



Review Article

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Mothers with a History of Childhood Abuse Show Significant Bonding Impairments Towards their Infant



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Abstract

Maternal history of abuse has been proposed as a risk factor for child maltreatment but the background of this "cycle of abuse" is as yet poorly understood. As a contribution towards a deeper understanding of this phenomenon, this study analyzed whether maternal bonding is altered by maternal experiences of physical or sexual abuse during their upbringing. To form the index group, women who reached a cut-off for severe sexual and/or physical abuse in the Childhood Trauma Questionnaire and whose children were term babies with APGAR-Scores >7 were included in the study. Maternal bonding was compared with a group of mother-infant pairs matched for infant gender, maternal education, marital status, number of infants and birth weight. The results show that 12-month postnatal mothers with a history of physical or sexual abuse show a significant impairment of bonding towards their children. No impact of maternal abuse on child cognitive, motor and behavioral development in the first year was found. Impaired bonding patterns in mothers with a history of abuse should be considered as a potential risk factor for the offspring as well as for the future mother-infant relationship.

Keywords: Sexual abuse; Physical abuse; Child development; Mother-infant bonding; Child abuse

Introduction

Mother-infant bonding received scientific attention several decades ago [1] and its immense significance for child development has since then been frequently reproduced [2,3]. Social support and early contact have been described to promote mother-infant bonding. The methodology to assess mother-infant bonding however has been heterogeneous: video-observations [4] as well as clinical reports [5] are in use. In general intergenerational transmission of psychosocial risk can be regarded as a considerable threat to child development [6].

A parental history of childhood physical or sexual abuse is one of the most challenging factors for physical or sexual abuse of the offspring [7]. Mothers exposed to physical or sexual abuse in childhood are described in the literature as frequently closing the intergenerational cycle of violence either by maltreating their children or by becoming a victim and turning their children into perpetrators. Prevalence of a history of sexual abuse among young women is reported to be between 13% [8] and 25% [9]. The numbers for physical abuse range from about 13% [8] to 40% [9]. To date, little is known about the mechanisms involved in the intergenerational transmission of abusive experiences. It has been proposed [10] that a general disturbance of empathy keeps former victims of violence from taking the child's perspective, thereby impairing parental perception of the child's needs. Projective

distortions in relation to offspring have been postulated [10] as well as impairment of intrafamilial communication [11,12]. A recent three-generational study reported that approximately 50% of abused parents transmit a history of abuse to their offspring [13]. A parental history of abuse seems to be not a mandatory but a likely condition for child maltreatment.

Some authors [14] have stressed the importance of maternal postnatal depression or psychosocial factors when determining the risk of abuse. Also, it has been found that abused mothers rarely identify their infants' emotional signals correctly [15], and their empathic responsiveness and affective reactivity have been shown to be lowered [16]. As psychophysiological hyperactivity is a frequently described consequence of trauma [17,18] hyperreactivity towards the infant might be postulated to play a role in the cycle of abuse. In general, background and development of early relational disturbance caused by a maternal history of abuse is as yet poorly understood. Observation and analysis of mother-infant interaction in critical dyads can and should be applied as an useful tool to identify early risk factors. Analysis of an abused mother's behavior and attitudes towards her own infant contributes to prevention and treatment of pervasive and severe interactional disturbances. Several studies have emphasized the importance of attachment disturbance for mediation of the

intergenerational cycle of abuse [19,20]. Engfer and Gavranidou [21] described less maternal sensitivity in the neonatal period in mothers who were later found to abuse their infants. Insecure infant attachment has been shown to be associated with lower maternal sensitivity [22]. In order to analyze the question whether maternal bonding is involved in the intergenerational transmission of abusive experiences, we studied a sample of 58 mothers with a history of abuse in comparison to 61 mothers without such experiences.

Method

Participants

From October 2004 until February 2006 all women giving birth to a child in the cities of Heidelberg and Mannheim, Germany, were contacted by mail and presented with the Childhood Trauma Questionnaire (CTQ) [23,24]. Women whose children were singleton term babies (>37th week) with Apgar-Score >7 were eligible for participation in the study. Twins and infants <2500g were excluded. Mothers who reached a cut-off-score for sexual and/or physical abuse were contacted and included in the study to form the index group. The control group was formed by matching mothers with none reported physical or/and sexual abuse experiences. Matching criteria-ordered in priorities -were: child gender, marital status, maternal education and number of children.

Study design

Mothers above the cut-off scores of the Childhood Trauma Questionnaire for physical and/or sexual abuse were invited for a laboratory visit with assessment of maternal bonding when their infants were five and 12 months old. Control mothers with a score of 0 on the physical and/or sexual abuse scale were matched according to infant gender, marital status, maternal education and number of children. The subjects were seen in the laboratory when the infant was five and again when it was 12 months of age. Pre- and perinatal data were documented before the assessment and infant health status was assessed. Mothers brought their infants to the laboratory during daytime, when their infants were alert, fed, and rested. All examiners were blinded with regard to maternal history or non-history of abuse.

Measures

Postpartum bonding

Maternal Bonding was assessed with the Postpartum Bonding Questionnaire. This questionnaire is designed by Brockington et al. [25] and has since been frequently applied to assess early disturbances in maternal bonding patterns. It consists of 25 items and has proven good test-retest reliability. The German version was created by translation and re-translation through officially licensed translators.

Screening procedure and definition of abuse

The history of physically or sexually abusive life experiences was assessed by the German version [24] of the Childhood Trauma Questionnaire (CTQ), developed by Bernstein and Fink

[23]. The CTQ has demonstrated strong psychometric properties in community samples [26] as well as in clinical samples [27]. The CTQ is a self-administered questionnaire with 28 items that quantifies the frequency of abusive experiences on a 5-point scale ranging from '1=never' to '5=very often'. Different types of childhood trauma are operationalized on five subscales (emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect). The subjects are asked to rate the frequency of abusive experiences during their childhood and adolescence. Cut-off-scores have been determined to define the severity of the abusive experiences (none or minimal, minor, moderate, several) [23]. From the consecutive series of women, one group with a history of moderate or severe sexual and/or physical abuse and one group without any self-reported abusive experiences were selected. Women who reported a minor extent of physically and/or sexually abusive experiences were excluded.

Covariate

Child developmental status

Child Development was assessed via the Bayley Scales of Infant Development II according to Bayley [28] at a child's age of five (T1) and twelve (T2) months. This standardized instrument is an individually administered examination that assesses the current developmental functioning of infants and children- the main aim is to diagnose possible developmental delays. The Bayley Scales of Infant Development include three subscales: Motor Scale, Mental Scale and Behavior Rating Scale. The Mental and Motor Scales measure the infants' present stage of cognitive, language, personal-social, and fine and gross motor development. The child's behaviour during the testing is coded with the Behavior Rating Scale. The Mental Scale contains items that refer to memory, habituation, problem solving, early number concepts, generalization, classification, vocalizations, language and social skills. The Motor Scale measures the control of the gross and fine muscle groups and their functions: rolling, crawling and creeping, sitting, standing, walking, running and jumping; and supplementary fine motor handling involved in prehension, adaptive use of writing implements and the imitation of hand activities. The Mental and Motor Scale are nominal Dichotomy; The Behavior Rating Scale is an ordinal scale and allows to assess the child's development on a 5-point-scale, ranging from 1 (=worst coding) to 5 (=best coding). Two researchers trained for reliability independently observed the videotaped sessions for the Behavior Rating Scale; Cohen's' kappa was 0.93. Mental and Motor Scale were coded during the testing.

Result

Sampling

From 2.400 mothers contacted by mail 748 replied. Seventy eight mothers reached the cut-off-score for abusive sexual and/or physical experiences whereas ten had to be excluded due to their children did not fulfil the eligibility criteria. Four mothers had children with repeated infections or acute illnesses preventing them from participating and six mothers declined for lack of time.

From the 675 mothers who scored below the cut-off for severe physical or sexual abuse, 417 mothers' scoring were excluded from the control group, because they scored in the intermediate group having experienced 'light' or 'moderate' abuse as measured by the Child Trauma Questionnaire [23]. Out of the remaining 258 mothers with a score for no sexual and/or physical abuse the matching was performed according to the already mentioned criteria: child gender, marital status, maternal education and number of children.

Sample description

The final sample consisted of 58 mothers with a history of abuse (HA-mothers; index group) and 61 control mothers (control group). The HA-mothers had 53% male infants (n=31), the control mothers had 52% male children (n=32). With regard to marital status 91.4% (n=53) of the HA-mothers were in a partnership with the child's father, while 100% (n=61) of the control mothers were in a partnership at the time of assessment. 74.4% (n=43) of the

History of abuse and development of the child

Table 2: Mothers with abusive and non-abusive history in connection to their children's development at five months of age (T1).

T1	Group	n	p	M	SD	df
Motor Scale	Index	58	0.856	94.53	10.43	117
	Control	61		95.25	9.06	
Mental Scale	Index	58	0.869	99.66	10.08	117
	Control	61		100.61	7.87	
Behavior Rating Scale	Index	58	0.999	78.47	7.75	116
	Control	61		78.47	7.29	

Table 3: Mothers with abusive and non-abusive history in connection to their children's development at 12 months of age (T2).

T2	Group	n	p	M	SD	df
Motor Scale	Index	58	0.778	91.21	13.88	117
	Control	61		91.89	12.27	
Mental Scale	Index	58	0.304	105.67	8.23	117
	Control	61		104.02	9.20	
Behavior Rating Scale	Index	58	0.907	128.12	14.86	117
	Control	61		128.43	13.72	

The group testing of child developmental status, comparing the development of children of abused and not abused mothers, does not show significant results throughout all testing times. At an age of five months and twelve months the children of mothers with an abusive history do not significantly differ from the children of the control group mothers throughout all subscales of the Bayley Scales of Infant Development II. Niveau of significance, Means and Standard Deviation for the five months (T1) testing are listed in Table 2 & 3 presents those for the twelve months (T2) testing. The data show that children of mothers with a history of abuse do not significantly differ by mental, motor or behavioral development from children of mothers without a history of abuse.

HA-mothers were married, as were 85.2% (n=52) of the control group. 31% (n=18) of the HA-mothers had university degree; 36.1% (n=22) of the control mothers had university degree. Mean number of children in the trauma group was 1.7, in the control group 1.8.

History of abuse and postpartum bonding

Index mothers had a mean Bonding Impairment Score of 13.64 (SD=8.4), control mothers had a score of 9.5 (SD=5.5). The difference was statistically significant (LR²=6.81, p=0.002, F=10.18) as shown in Table 1.

Table 1: Mothers with abusive and non-abusive history in connection to their children's development at 5 months of age.

PBQ	Group	n	p	M	SD	df
	Index	47	0.002	13.64	8.43	93
	Control	48		9.52	5.48	

Discussion

The data presented above indicate an association between maternal history of abuse and maternal bonding in the mother-child relationship. Mothers with abusive experiences show a considerable impairment of bonding in the first year of life compared to control mothers. This was mediated neither by infant gender, maternal marital status, education, nor number of children, as mothers in the control group were matched for these criteria. Psychosocial support in general has also been found to be protective for at-risk dyads [29]. However, mothers in our study did not differ from control mothers with regard to their psychosocial support, because of the matching criteria. The heightened

bonding impairment reported here therefore is not likely to be an epiphenomenon of altered psychosocial circumstances. It might rather be regarded as a specific consequence of early life trauma reflecting itself into the next generation. This finding does not prove a heightened risk for child abuse from the side of the abused mother, but it does show a discrete aspect or precursors of child maltreatment, as this can be reflected by interactional alterations [30].

These data are in line with a primate study describing maternal possessiveness of the infant as a consequence of abuse in monkeys [31], potentially implicating a biological basis. On this line of reasoning maternal psychophysiological hyperreactivity might be a relevant factor underlying increased bonding impairment. Bauer and Twentyman [32] found a general hyperarousal and reactivity of abusive mothers, especially when they were interacting with their children. Also, mothers with a history of abuse have been described to show hyperreactivity to infant stimuli [33]. The same phenomenon has previously been reported in mothers who had been found to abuse their children [34]; therefore the relational alterations presented here might be related to psychophysiological alterations.

According to Egeland and coworkers [35], the transmission of abusive experiences can be prevented by a supportive marital relationship. Similarly, the cycle of abuse can be interrupted by the integration, as opposed to the dissociation, of the traumatizing events [36]. In a next step it should be analyzed whether dissociation is related to maternal bonding, as measured by the PBQ. This might be likely, as dissociation has been described as a common epiphenomenon of traumatic or abusive experiences [37,38].

Limitations

This study did not perform clinical interviews to screen for clinical diagnoses such as borderline personality disorders, which have been frequently described to be associated with a history

of abuse [37]. Also, maternal self-esteem, a relevant factor in psychopathology related to abusive experiences [39] was not measured. These factors should be considered in future studies. However, this study was based in the general population and the only manifest difference between the mothers was the history of physical and/or sexual abuse, as psychosocial status was carefully matched. Therefore the elevated bonding impairment identified here is likely to reflect a true impact of the history of intrusive trauma on the part of the mother.

Clinical Relevance

These data are highly relevant from a preventive point of view: Psychosocial support in general was found to be protective for at risk-dyads [40]. According to Brayden and co-workers [41] the risk for child maltreatment can be significantly lowered by reducing the time span that mother and infant are exposed to each other. Our data show that preventive efforts should not be limited to these general issues. Rather, preventive efforts in mothers with a history of abuse should target mother-infant interaction at a very early level, before the manifestation of overt child abuse. The findings reported here identify targets for these preventive efforts, as interaction with the mother constitutes a considerable part of the infant's environment, and therefore maternal intrusiveness can be regarded as having a profound influence on the infant life experiences. Cerebral plasticity in the first year of life is high [42], therefore preventive interventions should be most effective when targeting this period. Bonding Impairment therefore can be regarded as a target for studies focusing on factors that are relevant for intergenerational transmission of abusive experiences. Furthermore, these data identify the Postpartum Bonding Questionnaire as an important clinical tool for at-risk dyads. This research on young mothers with a history of sexual and physical abuse is crucial [35] in order to develop preventive strategies against the "cycle of abuse" and thereby highly important from an individual [43], social, and political perspective [44-62] (Appendix 1&2).

Appendix 1: Postpartum Bonding Questionnaire Brockington et al. [25], German version by Weiss, Reck & Fuchs) Wie es mir mit meinem Kind geht. Bitte kreuzen Sie an, wie häufig die folgenden Aussagen auf Sie zutreffen. Es gibt keine „falschen“ oder „richtigen“ Antworten; wählen Sie die Antwort, die Ihrer Meinung nach am besten zutrifft.

Name	Datum: Immer					
Ich fühle mich meinem Kind sehr nahe.	0	0	0	0	0	0
Ich wünsche mir die Zeiten ohne das Kind zurück.	0	0	0	0	0	0
Ich fühle mich fern von meinem Kind.	0	0	0	0	0	0
Ich kuschele gerne mit meinem Kind.	0	0	0	0	0	0
Ich bedaure es, dieses Kind zu haben.	0	0	0	0	0	0
Das Kind scheint nicht zu mir zugehören.	0	0	0	0	0	0
Mein Kind strengt mich an.	0	0	0	0	0	0
Mein Kind macht mich nervös.	0	0	0	0	0	0
Ich fühle mich glücklich, wenn mein Kind lächelt oder lacht.	0	0	0	0	0	0
Ich liebe mein Kind über alles.	0	0	0	0	0	0
Ich genieße es, mit meinem Kind zu spielen.	0	0	0	0	0	0

Mein Kind schreit zu viel.	0	0	0	0	0	0
Als Mutter fühle ich mich gefangen.	0	0	0	0	0	0
Ich bin böse auf mein Kind.	0	0	0	0	0	0
Ich hege Groll gegen mein Kind.	0	0	0	0	0	0
Mein Kind ist das schönste Kind der Welt.	0	0	0	0	0	0
Ich wünschte, mein Kind würde irgendwie verschwinden.	0	0	0	0	0	0
Ich habe mein Kind schlecht behandelt.	0	0	0	0	0	0
Mein Kind macht mich unruhig.	0	0	0	0	0	0
Ich habe Angst vor meinem Kind.	0	0	0	0	0	0
Mein Kind fällt mir lästig.	0	0	0	0	0	0
Ich fühle mich sicher, wenn ich mein Kind wickle.	0	0	0	0	0	0
Ich glaube, die einzige Lösung ist, dass jemand anderes nach meinem Kind zu schaut.	0	0	0	0	0	0
Ich möchte meinem Kind weh tun.	0	0	0	0	0	0
Mein Kind ist leicht zufriedenzustellen.	0	0	0	0	0	0

CTQ

Anleitung

Diese Fragen befassen sich mit einigen Ihrer Erfahrungen während Ihrer Kindheit und Jugend. Auch wenn die Fragen sehr persönlich sind, versuchen Sie bitte, sie so ehrlich wie möglich zu beantworten. Kreisen Sie dazu bitte für jede Frage die Zahl ein, die am besten beschreibt, wie Sie rückblickend die Situation einschätzen.

Antwortbeispiel: 1 2 3 4 5

Appendix 2: Childhood Trauma Questionnaire (CTQ): Bernstein and Fink [23], German version by Driessen et al. [24].

	Als Ich Aufwuchs...	Trifft Auf Mich Zu...				
		Über-Haupt	Nicht	Sehr Selten	Einige Male	Sehr Häufig
1	...hatte ich nicht genug zu essen.	1	2	3	4	5
2	...wußte ich, daß sich jemand um mich sorgte und mich beschützte.	1	2	3	4	5
3	..bezeichneten mich Personen aus meiner Familie als „dumm“, „faul“ oder „häßlich“.	1	2	3	4	5
4	...waren meine Eltern zu betrunken oder von anderen Drogen „high“, um für die Familie zu sorgen.	1	2	3	4	5
5	...gab es jemand in der Familie, der mir das Gefühl gab, wichtig und jemand Besonderes zu sein.	1	2	3	4	5
6	...mußte ich dreckige Kleidung tragen.	1	2	3	4	5
7	...hatte ich das Gefühl, geliebt zu werden.	1	2	3	4	5
8	...glaubte ich, daß meine Eltern wünschten, ich wäre nie geboren.	1	2	3	4	5
9	...wurde ich von jemandem aus meiner Familie so stark geschlagen, daß ich zum Arzt oder ins Krankenhaus mußte.	1	2	3	4	5
10	...gab es nichts, was ich an meiner Familie ändern wollte.	1	2	3	4	5
11	...schlugen mich Personen aus meiner Familie so stark, daß ich blaue Flecken oder Schrammen davontrug.	1	2	3	4	5
12	...wurde ich mit einem Gürtel, einem Stock, einem Riemen oder mit einem harten Gegenstand bestraft.	1	2	3	4	5
13	meine Familienangehörigen aufeinander acht.	1	2	3	4	5
14	...sagten Personen aus meiner Familie verletzende oder beleidigende Dinge zu mir.	1	2	3	4	5
15	Ich glaube, ich bin körperlich mißhandelt worden, als ich aufwuchs.	1	2	3	4	5
16	...hatte ich eine perfekte Kindheit.	1	2	3	4	5

17	...wurde ich so stark geschlagen oder verprügelt, daß es jemandem (z.B. Lehrer, Nachbar oder Arzt) auffiel.	1	2	3	4	5
18	...hatte ich das Gefühl, es haßte mich jemand in meiner Familie.	1	2	3	4	5
19	...fühlten sich meine Familienangehörigen einander nah.	1	2	3	4	5
20	...versuchte jemand, mich sexuell zu berühren oder mich dazu zu bringen, sie oder ihn sexuell zu berühren.	1	2	3	4	5
21	...drohte mir jemand, mir weh zu tun oder Lügen über mich zu erzählen, wenn ich keine sexuellen Handlungen mit ihm oder ihr ausführen würde.	1	2	3	4	5
22	...hatte ich die beste Familie der Welt.	1	2	3	4	5
23	...versuchte jemand, mich dazu zu bringen, sexuelle Dinge zu tun oder bei sexuellen Dingen zuzusehen.	1	2	3	4	5
24	...belästigte mich jemand sexuell.	1	2	3	4	5
25	Ich glaube, ich bin emotional (gefühlsmäßig) mißbraucht worden, als ich aufwuchs.	1	2	3	4	5
26	...gab es jemanden, der mich zum Arzt brachte, wenn ich es brauchte.	1	2	3	4	5
27	Ich glaube, ich bin sexuell mißbraucht worden, als ich aufwuchs.	1	2	3	4	5
28	...war meine Familie mir eine Quelle der Unterstützung.	1	2	3	4	5
29	...geschahen unerwartete und unvorhersehbare Dinge in meiner Familie.	1	2	3	4	5
30	...waren meine Eltern (Stiefeltern) oder andere Personen aus meiner Familie unberechenbar.	1	2	3	4	5
31	...befürchtete ich, daß meine Familie jederzeit auseinanderbrechen könnte.	1	2	3	4	5
32	...konnte ich mich in meiner Familie nicht sicher fühlen.	1	2	3	4	5
33	...wechselten die Mitglieder meiner Familie.	1	2	3	4	5
34	...konnte ich mich auf Personen aus meiner Familie nicht verlassen.	1	2	3	4	5

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