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BASELINE DATA

The four treatment groups were well balanced on 13 key baseline variables (table I). Some significant, but clinically trivial, differences were observed, however. Patients who were randomised to the educational programme were better at baseline on three measures: straight leg raising (5 degrees more), the McGill/Melzack total pain score (2·3 points lower), and the McGill/Melzack word count (1·1 words fewer). These baseline differences were taken into account in the analysis.

TABLE I—*Baseline patient characteristics: mean (SD)*

	Bed rest and physiotherapy and education (n = 65)	Physiotherapy and education (n = 62)	Bed rest (n = 60)	Control (n = 65)
Age (years)	40·7 (14)	41·7 (15·3)	40·0 (14·9)	40·1 (14·5)
Sex (M/F)	32/33	29/33	30/30	37/28
Referred pain (%)	28	33	33	29
Workman's compensation cases (%)	18	16	15	11
Straight leg raising (worst leg < 70 degrees) (%)	48	47	58	56
Lumbar flexion (cm)	4·0 (2·1)	4·6 (1·8)	4·2 (2·0)	4·0 (1·9)
Activities of daily living* (0-100)	40·4 (16·4)	35·9 (13·7)	36·3 (13·1)	36·6 (12·4)
No of prior episodes				
0	21	18	17	21
1-4	25	27	29	24
≥5	19	16	12	17
McGill pain scale				
Total score	23·0 (7·4)	22·7 (6·7)	25·2 (8·6)	25·1 (6·9)
Word count	13·7 (2·5)	13·7 (2·5)	14·9 (3·4)	14·8 (3·0)
Duration of pain 0-5/6+ days	41/24	30/32	29/31	35/30
Pain intensity moderate/severe	36/29	37/25	31/29	40/25
Pain medication minor/major	42/23	44/18	45/15	46/19

Note: Referred pain = pain radiating into one or both legs.
*Higher scores indicate greater impairment.

CLINICAL OUTCOME MEASURES

Patient daily diary—Bed rest produced a significant, but small, increase in the patients' 10 day report of "restrictions in daily activities" (p=0·034). No effect of bed rest or physiotherapy was observed for the 10 day total scores for "pain" and "improvement" (table II). Analysis using the Cox model showed that bed rest patients took 42% longer to report having achieved a "normal level of activities" (p=0·004), whereas patients who were randomised to receive the physiotherapy and education programme reported that they "stopped taking drugs" 46% sooner (p=0·048). No other significant effects of treatment were found with data from the diaries.

TABLE II—*Total diary score over the first 10 days: mean (SD)*

	Bed rest and physiotherapy and education (n = 50)	Physiotherapy and education (n = 41)	Bed rest (n = 47)	Control (n = 48)
Improvement	22·27 (5·14)	23·30 (6·92)	21·66 (6·54)	21·54 (6·31)
Activities	24·35 (8·75)	21·34 (9·22)	24·34 (10·04)	20·90 (8·46)
Pain	23·77 (5·22)	25·94 (7·47)	24·15 (7·12)	22·88 (5·88)

Note: Lower total scores indicate a better clinical result.

Final office assessment by physician—Table III indicates the average daily rate of improvement for the five outcome measures assessed at the final physician follow up. Statistical analysis gave a deleterious effect of the physiotherapy and education programme on the activities of daily living scale (p=0·05). Although no other significant effects of either bed rest or the physiotherapy and education programme were observed, the trend in the other four measures also went against the physiotherapy and education programme.

TABLE III—*Rate of change in physical and psychological scales during physician follow up: mean (SD)*

	Bed rest and physiotherapy and education	Physiotherapy and education	Bed rest	Control
Straight leg raising (degrees)	0·96 (1·70)	0·56 (1·57)	1·96 (3·31)	1·21 (1·96)
Lumbar flexion (cm)	0·15 (0·30)	0·12 (0·23)	0·14 (0·20)	0·18 (0·24)
Activities of daily living	2·04 (1·91)	1·53 (1·49)	2·11 (2·34)	2·29 (1·99)
McGill Melzack total	1·22 (0·88)	1·27 (1·20)	1·46 (1·99)	1·65 (1·31)
McGill Melzack word count	0·73 (0·48)	0·80 (0·62)	0·93 (0·97)	1·01 (0·72)

Note: Straight leg raising and lumbar flexion are expressed in degrees and cm of improvement per day respectively.
The activities of daily living and McGill Melzack pain scores show average reduction in activity restrictions and pain per day respectively.

Six and 12 week phone assessment—No differences among the four study groups were observed on either self reported level of pain or restrictions in activities in daily living at the six and 12 week telephone follow ups (table IV).

TABLE IV—*Six and 12 week follow up*

	Bed rest and physiotherapy and education	Physiotherapy and education	Bed rest	Control
		Six weeks		
	(n = 61)	(n = 60)	(n = 56)	(n = 58)
Present pain:				
None	34	33	36	33
Mild	14	15	6	9
More than mild	13	12	14	16
Restrictions:				
None	31	35	28	31
Little	13	12	12	15
More than a little	17	13	16	12
		12 weeks		
	(n = 63)	(n = 62)	(n = 57)	(n = 60)
Present pain:				
None	47	46	44	43
Mild	6	8	5	10
More than mild	10	8	8	7
Restrictions:				
None	43	47	36	40
Little	10	8	9	13
More than a little	10	7	12	7

Recovery analysis—Recovery was defined as either the first follow up assessment by the physician on which both the patient and physician reported that pain was no worse than mild, or, failing this, the telephone follow up on which the patient reported that pain was no worse than mild. Analysis using the Cox model showed no effect of either bed rest or the physiotherapy and education programme. The median time to recovery by the above definition was 14 days, irrespective of treatment group.

One year mail and phone follow up—Twenty six patients (10%) moved, left the physician's practice, or died. The remainder were asked to report any pain on the day of follow up and to report their experience over the past five months in terms of frequency and intensity of pain, restrictions in daily activities, and whether they had sought professional help for low back pain. Table V indicates no significant differences among the study treatment groups.

TABLE V—*One year follow up*

	Bed rest and physiotherapy and education (n = 60)	Physiotherapy and education (n = 59)	Bed rest (n = 53)	Control (n = 54)
Present pain:				
None	37	34	32	35
Mild	6	12	11	11
More than mild	17	13	10	8
Past five months				
Frequency of pain:				
None	14	16	14	16
Once a month	26	20	20	18
More often	20	23	19	20
Intensity of pain:				
None	14	16	14	16
Mild	18	12	12	16
Worse	28	31	27	22
Restrictions:				
None	32	37	27	31
Once or twice	11	7	11	11
More often	17	15	14	12
Sought help from a professional	9	6	5	8

Discussion

No beneficial effects on clinical outcomes were observed for either bed rest or a physiotherapy and education programme among patients who presented with low back pain to 22 physicians in family practice. In fact the diary and final follow up assessments by the physician favoured early mobilisation over bed rest and suggested that the physiotherapy and education programme was doing more harm than good. Although this trial was not designed to assess the efficacy of differing medication regimens, our analysis comparing minor *v* major medications showed no significant differences on any of the clinical outcome measures. Since the assignment of medication regimens to patients was performed by clinical judgment, not random allocation, this result must not be overinterpreted.

Since compliance with both the prescribed bed rest and the physiotherapy and education programme was excellent these negative results cannot be explained by poor patient compliance. Moreover, further analyses which focused on clinically interesting patient subgroups (including acute *v* chronic cases and subgroups defined by the severity and duration of the presenting episode) showed no subset of patients who benefited from either of the treatments under study.

These negative results thus do not appear to depend on characteristics of the patients who were entered into the trial. Although treatment effects were negative, several baseline patient variables were consistently related to the outcome measures in a clinically sensible direction. Recovery was slower with increasing age, longer duration of the presenting episode, and with greater impairment as assessed by both straight leg raising and the activities of daily living scale. People who were receiving workman's compensation were also slower to recover. Each of these factors made a significant and independent contribution to patient outcomes and provided evidence for the validity of the outcome measures used in this trial, as they are consistent with both the findings from other studies and the common clinical impressions about patient variables related to recovery.

We failed to identify any clinically important benefits or other explanations for these negative results, and thus there is little reason to prescribe either bed rest or isometric exercises to patients in family practice who suffer from low back pain.

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Survey of health visiting in antenatal care

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Abstract

The range of the health visitor's work is expanding. To find out what antenatal work health visitors actually carry out and what their attitudes towards such work are we surveyed general practitioners, midwives, and health visitors in three district health authorities. The results indicate that health visitors are qualified and willing to work with women in the antenatal period.

Introduction

The debate in Britain about perinatal mortality rates and their relation to inequalities among the social classes has led to a discussion of the roles of health visitors in the care of women. For instance, an editorial article in the *Health Visitor* in 1979 argued that "the active involvement of the health visitor in antenatal care would appear to be essential in order to reduce the number of children who are at a disadvantage even before birth."[1] Long after the Short report,[2] which endorsed this view, the debate still reverberates. Perhaps this is not surprising since health visitors are now being asked to work for a wider range of client groups, especially the elderly. Furthermore, any appreciable changes in the role of a profession depend on various factors that affect training, work practices, and relationships with other professionals.

It is small wonder, therefore, that the profession of health visiting is now grappling with fundamental questions. Chapman argues, for instance, that the aims of health visiting are to achieve "(*a*) the promotion of health and prevention of ill health; (*b*) the early detection of illness or abnormality; and (*c*) the alleviation and containment of an already established condition."[3] Are health visitors then to be trained and encouraged to take part in health promotion activities rather than to detect ill health? Should they give priority to the care of parents and potential parents, and will this be to the detriment of other groups?

The results of the research presented here (part of a research programme, funded by the Health Education Council, which also examines the contribution of general practitioners and community midwives to antenatal care and education[4]) concentrate on the contribution of the health visitor to antenatal care and education. To clarify the issues at stake in defining the health visitor's role we have asked: "In what ways are health visitors now concerned in this aspect of care?" We believe that evidence of their participation needs to be examined before the question can be asked: "Should they be expected to take a greater role in antenatal care?" We hope that from this starting point the cart will follow the horse and debates on the role of health visiting in the antenatal period will be grounded on a better knowledge of practice and not prescription.

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Methods

All of the general practitioners in Leicestershire and central Birmingham, all of the community midwives and health visitors from central Birmingham, and half of the community midwives and health visitors in Leicestershire were surveyed from November 1983 to January 1984. Differences in sampling were due to large disparities in the number of midwives and health visitors who worked in each district health authority. Three hundred and fifty six general practitioners, 44 community midwives, and 124 health visitors responded; response rates of 56%, 57%, and 78% respectively are acceptable in relation to other comparable studies.[5] Responses from postal questionnaires were followed up by group discussions with health visitors and midwives, and 18 personal interviews were conducted with general practitioners who lived in inner city areas.

The sample incorporated two cities (central Birmingham and Leicester City) and the rest of the Leicestershire district health authority, which is mainly a mixture of market towns and rural areas. Because the populations that health visitors were expected to deal with had different social characteristics, the sample was divided into three groups: 32 health visitors from central Birmingham, 31 from Leicester City, and 61 from the rest of Leicestershire, which is referred to here as the county.

Results

(1) Most health visitors had some qualification or training in antenatal care and education. Over half had midwifery qualifications, and nearly 60% had worked as midwives. Though roughly a quarter had not been trained in antenatal education during health visitor training, just over half had been given in service training in this, whereas a quarter of the midwives had had no training in antenatal education at all.

(2) The demand for the intervention of health visitors was illustrated by the size of their antenatal case loads. The average number of new babies born from January to November 1983 was 110 for Leicester City, 91 for central Birmingham, and 77 for the county. These disparate figures cannot be explained by the number of hours that health visitors worked, as the proportions of those who worked part time and full time in each of the areas were similar.

(3) The health visitors in the cities had many women from ethnic minorities on their case loads. Over half of those who worked in central Birmingham and two fifths of those from Leicester City reported that half or more of the women whom they saw came from an ethnic minority group. At the other end of the range three quarters of the county health visitors had almost no women from ethnic minorities on their case load compared with a third to a quarter of the Leicester City and Birmingham health visitors. Many respondents reported difficulties in communicating with such women. For instance, half of the Birmingham sample and over a sixth of those in Leicester City thought that an interpreter was needed for over half of the women from ethnic minorities.

Paid language interpreters were available. Seven health visitors in Leicester City and 16 in central Birmingham said that they "sometimes" or "often" had help from a paid interpreter. This help was vital, as one health visitor stated: "Our work, in many cases, would be virtually impossible without an interpreter." There were few available, however, as another Birmingham health visitor noted: "We have a full time interpreter, but because there are so many of us I am entitled to use her one morning a fortnight."

Voluntary help with interpreting was so scarce (only three health visitors had used organised voluntary interpreters) that relatives were often the main source of help. Many respondents wondered whether it was appropriate to use relatives for translation as they may add their own views to the consultation without the health professional being able to discern possible distortions: "Husbands and family of patients are not the right people to 'find histories'—too often you will hear what they want you to hear, not what you want to hear."

This was emphasised by an Asian general practitioner who spoke several Asian languages: "It is the level of communication that is a big problem . . . it is not simply translating from one language to another. It's a matter of putting the right word, using the right terminology . . . it is so difficult to communicate even for the children who are born in Britain. Sometimes children come with their mums and I say, 'Look your mum is perfectly well,' or 'She has worry problems—nothing medical.' Children seem to understand it very well. But the mothers won't listen. Even the children find it difficult to communicate with their own parents. It's a big problem." This general practitioner focused on the blurred boundary between translating and interpreting in consultations which involve complex conceptual and wider cultural meanings held by lay people and professionals. Many health visitors argued that "interpreters are becoming more important for our job in an increasingly multiracial society."

(4) Half of the total sample had seen fewer than 10 pregnant women throughout their work during the month before the survey and a third had seen none. The few health visitors who had seen 25 or more pregnant women were concerned in parentcraft classes and were likely to work in the county. Though half the total sample reported that they were concerned to some extent in parentcraft classes, only a quarter of those in central Birmingham and a half in Leicester City made such a contribution compared with two thirds of the county group.

(5) Apart from parentcraft, health visitors were concerned very little in antenatal care. Only seven worked in an antenatal clinic and two thirds never made home visits to pregnant women. Similar trends were found by Draper *et al* in a survey of 40 health visitors: "Twenty-nine health visitors were involved in parentcraft classes and seven in antenatal clinics. Although all the health visitors felt that they should meet pregnant women and visit them at least once antenatally, only 24 actually visited routinely."[6]

(6) The partial exclusion of health visitors from antenatal work caused discontinuity between their antenatal and postnatal care. Over half the central Birmingham and Leicester City samples had never seen in the antenatal period (table I) the women whom they visited postnatally.

TABLE I—*Proportion of postnatal women who had been seen in antenatal period by health visitors*

	Almost none No	%	Less than a quarter No	%	About half No	%	More than half No	%	No reply No	%
Leicester City (n = 31)	17	55	5	16	4	13	3	10	2	6
County (n = 61)	21	34	10	16	8	13	16	26	6	10
Central Birmingham (n = 32)	17	53	8	25	4	12	2	6	1	4

The cities fared worse in this aspect of care, with only three health visitors in Leicester and two in Birmingham seeing more than half the postnatal women whom they had visited before the birth of their babies, again mainly in parentcraft classes. This lack of continuity not only prevented many health visitors from building up relationships with pregnant women early but also reduced the likelihood of early intervention and support either in collaboration with or in addition to the care offered by community midwives.

(7) Respondents overwhelmingly believed that a major reason for their low input into antenatal care was the unreliable communication procedures among members of the primary care team. Poor liaison isolated health visitors from the general practice.

Three quarters of the health visitors reported that they discussed individual pregnancies with midwives and two thirds did so with general practitioners. Such discussions were less likely to take place in central Birmingham, where fewer than half of the health visitors reported such exchanges with general practitioners (table II). All the midwives said that they discussed individual cases with general practitioners, which was confirmed by the general practitioners, who also pointed out the lack of contact with health visitors in this respect. The isolation of the health visitors became more apparent when data were obtained about meetings when general issues on antenatal care and education could be raised. Tables II and III show that meetings among professionals, especially between general practitioners and health visitors, were held least frequently in central Birmingham.

TABLE II—*Discussions about individual pregnancies in the three areas*

Health visitors had discussions with	Leicester City (n = 31) No	%	County (n = 61) No	%	Central Birmingham (n = 32) No	%
General practitioner	21	67	45	74	14	44
Midwife	26	83	51	83	21	65
Another health visitor	14	[illegible]	21	34	13	40

Variations in the organisation of the work of health visitors in each area may have contributed to the differences in the extent of their concern in antenatal care. In the Leicestershire district health authority health visitors were attached to general practices, whereas this was rarely the case in central Birmingham district health authority. A Birmingham respondent said: "Liaison was probably better when we were attached to a GP practice."

Furthermore, the recent reorganisation of the health service had created some managerial disruptions in central Birmingham district health authority, whereas the boundaries of the Leicestershire district remained largely unchanged. A general practitioner in Birmingham commented: "We used to have a health visitor. I saw her a lot. She was good. Since reorganisation, she has finished working here. Now we have to contact the health visitors at X clinic. It's miles away! I don't even know whom I am supposed to contact and the health visitors keep changing."

TABLE III—*Meetings about general issues in antenatal health education in the three areas*

Health visitors meet	Leicester City (n = 31) No	%	County (n = 61) No	%	Central Birmingham (n = 32) No	%
General practitioners	9	29	12	20	6	19
Midwives	11	35	30	49	7	22
Other health visitors	10	32	12	38	13	41

This was not conducive to developing frequent and reliable communication procedures among health visitors, general practitioners, and community midwives. When health visitors were asked how they were kept informed about new antenatal cases about half reported that they were sometimes told informally by the midwife, but none was informed regularly through a formal procedure. Only a third expected to "find out" about new cases through parentcraft classes—that is, later in pregnancy, and a few through general practices: "In the case of two GPs I get my information from their receptionist. With the other two GPs, I look in their 'antenatal notes box' every two weeks."

Health visitors generally had to rely on their own initiatives to get information about new antenatal cases, although occasionally meetings at the surgery provided liaison: "Once a month a list from the hospital is passed round at group meetings. The secretary at the surgery gives me a typed list of pregnant mums."

Hospitals were no better as a source of information. Only 14 health visitors were "often" informed of cases through their local hospitals, usually where a liaison health visitor was appointed, and only four were "often" informed through systems organised by nursing officers. Even in cases where information procedures were established, health visitors could still have difficulties in obtaining information about the women whom they most wanted to see—that is, the primigravidas and women with specific problems: "We are informed of all bookings at the local maternity hospital but not, however, where women are booked further afield in consultant units. This is a lack, as often these women require extra surveillance." This health visitor highlighted poor liaison between centralised obstetric units and community care, especially in unusual cases. Only 22 health visitors were regularly informed about missed appointments, their main informants being other health visitors or community midwives but not general practitioners.

Lack of communication must be one of the prime factors in excluding health visitors from antenatal care. A health visitor who worked in a poor inner city area commented: "I do not even know who is pregnant, let alone who has missed antenatal appointments."

Discussion

The results of this survey indicate that health visitors are well qualified and willing to extend health visiting to the antenatal period. Nevertheless, impediments to such work are wide ranging. These include heavy case loads, lack of adequate information about antenatal cases and missed antenatal appointments, and a lack of close liaison with general practices and obstetric units. Furthermore, the work of health visitors in inner city areas is even more difficult because there are few language interpreters available. Geographical attachment may also contribute to the isolation of the health visitor from the general practice when they are not attached to a practice. Draper *et al* make a similar obervation but in relation to midwives in a study of health visitors who were attached to practices. They suggest that improvements in the working relations between health visitors and midwives might include attachment to a practice for midwives.[6]

Similar surveys of the primary care team confirm that working relations and communication within the team can be inadequate.[7 8] In such areas, expecting health visitors to increase their antenatal work might cause contention between the professional groups and demoralisation for health visitors, who do not have the resources to provide a preventive and supportive service for parents at home.

This brings into question the value of further abstract recommendations on the role of health visiting in the antenatal period. Although this role urgently needs to be clarified by training boards and professional associations, the discussion must go beyond its formal acknowledgment, a position which has already been jointly supported by the Health Visitors' Association and the Royal College of Midwives.[9 10] Specific guidelines need to be developed to facilitate decision making at the level of the district health authority and general practice. Improvements can be made without major expenditure. Clear policies on antenatal care that define not only the role of the health visitor but also that of the community midwife and general practitioner need to be established and regular practice meetings arranged. These three professional groups need to work closely so as not to confuse their respective roles and undermine each other's efforts.

With regard to efficient flow of information with obstetric units, lists of women who are booked for home confinement might be regularly and systematically provided for all health visitors. A mandatory visit to a woman in early pregnancy at home by the health visitor would ensure greater continuity of care between the antenatal and postnatal periods. According to the figures analysed above, such a visit would mean on average about two extra home visits a week for each health visitor. In areas where there is already a shortage of health visitors a policy of positive discrimination in favour of pregnant women who are most at risk might be considered.

The health visiting profession cannot define alone either short term or long term programmes in antenatal care and education because the scope of the health visitor's work is inexorably tied up with her working relations with general practice and the hospital. We hope that this argument will be taken into consideration in the review of community nursing and health visiting which has been called by the Minister of Health and is due to report at the end of 1985.[11] After years of debate on how to improve antenatal care it is urgent that an effective policy, informed by an appraisal of current work practices, is developed for the professions that are concerned with the welfare of pregnant women.

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