

Psychological disturbance associated with sexual abuse in people with learning disabilities

Case–control study

HEATHER SEQUEIRA, PATRICIA HOWLIN and SHEILA HOLLINS

Background The association between sexual abuse, mental health and behavioural problems in people with learning disabilities has not previously been examined in a controlled study.

Aims To identify symptoms of psychological disturbance in adults with and without a confirmed history of sexual abuse.

Method The study used a matched (1:1) case–control design comparing 54 adults who had experienced sexual abuse with 54 adults with no reported history of abuse. The two groups were selected from a community population of adults with learning disabilities living in residential care, and compared for selected psychiatric diagnoses and for scores on measures of disturbed behaviour.

Results Sexual abuse was associated with increased rates of mental illness and behavioural problems, and with symptoms of post-traumatic stress. Psychological reactions to abuse were similar to those observed in the general population, but with the addition of stereotypical behaviour. The more serious the abuse, the more severe the symptoms that were reported.

Conclusions The study provides the first evidence from a controlled study that sexual abuse is associated with a higher incidence of psychiatric and behavioural disorder in people with learning disabilities.

Declaration of interest None.

The experience of sexual abuse is widely recognised to be associated with a range of behavioural and mental health problems within the general population. These symptoms include anxiety, depression and post-traumatic stress disorder (e.g. Kilpatrick *et al*, 1987; MacMillan *et al*, 2001; Nelson *et al*, 2002), and behavioural difficulties related to withdrawn, aggressive and sexualised behaviour (Kendall-Tackett *et al*, 1993; Friedrich, 1998). However, whether people with learning disabilities experience a similar range of reactions has not previously been systematically studied. Several reports suggest that people with learning disabilities may exhibit patterns of psychopathological symptoms following sexual abuse similar to those found in the general population (e.g. Sinason, 1988; Ryan, 1994; Mansell *et al*, 1998). However, because of methodological limitations (most notably the lack of controlled studies) the findings are inconclusive (for a review, see Sequeira & Hollins, 2003).

This study investigates the hypothesis that adults with learning disabilities who have experienced sexual abuse will exhibit higher levels of behavioural and mental psychiatric difficulties than a matched comparison group who are not known to have experienced sexual abuse. The relationship between the nature of the abuse and subsequent symptoms is also examined.

METHOD

Sample identification

Individuals potentially suitable as cases or controls were initially identified through a screening questionnaire completed by managers of 29 charitable and private-sector organisations for people with learning disabilities, in England, Scotland and Wales. Participants were living in supported accommodation or community residential homes. They were not

necessarily involved with clinical services or previously identified as having a history of mental illness. Individuals with a diagnosis of psychotic disorder, dementia or other deteriorating organic condition were excluded.

Assignment to study groups

The sexual abuse sample comprised individuals for whom the occurrence of sexual abuse was proved, highly probable or probable, as defined by Brown & Turk (1992). Hereafter, proved, highly probable and probable abuse are referred to simply as abuse. Cases where the standard of evidence indicated possible sexual abuse or abuse of unknown status were excluded. The matched comparison group comprised individuals for whom there was no evidence or suspicion that sexual abuse had ever occurred.

Matching criteria

Participants were assigned to the sexual abuse sample on the evidence of the occurrence of abuse and were provisionally matched with non-abused comparison participants for gender, degree of learning disability, age (within a 5-year age band) and communication ability. The validity of data used for matching was confirmed when participants were interviewed. The degree of learning disability was established using the Wechsler Abbreviated Scale of Intelligence (WASI; Wechsler, 1999) or the Wechsler Adult Intelligence Scale – Revised (WAIS-R; Wechsler, 1981), and communication ability was confirmed by talking with the individual and support staff. Details of the matched and unmatched characteristics of the groups are shown in Table 1.

Measures

Respondent and informant measures (see below) were completed during interviews with keyworkers and clients (where the degree of learning disability permitted). The ratings of abuse were made independently of ratings of psychopathological symptoms and challenging behaviour. However, the mental health assessor was not masked to the group membership.

Behaviour

The Aberrant Behavior Checklist – Community (ABC-C; Aman *et al*, 1995) is an informant-based measure of challenging

Table 1 Characteristics of the study groups

Variable	Abused group (n=54)	Comparison group (n=54)
<i>Matching variables</i>		
Age (years)		
Mean (s.d.)	29.4 (8.4)	30.0 (7.3)
Range	16–44	19–44
Gender		
Male:female ratio (n)	18:36	18:36
Degree of intellectual disability		
Mild (n)	24	24
Moderate (n)	14	14
Severe or profound (n)	16	16
Communication level		
Non-verbal/single words (n)	5	5
Simple sentences (n)	49	49
<i>Other variables</i>		
Ethnic group		
Non-White (n)	5	2
White (n)	49	52
Wheelchair user (n)	2	3
Sensory impairment (n)	9	1
Epilepsy (n)	6	13
Prescribed psychoactive medication (n)	15	16
Exposure to traumatic event in past 3 years (not sexual abuse) (n)	1	2
Significant bereavement in past 3 years (n)	10	7

behaviour. It consists of five sub-scales: I, irritability, agitation, crying; II, lethargy, social withdrawal; III, stereotypical behaviour; IV, hyperactivity, non-compliance; and V, inappropriate speech. Reliability and validity data are well established (e.g. Aman *et al*, 1987).

As the ABC-C does not include items related to sexual behaviour, the sexual behaviour domain from the Adaptive Behavior Scale – Residential and Community (ABS-RC; Nihira *et al*, 1993) was used in addition.

Mental health problems

ICD-10 diagnosis. The Psychiatric Assessment Schedule for Adults with Developmental Disabilities (PAS-ADD; Moss *et al*, 1997) is a semi-structured present-state interview designed to establish whether individuals with learning disabilities fulfil criteria for a specified ICD-10 diagnosis (World Health Organization, 1992). It consists of both respondent and informant interviews which can be processed separately or together. In our study, when

participants could give a valid interview (28 in the 'abuse' group and 36 in the comparison group), the two interviews were processed together to provide more complete diagnostic information. If the participant had severe learning disabilities, poor linguistic ability or gave inconsistent or insufficient information in response to PAS-ADD questions, the informant interview was used alone. Although the abuse and comparison groups were matched on language ability, fewer of those in the abuse group gave full responses in the PAS-ADD interview. The implication of this is that psychiatric disorder may be underdiagnosed, particularly in those who have been abused. Some ICD-10 disorders, for example anxiety disorders (F40-41), require evidence of autonomic features that might not be noticeable to informants and therefore would not have been identified in participants from informant interviews alone.

Symptom type scores. The PAS-ADD also provides symptom type scores (i.e. symptom constellations); neurotic, depressive and total symptom type scores were

analysed to give a measure of severity of depressive and anxiety symptoms and general psychiatric disturbance.

Post-traumatic symptoms

Clinical symptoms of post-traumatic stress disorder (PTSD) were assessed using the PTSD Check List for Children/Parent Report (PCL-C/PR; Ford *et al*, 1999). A key informant rates the extent to which, during the past month, an individual has presented with each of the 17 DSM-IV clinical PTSD symptoms (DSM-IV diagnosis of PTSD requires at least one re-experiencing symptom out of five, at least three avoidance and psychic numbing symptoms out of seven, and at least two hyperarousal symptoms out of five: American Psychiatric Association, 1994). A score of 3 on any item indicates the presence of a clinical-level symptom. Total scores on the instrument can also be calculated.

Statistical analysis

Non-parametric statistics (Wilcoxon signed ranks test for comparisons between matched groups; Mann-Whitney *U* test for comparisons between independent subgroups; χ^2 for proportions and Spearman's ρ for correlations) were used for all analyses as the data were not normally distributed. The computer package SYSTAT 9 was used to calculate statistics.

Significance levels and multiple testing

The significance level was set at 0.05. In the comparisons between the abused and comparison samples, Bonferroni's correction was applied when multiple tests were used. However, the Bonferroni correction was not applied when examining the variations related to abuse within the abused group, as these were principally explorative analyses.

RESULTS

Characteristics of alleged sexual abuse

The median age at which abuse was first known to have taken place was 15 years (range 4–39). The median number of years since the most recent known incidents of abuse was 3 years (range 0–29). The majority of people in the abused sample were reported to have experienced abuse on more than one occasion and over months or years rather than days (Table 2). The

Table 2 Rate and duration of known abuse

	Abused group (<i>n</i> =54) <i>n</i> (%)
Rate of known abuse	
Once only	19 (35)
2–10 times	17 (31)
> 10 times	18 (33)
Duration of known abuse	
Day(s)	19 (35)
Months	11 (20)
Years	24 (44)

Table 3 Type of abuse

Type of abuse	Abused group (<i>n</i> =54) <i>n</i> (%)
Penetration	25 (46)
Attempted penetration	4 (7)
Oral sex (either or both persons)	5 (9)
Masturbation (either or both persons)	7 (13)
Touch (of breast, genitals, anus or mouth)	12 (22)
Unknown type	1 (2)

most frequent type of abuse reported was sexual penetration (Table 3). Six of the sample were known to have experienced physical violence or threat of violence during the sexual abuse, and four were known to have sustained physical injury during the abuse.

Characteristics of the alleged perpetrator

Of the 54 cases of known abuse, 48 individuals (89%) were reported to have been abused by males, 3 (5.5%) by females and 3 (5.5%) by both males and females ($\chi^2=75.0$; $P<0.001$). Thirty-four (63%) individuals were known to have experienced extrafamilial abuse and 20 (37%) had experienced intrafamilial abuse. None was known to have experienced both intrafamilial and extrafamilial abuse (Table 4).

Post-abuse events

Following the abuse, 33 (61%) individuals received no formal psychological therapy;

Table 4 Relationship of abuser

Relationship of abuser	Abused group (<i>n</i> =54) <i>n</i> (%)
Parent or step-parent	13 (24)
Other family member	7 (13)
Paid or voluntary care staff	12 (22)
Person with learning disability living in same home	11 (20)
Other (e.g. neighbour, stranger)	11 (20)

21 individuals (39%) did receive therapy from a qualified professional (psychologist, qualified psychotherapist/counsellor). In eight cases the abuse led to a successful court conviction.

Characteristics of disturbance following abuse

Challenging behaviour

Table 5 presents the median scores of the abused and comparison groups on the ABC–C. Score on sub-scales I–IV (irritability, lethargy, stereotypical behaviour and hyperactivity) were significantly higher in the abused group. There was no group difference on sub-scale IV (inappropriate speech). In addition, a significantly higher proportion of the abused group were reported to have engaged in self-injurious behaviour during the previous 4 weeks, as measured by items 50 (deliberately hurts self) and 52 (does physical violence to self) on the ABC–C: abused group $n=24$,

comparison group $n=11$; $\chi^2=8.167$, $P=0.004$.

Sexualised behaviour

The median scores for the ABS–RC sexual behaviour domain were significantly higher in the abused group (2.50) than in the comparison group (1.0; $Z=-3.217$, $P=0.001$). A small minority ($n=3$) in both groups were reported to have been overaggressive sexually in the past 4 weeks (from item 25 on the ABS–RC) and although more of those in the abused sample were reported to engage in inappropriate masturbation (14 compared with 5 controls, $\chi^2=5.173$), the difference was non-significant after the Bonferroni correction was applied ($P=0.023$, adjusted probability level 0.0166).

Mental health problems

When all categories of diagnosis assessed by the PAS–ADD were combined, the proportion meeting diagnostic criteria for any psychiatric diagnosis was significantly higher in the abused group (6 depression, 5 hypersomnia, 1 panic disorder) compared with the control group (2 depression, 0 hypersomnia, 1 specific phobia). This finding remained significant ($P<0.0125$) after the Bonferroni adjustment had been applied. However, there was no significant difference for any single diagnosis.

Median scores for depression, neurotic and total symptom type scores on the PAS–ADD interview were found to be significantly higher in the abused group compared with the matched controls (Table 6).

Table 5 Comparison of the abused and matched control sample groups on Aberrant Behavior Checklist – Community (ABC–C) scores ($n=54$ in both groups)

ABC–C sub-scale	Sample group	Score		Z	P
		Median	Range		
I Irritability, agitation, crying	Abuse	12.50	0–35	–4.320 ¹	<0.0001 ¹
	Comparison	3.00	0–38		
II Lethargy, social withdrawal	Abuse	9.50	0–31	–3.537 ¹	<0.0001 ¹
	Comparison	2.00	0–34		
III Stereotypical behaviour	Abuse	2.00	0–17	–3.120 ¹	0.002 ¹
	Comparison	0.00	0–11		
IV Hyperactivity, compliance	Abuse	10.00	0–46	–2.702 ¹	0.007 ¹
	Comparison	5.00	0–39		
V Inappropriate speech	Abuse	1	0–12	–0.907	NS
	Comparison	1	0–9		

1. Significant at the Bonferroni-adjusted probability level of 0.0083.

Table 6 Comparison of the abused and matched control sample groups on the symptom type scores of the Psychiatric Assessment Schedule for Adults with Developmental Disabilities (PAS–ADD) ($n=54$ in each group)

PAS–ADD symptom type	Group	Score		Z	P
		Median	Range		
Depressive	Abused	7.00	0–32	–4.342 ^I	< 0.0001
	Comparison	0.00	0–25		
Neurotic	Abused	10.00	0–38	–4.201 ^I	< 0.0001
	Comparison	4.00	0–24		
Total psychiatric symptoms	Abused	19.00	1–75	–4.65 ^I	< 0.0001
	Comparison	6.50	0–42		

I. Significant at the Bonferroni-adjusted probability level of 0.0166.

Table 7 Correlation between severity of symptoms and the severity of abusive acts experienced

Measure	r	P
ABC–C		
Sub-scale I (irritability, agitation, crying)	0.323	0.0183
Sub-scale II (lethargy, social withdrawal)	0.132	NS
Sub-scale III (stereotypical behaviour)	0.263	NS
Sub-scale IV (hyperactivity, non-compliance)	0.256	0.0338
Sub-scale V (inappropriate speech)	0.046	NS
PAS–ADD		
Depressive symptoms	0.292	0.0338
Neurotic symptoms	0.323	0.0182
Total symptoms	0.342	0.0129

ABC–C, Aberrant Behavior Checklist – Community; PAS–ADD, Psychiatric Assessment Schedule for Adults with Developmental Disability.

Post-traumatic symptoms

On the informant form of the PCL–C/PR, 19 of the 54 abused individuals demonstrated symptoms consistent with a DSM–IV diagnosis of PTSD. Only two people in the comparison group met these criteria for PTSD. Participants in the abused group also rated significantly higher on clinical symptoms of PTSD (PCL–C/PR total score: abused group median 36.0, range 18–99; comparison group median 20, range 17–46; $Z = -5.172$, $P < 0.0001$).

Variables related to abuse

Time elapsed since abuse

No significant correlation was found between the time elapsed since the last known abuse and the score on any of the measures used.

Severity and rate of abuse

Significant positive correlations were found between the severity of the abusive acts experienced (1 touch only, 2 masturbation,

3 oral sex, 4 penetration) and the severity of symptoms on the ABC sub-scales of irritability and hyperactivity, and the PAS–ADD scores for depression symptoms and neurotic symptoms and the total symptom score (Table 7). No significant relationship was found with PTSD symptoms.

Rate of abuse was significantly related to the PAS–ADD total score for mental health symptoms: this was significantly higher for those abused more than once (median 22) compared with those abused only once (median 15; $P = 0.042$). The PAS–ADD depression score was also significantly higher for those abused on two or more occasions (median 10) compared with those abused only once (median 4; $P = 0.024$). No significant relationship was found between rate of abuse and PTSD symptoms.

DISCUSSION

Behavioural problems

Individuals with learning disabilities who had experienced abuse were reported to

present with more severe behaviour problems than a non-abused, matched comparison group. On the ABC–C the largest differences were found for aggressive and agitated behaviours, including aggression to others, self-injury, temper outbursts and sudden changes of mood. The abused group also showed significantly more symptoms of social withdrawal (i.e. seeking isolation from others, being pre-occupied, resisting any form of physical contact, and being listless, sluggish or inactive). Significant group differences were also found for behaviour problems included in the hyperactivity sub-scale (e.g. excessive activity, disturbing others, acting impulsively, disobedience and distractibility). Self-injurious behaviours, however, were higher in the abused group, suggesting that these too may be associated with sexual abuse in individuals with learning disabilities. In many ways the behavioural problems found in this sample are similar to those reported for abused adults and children without learning disabilities: hostility towards others (Greenwald *et al*, 1990), sexual behaviour problems (Sappington *et al*, 1997), self-harm (Romans *et al*, 1995) and poor interaction with others (Calam *et al*, 1998).

Although total ratings of inappropriate sexual behaviour on the ABS–RC were significantly higher in the abused group, there was no group difference in specific behaviours such as sexually aggressive behaviour or inappropriate masturbation.

Stereotypical behaviour

The main difference in symptoms found in the abused group compared with non-intellectually disabled samples was the presence of stereotypical behaviour (repetitive rocking and odd or bizarre behaviours). These symptoms have not typically been reported as sequelae of abuse in other studies. However, increases in stereotyped behaviours have been reported in studies of individuals with learning disabilities who have been bereaved (Hollins & Esterhuyzen, 1997; Bonell-Pascual *et al*, 1999), and therefore the increase may not be specific to those who have been abused. Cognitive, emotional and developmental factors associated with learning disabilities may affect the presentation of psychopathological disorder in people with learning disabilities and may mediate responses to both sexual trauma and bereavement.

Mental health problems

The proportion of individuals meeting diagnostic criteria for the psychiatric diagnoses assessed in this study by the PAS-ADD (depression, anxiety disorders and hypersomnia) was significantly higher in the abused group. This indicates support for the hypothesis that the overall incidence of ICD-10 psychiatric disorder is higher in people who have been abused. In addition, the proportion of individuals presenting with the constellation of symptoms consistent with DSM-IV diagnostic criteria for PTSD was significantly higher in the abused group. No group difference in the proportions of individuals fulfilling ICD-10 criteria for depression (F32), anxiety disorders (F40-41) or hypersomnia (F51.1) was found when each diagnosis was considered independently. However, significant differences were found between the two groups for severity of depression and anxiety symptoms (PAS-ADD symptom type scores). This finding indicates that although abused individuals may not fulfil ICD-10 criteria for specific diagnoses, they are nevertheless presenting with higher levels of depressive and neurotic symptoms compared with a non-abused comparison group.

In many ways the symptom profiles reported for abused adults without learning disabilities are similar to those found among the learning-disabled sample studied here, evidenced by the findings of a higher incidence of psychiatric disorder (Silverman *et al.*, 1996), PTSD (Kilpatrick *et al.*, 1987), depressive symptoms (Diaz *et al.*, 2002) and anxiety (Nelson *et al.*, 2002).

Variables related to abuse

Time elapsed since abuse

Studies of child abuse in the general population have reported inconsistent results regarding the relationship between time since abuse and level of psychological disturbance. Many studies (e.g. Mannarino & Cohen, 1986) have reported a decrease in PTSD symptoms over time. However, Calam *et al.* (1998) found a substantial increase over time in levels of anxiety, depression, lack of interaction with peers and sexualised behaviour in sexually abused children. Our study of people with learning disabilities found no significant correlation between the time elapsed since last known abuse and score on any of the measures used. One possible explanation

for the variation of results reported may be a disparity in the availability of psychotherapy and psychological service provision for different populations. The validity of talking treatments for people with learning disabilities is only now gaining recognition (e.g. Hollins & Sinason, 2000; Sinason, 2002), and it is important to note that the majority of the people in the abused sample in our study had not received any psychological or psychotherapeutic intervention following sexual abuse.

Severity of abuse

More severe forms of abuse (e.g. involving penetration) were associated with greater severity of disturbance. This finding is also reported in studies of child abuse in the general population (e.g. Rodriguez *et al.*, 1996). In addition, the finding from our study that repeated occurrence of abuse is associated with increased severity of disturbance has also been reported in studies in the general population (e.g. Rodriguez *et al.*, 1996).

Scientific method and reliability

Although the retrospective case-control design of the study is appropriate to address the hypothesis considered, it does not detect causal or temporal relationships between abuse and psychological disturbance. Although the study found that individuals who had been abused presented with more disturbance than those who had not, it may be that abuse is simply a marker for a more turbulent background, or that disturbed behaviour might increase the likelihood of sexual abuse occurring: for example, some behaviours may place individuals in high-risk situations, and other characteristics may make them more vulnerable to potential abusers. Longitudinal studies are needed to detect any causal relationship.

It is important to be aware of potential bias when evaluating the findings of any study. In this study the following possible sources of bias are identified. First, the samples were selected from residential services. It may therefore be questioned whether the findings generalise to people with learning disabilities who live independently, with their family of origin or in secure psychiatric settings. Second, people with psychological symptoms may be more inclined to attribute their symptoms to abusive experiences or may be more likely to report abusive experiences. These points

have not been addressed in this paper and perhaps warrant further study in the general population and intellectually disabled groups. Third, neither informants nor respondents were masked to the general purpose of the study (although they were not aware of the specific hypotheses being tested). It could therefore be argued that participants exaggerated the reporting of disturbance in the abuse group to 'please' the assessor. Although the extent of this bias cannot be established, there is some indication that it is only limited, from the failure to find a significant difference between the abused and comparison groups on the variable 'inappropriate speech' (from the ABC-C). Had participants been tending to exaggerate the level of psychological disturbance they could be expected to report an increase in difficulties in all the areas examined, rather than just those identified as related to sexual abuse. It should be acknowledged that this source of potential bias is also a difficulty in much of the literature looking at the effects of sexual abuse in other populations.

ACKNOWLEDGEMENTS

Much appreciation is owed to St Andrew's Hospital, Northampton, UK, for their generous support and funding. Particular thanks are offered to the clients and staff of the residential services who participated in the study. Thanks are also due to Dr Steve Moss for his assistance with the Psychiatric Assessment Schedule for Adults with Developmental Disabilities.

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CLINICAL IMPLICATIONS

■ People with learning disabilities who have experienced sexual abuse have more psychological disturbance than similar individuals who have not experienced abuse. The nature of this disturbance is similar to that described by abused individuals in the general population.

■ Clinicians should enquire about experiences of sexual abuse or any other traumatic experience when patients with learning disabilities present with symptoms of behavioural disturbance or psychiatric disorder.

■ Specific attention should be paid to increases in self-injury, inappropriate sexual behaviour or resisting physical contact, because of a possible association with sexual abuse.

LIMITATIONS

■ The problems reported might have predated the abuse.

■ Abuse might have occurred in the control group. The extent of underreporting of abuse in people with learning disabilities is difficult to ascertain.

■ Participants were predominantly White, and living in residential units.

HEATHER SEQUEIRA, CPsychol, AFBPsS, St George's Hospital Medical School, London, and UK & Coventry Primary Care Trust, Coventry; PATRICIA HOWLIN, CPsychol, FBPsS, SHIELA HOLLINS, FRCPsych, St George's Hospital Medical School, London, UK

Correspondence: Ms Heather Sequeira, Department of Psychiatry of Disability, Jenner Wing, Cranmer Terrace, London SW17 0RE, UK. E-mail: heathersequeira@onetel.net.uk

(First received 9 January 2003, final revision 6 June 2003, accepted 19 June 2003)

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