

Research Article

Infant Development and Postnatal Psychopathology after maternal history of childhood abuse

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ABSTRACT

A history of sexual or physical maltreatment has been a proposed risk factor for an increase in psychopathology after childbirth. Early infancy behavioural deviations and mother-infant relationship disturbances have been described [1]. This study was aimed to assess, whether children of mothers with a history of abuse have true developmental disturbances in early childhood or whether these disturbances stem from maternal perception. 58 women with a history of abuse were compared to a control group (n=61) with regard to psychopathology over the first year after childbirth. Psychopathology (SCL90-R [2]) was assessed five and twelve months postnatally. Infant developmental status was assessed by Bayley Mental Motor and Behavioural Rating Scales [3]. The results show that women with a history of physical or sexual abuse - matched for infant gender, maternal education, marital status, number

of infants and birth weight - show significantly more postnatal psychopathology over the course of the first postnatal year. Children do not differ in first year postpartum in their developmental status.

Early Childhood behavioural disturbances reported by mothers with a history of abuse seem to be mediated by maternal perceptual distortions by means of 'projective identification' with negative maternal attributions caused by maternal psychopathology more than by true infant behavioural alterations, as children do not differ in their behaviour towards neutral examiners.

Keywords: abuse, child abuse, child development, postnatal psychopathology, cycle of abuse, projective identification.

Introduction

History of sexual abuse among young women has been reported to have prevalence around 13 % [4] to 25% [5]. The numbers of physical abuse are given with up to 40% [5]. A considerable threat to child development [6] is the intergenerational transmission of psychosocial risk. Mothers exposed to physical or sexual abuse in childhood are described in the literature [7] to frequently close the intergenerational cycle of violence, by either maltreating their children or becoming a victim and turning the child into the perpetrator. Studies by Kaufmann and Zigler and Oliver [8] report transmission rates of 30% indicating that one third of parents with experiences of childhood abuse maltreat their children. A more recent three-generational study reports that approximately 50% of abused parents transmit this history of abuse either directly or via highly dysfunctional interactions to their offspring [7]. A parental history of abuse places children at risk for maltreatment.

Buist [9] has postulated the occurrence of postpartum depression as the most crucial factor underlying intergenerational

transmission of abuse. In a sample of postnatally depressed mothers, those with a history of abuse were found to have a longer recovery period.

To date, little is known about the mechanisms involved in the intergenerational transmission of abusive experiences. Projective distortions in relation to the offspring have been postulated [10] as well as impairment of intrafamilial communication [11]. Other authors [12,13] 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 and their empathic responsivity and affective reactivity have been shown to be lower [14] than non-abused mothers.

As children of abused mothers very frequently show developmental disturbances it should be examined whether these disturbances are present from the first year of life or whether this develops when growing up with a maltreated parent as these parents are presumed to have a higher rate of psychopathology.

However, no study has systematically compared postnatal psychopathology in a large group of women with a childhood history of abuse to a group of women without such experiences, matched for psychosocial criteria. Neither has child developmental status been compared in a prospective longitudinal study design. The present study was designed to close this gap

Methods

Participants

All women with newborn children in the cities and surroundings of Heidelberg and Mannheim, Germany, as assessed by the council birth register were contacted by mail and presented with the Childhood Trauma Questionnaire (CTQ) [15,16]. 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 a score of 0 for sexual and physical abuse.

Sampling

From 2400 mothers contacted by mail 748 replied and 73 of those had scored above the cut-off for severe physical or sexual abuse in the childhood trauma questionnaire. From these, 58 mother-infant pairs were included to form the index group. Out of 258 mothers with a score of 0 for sexual or physical abuse we performed the matching according to the following criteria, ordered in priorities: child gender, maternal marital status, education and number of siblings.

Sample description

The final sample consisted of 58 mothers with a history of abuse (HA-mothers) and 61 control mothers. The absence of any significant differences in child gender, maternal marital status, education or number of children was confirmed by χ^2 -test.

Study design

As part of a longitudinal study focussing on mother-infant interaction and child characteristics following a maternal history of abuse, the subjects were seen in the laboratory at five (T1) and twelve (T2) months postnatally. All examiners were blinded with regard to maternal history or non-history of abuse. The study was approved by the Ethics Committee of the Faculty of Medicine (Declaration of Helsinki). Written informed consent was obtained from all participant women before study inclusion.

Measures

Screening for a history of abuse

The history of physically or sexually abusive life experiences was assessed by the German version [15] of the Childhood Trauma Questionnaire (CTQ) [16]. The CTQ has demonstrated strong psychometric properties [17]. From the consecutive series of women, we selected one group with a history of moderate or severe traumatic experiences of sexual/and or physical abuse and one group without any self-reported abusive experiences. Women with a minor extent of physically or sexually abusive experiences were excluded.

Symptom checklist (SCL 90-R)

The symptom checklist (SCL 90-R) [2] is an established self-report measure assessing psychopathology in 90 items on 9 subscales with excellent psychometric properties. The subscale 'Depression' and the 'Global Severity Index' as a measure of total symptom pressure were analysed.

Child developmental status

Child Development was assessed via the Bayley Scales of Infant Development II according to Bayley [3] 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 Behaviour 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 Behaviour 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 Behaviour 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 Behaviour Rating Scale; Cohen's kappa was 0.93. Mental and Motor Scale were coded during the testing.

Statistical analysis

Power calculation had revealed a number of 55 in each group for detection of medium effect size. Sample characteristics in relation to a history of abuse were assessed by Student t-test or by Mann-Whitney U-test when the assumption of a normal distribution was violated.

Results

History of abuse and psychopathology

Means and standard deviation of the SCL-90-R subscale 'Depression' in the trauma and control group are provided in table 1. At five (T1) months postnatal mothers with a history of abuse had a mean score in the subscale 'Depression' of .67, control mothers had a mean score of .30. The difference was significant ($t(117) = -5.35, p = .000$). At 12 (T2) months' postnatal mothers with a history of abuse had a mean Depression-score of .5225, control mothers had a mean Depression score of .2756. The difference was significant ($t(116) = -3.05, p = .002$).

The data show that mothers with a history of abuse score significantly higher on the Global Severity Index (M (Index) =

1.18, SD = .79; M (Control) = .66, SD = .45; $t(117) = -3.84$, $p = .000$ (Table 1).

History of abuse and development of the child

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; Table 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 behavioural development from children of mothers without a history of abuse (Table 2 and 3).

Discussion

This study reveals that mothers with a history of abuse show significantly more psychopathology over the course of the first postnatal year, regardless of their psychosocial status. Mothers were recruited based on self-report data and a significant number of mothers with a history of abuse might not have recalled the events or not have responded. However, the low number of ten per cent of mothers with a history of abuse might also be corresponding to the fact that the city of Heidelberg is a small university town with a large academic population. Prevalence of abusive experiences might therefore be low.

However, mothers in our study did not differ from control mothers with regard to their partner support because of the matching criteria. The higher rate of psychopathology reported here therefore is not likely to be an epiphenomenon of altered psychosocial circumstances. It can rather be regarded as a specific consequence of childhood abuse.

Child developmental status did not differ between index and control group. Neither mental nor motor development showed any difference between children of mothers with and without a history of abuse. The most astonishing finding, however, is the lack of a difference in behavioural development, indicating that children of abused mothers do behave perfectly normal when confronted with neutral examiners during the first year of life.

What is the explanation for presenting psychopathology in children of mothers with a history of abuse? One reason might be the mechanism postulated by Moehler *et al.* [10] derived from clinical observations with abused mothers and their children: Early Childhood behavioural disturbances reported by mothers with a history of abuse might not be present in a neutral context. Rather, they seem to be mediated by maternal perceptual distortions- mothers perceive attributes of the perpetrator in their screaming child. The concomitant projections might- in longitudinal exposure- lead to projective identification of the child with the role of the perpetrator. This might be mediated by negative maternal attributions caused by maternal psychopathology more than by true infant behavioural alterations, as children do not differ in their behaviour towards neutral examiners.

Table 1. Mothers with abusive and non-abusive history and their psychopathology in the subscale ‘Depression’ at five (T1) and twelve (T2) months postnatally.

	Group	n	p	M	SD	df
SCL-90 T1	Index	58	.000	.67	.42	117
	Control	61		.30	.34	
SCL-90 T2	Index	58	.002	.52	.53	116
	Control	60		.28	.34	

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	.856	94.53	10.43	117
	Control	61		95.25	9.06	
Mental Scale	Index	58	.869	99.66	10.08	117
	Control	61		100.61	7.87	
Behaviour Rating Scale	Index	58	.999	78.47	7.75	116
	Control	60		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	.778	91.21	13.88	117
	Control	61		91.89	12.27	
Mental Scale	Index	58	.304	105.67	8.23	117
	Control	61		104.02	9.20	
Behaviour Rating Scale	Index	58	.992	119.81	14.14	117
	Control	61		119.84	13.10	

Limitations include the lack of a clinical interview for e.g. Posttraumatic Stress Disorder as a frequent consequence of trauma. Also, the lack of any information on the 69% non-respondents might lead to a skewing of the sample. Furthermore, general psychopathology might not be the only risk factor for child development and more comprehensive studies on the behavioural and personality differences of abused mothers are needed in order to develop efficient preventive strategies against the cycle of abuse.

Clinical relevance

These findings are highly important, as they indicate means for prevention in mother-child dyads, when mothers report a history of abuse. They point to psychotherapeutic work on maternal attributions as a tool to interrupt the 'cycle of abuse' [18-48].

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