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Social support and life events as risk factors for depression amongst women in an urban setting in Zimbabwe

■ **Abstract** *Background*: This paper explores the applicability of a psychosocial model of depression in an African setting. *Method*: Of a random sample of women ($n = 172$) from a Zimbabwean township, 79 had a severe life event in the year before interview. Twenty-nine who had an onset of depression were compared with 50 who did not. *Results*: Having crisis support following a severe life event reduced the risk of onset of depression. The effect of crisis support was confounded by the number of severe events in the study year, but just persisted following adjustment for number of severe events and for socio-demographic factors. Women received crisis support more often from relatives than from partners or friends. The following variables were independently associated with onset of depression following a severe life event: number of life events in the previous 6 months, age, being in formal employment, having crisis support and separation from mother in childhood. *Conclusion*: This study supports the ubiquity of the social support construct. For Zimbabwe, the data suggest that crisis support from family members may be of particular importance in protecting against onset of depression.

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Introduction

This paper explores the applicability of a psychosocial model of depression in an African setting. It does so by examining the role of social support in the onset of depression in 79 Zimbabwean women who experienced at least one severe life event in the preceding year.

There exists an extensive literature on support in Western settings (see, for instance, Veiel and Baumann 1992 and Brugha l995). Major debates exist about the nature of the interaction between social support, adversity and mental health and about the interplay between social support, personality, life experience and exposure to life events (Champion 1990; Paykel and Cooper 1992). Brown and colleagues found that, amongst women in London, support involving a high degree of confiding is protective against the onset of depression following a severe life event (Brown and Harris 1978). We wished to study this in the Zimbabwean context. In doing so we also wanted to explore the frequency of confiding relationships given some suggestion, from pilot work, that emotional confiding may be less a feature of supportive relationships than in the West. In traditional rural

Zimbabwean society, family members are generally held to have the main role in providing support; for instance, the *tete* (a woman's paternal aunt and/or sister-in-law) is a woman's official confidant. In the new urban situation, we wanted to explore who were the main supportive contacts.

Our aims were:

1. To describe the womens' social networks and supportive contacts
2. To describe the frequency of confiding relationships and who any confidants were, and
3. To test the hypothesis that having crisis support from at least one person following a severe life event would be associated with a reduced risk of onset of depression, after adjustment for demographic factors.

Pilot work had also indicated that women had often been separated from their mother in childhood due to the traditional practice of sending children away to live with other relatives following the birth of a sibling. Given the literature suggesting that this may be associated with adult depression in Western settings (see Goldberg and Huxley 1992), we also wanted to explore whether childhood maternal separation would be a risk factor for depression in Zimbabwean women.

Subjects and methods

■ The sample

Glen Norah is a low-income, high density township on the southern edge of Harare. In 1994, the population was around 30,000. Land for dwellings is divided into plots called "stands", arranged in numbered order on a grid of single track roads. Two hundred stands were selected from a total of 5000, using random number tables. All 200 stands were visited and the names of women resident there aged 18 to 65 were listed. One of these women was randomly selected for interview. In order to avoid undersampling from those living in more crowded homes (P. Bebbington, personal communication), for stands at which more than four women lived (eight stands), two women were randomly selected. In total, 181 women were identified for interview, of whom 172 took part (95%) (Abas and Broadhead 1997). Of these, 79 had experienced at least one severe life event in the year before interview (Broadhead and Abas 1998). These 79 women constitute the sample for this analysis.

■ Instruments

Sociodemographic questionnaire

Demographic and life history material was based on a schedule used in London (Brown and Harris 1978) in combination with one developed by Folta and Deck (1988) for Zimbabwe. Modifications for the local setting took account of such details as polygamous marriages, measures of urbanisation, including contact with a rural home and number of years of city living and indices to reflect poor economic circumstances and overcrowding, such as the number sharing one WC (toilet)/washtap with the subject.

As a part of this questionnaire women were asked about their social network (Brown and Harris 1978). Those named in response to the question "When you have something bothering you or worrying you, do you have anyone to go and talk to about it?" were termed "confidants". In order not to miss possibly important others who gave support, but without confiding being necessary, we also asked "If you had a big problem, who would you go to for help, although you may not actually discuss the problem with them?". A person named in response to this question who had not already been named as a confidant was termed a "support tie".

The Shona Screen for Mental Disorders (SSMD)

The SSMD was devised as a screening instrument to be used by non-medical personnel for the detection of symptoms of common mental disorders, present for at least a 2 week period in the previous year (Abas and Broadhead 1997).

Life Events and Difficulties Schedule (LEDS)

An adaptation of the LEDS (Brown and Harris 1978) for the Zimbabwean situation was used to collect information about life events experienced by women in the year before interview (Broadhead and Abas 1998).

Definition of severe event. As in other research using the LEDS, "severe event" refers to an event scoring 1 or 2, on a four-point scale of long-term threat (i.e. at 10–14 days) which is focused on the subject or on the subject jointly with another person. As has been reported elsewhere, severe events were strongly associated with the onset of depression in the random sample of 172 women (Broadhead and Abas 1998).

Crisis support

An adaptation of the LEDS section on crisis support (Brown and Harris 1978) for the Zimbabwean situation was used. Questioning focused on the "index severe event", i.e. or, for women with an onset of depression, any severe event occurring in the 6 months before onset and closest before onset. Crisis support data in relation to the index severe event were collected for:

1. The woman's partner, *tete*, mother and mother-in-law
2. Any other contacts identified as either confidants or support ties, and
3. Anyone else who gave support.

Exploring crisis support. Enquiry covered (Brown et al. 1986):

i. The degree of confiding (Were you able to tell X what happened and how you felt? Was there anything you couldn't say?)
ii. Whether X offered active emotional support (Was he/she sympathetic? In what way? Was there anything in his/her response which was upsetting for you? Did he/she give you good advice? How helpful was this?)
iii. The extent to which practical help was offered (What did he/she do to help you? How helpful was this?), and
iv. The nature of any negative verbal or behavioural responses.

Rating crisis support. The quality of support was rated in terms of (i) confiding, (ii) active emotional support, (iii) practical support and (iv) negative response, using four-point scales ('1-marked', '2-moderate', '3-some', '4-little/none') (Brown et al. 1986; Brown 1992).

Each rating was made by consensus between two or three trained Zimbabwean raters, only one of whom was not blind to the woman's mental state. To avoid possible ethnocentric bias, the two authors who are not black Zimbabweans (J.B. and M.A.) did not rate, but acted as prompts to ensure all information was considered blind to the woman's mental state.

Definition of crisis support. A woman was rated as having received crisis support for the index event from a specific person if scores on the four-point scales were as follows:

i. Confiding about the event was '1-marked' or '2-moderate', and
ii. Active emotional support was '1-marked' or '2-moderate', and
iii. Negative response after the event was no higher than '3-some'.

This definition of crisis support is the same as that used in London by Brown and colleagues (Brown 1992).

Examples
Ratings of support from a husband:
A 30-year old woman married for 5 years with no children. Husband is faithful and provides well for her financially. The event is an ectopic pregnancy. He is sympathetic about her physical symptoms and the loss, and is helpful in various practical ways. However, she is unable to tell him that she fears he will take a second wife if they remain childless. *Rated: confiding = 3, active emotional support = 2, practical support = 2, negative response = 4. Thus, does not rate as having received Crisis support from husband, since confiding falls short of a '2-moderate' rating.*
Ratings of support from a *tete*:
A woman, aged 18, became pregnant 3 months before interview. She eloped to live with her boyfriend, who paid "damages" to her family and began traditional marriage preparations. The event is a miscarriage, following which the boyfriend accuses her of witchcraft and of killing the child. He begins to spend nights with other women. The woman confided in her *tete*, who supports and advises, admonishes the boyfriend and prepares the woman's parents for their daughter's return. *Rated: confiding = 1, active emotional support = 1, practical support = 1, negative response = 4. Thus, rates as having received Crisis support from tete.*

Present State Examination (PSE)

The screening version of the ninth edition was used (Wing et al. 1974). This includes the non-psychotic items supplemented by a small number of additional probes. The process of preparing the Shona translation has been described (Abas and Broadhead 1997).

The PSE ratings used for "caseness" analysis covered the peak month of symptoms over the previous year. Following the procedure described by Brown and Harris (1978), the interviewer dated the onset, and any recovery within the year, i.e. to normal or to "borderline caseness", as accurately as possible using events such as school terms as anchor points.

Definition of depression. Women were categorised as depressed if the Bedford College criteria were satisfied (Finlay-Jones et al. 1980). These are somewhat stricter than threshold level 5 of the CATEGO-ID system, and comparable with Research Diagnostic Criteria (Dean et al. 1983).

■ The interviews

Interviews were carried out by one of a trained team of three Zimbabwean Shona-speaking women, each with a background in psychiatry or the social sciences. Selected subjects were visited and the study described in terms of research about women's health. Preparatory discussions with local community leaders helped to publicise the study and to ensure a very high level of participation. If a selected woman was absent, the stand was revisited until she was found. Interviews were arranged for times when relatives such as husbands and mothers-in-law were out, were tape recorded and, other than the presence of small children, were carried out in as much privacy as possible.

■ Analysis

Analysis was performed using Epi Info version 6 and STATA version 5.

Descriptive analysis (means and SDs for continuous variables and frequencies for categorical variables) was carried out on the sample of 79. Where appropriate, categorical variables were generated from continuous variables, e.g. quarters and thirds. Depression was the binary outcome variable.

The distribution of variables was then compared between depressed and non-depressed by comparing means of normally distributed continuous variables, medians for non-normally distributed continuous variables and frequencies for categorical variables. Classical Mantel Haenszel methods were used to look at the effect of crisis support on depression, controlling one at a time for around ten key demographic variables and for the number of severe events in the previous 12 months. The odds ratio for depression was observed to see whether any of the variables appeared to be confounding the relationship between crisis support and depression. Multiple logistic regression was then used to look at the effect of crisis support on depression, controlling simultaneously for key demographic variables and for number of severe events. After each variable was added, the odds ratio for the effect of crisis support was observed to look for confounding and a likelihood ratio test was carried out to test the contribution of crisis support to the model.

The effect of separation from mother was modelled separately, controlling for those variables available that were considered to be possible confounders, such as separation from father.

Finally, a parsimonious model for depression was constructed, putting in those variables shown from the earlier analyses to be making a major contribution to the model. Each variable was removed separately from the model, using a likelihood ratio test to test its contribution.

Results

■ Description of the sample of 79 women

As shown in Table 1, the mean age of the subjects was 33 years, 81% were married and 84% had at least one child. Nineteen percent of women had lost one or more children through death. The mean number of years in education was 8.2 (SD 3.6). Nineteen percent were employed in the formal sector outside the home, and 35% worked informally from home, mostly knitting or selling vegetables. Of the 64 with a

Table 1 Characteristics of the sample (*n* = 79)

Characteristic	
Age (mean)	33 years (SD 10)
Married	81%
Polygamous marriage	8%
Divorced	17%
Children (median number)	3 (range 0–11)
Lost a child through death	19%
Years education (mean)	8.2 (SD 3.6)
1 or more O'levels	23%
Formal employment	19%
Urban home owner	37%
Household number sharing 1 toilet/tap (mean)	8.9 (SD 3.3)
Length urban residence (median)	17 years (range 0–38)
Semi-rural (migrates seasonally between urban and rural centres)	33%
Separated from mother in childhood >1yr	28%

husband, 92% of husbands were employed. Of these, 25% were managerial or clerical and 75% were skilled or unskilled manual workers. Only 57% of the 79 women were able to estimate their total family income. For these, the median family income was Zimbabwe $512/month (equivalent then to around $US50/month). Thirty-seven percent were urban home owners. Most lived within small concrete houses, others in wooden shacks or blocks of flats. Forty-one percent had one room for their immediate household, 35% had three rooms and the rest had either two, four or five. The mean immediate household size was 5.4 (SD 2.8). However, the extended household was usually larger due to the presence of other tenants or lodgers. The mean number of people sharing one toilet/washtap was 8.9 (SD 3.3). The median length of urban residence was 17 years (range 0–38). Thirty-three percent lived a semi-rural life, returning to a subsistence farming area for several months each year. The median number of severe events in the 12 months before interview was 2 (range 1–5). Thirty-five percent of women had experienced one severe event, 43% two and 23% three or more.

Forty-three percent of women's fathers (33/77) had been subsistence farmers or unskilled workers, 35% had been skilled manual workers and 19% had been clerical/managerial. Twenty-eight percent of the women (22/79) had been separated from their mother (and 41% from their father) for over 12 months before age 11. The mean age at separation was 5.6 years (SD 2.8). Seventy-five percent of these were separated for 5 or more years. For 16 (73%) of the 22 women, the separation was associated with the traditional practice of sending children away to live for long periods with other relatives. A further four were separated as a result of mother's death and two for other reasons.

■ Social contacts in the year before interview

Women were in regular contact with a mean of 8.1 relatives (SD 2.7), either through a shared household or outside the immediate home. Women were in regular contact with a mean of 1.8 (SD 1.1) friends who were not relatives.

Ninety-one percent of women (72/79) described having at least one confidant. Women had a mean of 2.6 (SD 1.2) confidants excluding partners. For those 72 women with a husband or boyfriend, 52% had a partner who was a confidant. Ninety-seven percent named at least one support tie (mean support ties 1.7, SD 1.1). Only 2 of the 79 women named neither a confidant nor a support tie.

Of all identified confidants, 42% were female members of the woman's own family, 5% male members of the woman's own family, 27% were partners, 21% female friends and 5% members of the

husband's family. Most support ties were also family members.

■ Crisis support following the index severe event

Eighty-six percent of women (68/79) received crisis support from at least one person following the index severe event in the year before interview. Women received crisis support from a mean of 2.5 (SD 1.4) people following the event. Sixty-nine percent of women (64/79) received crisis support from a member of their own family and 35% received crisis support from a friend, over half of whom were church friends. Of those with a husband, 47% received crisis support from their husband and 48% received crisis support from a member of their husband's family.

Of all those providing support, 70% had been named as having been confidants before the event, 24% had been support ties before the event and 6% had been neither before the event.

■ Univariate associations with depression (Table 2)

Depressed women were less likely to be in formal employment ($\chi^2 = 4.34$, 1 df, $P = 0.037$) and were more likely to live in overcrowded conditions, i.e. sharing toilet facilities with a mean of 1.7 more people (unpaired two tailed t-test, $t = 2.0$, 77 df, $P = 0.05$). For the 64 married women, depressed women were less likely to have an employed husband ($\chi^2 = 4.25$, 1 df, $P = 0.039$). Depressed women were less likely to have had crisis support following the index severe event ($\chi^2 = 7.56$, 1 df, $P = 0.006$) and they had a higher number of severe life events in the 12 months before interview ($\chi^2 = 20.65$, 2 df, $P = 0.000$). Depressed women were more likely to have been separated from their mother for more than a year before the age of 11 ($\chi^2 = 4.20$, 1 df, $P = 0.041$).

■ The effect of crisis support on the risk of depression (Table 3)

Risk of an onset of depression following the index event was lower in those with crisis support (OR = 0.13, 95% CI = 0.02, 0.67) [Likelihood ratio statistic χ^2 (1 df) = 10.26, $P = 0.001$]. There was some evidence of confounding by educational qualification, in that adjustment for having one or more O'levels reduced the odds ratio closer to 1, from 0.13 to 0.17 (95% CI = 0.03, 0.92) and the likelihood ratio (LR) fell from 10.26 to 7.43. There was some negative confounding by formal employment status, in that following adjustment the effect of crisis support rose (OR fell from 0.13 to 0.09, 95% CI = 0.01, 0.59) and

Table 2 Characteristics of non-depressed and depressed women (*N* = 79)

Characteristics	Not depressed (N = 50)		Depressed (N = 29)	
	n	%	n	%
Aged ≤25 years	15	32	11	38
Married	41	82	23	79
Polygamous marriage	4	10	2	7
Religious	50	100	28	97
Divorced	8	16	5	17
Children	44	88	23	79
Lost a child through death	9	18	6	21
Educational qualification (1 or more O'levels)	11	27	5	18
Formal employment	13	26	2	7*
Home owner	21	42	8	28
Overcrowded (Share toilet with >8)	21	42	18	62*
Semi-rural (migrated between urban and rural centres)	18	36	8	27
Separated from mother in childhood	10	20	12	41*
Confidant	46	92	26	90
Crisis support from at least 1 person	47	96	21	75*
>1 severe event in previous 12 months	24	48	28	97*

*Significant difference for univariate analysis

the LR rose from 10.26 to 11.26. There was also slight negative confounding by overcrowding, in that following adjustment, the odds ratio fell from 0.13 to 0.09 (95% CI = 0.02, 0.54) and the LR rose from 10.26 to 12.08. There was evidence of confounding by severe events, in that adjustment for number of severe events in the previous year reduced the odds ratio closer to 1, from 0.13 to 0.20 (95% CI = 0.04, 0.99) and the LR fell from 10.26 to 6.27.

As seen in Table 3, the effect of crisis support on depression persisted following adjustment for age, marital status, number of children, educational achievement, formal employment, owner-occupier status, household overcrowding, years of urban residence and number of severe events in the previous year.

■ Crisis support and the role of the family

Given that crisis support was received from three main groups of contacts, i.e. family members, partners and friends, the three variables were placed into a multiple logistic regression model (Table 3). Only crisis support from family members contributed to a model for depression following adjustment for crisis support from partners and crisis support from friends (OR = 0.20, 95% CI = 0.06, 0.67) [LR χ^2 (1 *df*) = 8.57, *P* = 0.003). This suggests that family members are making a key contribution to the effect described above of crisis support.

■ Separation from mother

Separation from mother for more than 1 year before the age of 11 was associated with an increased risk of onset of depression following adjustment for separation from father, father's occupational status, and parental marital separation (OR = 6.2, 95% CI = 1.21, 33.4, *P* = 0.033) (LR χ^2 = 5.62, *P* = 0.018).

■ Parsimonious model

From the model for crisis support and the model for separation from mother, the following variables were found to be contributing to one parsimonious model for depression: number of severe events in the previous 6 months, age, being in formal employment, having crisis support and separation from mother in childhood. The overall χ^2 for this model was 45.2 (6 *df*) (*P* = 0.0000). Both crisis support and separation from mother contributed to this model [LR test for crisis support χ^2(1 *df*) = 4.58, *P* = 0.032; LR test for separation from mother χ^2(1 *df*) = 4.21 *P* = 0.040].

Discussion

The main findings concern: (1) womens' confidants and social networks, and (2) the role of crisis support in protecting against onset of depression. Women in Harare described confiding relationships, most of which (79%) were with family members, 46% with female relatives. This is surprisingly similar to the London situation, in which 48% of women's confidants were also female relatives. However, in London, 43% of confidants were female friends, compared with only 21% in Harare (Tirril Harris, personal communication). Women were in regular, mostly visual,

Table 3 Effect of crisis support on the risk of depression using logistic regression and multiple regression modelling

Crisis support	Odds ratio for depression (95% CI)	Likelihood ratio χ^2 (1 df)	P-value
Crisis support (yes/no) from at least one person	0.13 (0.02, 0.67)	10.26	0.001
Crisis support (yes/no) from at least one person (adjusted)[a]	0.10 (0.01, 0.72)	9.11	0.003
Crisis support (yes/no) from at least one person (adjusted)[b]	0.08 (0.01, 0.99)	4.04	0.045
Crisis support (yes/no) from at least one family member (adjusted)[c]	0.20 (0.06, 0.67)	8.57	0.003

[a] Adjusted for age, educational achievement, marital status, number of children, formal employment, overcrowding, owner-occupier status and years of urban residence

[b] Adjusted for age, educational achievement, marital status, number of children, formal employment, overcrowding, owner-occupier status, years of urban residence and number of severe events in previous year

[c] Adjusted for crisis support from a partner, crisis support from a friend, age, educational achievement, marital status, number of children, formal employment, overcrowding, owner-occupier status, years of urban residence and number of severe events in previous year

contact with an average of eight relatives and two friends. In traditional Zimbabwean society, women live within their own extended family before marriage and within their husband's after marriage. Within the newer urban environment, women still appear to have most contact with family members as opposed to friends. Female friendships outside the family were still not widely condoned by women's husbands. Most of the friends were contacts through the church or through being close neighbours.

Following the index severe event, women tended to turn to those they knew. Only 6% of those providing crisis support had not been considered a supportive contact before the event. At the time of the crisis, women increased their level of confiding with those to whom they did not normally confide in detail. The largest group of those giving crisis support were women's blood relatives. Women tended not to utilise "official channels" such as the courts or the social welfare system. Compared to men, women in Zimbabwe have a particular difficulty in gaining access to the non-kin based sources of support and these, in any case, are very limited compared with those in Western settings (Stewart et al. 1990). Family members are hence often crucial in dealing with crises, e.g. in providing food and shelter after a marital separation, or through their ability to restore a woman's sense of self-worth following a variety of stressors.

Ratings of the level of support received were made by trained black Zimbabwean raters from within the Zimbabwean context of what constituted marked, moderate, some or little support. Of the authors, the two who are British (J.B. and M.A.) did not rate, but were present when all ratings were made, acting as prompts to ensure all relevant information was considered. It was their impression, without conducting formal parallel ratings, that a somewhat lower level of confiding and active emotional support was ascribed a moderate or high rating in the Zimbabwean context. This remained consistent throughout the study. Differences included such factors as

1. People in Zimbabwe said less than might be needed for a high rating in London.
2. Lack of a negative response, e.g. from a partner or father, contributed to a rating of positive support from them.
3. Physical gestures such as the giving of a small amount of money contributed to some high ratings, and
4. Continuation of sex, in some cases, was taken as proof of a husband's emotional commitment to the marriage.

This paper shows that, for women in Harare, crisis support is associated with reduced risk of onset of depression following a severe life event. This replicates findings in Western settings that crisis support may act as a protective buffer between adverse life events and subsequent disorder (Alloway and Bebbington 1987). It is striking that the effect of crisis support persisted following adjustment for demographic factors, although there was some confounding by educational achievement, and some negative confounding by overcrowding. Overcrowding was associated with more crisis support, presumably through more availability of people with whom to form social networks. Overcrowding was also associated with more depression, presumably via poverty and other social adversity such as high mobility, both urban-rural and urban-urban.

Following adjustment for number of severe events in the study year the effect of crisis support only just remained significant, at the 4.5% level. This is not surprising and relates to the interrelationship between events and support. Most severe events were marital or other relationship crises, bereavements or events related to infertility or to unwanted pregnancy (Broadhead and Abas 1998). Those women who had just one event in the study year may have had, for instance, a bereavement. In those with multiple events, e.g. a bereavement followed by a crisis through being blamed for the death, there may be less scope for the support to be effective. Although the sample size was very small, it is striking that support from a

family member appears to be strongly effective even following adjustment for demographic factors and number of severe events. The family is of great importance in Zimbabwean society. Support and acceptance from a family member, e.g. following a marital crisis, can change the long-term implication of the severe event for the woman. More work is needed to study local concepts of support and to understand more about such issues as confiding, marital intimacy and the roles of the family and of the wider social network in the Zimbabwean context.

It is striking that early separation from mother, shown to act as a vulnerability factor in the original London research (Brown and Harris 1978) and in several Western studies (see Goldberg and Huxley 1992), also appeared to play this role in Harare. Thirty-five percent of the Harare women had been separated from their mothers in childhood, mostly as a consequence of the practice of sending children to live with and help other relatives, which often coincided with the birth of a sibling. It is unclear how the child to be separated was selected, e.g. whether this reflected the child's personality in any way, and we have no data about how they were subsequently treated. However, such separations were associated with a significantly increased risk of depression. This finding requires further investigation and may be of public health importance (Ormel and De Jong 1999).

There are obvious criticisms that can be made of this study. The main hypothesis concerned the effect of receiving crisis support from anyone. Although an effect was demonstrated, the probability that this is due to chance is 4.5% and the confidence intervals are very wide, reflecting the small sample size. An effect of crisis support from a family member was demonstrated at the 0.03% level; however, this is a post-hoc finding and should be taken as hypothesis generating. There may have been an effect of crisis support from friends, but only 35% received it, and hence the study had limited power to demonstrate an effect.

Secondly, the weakness of the retrospective design may have led to distorted recall about support received. Women were required to remember support occurring up to 18 months before the interview, although for over 90% of the sample the period was within the previous 12 months. Depressed women may be biased towards negative memories of the support they received. Depressed women or those with residual depression may have had poorer memory compared with women who remain euthymic. We attempted to offset this by using a well-developed systematic approach to data collection, which has been shown to be reliable, especially given its focus on obtaining accounts of *behaviour* that occurred rather than on women's *feelings* about the support at the time of interview (Brown 1974). In the UK, prospective studies have essentially replicated findings from retrospective studies that have used this same approach (Brown et al. 1986).

Thirdly, the study relied heavily on instruments and measures developed in a European setting (Brugha 1995). Nevertheless, a consistent approach was employed to take account of cultural differences. Earlier papers discuss this with relation to the diagnosis of depression and the rating of life events (Abas and Broadhead 1997; Broadhead and Abas 1998). Similar approaches were used in this part of the study for social support. Interviews and ratings were carried out by a team of trained black Zimbabwean researchers. The rating of support was made by consensus, using LEDS crisis support guidelines, but within the local context of what constituted high or low support.

Fourthly, there may be residual confounding of the effect of the support, e.g. by socio-demographic factors. It was difficult to measure some social factors, e.g. income (only 57% of women knew their family income). Husband's employment status was associated univariately with depression, but given only 81% were married, we did not use this for regression modelling as it reduced the sample size still further. It would have been preferable to have been able to control for variables reflecting poverty, such as being in debt or being unable to afford basic commodities, and to have been able to adjust for education as a continuous measure. Nevertheless, we were able to adjust for a range of socio-demographic indices and these appeared to be only weakly confounding the effect of crisis support.

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