in sexual activities that the child does not understand or to which the child cannot knowingly give consent”. Child involvement in sexual activities can result in

various short and long-term psychological and psychiatric effects [3] which are not always severe enough for clinical diagnosis [4]. Contraintuitively, some authors mention that nearly 40% of CSA victims can be asymptomatic [5]. While majority of researchers tend to ignore asymptomatic victims and pay more attention to detected consequences, others try to explore differences between the two [6]. Recently factors affecting severity of CSA consequences have been analyzed in the framework of pretraumatic, peritraumatic and posttraumatic context [7] especially focusing on peritraumatic dissociation and peritraumatic distress [8].

Peritraumatic distress includes negative affect and arousal of sympathetic nervous system during trauma or shortly after [9]. Peritraumatic dissociation is experience of dissociative symptoms (mainly depersonalization and derealization) during trauma or shortly after [10]. Several studies have shown link between the two peritraumatic variables and severity of posttraumatic consequences [11-13]. Also, there are several crucial demographical and sexual abuse related risk factors that can influence psychological symptom severity [14] of whom victim age at onset of abuse, familiarity with abuser (known/unknown), type of sexual abuse (with/without physical contact) and time after last abuse (more/less than 6 months) will be included in current study.

**The aim of the study** was to practically explore previously made theoretical assumptions that peritraumatic factors (dissociation and distress) are linked with severity of posttraumatic consequences and could interplay with several demographical and abuse related variables. In order to achieve the goal, two research questions were made: (1) which of demographical and abuse related variables are associated with peritraumatic dissociation and distress and posttraumatic consequences? (2) When adjusting for demographical and abuse related variables, is peritraumatic distress and peritraumatic dissociation significantly related to posttraumatic symptoms?

## Methods

A sample of 25 Russian speaking girls aged 9–15 years ( $M = 12,20$ ,  $SD = 1,61$ ) by the decision of the person directing the proceedings were recognized as CSA victims. Victim age at first episode of abuse ranged from 9–15 years ( $M = 11,40$ ;  $SD = 1,57$ ). All abusers were male aged 16–59 years ( $M = 38,44$ ;  $SD = 12,73$ ) – 15 were known to victim 10 were strangers. In 8 cases assessment was made less than 6 months after last abuse episode and 17 cases were assessed more than 6 months later. Also 9 children were victims of contact sexual abuse and 16 were abused without physical contact.

Measures applied in the study included: (1) Trauma symptom checklist for children (TSCC) [15] a 54 item post-traumatic symptom self-report. Each item is scored from 0 (never) to 3 (almost all of the time). TSCC contains 6 subscales: anxiety, depression, posttraumatic stress, sexual concerns, dissociation and anger. (2) Peritraumatic Dissociative Experiences Questionnaire (PDEQ) [10] is 10-item self-report scale measuring peritraumatic dissociation (e.g., depersonalization, derealization). Each item is scored from 0 (not at all true) to 4 (extremely true). Peritraumatic Distress Inventory (PDI) [9] is a 13-item self-report measuring pe-

ritraumatic distress (e.g., sadness, helplessness, sweating). Each item is scored from 0 (not at all true) to 4 (extremely true). Information about demographical and abuse related variables was obtained during semi-structured interview which included questions regarding familiarity with abuser, type of sexual abuse, time after last abuse etc.

Data were gathered during psychological or complex psychiatric and psychological expert examination. Procedure included semi-structured interview with the child, which was followed by the PDI, PDEQ and TSCC. Data analysis was made applying IBM SPSS Statistics version 20.

## Results

Before correlational analysis, tests of normality were carried out using Kolmogorov-Smirnoff test with Liliefors correction [16] as a result normal distribution was violated in PDEQ ( $D = 0,22$ ,  $p = 0,01$ ) and TSCC anger ( $D = 0,21$ ,  $p = 0,02$ ) and sexual concern ( $D = 0,21$ ,  $p = 0,02$ ) subscales. Further analysis regarding scales mentioned above included nonparametric tests. Descriptive statistics and Cronbach alpha coefficients are displayed in Table 1. As can be seen from Table 1, internal consistency coefficients are appropriate for further statistical analysis. On average from all the TSCC scales only posttraumatic stress was significantly elevated ( $T=68$ ).

In order to answer (1) research question: which of demographical and abuse related variables are associated with peritraumatic dissociation and distress and posttraumatic consequences? Pearson, Spearman and Point-Biserial correlation analysis was made (Table 1). It can be seen, that peritraumatic distress is significantly associated with peritraumatic dissociation and all TSCC subscales (anxiety, depression, anger, posttraumatic stress, dissociation, sexual concerns). Peritraumatic dissociation is associated with TSCC subscales – posttraumatic stress, depression and dissociation. From demographical and sexual abuse related variables significant correlations were found only between victim age at onset of abuse with depression, dissociation and sexual concern subscales. Taking into account that no other demographical or

abuse related variable was significantly related to peritraumatic or posttraumatic symptoms, they were excluded from further analysis [17] and research questions.

In order to answer (2) research question: when adjusting for victim age at onset of abuse, is peritraumatic distress and peritraumatic dissociation significantly related to posttraumatic

**Table 1.** Descriptive statistics and internal consistency coefficients.

<sup>1</sup> – TSCC average T values

	T values <sup>1</sup>	M	SD	$\alpha$
Peritraumatic distress		16,43	8,58	0,79
Peritraumatic dissociation		17,78	7,08	0,84
Anxiety	59	8,50	4,75	0,71
Depression	56	8,29	5,62	0,84
Anger	58	6,29	4,14	0,75
Posttraumatic stress	68	9,67	5,48	0,82
Dissociation	55	5,96	4,49	0,80
Sexual concerns	50	3,46	3,82	0,75

**Table 2.** Correlational matrix

Notes: TSCC subscales: Anx-anxiety, Dep-depression, Ang-anger, Pts-posttraumatic stress, Dis-dissociation, Sex-sexual concerns; PDiso-peritraumatic dissociation, PDist-peritraumatic distress; Age 1<sup>st</sup> ep. – age at onset of abuse.

\*\* -  $p < 0,01$ ; \* -  $p < 0,05$

	Anx	Dep	Ang	Pts	Dis	Sex	PDiso	PDist
PDiso	0,05	0,50**	0,34	0,40*	0,65*	0,35	1	
PDist	0,55**	0,47*	0,67**	0,53**	0,49*	0,59**	0,59**	1
Age 1 <sup>st</sup> ep.	0,26	0,47*	0,16	0,2	0,37*	0,65*	0,32	0,27
Familiarity	-0,26	-0,05	-0,12	-0,1	0,01	-0,11	0,12	-0,17
Contact	0,04	0,01	-0,06	-0,2	-0,07	0,16	-0,2	0,05

symptoms? Six separate stepwise regression analysis were carried out for each of TSCC subscale. At first step one of the TSCC subscales was entered as dependent variable and victim age at onset of abuse as independent variable. At second step peritraumatic distress and peritraumatic dissociation were added as independent variables.

When anxiety was added at first step as dependent variable, there was no significant association with victim age at onset of abuse  $F(1,20) = 1,39, p = 0,25$ . After peritraumatic distress and dissociation were added at second step, they significantly improved associations with dependent variable ( $\Delta R^2 = 0,35, p < 0,05$ ),  $F(2,17) = 4,12, p = 0,02$ . Peritraumatic distress has a significant association in relation with anxiety ( $\beta = 0,73, p < 0,01$ ). Model altogether explains 42% of anxiety symptom variation. There was a significant association between depression and independent variable  $F(1,23) = 5,46, p = 0,03$ , but after peritraumatic distress and dissociation were added at second step, they did not significantly improve the model  $F(2,21) = 4,48, p = 0,20$ . Altogether model explains 34% of depression symptom variation. Anger was not significantly associated with victim age at onset of abuse  $F(1,23) = 0,53, p = 0,47$  and when peritraumatic distress and dissociation were added at second step, they did not significantly improve associations with dependent variable  $F(2,21) = 1,91, p = 0,15$ . When posttraumatic stress was added at first step as dependent variable, there was no significant association with independent variable  $F(1,23) = 0,80, p = 0,39$ , but after peritraumatic distress and dissociation were added at second step, they significantly improved associations with dependent variable ( $\Delta R^2 = 0,41, p < 0,01$ ),  $F(2,21) = 4,55, p = 0,02$ . Peritraumatic distress has a significant association in relation with posttraumatic stress ( $\beta = 0,66, p = 0,01$ ). Model altogether explains 44% of posttraumatic stress symptom variation. At first step dissociation was not significantly associated with victim age at onset of abuse  $F(1,23) = 3,18, p = 0,09$ . After peritraumatic distress and dissociation were added at second step, they significantly improved associations with dependent variable ( $\Delta R^2 = 0,34, p < 0,01$ ),  $F(2,21) = 5,50, p = 0,07$ . Peritraumatic dissociation has a significant association in relation with persistent dissociation ( $\beta = 0,48, p = 0,04$ ). Model altogether explains 47% of persistent dissociation symptom variation. Lastly, sexual concerns were significantly associated with independent variable  $F(1,23) = 14,23, p = 0,01$ . After peritraumatic distress and dissociation were added at second step, they did not significantly improve associations with dependent variable ( $\Delta R^2 = 0,11, p < 0,20$ ). Victim age at onset of abuse has a significant value in relation with sexual concerns ( $\beta = 0,57, p = 0,05$ ). Model altogether explains 53% of sexual concern variation.

## Discussion

The aim of this study was to test theoretical assumptions that peritraumatic experience (distress and dissociation), demographical and sexual abuse related variables are associated with CSA symptom severity.

In order to identify correlations between demographical and abuse related variables, peritraumatic experiences (dissociation and distress) and posttraumatic consequences Pearson, Spearman and Point-Biserial correlation analysis was made (Table 1). The only significant symptom association was between victim age at onset of abuse, which is in line with previous research conclusions [18] that older victims are more cognitively matured and can better understand meaning of sexual abuse which, for example, in turn can lead to negative attributional styles, rumination that can result in more severe depression symptoms [19]. Other variables – familiarity, type of contact, time after last abuse were not significantly associated with other measures and are contrary to recently conducted studies [7]. More likely that lack of associations is due to statistical limitations – small sample size, uneven subgroups [16], but this assumption should be tested in more homogenous and extended sample.

It was found, that adjusting for victim age at onset of abuse, peritraumatic distress and peritraumatic dissociation were significantly associated with anxiety, posttraumatic stress and dissociation. It is suggested elsewhere, that peritraumatic arousal of sympathetic nervous system intensifies emotionally charged experience storage in long term memory and feelings of fear [11]. It is called peritraumatic reactivity – a process during trauma that leads to hyperactivation of amygdala and other paralimbic structures on one hand and insufficient activation of prefrontal cortex on the other, which can lead, for example, to PTSS hyperarousal symptoms [20]. Peritraumatic reactivity possibly could account for relations found between peritraumatic distress and peritraumatic dissociation with anxiety and PTS symptoms. On the other hand peritraumatic distress and peritraumatic dissociation are related differently with persistent dissociation symptoms. Peritraumatic dissociation has similar neural basis with peritraumatic distress (autonomic nervous system), but contrary to peritraumatic distress when sympathetic nervous system is activated – parasympathetic nervous system takes over [21]. Some suggest, that peritraumatic dissociation reflects sudden, adaptive reaction to trauma (a defense mechanism against peritraumatic distress) which can transform to persistent dissociation [22]. Also it is hard to draw a line where peritraumatic dissociation ends and persistent dissociation begins, so it is plausible that the two will be related.

Several other findings include that peritraumatic distress and dissociation did not significantly improve regression

model regarding depression symptoms, thus it can be speculated that depression symptoms are more dependent on posttrauma experience, for example, negative attributional styles, rumination etc. [19]. Peritraumatic experience (distress and dissociation) did not significantly improve regression model associated with sexual concerns, but victim age at onset of abuse had significant impact on associations with sexual concern symptoms, which can reflect that the older victims have more sexual knowledge, possibly, leading to engagement in sexual behavior [18]. Regression analysis did not show significant associations between anger and victim age at onset of abuse alone nor when peritraumatic distress and peritraumatic dissociation were added at second step. This could be due to fact that anger as posttraumatic consequences arises if the trauma is violent [23], but current sample had only 9 cases when there was sexual abuse with physical contact.

### Conclusion

Peritraumatic distress is significantly associated with peritraumatic dissociation and all TSCC subscales (anxiety, depression, anger, posttraumatic stress, dissociation, sexual concerns). Peritraumatic dissociation is associated with TSCC subscales – posttraumatic stress, depression and dissociation. From demographical and sexual abuse related variables significant correlations were found only between victim age at onset of abuse with depression, dissociation and sexual concern subscales. Regression model including age at onset of abuse, peritraumatic dissociation and peritraumatic distress explains nearly 50% of variation of anxiety, PTS and persistent dissociation symptoms. These findings suggest that peritraumatic experience could be valuable in explaining individual posttraumatic differences and also could shed light on mechanisms of posttraumatic reaction formation including asymptomatic children. It should be noted, however, that current pilot study has significant limitations regarding statistical procedures (small sample size, small and heterogeneous subgroups) which restricts any generalization of current results. In overcoming limitations mentioned, future research should focus on larger and more homogenous samples. If similar research complements results above, then peritraumatic experience potentially could improve psychological and psychiatric expert examinations dealing with CSA consequence questions.

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### **PERITRAUMATINIAI FAKTORIAI IR POSTTRAUMATINIAI SIMPTOMAI VAIKŲ SEKSUALINĖS PRIEVARTOS ATVEJ AIS**

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**Raktažodžiai:** seksualinė prievarta prieš vaikus, trauma, peritrauminis stresas, peritrauminė disociacija, postrauminės reakcijos. Santrauka

Sveikatos ir teisės specialistai supranta vaikų seksualinės prievartos neigiamą poveikį vaiko vystymuisi bei individualius sunkių psichologinių pasekmių skirtumus. Šio bandomojo tyrimo tikslas buvo nustatyti galimus paaiškinimus, kurie galėtų būti susiję su seksualinės prievartos psichologinio rezultato kintamumu ir pateikti išvalgas tolesniems tyrimams. Buvo atrinktos 25 rusakalbės merginos, kurios, vadovaujantis teismo sprendimu, buvo pripažintos seksualinės prievartos aukomis ir kurioms buvo priskirta psichologinė ar kompleksinė psichiatrinė ir psichologinė ekspertizė. Tyrimo metu buvo renkami demografiniai duomenys ir buvo taikyti keli savistabos klausimynai apie peritraumines ir postraumatinę patirtį. Duomenų palyginamoji analizė parodė, kad vienintelė demografinė charakteristika, susijusi su postrauminiais simptomais (prievartautojo pažinėjimas, prievartos rūšis, amžius prievartos pradžioje, laikas nuo paskutinio epizodo) buvo aukos amžius, prasidėjus prievartai. Bendri peritrauminiai rodikliai buvo susiję su visais postrauminiais simptomais, ir laipsniškos regresijos analizė parodė, kad aukos amžius, prasidėjus prievartai ir peritrauminė patirtis buvo susijusi su beveik 50% postrauminių simptomų variantų. Numatomos tolesnės šio tyrimo kryptys.

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