

Relation between sexual abuse in childhood and adult depression: case-control study

Marese Cheasty, Anthony W Clare, Claire Collins

St Patrick's Hospital,
James's Street,
Dublin 8, Republic
of Ireland

Marese Cheasty,
senior registrar in
psychiatry

Anthony W Clare,
medical director of
hospital

Claire Collins,
data analyst

Correspondence to:
Dr Cheasty
dpcn@iol.ie

BMJ 1998;316:198–201

Abstract

Objective: To examine the association between sexual abuse in childhood and adult depression in women.

Design: Two stage, case detection and case identification design, using the 30-item general health questionnaire and the Beck depression inventory for screening and the affective items relating to current functioning on the schizophrenia and affective disorders schedule to identify depressed cases. Details of sexual abuse in childhood were elicited retrospectively by semistructured interview, and social problems by the social problems questionnaire.

Setting: Three general practices, in middle class suburban, deprived inner city, and rural areas.

Subjects: 1189 women were screened and 237 subsequently interviewed; 132 were depressed.

Results: 49 (37%) of the depressed interviewees and 24 (23%) of the non-depressed interviewees reported experience of sexual abuse when they were aged under 16 years. A positive association existed between the more severe abuse and depression—all those who had experienced penetration were depressed as adults. A relation was also found between sexual abuse in childhood and sexual problems, housing problems, and problems with their children at school.

Conclusion: A positive association between child sexual abuse and depression was confirmed, but this was confined to more severe abuse (penetration or attempted penetration).

Introduction

Research into the psychosocial consequences of sexual abuse in childhood has focused mainly on disturbances that arise shortly after the abusive experience. Long term effects have proved more difficult to investigate. The relevant literature mainly comprises case reports and studies of special populations,¹ most of which failed to use standardised instruments to measure psychopathology. Two recent community based studies, however, found an association between adult depression and sexual abuse in childhood,^{2,3} and studies of psychiatric patients also report higher than expected rates of past abuse.^{4,5}

We used screening questionnaires and semistructured interviews to examine the association between depression and sexual abuse in childhood among

women in a general practice setting. No similar study in the whole of Ireland has involved personal interview.

Method

We recruited subjects from three general practices—in a middle class suburb of Dublin, an underprivileged area of Dublin, and a small town in the middle of the Republic of Ireland. All women aged over 18 years attending one morning and one evening surgery per general practice per week were included in the study. Each woman was recruited and screened only once.

The study followed a standard, two stage design for case detection and case identification. For the screening stage, we used the 30-item general health questionnaire,⁶ with a cut off score of 6, and the Beck depression inventory,⁷ with a cut off score of 12. In all, 1213 women were asked to complete these questionnaires.

Women who were classed as depressed on both of these screening questionnaires were invited to participate in the second stage. As well as these depressed respondents, every 10th woman (aged over 18) attending on the day of sampling was also invited for the second stage interview (regardless of whether she was classed as depressed on the screening questionnaires). This systematic sampling procedure allowed the formation of a comparison group of non-depressed women.

At the second stage the women were interviewed by MC in a private room away from the waiting room. At this interview demographic data were collected, such as age, marital status, employment status, and psychiatric history. The interviewer used the affective items relating to current functioning on the schizophrenia and affective disorders schedule to confirm or reject a diagnosis of depression according to research diagnostic criteria.^{8,9} Fifty two women who were classed as depressed on the screening questionnaires subsequently failed to meet the criteria for depression at this interview; most of these women had adjustment disorders or dysthymia, and a few had been bereaved. These non-depressed women joined those who were not depressed either at screening or at the interview, to form a control group of 105 non-depressed women. Four women who were not classed as depressed at screening were found to be depressed at the interview, and these joined those found to be depressed at both screening and interview.

Both in the group of depressed women and in the control group, social problems were assessed with the

Table 1 Relation between sexual abuse in childhood and depression in 237 women. Values are numbers (percentages) of women

Sexual abuse	Depressed (n=132)	Not depressed (n=105)
Abused	49/73 (67)	24/73 (33)
Not abused	83/164 (51)	81/164 (49)

$\chi^2=5.58$; P value=0.0181; odds ratio=1.99 (confidence interval 1.08 to 3.7).

social problems questionnaire, devised by Corney and Clare in 1985.¹⁰ The women were then asked about sexual abuse in childhood. They were asked a series of questions about specific types of abuse, and each question was asked irrespective of any preceding negative answers. Sexual abuse in childhood was defined as "the involvement of a child (under 16 years) in sexual activities involving contact, which they did not fully understand and were not in a position to give informed consent—the activity being intended to gratify or satisfy the needs of the other person." Details of abuse were elicited with a semistructured interview.

The study design was approved by the research ethics committee of St Patrick's Hospital. Data analysis was carried out with the EpiInfo programme, version 5, and χ^2 tests were used to compare proportions within groups. Stratified analysis with the χ^2 and Woolf tests was carried out to test the effect of depression on the relation between sexual abuse in childhood and social problems.

Results

In all, 1189 women returned completed general health questionnaires and Beck depression inventories (response rate at this first stage, 98%). Of the 298 respondents who were classed as depressed at this stage, 180 were subsequently interviewed (60% response rate), and of the 89 respondents who were not depressed, 57 were interviewed (64% response rate), giving an overall response rate at the second stage of 61%.

Those interviewed ranged in age from 18-87 years of age; 67% (158) were married; 80% (189) had one or more children; 50% (118) were housewives; and 27% (65) were in full time employment. All social classes were represented.

In all, 132 of the women interviewed met research diagnostic criteria for depression; 105 women were not depressed.

Of the 237 women interviewed, 49 (37%) depressed women and 24 (23%) non-depressed women reported sexual abuse in childhood. Of these 73 women, 8 (11%) had been subjected to penetration and a further 14 (19%) had attempted penetration; 46 (63%) had been abused on more than one occasion; 34 (47%) thought that their experience of sexual abuse in childhood had had a permanent damaging effect on them, and a further 13 (18%) thought that it affected them for a long time.

We found a positive relation between sexual abuse in childhood and depression (table 1). However, this positive association was found to be due entirely to the more severe forms of abuse (table 2).

We found no difference in social class between the abused and non-abused groups. Nor was there any difference between the social class of the women who had experienced severe sexual abuse in childhood and the rest of the population. Those who had experienced

severe sexual abuse were significantly more likely to be separated or divorced than the rest of the population (26% v 7.5%, P value=0.002).

A significantly larger proportion of women who had experienced sexual abuse reported housing difficulties and problems with their children at school than did the non-abused women. They also reported significantly more sexual problems (table 3). The significance of these associations remained even when depression was controlled for as a possible confounding variable.

Discussion

Relation between sexual abuse in childhood and depression

We found a positive association between the more severe forms of sexual abuse and depression (100% for women who had experienced penetration and 86% for attempted penetration). Previous studies involving clinical samples have not yielded consistent results, with Peters finding an association between sexual abuse in childhood and diagnosis of depression in psychiatric inpatients,¹¹ but Meisselman finding no such association.¹² More recent studies using non-clinical samples, however, have indicated a positive association between sexual abuse in childhood and adult depression.^{2 3 13} Bifulco et al showed an increased risk of depression in their sample of women who had experienced sexual abuse in childhood and found that the highest rates of depression were associated with more severe abuse.³ Mullen et al also found that the severity of abuse was related to the degree of adult psychopathology, and they found that genital abuse and penetration made the main contribution to adult psychopathology.^{2 13} In our population of women who experienced sexual abuse in childhood, a positive association existed between sexual abuse and depression only when the abuse was severe, and no association was present when penetration or attempted penetration were excluded from the analysis.

It has been suggested that the recall and discussion of abusive experiences plays a part in the generation of distress and disorders.¹⁴ We could not have created the depression that we measured, however, as the instruments we used—namely, the general health questionnaire, the Beck depression inventory, and the schizophrenia and affective disorders schedule—were all administered before any mention of sexual abuse.

Table 2 Number (percentage) of women who were depressed, according to type of sexual abuse they had experienced as children

Sexual abuse	Depressed (n=132)	Not depressed (n=105)
Not abused (n=164)	83 (51)	81 (49)
Touch/non-penetrative (n=50)	28 (56)	22 (44)
Attempted intercourse (n=14)	12 (86)	2 (14)
Anal intercourse (n=1)	1 (100)	0
Vaginal intercourse (n=8)	8 (100)	0

$\chi^2=13.79$; P value=0.008.

Table 3 Number (percentage) of women with social problems, according to whether they were sexually abused as children

Sexual abuse	Housing problems (n=237)	Problems with children at school (n=125)	Sexual problems (n=195)
Abused (n=73)	18 (25)	9 (21)	26 (43)
Not abused (n=164)	14 (9)	2 (3)	24 (18)
χ^2 (P value)	11.24 (0.0008)	11.49 (0.0007)	13.43 (0.0002)

Prevalence of sexual abuse in childhood

Reported prevalence for sexual abuse in childhood varies from 6% to 62% of females,¹⁵⁻¹⁷ with prevalence at the higher end of the range when abuse not involving contact (such as exhibitionism, exposure to obscene phone calls, and harassment) is included.^{17 18} In our population 31% (of total population of 237 women) reported sexual abuse involving contact before the age of 16 years. However, when severe abuse—namely, penetration or attempted penetration—is excluded from the analysis, the rate of sexual abuse was 23%, which is the same as the overall rate of sexual abuse among our non-depressed population. This rate of 23% is comparable to those found in other community sample studies using similar methodologies.^{18 19}

Some evidence exists that people who give histories of sexual abuse in childhood are more likely to have various physical complaints,²⁰ and thus the prevalence of sexual abuse in childhood among a population attending a general practice—such as our population—might be higher than in the general population. However, the study period was long (8 months) in order to capture infrequent attenders, and even frequent attenders were recruited and screened only once.

The interview used in this study included a shortened version of the schizophrenia and affective disorders schedule as well as the social problems questionnaire and was designed to maximise the rapport between the interviewer and the subject before the sensitive area of abuse was approached. Disclosure was facilitated by multiple questions, giving subjects a variety of cues to respond to. However, because of the stigma and embarrassment attached to sexual abuse in childhood, our prevalence figures are, if anything, likely to be an underestimation as some people may still be reluctant to disclose such a history. The issue of false reporting or false memories is unlikely to have been an influencing factor as there were no incentives for reporting sexual abuse.

Sexual abuse in childhood and problems with children at school

Several authors have noted that some women who have experienced sexual abuse in childhood are particularly anxious and express some concern about the parental role. They feel that they cannot cope with their children's demands, have difficulty expressing affection towards them, or are confused as to how to discipline or respond to them.²¹ In 1981 Herman and Hirschman found that their incest group showed more fears of being inadequate mothers than the control group.²² Thus our finding of a significant relation between sexual abuse in childhood and reporting problems with children at school is interesting, but it must be interpreted with some caution as the total number of women experiencing such problems was small.

Sexual abuse in childhood and sexual problems

The relation between sexual abuse in childhood and later sexual problems has received some attention over recent years.^{22 23} Our findings add support to studies that have found a positive association. It remains unclear, however, whether these sexual problems are a specific and isolated effect of sexual abuse in childhood or whether they are part of a constellation of disrupted interpersonal and intimate functioning. Previous studies

Key messages

- Most researchers agree that a significant association exists between childhood sexual abuse and increased psychopathology as an adult
- The relation between sexual abuse in childhood and adult depression, however, has been unclear
- This study shows a positive association between severe sexual abuse (penetration or attempted penetration) in childhood and depression in adult life
- Women who had experienced more minor sexual abuse in childhood, however, were no more likely to be depressed than those with no history of sexual abuse

found that people who had experienced sexual abuse in childhood had difficulties forming and maintaining trusting relationships^{22 24} and confiding in their partners.²³ Contrary to these findings, the women in our study who had experienced sexual abuse in childhood were not significantly more likely to report problems confiding in their partners than the non-abused women.

We are grateful for the help and cooperation of the general practitioners, their receptionists, and the patients.

Contributors: MC initiated the study, participated in the design of the protocol, collected the data, and participated in analysing and interpreting the data and in writing the paper. AWC initiated a wider study of depression among women in general practice from which this project began, participated in the design of the protocol, discussed core ideas, participated in data interpretation, and edited the paper. CC participated in the design of the protocol and analysed and interpreted the data. MC will act as guarantor for the paper.

Funding: This study was funded by the Association of Friends of St Patrick's Hospital.

Conflict of interest: None.

- 1 Oates RK. The consequences of child sexual abuse. *Aust Paediatr J* 1987;23:267-70
- 2 Mullen PE, Romans-Clarkson SE, Walton VA, Herbison GP. Impact of sexual and physical abuse on women's mental health. *Lancet* 1988;i:841-5.
- 3 Bifulco A, Brown GW, Alder Z. Early sexual abuse and clinical depression in adult life. *Br J Psychiatry* 1991;159:115-22.
- 4 Jacobsen A, Richardson B. Assault experience of 100 psychiatric inpatients; evidence of the need for routine inquiry. *Am J Psychiatry* 1987;144:908-13.
- 5 Palmer RL, Chaloner DA, Oppenheimer R. Childhood sexual experience with adults reported by female psychiatric patients. *Br J Psychiatry* 1992;160:261-5.
- 6 Goldberg DP. *Manual of the general health questionnaire*. Windsor: NFER-Nelson, 1987.
- 7 Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J. An inventory for measuring depression. *Arch Gen Psych* 1961;4:561-71.
- 8 Endicott J. A diagnostic interview: the schedule for affective disorders and schizophrenia. *Arch Gen Psych* 1978;35:837-44.
- 9 Endicott J, Spitzer RL. Use of the research diagnostic criteria and the schedule for affective disorders and schizophrenia to study affective disorders. *Am J Psychiatry* 1979;136:52-6.
- 10 Corney RH, Clare AW. The construction, development and testing of a self-report questionnaire to identify social problems. *Psychol Med* 1985;15:637-49.
- 11 Peters SD. The relationship between childhood sexual victimisation and adult depression among Afro-American and white women [doctoral thesis]. Los Angeles, CA: University of California at Los Angeles, 1984. (University Microfilms No 84-28, 555.)
- 12 Meisselman K. *Incest: a psychological study of its causes and effects with treatment recommendations*. San Francisco: Jossey-Bass, 1978.
- 13 Mullen PE, Martin JL, Anderson JC, Romans SE, Herbison GP. Childhood sexual abuse and mental health in adult life. *Br J Psychiatry* 1993;163:721-32.
- 14 Gelinas DJ. The persisting negative effects of incest. *Psychiatry* 1983;46:312-32.
- 15 Mrazek D, Mrazek P. *Child maltreatment in child and adolescent psychiatry*. Blackwell Scientific: Rutter and Hersov, 1987.

- 16 Finkelhor D. *Child sexual abuse: new theory and research*. New York: Free Press, 1984.
- 17 Pilkington B, Kremer J. A review of the epidemiological research on child sexual abuse *Child Abuse Review* 1995;4:84-98.
- 18 Russell D. The incidence and prevalence of intrafamilial and extrafamilial sexual abuse of female children. *Child Abuse and Neglect* 1983;7:133-46.
- 19 Bagley C, Ramsey R. Disrupted childhood and vulnerability to sexual assault, long term sequels with implications for counselling. *Social Work and Human Sexuality* 1988;4:23-48.
- 20 Arnold RP, Rogers D, Cook DAD. Medical problems of adults who are sexually abused in childhood. *BMJ* 1990;300:705-8.
- 21 Goodwin J, McCarthy T, DiVasto P. Prior incest in mothers of abused children. *Child Abuse and Neglect* 1981;5:87-96.
- 22 Herman J, Hirschman L. *Father daughter incest*. Cambridge, MA: Harvard University Press, 1981.
- 23 Mullen PE, Martin JL, Anderson JC, Romans SE, Herbison GP. The effect of child sexual abuse on social, interpersonal and sexual function in adult life. *Br J Psychiatry* 1994;165:35-47.
- 24 Herman JL. Histories of violence in an outpatient population: an exploratory study. *Am J Orthopsychiatry* 1986;56:137-41.

(Accepted 16 September 1997)

Understanding controlled trials

Why are randomised controlled trials important?

Bonnie Sibbald, Martin Roland

Randomised controlled trials are the most rigorous way of determining whether a cause-effect relation exists between treatment and outcome and for assessing the cost effectiveness of a treatment. They have several important features:

- Random allocation to intervention groups
- Patients and trialists should remain unaware of which treatment was given until the study is completed—although such double blind studies are not always feasible or appropriate
- All intervention groups are treated identically except for the experimental treatment
- Patients are normally analysed within the group to which they were allocated, irrespective of whether they experienced the intended intervention (intention to treat analysis)
- The analysis is focused on estimating the size of the difference in predefined outcomes between intervention groups.

Other study designs, including non-randomised controlled trials, can detect associations between an intervention and an outcome. But they cannot rule out the possibility that the association was caused by a third factor linked to both intervention and outcome. Random allocation ensures no systematic differences between intervention groups in factors, known and unknown, that may affect outcome. Double blinding ensures that the preconceived views of subjects and clinicians cannot systematically bias the assessment of outcomes. Intention to treat analysis maintains the advantages of random allocation, which may be lost if subjects are excluded from analysis through, for example, withdrawal or failure to comply. Meta-analysis of controlled trials shows that failure to conceal random allocation and the absence of double blinding yield exaggerated estimates of treatment effects.¹

Although randomised controlled trials are powerful tools, their use is limited by ethical and practical concerns. Exposing patients to an intervention believed to be inferior to current treatment is often thought unethical. For example, a non-random study suggested that multivitamin supplementation during pregnancy could prevent neural tube defects in children.² Although the study was seriously flawed, ethics committees were unwilling to deprive patients of this potentially useful treatment, making it difficult to carry out the trial which later showed that folic acid was the effective part of the multivitamin cocktail.³ On the

other hand, failure to perform trials may result in harmful treatments being used. For example, neonates were widely treated with high concentrations of oxygen until randomised trials identified oxygen as a risk factor for retinopathy of prematurity.⁴

In other circumstances a randomised controlled trial may be ethical but infeasible—for example, because of difficulties with randomisation or recruitment. Indeed, once an intervention becomes widespread, it can prove impossible to recruit clinicians who are willing to “experiment” with alternatives. A recent attempt to conduct a trial of counselling in general practice failed when practitioners declined to recruit patients to be allocated at random.⁵ Strong patient preferences may also limit recruitment and bias outcomes if not accommodated within the study design.⁶

A third limiting factor is that randomised controlled trials are generally more costly and time consuming than other studies. Careful consideration therefore needs to be given to their use and timing.

- Is the intervention well enough developed to permit evaluation? This can be especially difficult to decide when new interventions are heavily dependent on clinicians’ skills (surgical procedures⁷ or “talk” therapies).
- Is there preliminary evidence that the intervention is likely to be beneficial (from observational studies), including some appreciation of the size of the likely treatment effect? Such information is needed to estimate sample sizes and justify the expense of a trial. Given these constraints, it remains an ideal that all new healthcare interventions should be evaluated through randomised controlled trials. Given that poor design may lead to biased outcomes,¹ trialists should strive for methodological rigour and report their work in enough detail for others to assess its quality.⁸

- 1 Schulz KF, Chalmers I, Haynes RJ, Altman DG. Empirical evidence of bias. Dimensions of methodological quality associated with estimates of treatment effects in controlled trials. *JAMA* 1995;273:408-12.
- 2 Smithells RW, Shepherd S, Schorah CJ, Seller MJ, Nevin NC, Harris R, et al. Possible prevention of neural tube defects by periconceptional vitamin supplementation. *Lancet* 1980;i:339-40.
- 3 MRC Vitamin Study Research Group. Prevention of neural tube defects. Results of the Medical Research Council Vitamin Study. *Lancet* 1991;338:131-7.
- 4 Lanman JT, Guy LP, Dancis J. Retrolental fibroplasia and oxygen therapy. *JAMA* 1954;155:223-5.
- 5 Fairhurst K, Dowrick C. Problems with recruitment in a randomised controlled trial of counselling in general practice: causes and implications. *J Health Serv Res Policy* 1996;1:77-80.
- 6 Brewin CR, Bradley C. Patient preferences and randomised clinical trials. *BMJ* 1989;299:313-5.
- 7 Russell I. Evaluating new surgical procedures. *BMJ* 1995;311:1243-4.
- 8 Altman DG. Better reporting of randomised controlled trials: the CONSORT statement. *BMJ* 1996;313:370-1.

This is the first of an occasional series on the methods of randomised controlled trials

National Primary Care Research and Development Centre, University of Manchester, Manchester M13 9PL

Bonnie Sibbald, reader in health services research
Martin Roland, director of research and development

Correspondence to: Dr Sibbald.

BMJ 1998;316:201