Randomised controlled trial of training health visitors to identify and help couples with relationship problems following a birth

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SUMMARY

Background: *Stresses imposed by parenthood can provoke or intensify relationship problems between parents. These problems, which are often associated with postnatal depression, can have serious consequences for family well-being but are often not revealed to primary health care personnel.*

Aim: *To evaluate a means of extending the primary health care team's ability to identify and respond to relationship problems of mothers and their partners in the postnatal period.*

Design of study: *Cluster randomised controlled trial.*

Setting: *Specially trained health visitors in nine 'intervention' clinics — each matched with a 'control' clinic' in an outer London borough.*

Method: *Health visitors in intervention clinics invited mothers attending for the six-to-eight-week developmental check to complete a screening scale for relationship problems, and offered help (supportive listening, advice, or referral) if needed. When visiting the clinic for the 12-week immunisations, mothers from all clinics were asked to complete a follow-up self-report questionnaire. After the completion of the trial, 25 women who had attended the intervention clinics and had been offered support with a relationship problem were interviewed to elicit their views on the acceptability and value of the intervention. All 25 of the health visitors engaged in the intervention were asked to complete a questionnaire on their experience.*

Results: *Screening led to striking differences between intervention and control clinics in the percentage of women identified at the six-to-eight-week check as potentially in need of help with a relationship problem (21% versus 5%,* P = *0.007) and in the percentage actually offered help (18% versus 3%,* P = *0.014). About one-half of the mothers so identified were also identified as having postnatal depression. At the 12-week visit for immunisations, the intervention group was twice as likely (*P = *0.006) as the control group to report having discussed relationship problems with the health visitor and 75% more likely (*P = *0.046) to report having received help with a problem.*

Conclusion: *The intervention offers a useful way of extending the primary health care team's ability to respond to problems that often have serious consequences for family well-being.*

Keywords: *randomised controlled trial; health visitor; postnatal depression; marital relationship.*

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Introduction

A NUMBER of studies have found evidence suggesting that stresses imposed by parenthood often provoke or intensify discord between the parents.[1,2] This discord, which is often associated with postnatal depression,[3-6] may ultimately have serious consequences for the well-being of the couple and their children.[7-11] The physiological processes that may link relationship discord and morbidity have become a productive field of research.[12,13]

There are already evidence-based procedures for identifying postnatal depression and for responding to it as part of primary care.[14-16] It has been suggested that when this disorder is associated with relationship problems these should be taken explicitly into account, though the practical implications of doing so for primary care personnel have not been established.[17-19] Whether or not associated with postnatal depression, serious relationship difficulties warrant the close attention of the primary care team since the consequences will often be more pervasive and more enduring than those of postnatal depression for the well-being of the couple and for the quality of their parenting.

Some patients with these problems seek help from their general practitioners (GPs) but the evidence suggests that most are reluctant to do so.[20,21] The subject of this paper is the trial of a strategy that assigns a frontline role to the health visitor, a strategy that takes account of the demonstrated effectiveness of this practitioner in identifying and supporting women with postnatal depression and other emotional problems.[14,22,23]

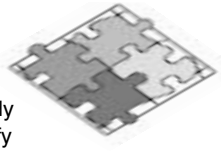
Method

Study design

The study area was an outer London borough and the units randomised for the trial were clinics used as bases by the health visitors employed by the NHS trust serving the borough. Nine matched pairs of clinics took part, with one from each pair randomly chosen as the intervention clinic. The principal matching criterion was the socioeconomic level of the area served by the practices to which the health visitors were attached.

Health visitors based at intervention clinics were asked to invite all mothers attending for the six-to-eight-week developmental check to complete a Relationship Dynamics Scale (described below), and to respond appropriately if the mother's answers and subsequent discussion revealed a relatively serious problem and whether help would be acceptable. Appropriate forms of help could include supportive listening, practical advice to the mother or the couple, and, if it seemed appropriate, encouragement of the couple to see a

HOW THIS FITS IN



What do we know?

Evidence-based procedures are already widely used by health visitors to identify and support women with postnatal depression, but do not specifically address relationship problems between parents — problems that often have serious and enduring consequences for family wellbeing.

What does this paper add?

Health visitors participating in the study were already offering screening and support for postnatal depression. The study showed that, after a short training course, they could also become effective providers of screening and support for relationship problems between parents.

relationship counsellor. One or more follow-up visits might be arranged, sometimes to see the mother, sometimes the couple. To train for their role in identifying and helping couples with problems, the health visitors attended the 'Brief Encounters' course for primary care providers — a four-day training in relationship support, accredited by the Royal College of Nursing and available since 1994. An earlier investigation of the views of participants in 14 courses had revealed exceptional enthusiasm for the training.[24] Health visitors in the control clinics did not receive this training until after the trial, and were expected to rely on problems being revealed spontaneously.

Sample calculations

The intended sample of women comprised all mothers believed to be currently living with a partner who were seen for their baby's six-to-eight-week check by a health visitor in one of the participating clinics during the trial, which started in November 1997. The initial choice of number of clinics (eight pairs) and number of women per clinic (50) was estimated to provide 80% power of detecting an improvement in the proportion of relationship problems identified by health visitors — from 10% (the proportion it seemed plausible to suppose might be revealed spontaneously) in the control clinics to an expected 25% (minimum) in the intervention clinics.[25] The coefficient of variation (k) for the true proportions between matched pairs of clinics (an alternative to the intra-cluster correlation coefficient[26] as a measure of the tendency of patients using the same clinic to behave similarly) was assumed to be 0.25. When calculated from data collected from the control clinics (giving an upper limit for a matched-pairs design) a value for k of 0.19 was obtained.

To allow for the possibility of a clinic dropping out (though in fact none did) an additional matched pair was included in the trial. In the event, the additional pair of clinics and the fact that the effect of the intervention was much greater than anticipated meant that sufficient power was obtained in the trial with fewer than 50 births per clinic.

Data collected

At the six-to-eight-week check, mothers using the intervention clinics completed a questionnaire that contained an eight-item Relationship Dynamics Scale. Each item in this scale is a symptom of what, if it occurred frequently, would be commonly regarded as a serious inadequacy in the relationship. For example, one of the items is 'I feel lonely in this relationship'. For each symptom, the responder is required to indicate whether it occurs 'almost never', 'once in a while', or 'frequently'. These responses are scored 1, 2, and 3 respectively, so that the total score varies between a minimum of 8 and a maximum of 24. Health visitors in the intervention clinics were asked to invite the mother to discuss problems if responses showed either (a) a total score of 13 or higher or (b) a response of 'frequently' against any of the eight problems in the scale. It was believed that these criteria (which were based on the experience of the originators of the scale — see below) would identify mothers whose relationship problems were relatively serious. They would also, of course, be women who wished to take the opportunity of revealing these problems to the health visitor.

The scale is a slightly amended version of one developed by psychologists at the University of Denver and used by them in a national telephone survey in the United States in 1997.[27] In that survey, responses to the scale were a stronger predictor of whether responders were actively thinking about divorce than were measures of happiness together, commitment, or sexual satisfaction (Scott Stanley, personal communication, 1999). The reliability of the scale is demonstrated by high internal consistency — Cronbach's alpha was 0.875 for the combined samples at 12 weeks (n = 671).

At the six-to-eight-week check, health visitors at both intervention and control clinics were asked to complete an intervention record showing the action taken, if any, in response to a relationship problem or postnatal depression or both.

When they saw the health visitor for the 12-week immunisations, mothers at both intervention and control clinics were asked to complete a follow-up self-report questionnaire. This contained the Relationship Dynamics Scale (the one already administered at the six-to-eight-week check to mothers seen by health visitors based at the intervention clinics), a series of questions about the mother's experience of help received with relationship problems from the health visitor or anyone else, and questions on sociodemographic characteristics.

After the completion of the trial, 25 women who had attended the intervention clinics and had been offered support with a relationship problem were interviewed to elicit their views on the acceptability and value of the intervention. In a separate enquiry, all 25 of the health visitors engaged in the intervention were asked to complete (anonymously) a questionnaire on their experience.

Statistical methods

A risk ratio (RR) was calculated for each outcome as the geometric mean of the RR specific to each pair of clinics.[28] (Note: 0.5 was added to zero numerators as suggested by Armitage and Berry[29]) Paired t-tests on the logarithms of the RRs were used for significance tests and to calculate confidence intervals. The robustness of the t-tests was confirmed by the consistency of their results with those of the matched-pairs Wilcoxon test. To take account of any effects of differ-

ences in sociodemographic characteristics between users of clinics in each pair, the procedure was then repeated for standardised cluster statistics. Each of the latter was the ratio of the sum of observed values of each outcome to the sum of predicted values from a logistic regression of the outcome on each of the sociodemographic characteristics shown in Table 1. No significant differences were found and the adjusted and unadjusted results were similar. Because data on sociodemographic characteristics were often missing, the results after adjusting for their effects (Tables 2 and 3) are based on smaller numbers than those used to calculate the unadjusted results.

Results

The flow diagram shows the progress of women through the study and (at the bottom) details of loss to follow-up. The lower losses to follow-up among the intervention group (28% versus 36%) are probably explained by the motivating effects of the special training the health visitors had received and their experience of implementing the intervention.

Table 2 shows a powerful effect of the intervention. In the intervention group, one in five mothers was reported to have a problem and most were offered help with it. In the control group, where a relationship problem would not usually have been identified unless revealed spontaneously by the mother, one in 20 was reported to have a problem and help with it was offered to only 3% of mothers.

Most health visitors in both intervention and control clinics were already screening for postnatal depression at the six-to-eight-week check before this trial began — using the Edinburgh Postnatal Depression Scale in combination with their own judgement — and continued to do so throughout the trial. Of all women for whom intervention records were submitted after the six-to-eight-week check, an offer of help with this disorder was reported for 79 (17%) in intervention clinics and 49 (10%) in control clinics. These figures are close to the range (10–15%) reported by other studies.[16] Help was offered to around one-half of the women offered

Table 1. Sociodemographic characteristics of women in study population as reported at visits for 12-week immunisations to nine paired intervention and control clinics.[a]

Sociodemographic characteristic	Intervention clinics		Control clinics	
	n[b]/total	%	*n*[b]/total	%
Married	220/345	64	230/330	70
Cohabiting	94/345	25	74/330	22
Married or started living with partner less than two years ago	34/342	10	38/330	12
Own or are buying home	251/343	73	250/329	76
Non-white	26/344	8	18/330	5
Stopped full-time education at age 16 or less	145/323	45	146/312	47
Mean age (range) in years	29.5 (16–44)		29.1 (17–40)	
Mean number of children (including latest)	1.78		1.81	

[a]No differences significant: $P>0.1$ for all characteristics (Wilcoxon signed rank test on mean scores). [b]Responses to some questions were missing. Denominator in each case is number who provided the required data.

Table 2. Outcome of intervention by health visitors on identification of, and help with, relationship problems at nine paired intervention and control clinics.

	Intervention clinics		Control clinics		Unadjusted risk ratio[b] (95% CI)	*P*-value[c]	Adjusted risk ratio[d] (95% CI)	*P*-value[e]
	n/total[a]	%	*n*/total[a]	%				
Outcome as reported by health visitors following 6–8 week check								
Relationship problem identified	97/459	21	24/502	5	4.95 (2.6–9.4)	0.001	3.97 (1.7–9.6)	0.007
Intervention for relationship problem offered	82/450	18	14/484	3	6.17 (3.0–12.8)	0.001	4.14 (1.5–11.7)	0.014
Intervention for postnatal depression offered	79/468	17	49/484	10	2.29 (1.3–4.1)	0.012	2.12 (1.0–4.5)	0.053
Outcome as reported by mothers[f] at or following 12-week visit for immunisations								
Discussed relationship with health visitor	142/348	41	74/331	22	1.68 (1.2–2.4)	0.014	1.84 (1.3–2.7)	0.006
Received one or more kinds of help with relationship problem	73/347	21	38/318	12	2.01 (1.0–3.9)	0.042	1.95 (1.0–3.8)	0.046
Helped to achieve improvement in own feelings and capacities	29/343	8	20/322	6	1.32 (0.7–2.7)	0.374	1.45 (0.8–2.7)	0.193

[a]Denominator in each case is number for which required data were provided. [b]Risk ratio of outcome in intervention clinics relative to control clinics. [c]Paired *t*-test on cluster statistics. [d]Risk ratio of outcome in intervention group relative to control group, standardised for sociodemographic characteristics. [e]Paired *t*-test on cluster statistics, standardised for sociodemographic characteristics and using the smaller numbers for which these data were available. [f]Questionnaire completed by responder and submitted in sealed envelope.

help with relationship problems, both in intervention clinics (37/80) and control clinics (7/13). Scores on the two scales were correlated: $r = 0.413$, $n = 428$, $P = 0.0001$. The fact that more women in intervention clinics than in control clinics were offered help with postnatal depression may have been an effect of the intervention in extending health visitors' opportunities to engage with mothers' emotional problems and in enhancing their ability, confidence, and motivation to do so. The number of women for whom scores on the Edinburgh scale was reported on the intervention record was much higher for the intervention clinics than for the control clinics: 452 for the former (97%) and 286 for the latter (59%).

The lower part of Table 2 shows differences between intervention and control groups in women's experience of help received with a relationship problem, as reported in questionnaires completed at the 12-week visit for immunisations. The intervention group was twice as likely ($P = 0.006$) as the control group to report having discussed relationship problems with the health visitor and 75% more likely ($P = 0.046$) to report having received help with a relationship problem (for example, 'to sort out any sexual difficulty'). On the other hand, the percentages reporting having been helped to achieve an improvement in their own feelings and capacities were similar in the two groups.

As Table 3 shows, there was a substantial proportion of cases with scores above the cut-off point of 13 on the Relationship Dynamics Scale at the 12-week visit in both intervention and control groups. The intervention group was less likely than the control group (25% versus 35%) to score in this range, though the difference is not statistically significant and the mean score is only slightly lower ($P = 0.051$) in the intervention group.

After the trial, 25 women who had been offered help with a relationship problem at the intervention clinics were interviewed. These interviews confirmed the existence of important relationship problems for women scoring 13 or above on the scale. In most cases (20/25) the mothers had warmly welcomed the help offered and in none had they objected to the offer. In their statements to the interviewer, the responders spoke of the importance they placed on the health visitor's support:

'She was always there ... she made the difference'. (07.)

'She was someone to talk to ... She was someone neutral ... my mum wasn't'. (09.)

'[What helped was] *knowing there was someone I could talk to about how I felt ... someone to listen to me'*. (11.)

In another enquiry after the trial, all 25 of the health visitors who had applied the intervention were asked to complete questionnaires (anonymously) about their experience. Most (22/25) thought their support with relationship problems had usually helped mothers get through a difficult period in their lives. Most also thought the scale had revealed problems that would not otherwise have been revealed, and that the process of screening had helped to establish an open relationship with the mother and a good foundation for work with the family.

Discussion

The results are concordant with those of studies of health visitors' support for women experiencing postnatal depression and other emotional problems. Women attending intervention clinics were four times more likely than those attending control clinics to reveal relationship problems at the six-to-eight-week check, and six times more likely to be offered help, which was usually welcomed. They were twice as likely at the 12-week visit to report having discussed relationship problems with the health visitor, and 75% more likely to report having received help with them. The follow-up study of mothers showed that usually the health visitor's interest in the mother's relationship problems had been warmly welcomed. The survey of health visitors' opinions of the intervention showed that most thought it had been a valuable extension of their role.

While the help offered by a health visitor may contribute to the eventual resolution of a couple's problems, there is not likely to be much improvement in the short period between the six-to-eight-week and 12-week visits. This makes it all the more important for the primary health care team to be aware of any serious difficulties at this stage and to be equipped to respond supportively to them.

It is of course necessary for the health visitor to secure informed consent when inviting a mother to complete the Relationship Dynamics Scale, and to anticipate her surprise on discovering that the state of her relationship with her partner is now within the scope of primary care.[30,31] For the trial, mothers were invited to participate in a research project on

Table 3. Score on Relationship Dynamics Scale at visits for 12-week immunisations to health visitors based at nine paired intervention and control clinics.

	Intervention clinics		Control clinics		Unadjusted risk ratio[a] (95% CI)	*P*-value[b]	Adjusted risk ratio[c] (95% CI)	*P*-value[d]
	n/total[a]	%	*n*/total[a]	%				
Low (score 8–12)	257/344	75	212/327	65				
Medium (score 13–17)	60/344	17	78/327	24				
High (score 18–24)	27/344	8	37/327	11	0.67 (0.4–1.2)	0.145	0.72 (0.3–1.5)	0.341
Medium to high (score 13–24)	87/344	25	115/327	35	0.76 (0.6–1.1)	0.088	0.76 (0.6–1.0)	0.057
Cluster mean score (standard error)	11.16 (0.265)		12.01 (0.385)			0.053		0.051[e]

[a]Risk ratio of outcome in intervention clinics relative to control clinics. [b]Paired *t*-test on cluster statistics. [c]Risk ratio of outcome in intervention group relative to control group, standardised for sociodemographic characteristics. [d]Paired *t*-test on cluster statistics, standardised for sociodemographic characteristics and using the smaller numbers for which these data were available. [e]Paired *t*-test on mean scores.

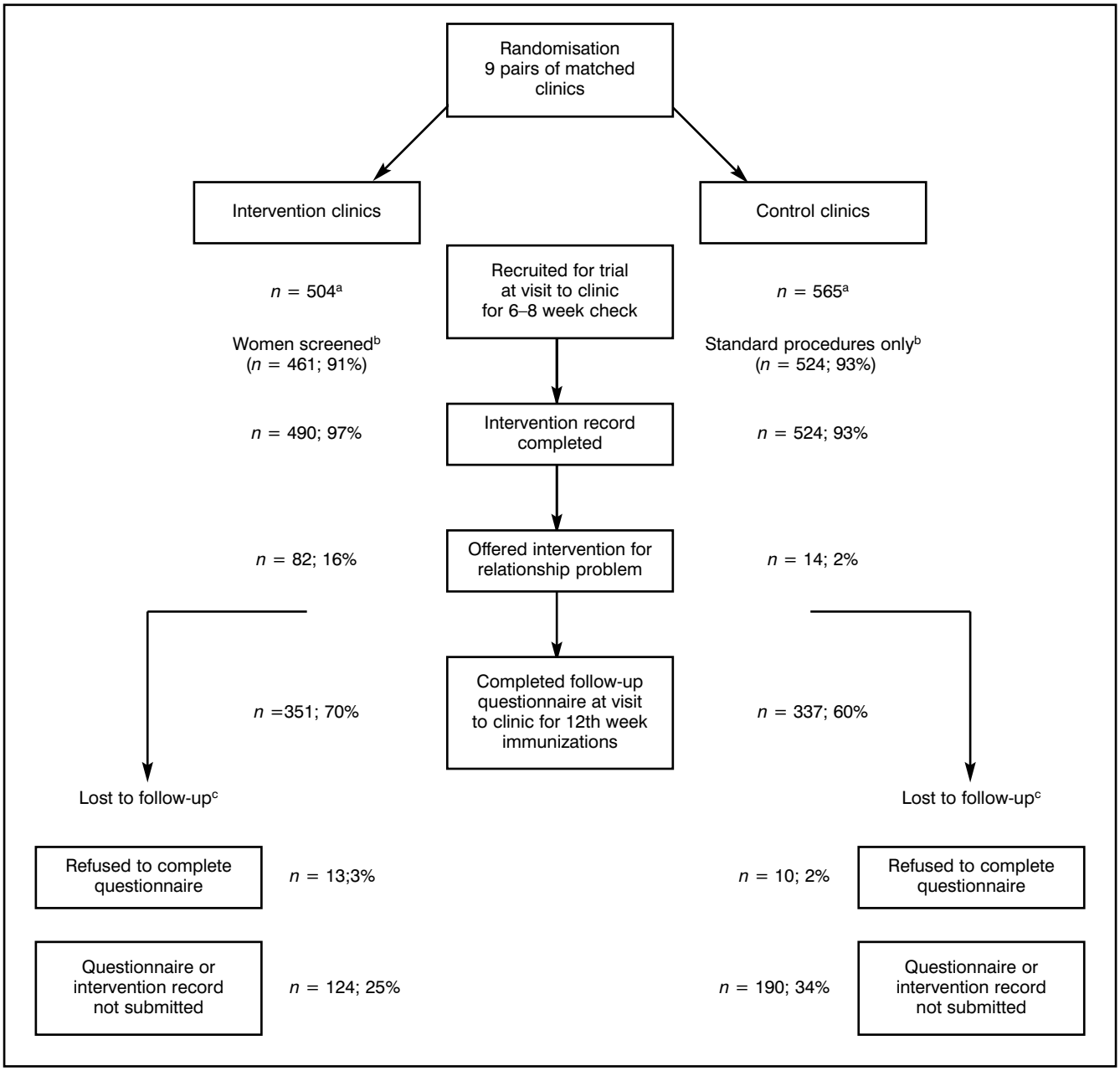


Figure 1. Progress of women through study. [a]Number for whom at least one document submitted - used as denominator for all percentages in this diagram. [b]Number screened estimated to be 60% of total attending, including notified refusals (3%) and those for whom no record was submitted. Number in control clinics offered standard procedures only (indicated by submission of intervention record) estimated to be 71% of total attending. Estimates based on data supplied by Child Health Department on numbers attending for six-to-eight-week check during main part of trial. [c]A few subjects were excluded (3% from intervention group, 5% from control group) either because the health visitor had moved or because the 12-week visit was not due until after the project cut-off date.

the issue. Where the innovation is adopted for routine use, the mother can be advised that, because research has shown that a couple's relationship is sometimes affected by the arrival of a baby, her health visitor has received special training in helping couples to deal with relationship problems. The scale can be presented as a way of enabling the mother to reveal important relationship problems if she wishes to do so.

During the trial, only 3% of mothers were reported to have declined to complete the scale at six-to-eight weeks, but it is likely that those for whom no documents were submitted included women not offered the scale because the health visitor was aware of good reasons for not doing so. One such reason would be the insistence of a partner or other relative on being present and the likelihood that this would affect the truthfulness of responses. Another reason, applying to mothers from some communities, would be the health visitor's awareness that the scale would be culturally inappropriate.

There are of course less formal ways of identifying rela-

tionship problems and these ways are covered in the training course. The justification for using formal screening when practical is the evidence that it substantially increases the rate of detection of depression and other emotional disorders,[32] including emotional disorders in the postnatal period.[22,33] It has been plausibly suggested that some mothers find it easier to admit to their feelings on paper than to seek help directly.[33] Most of the health visitors who had used the screening procedure in the trial endorsed this view of the value of screening, and thought the process established a good foundation for work with the family.

Couples rarely take their problems to a specialist relationship counsellor but routinely come into contact with a health visitor after a birth and during the child's early years. One consequence is that health visitors regularly confront relationship problems whether or not they have had any special training in how to respond to them. Although a health visitor (or, for that matter, a specialist relationship counsellor[34]) may be able to do little to help repair a relationship that is foundering, training could improve her ability to give or secure the support needed by a parent (usually the mother) in these circumstances. When problems are of the more usual kind — the kind that many couples experience as they encounter the changes imposed on their lives by parenthood — training may enable a health visitor to help the couple adapt with less distress than might otherwise be suffered and to realise how their difficulties might be affecting the quality of their parenting.

Training could also be expected to improve the health visitor's awareness of when a couple might be helped by referral to a relationship counsellor or other specialist. Because it was expected that a number of cases would be referred to a relationship counsellor, details of local practitioners were given to health visitors at the outset of the project, including details of a relationship counsellor specially retained to be available for immediate referrals throughout the trial. In their questionnaire responses at the 12-week visit, seven mothers reported that the health visitor had suggested they see a relationship counsellor. In the event, no referrals were reported by the counsellor retained for the trial. To judge from responses by mothers and their health visitors to questions at the follow-up survey, in most cases referral was considered either inappropriate or unacceptable. Referral strategy could be an important issue for future research.

Finally, training could make the health visitor better equipped to respond when relationship difficulties are associated with postnatal depression. Another important issue for future research, but one that would have been impractical to encompass in this trial, is whether specific attention to relationship problems has an effect on postnatal depression over and above the effects of the support already provided by health visitors to women experiencing this disorder.

Conclusion

As emphasised in the literature on complex interventions,[35,36] the assessment of studies of this type needs to take account of evidence used when designing and interpreting the results of the randomised trial, as well as the results of the trial itself. In this case, a variety of supplementary evidence has been adduced: experience acquired during the development and evaluation of the training course; evidence produced by studies in related fields, especially the findings of studies using screening techniques to detect emotional disorders; a follow-up study with a sample of mothers and their health visitors; and a survey of the opinions of the health visitors involved in the trial. Taken as a whole, the evidence strongly supports the view that primary care in the postnatal period can and should encompass help of the kind described to couples with relationship problems. Of course, the effectiveness of the intervention when used routinely will depend on a variety of local factors, of which probably the most important is whether health visitors are allowed sufficient time to apply the intervention effectively.

Key points

- Stresses imposed by parenthood can often provoke or intensify relationship problems between parents in the postnatal period, problems that can have serious consequences for family well-being but which are often not revealed spontaneously to the primary health care team.
- These problems are often associated with (and should then be taken into account when treating) postnatal depression, though their consequences can be more pervasive and enduring than those of that disorder for the welfare of the couple and the quality of their parenting.
- Training health visitors to screen for relationship problems at the six-to-eight-week check (using a screening scale) and to respond appropriately (whether by supportive listening, practical advice, or referral) leads to striking increases in the proportions of mothers who reveal problems and are offered support.
- Mothers' positive response to the intervention suggests that health visitors can successfully play a frontline role in attending to relationship problems, as they have done in identifying and supporting women with postnatal depression and other emotional disorders.

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