

A qualitative study exploring junior paediatricians', midwives', GPs' and mothers' experiences and views of the examination of the newborn baby

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Exploring experiences and views: A qualitative study of the opinions of junior paediatricians, midwives, GPs and mothers about the routine examination of the newborn

Objective: To explore the experiences and attitudes of midwives, junior paediatricians (SHOs), GPs, and mothers towards the neonatal examination. To provide an appreciation of their views on the purpose and value of the examination, who is appropriate to carry it out, and when and where it should take place.

Design: The research used semi-structured interviews, which were exploratory and interactive in form, in order to examine the range and diversity of experiences and attitudes towards the neonatal examination.

Setting: Southeast England

Participants: Four samples were purposively selected for interview, to include ten each of midwives, SHOs, GPs and recently delivered mothers. SHOs were currently working in paediatric departments of a district general or teaching hospital and their experience of conducting newborn examinations ranged from several months to several years. Midwives included both those trained in the newborn examination and currently conducting examinations, and those not so trained and not carrying out the examination. Most of the midwives had been qualified for over ten years and had a wide range of clinical experience in hospital and community settings. The GPs were from ten practices in two Health Authorities and all had some experience of conducting neonatal

examinations. Of the mothers, a few had their babies examined at home by midwives, others in hospital by an SHO. Mothers included those with a family history of problems relevant to the examination, those with previous pregnancy complications and others with no problems or complications. Some were first time mothers.

Findings: All groups perceived the examination to be a useful screening tool, which provided reassurance to parents. They considered both midwives and SHOs to be appropriate professionals to carry out the newborn examination, if adequately trained. Most thought that midwives have a better rapport with mothers, are able to provide continuity of care and more often discuss health care issues than do SHOs. Few SHOs reported receiving any formal training in the examination of the newborn.

Implications for Practice: The extension of the practice of midwives examining the newborn following relevant training would be acceptable to all stakeholders. The implications of increased demands on the midwives' workload may need to be considered.

Introduction

This study has been undertaken in response to the National Health Service Health Technology Assessment panel's call for an evaluation of the extension of the midwife role to the examination of the newborn. A detailed examination of the newborn is recommended as a core component of Child Health Surveillance (Hall 1996, 1999) and is standard practice throughout the UK. Although some doubt has been raised about the purpose and value of the newborn examination (Cartlidge 1992, Hall 1999), it is widely accepted as good practice (Moss 1991, Hall 1996, Glazener 1999). This examination is a screening tool with a number of different components, and also provides an opportunity for health education and reassurance to parents. There has been little research on its value, appropriate timing or the relative advantages of the examination being performed by different health professionals. Currently in the UK SHOs carry out the majority of these examinations in hospital, but because of the short postnatal hospital stay, some mothers and babies are being discharged without a full discharge examination, or are being kept waiting for an SHO to carry out the examination. Recent changes in the organisation of maternity care and training, and the need to reduce junior doctors' hours, have led to moves for midwives to take on this role (Department of Health 1991, 1993, Royal College of Midwives 2000). A post-registration course in the Examination of the Newborn has been developed and approved by the English National Board (ENB N96) and is open to midwives, health visitors and doctors. The Report of the Expert Working Party (DHSS 1986) recommended that infants be examined within 24 hours of birth and again at hospital discharge or ten days.

This qualitative study provides an in-depth understanding of the opinions of those carrying out the examinations or whose babies are examined. It aims to address a number of questions about the routine examination of the newborn, including who should carry it out, the implications of the move towards more midwives carrying out the examination, its overall purpose and value, and the timing of the examination. This study forms part of a project to evaluate how the newborn examination is performed in terms of maternal satisfaction and safety.

Methods

Four samples were purposively selected for interview, to include ten each of midwives, SHOs, GPs and recently delivered mothers. The samples were selected to provide a range and diversity of experience and opinions of those performing the neonatal examination, and of mothers whose babies have been examined. The samples were selected from a range of environments to cover a breadth of experience, knowledge, attitudes, behaviour and location (National Centre for Social Research, 1999; Burgess, 1994; Holloway & Wheeler, 1996).

For this study the research team developed interview guides that identified core topics to be included in all the semi-structured interviews. These topic guides were developed to explore the key issues from the literature (Hall, 1999; Moss & Cartlidge, 1991) and so to elicit opinions about the current system of examination by SHO and to find out how people viewed change. These included the purpose and value of the neonatal examination, when and where it should be conducted, the appropriateness of discussing health care issues, the relative advantages and disadvantages of the examination being

performed by midwives and SHOs, weaknesses of the examination and suggestions for its improvement. The topic guides were adapted to include key issues specific to each professional group and were used as briefing documents for the interviews.

Ethics approval was granted by the Local Research Ethics Committee where most of the interviews, including all patient interviews, took place and this was recognised by the University Ethics Committee, which covered all other interviews. Each interviewer conducted ten interviews, five from each of two different groups. The mothers were recruited on the postnatal ward of a district general hospital in Southeast England; each was given a letter outlining the study and permission was requested to contact her by telephone ten to fourteen days later to arrange an interview. Interviews were conducted in the mother's home and signed consent was obtained beforehand. One mother declined an interview. All other interviewees were recruited and interviewed at their place of work. Those recruits who were outside of the trust that had LREC approval were contacted on a snowball basis and were selected according to the sampling criteria. Verbal consent was obtained beforehand and permission was sought from the midwifery and paediatric departments. All midwives and SHOs invited to take part consented and one GP declined. Interviews were conducted in private and were tape-recorded; anonymity and confidentiality were explained and assured. The interviews took between twenty minutes and one hour.

The interviews were transcribed and a matrix based approach used to allow between and within case analysis (Bryman & Burgess, 1994). The transcripts for each professional group were analysed independently by one researcher and cross-checked by another for consistency and rich interpretation, that is for inclusion of all new

information. A systematic content analysis, which identified constructs and allowed data to be classified, was conducted for each sample (National Centre for Social Research, 1999). Thematic charts were constructed based on the themes central to each sample. Areas of agreement or diversity of opinion between interviewees were identified. To anonymise the responses of the participants, each participant was coded, for example, 'SHO 1' refers to SHO number one throughout the paper.

Findings

Five SHOs were from a teaching hospital and five from a district general hospital; these were the SHOs currently working in the paediatric departments and their experience of conducting newborn examinations ranged from several months to several years. Midwives were from six different hospitals and included five trained in the newborn examination and currently conducting examinations, and five who had not been trained nor carried out the examination. These midwives were the same as those who took part in a study to explore midwives perceptions and views towards extending their role into the newborn examination (Rogers). The six hospitals included rural and urban settings; midwifery led units and one with a birthing unit. Seven of the midwives had been qualified for over ten years and had a wide range of clinical experience in hospital and community settings. The GPs were from ten practices in two Health Authorities and all had some experience of conducting neonatal examinations. Of the mothers, three had their babies examined at home by midwives, the other seven in hospital by SHOs. None had their babies examined by a GP or in hospital by a midwife. Three were first time mothers. Eight babies were examined the day after the birth, one on day three and another on day four. Fathers were present for two examinations. Mothers included four

with a family history of problems relevant to the examination, one with previous pregnancy complications and five with no problems or complications.

A number of themes emerged from the analysis of transcripts. These themes were grouped into three main categories that related to the core interview topics, the purpose and value of the examination, the timing and place of examination, and the appropriate person to carry out the examination.

Purpose and value of examination

In the interviews, midwives SHOs, GPs and mothers identified a range of issues about the purpose and value of the examination (Box 1).

Box 1. Purpose and value of examination

- As a screening tool
- To provide reassurance to parents
- For health promotion and education

Screening tool

There was general agreement among GPs, midwives and SHOs that the examination was a valuable screening tool to identify major and minor abnormalities especially concerning hearts and hips, though there was recognition that problems could be missed or might not appear until later. SHOs saw the examination as a useful screen for major anomalies, particularly cardiac murmurs, syndromes, and hip problems. ‘Well it is a screening test; the things we usually pick up are heart sounds, murmurs and congenital heart conditions. Checking for any trace of abnormalities and trying to detect any syndromes. I think that one thing that comes up quite regularly is hip problems’ (SHO 2).

Some of the GPs examined occasionally following home births or early discharge; others had done so in the past. Several said they had not ever identified problems during the examination, for example over ten years, although most were content with the examination. ‘Not too shallow, not too deep. Not missing loads nor producing loads of referrals!’(GP6). One GP said that many cardiac problems were probably missed.

Some midwives identified the examination as an important opportunity to pick up problems early so that appropriate referrals could be made prior to discharge. Although the majority of midwives viewed screening for abnormalities as important, many acknowledged the limited value of the examination in respect to the detection of abnormalities. One midwife said ‘I must admit I don’t undertake the examination expecting to find any major abnormalities because I think any major abnormalities already evident would have been picked up’ (midwife 2).

Mothers saw the purpose of the baby examination as making sure that everything was alright; that there were no problems or abnormalities, ‘to make sure they are fit and healthy’ (mother 5). Most did not know the content of the examination, however they saw the examination of the hips as the most salient part, followed by eyes and reflexes. While some mothers were aware of the limitations of the examination, they expressed little knowledge of which abnormalities might present later; others said that everything could be detected at the examination.

Providing reassurance to parents.

Most of those interviewed said that an important role of the examination was to provide reassurance to parents, although some expressed concern that it should not offer false reassurance about problems that might manifest later. 'I think reassuring the mother, that is quite important, about the normality of the child' (SHO 2). Midwives considered the examination an ideal opportunity to discuss issues and to give women information and reassurance; 'She wants to know that her baby is absolutely perfect at that time' (midwife 1). Communication with parents was viewed by many midwives as an important component of the examination, 'once I have completed the examination I will talk to the mother about what I have found...address any concerns that she may have... It may be that she has identified a feeding problem that she needs assistance with...It is very much a stepping stone and if done properly it begins a trusting relationship; if done badly then it makes people become very wary' (midwife 1). Mothers expressed the view that examiners should explain what they were doing and what they were looking for during the examination, and some suggested that written information about the examination in the form of a leaflet would be very useful. Reassurance that everything was all right was considered important for nearly all mothers.

Health education and promotion

There were mixed opinions about whether health care issues and health education should be included. Some GPs said that the examination was too early to discuss health education, as the mother would be tired; others said that issues should have been addressed before the examination. It was thought to be more of a role for midwives

than SHOs, ‘quick SHO check is not going to give you any education’ (GP 6). Some GPs said however that discussion of health issues was most important. SHOs also expressed mixed views about health education; ‘midwives know more about feeding, so direct towards them,’(SHO 3). This was the area with probably the widest disagreement between SHOs. There was a difference between those who always asked if there were any problems or concerns, checked the mother’s history and discussed at least breastfeeding, and thought this was the most important aspect; and others who said they were not pro-active about discussing issues. Midwives considered the examination an ideal opportunity to discuss issues and to give women information, though a couple said that health education and promotion were not important elements of the examination, as this was part of the routine care of the newborn. ‘Possibly yes but that should be part of the day to day care anyway, otherwise the examination would take too long and things would be said over and over again’ (midwife 9). Some of the mothers also said that the baby examination was not the most appropriate time to discuss health care issues, or were confident and did not feel the need to discuss anything. Others said they had found it useful to discuss issues such as feeding, asthma, cleaning their baby and cord care.

When the examination should be conducted

There was a range of opinions, particularly among GPs and SHOs, about the most appropriate time for the examination from ‘as near as possible to delivery’ (GP 7) to ‘defer for 48 hours because otherwise you detect insignificant transient murmurs and cause anxiety and distress to parents’ (GP 5). Concern was expressed by SHOs about very early examinations before six or eight hours, ‘the baby gets cold, and I think it is a

bonding time' (SHO 10), 'the baby may not have fed or passed urine or meconium' (SHO 3), 'eight hours onwards is reasonable.... I would expect the baby to have some sort of feed, should be passing urine.... mother's feeling better, she is a bit more relaxed' (SHO 5). Midwives thought the ideal time was 24 hours or later with a minimum of six hours. 'There are a lot of six hours discharges on the delivery at the moment. The baby can be checked out before they go home and the community midwife can do another check after 24 hours because it is a bit early at six hours to do a baby check' (midwife 3). Overall it was said by mothers that the examination should be done fairly soon in case of problems, 'but not too soon, so that the mother is aware and involved' (mother 5).

Where the examination should be conducted.

Most of those interviewed said that the examination could be performed either at home or in hospital. SHOs said that the examination could be performed at home or in hospital, with the advantage of hospital being seen as its convenience, knowing that the examination has been done, ease of referral, and there being back-up. 'I don't think it would matter if it were in hospital, or the GP surgery or the parent's home' (SHO 7). 'I think it is easier in hospital because if there are problems you have the services there to refer' (SHO 10).

Some GPs thought it very important that it was done in hospital for efficiency and continuity, 'senior colleagues there for an emergency' (GP 9) and to avoid missing the examination. 'Have this human being in your hospital and nobody's looked at this human being and I think it would be disastrous if they went home and something happened' (GP 1). Others would accept home examinations. The advantages of home

examination were seen as offering a more relaxed situation and timing of the examination, with the mother more likely to take in advice. Generally midwives said that the examination could be performed at home or in hospital although some said that the examination should be undertaken prior to discharge. It was felt by some that it should be performed in a private area where women could raise any concerns or anxieties. Most mothers did not mind where the baby was examined though several had a preference, 'Well being at home is far nicer than being in hospital, the hospital is so busy and there are so many people coming and going, you would ask more questions' (mother 4).

Most appropriate person to conduct the examination

The participants discussed a range of issues about the most appropriate person to conduct the examination (Box 2).

Box 2. Issues related to the appropriate person to examine

- Expertise and training
- Quality of care
- Organisation of care

Expertise and Training

SHOs said that either SHOs or midwives were suitable and appropriate examiners. Some of the SHOs were concerned that certain mothers might not consider midwives to be well enough medically qualified to say that the baby is all right. They said that handling a normal healthy baby and listening to the sound of a normal heart were

important and essential experiences for an SHO. 'It is quite a good thing to do.... just to listen to lots of normal babies hearts and pick lots of babies up and feel the normal' (SHO 4). Broadly the view was that any midwife, if trained, could do it, 'nothing I do you could not train them to do; midwives should be trained to do them' (SHO 5) and another said 'Doctors have more important things to do' (SHO 2). It was evident that the SHOs had received very little, if any, training and the usual procedure reported was to be shown once and left to get on with it. 'Shown once, that's it really' (SHO 7), 'would have liked more training when I started' (SHO 1). Nevertheless most said they were now fairly or very confident and enjoyed doing the examination and dealing with well babies. They expressed problems about the difficulty of identifying heart murmurs, also identifying which clicks were important when checking hips. One SHO said 'hips should certainly be taught by someone senior' (SHO 3). Feeling the femoral pulse was difficult initially and some SHOs expressed the concern that the time taken to find the pulse made the mother anxious. Their other major problem regarded the red reflex; some said they had difficulty in getting the baby's eyes open, 'didn't know if it was my technique - but have now found the right equipment for the eyes' (SHO 3). Many complained that the examination was too rushed, with too many babies to examine in one go, and of the danger of forgetting something. The GPs mostly thought it appropriate for either SHOs or midwives, 'if confident' (GP 1), to examine, and all said that midwives would need training. GPs said that it was 'sensible for midwives to examine' (GP 4), that they were 'ideally placed and should have an equal role' (GP 3). However they expressed some concerns about midwives doing the examination, especially their ability to detect heart murmurs, as these are difficult for doctors (GPs 4,9,10). It was felt that some parents might have more confidence in a doctor (GP 8)

and one GP said that midwives may either miss trivial problems or refer too many trivial problems, causing extra work for the GP (GP 6). There were also some concerns about SHOs becoming 'deskilled' (GP1) and there were suggestions that SHOs should have a quota of examinations to maintain skills (GPs 7,9). One GP however said that 'the examination should not be education for an SHO but for benefit of baby' (GP 3). Little was said about training and what was said was mostly negative. 'I do not think hips can be taught properly and mostly we do it wrong' (GP 5), 'hip examination done badly, people do it unsupervised' (GP 4). Several midwives said they were better trained to do the examination than were the SHOs or GPs and expressed concerns about SHOs training, 'I feel confident because the training was very thorough...I undertake the examination to a higher standard than some of the other professionals' (midwife 4). 'I don't think the SHOs have a lot of co-operation or training' (midwife 1). It was suggested that SHOs should be working alongside registrars to facilitate the development of their knowledge and skills in the examination. Midwives said that if they were to undertake the newborn examination it would have both a positive and negative impact on the role and development of the SHO. Assisting with workload was cited as a main benefit to paediatricians, 'it means that they are not required to be in ten different places at once' (midwife 2). This in turn would leave them more time for training, would improve the overall quality of their learning experience and leave the SHO more time to work with the registrar. It was suggested that training for the examination could become part of the pre-registration midwifery education. The majority of mothers said they had no preference about who should conduct the baby examination as long as the person was qualified and trained to know what to look for. 'To be honest as long as someone does it and knows what they are looking at, I have no

problem who does it' (mother 10). Nearly all mothers said they would be happy for midwives to examine babies; some said they had more confidence in midwives than SHOs, though one said that the midwives role was 'not medical but to maintain healthiness and welfare' (mother 5). Most mothers said that midwives are capable and have nearly as much training and knowledge as doctors have. Generally, mothers said that babies with problems should be examined by doctors, who they trust and see as knowledgeable, qualified and professional, though a few said that midwives could examine all babies (mothers 8,10).

Quality of Care

Some SHOs said that midwives know the mother better, are more experienced and have more rapport with mothers. Several SHOs said that midwives could safely examine far more babies, that there were too many exclusions for midwives and 'there was in any case a low threshold for referral so it would be safe' (SHO 9). GPs had no strong objections to midwives examining. 'Midwives are well trained – as well as any doctor' (GP 3). 'Mother has enormous confidence in midwife' (GP 6). GPs also said 'SHO always in a terrible rush' (GP 8). Midwives were generally negative about the examinations being performed by SHOs, 'it is done like a conveyer belt.... They have probably nine to ten baby checks a day...perhaps they have not been done very well' (midwife 9). 'They have a quick word with the mother and say everything is alright and off they go... The midwife has to explain to the mother what the doctor has done, what he has found' (midwife 3). Midwives were however sympathetic to the competing demands on the doctor's time, which resulted in such problems. One midwife said 'maybe their time is better spent with sick babies rather than well babies'

(midwife 4). Although they expressed concerns about the potential impact on their own workload, the majority of midwives were in favour of undertaking the newborn examination. 'In an ideal world it should be the midwife, all midwives should be able to perform the examination; we are people who care for normal healthy women and I think it should continue on to the infants as well' (midwife 2). Midwives also said that it would be more convenient for mothers; however one midwife was opposed to midwives extending their role in this area, 'I am not trying to say midwives couldn't do it... I just worry about our workload and our role' (midwife 9). Continuity of care was generally seen as a major advantage, enabling midwives to give continuity and total care to their clients. Midwives also said that mothers express their concerns and anxieties about the baby or themselves more easily to a midwife, 'they have grown to trust the midwife and have quite good rapport with them' (midwife 2). Mothers said that continuity of care was important to them in terms of being able to build a relationship with one midwife who would understand their problems and concerns. 'I think it is nice to build up a relationship with someone you feel comfortable talking with... so it's nice to have a single relationship rather than be passed from pillar to post' (mother 4). Not all mothers considered it important to know the person who examined the baby. It was viewed that allowing a relationship to develop with one midwife would offer the mother greater support, while on the other hand seeing more midwives 'gives a broader spectrum of knowledge' (mother 2). Mothers felt that if midwives examined more babies it would help them to build on their knowledge and would be good for them to have more authority and to see the care right through. Mothers saw an advantage to themselves, as they could go home early and might feel there was more time and opportunity to ask questions. Compared with doctors,

midwives were viewed by mothers as approachable, easy to talk to and ask questions of.

Organisation of Care

SHOs said that they nearly always examined babies in block with protected time. This worked well and meant their time was usually not interrupted from other activities, although some had experienced a less organised regime at other hospitals. If not doing examinations the SHO would be on the ward, in the special care unit, in clinic, on a ward round or on community work. The paediatric wards were said to be very busy.

Although midwives said there were many advantages for them in undertaking the newborn examination, they were also concerned about the extra demands it would create on their workload and the increased accountability. Many midwives were concerned about the potential impact it might have on the development of SHO's skills, in particular their ability to identify normality, 'it does take away valuable learning opportunities from them.... They won't see normal babies' (midwife 8). Some mothers expressed concerns that if paediatricians did not do the examination 'they would lose touch with little babies' (mother 9), and paediatricians needed the practical knowledge and experience. Others said that if doing the examination became a burden on the midwife's already busy role, then they should not do it.

Discussion

A limitation of qualitative studies is that samples tend to be small. However, the aim of this exploratory study was not to be a survey but to elicit opinions from those carrying out the examinations and whose babies are examined. We needed to explore specific

areas in response to the National Health Service Health Technology Assessment panel's requirements and so used semi-structured interviews rather than non-structured interviewing. The major finding from this study is that midwives and SHOs, if trained, are perceived by all groups to be appropriate to carry out the newborn examination. This confirms other research that midwives are well placed to undertake these examinations provided that they receive adequate training (Royal College of Midwives 2000, Micaelides 1995, Mackeith 1995, Lomax 2001, Seymour 1995). Hall has concluded that midwives could take this on, provided that clear guidelines, adequate training and paediatric support are provided (Hall 1996, 1999). Benefits of midwives undertaking the examination, which support the midwifery literature, include enhanced continuity of care and increased autonomy of the midwife and knowledge of the newborn (Micaelides 1995, Mackeith 1995, Seymour 1995, Sherliker 1997). However concerns have been expressed about increased demands on the midwife's workload, lack of remuneration and additional responsibility and accountability (Sherliker 1997, Duff 1997). Further benefit would be to ease the SHOs' workload, although the increased demands that this would place on midwives may require re-examination of their current role and responsibilities. It is evident from many of the professionals interviewed that the SHOs do not receive formal training in the newborn examination and this accords with other research (El-Shazley, 1994). Recent findings have suggested that neonatal nurse practitioners were significantly more effective than SHOs in detecting abnormalities during the neonatal examination (Lee, 2001). Training in the newborn examination, possibly as an integral part of pre-registration midwifery programmes, alongside the current post registration training, would increase the number of midwives trained in the newborn examination. Mothers and babies are often

kept waiting for an SHO to carry out the examination or sometimes discharged from hospital without a full examination. The timing of the examination affects accurate diagnosis of problems, and studies have attempted to determine the best time to screen for abnormalities while minimising the risk of false negatives and unnecessary distress to parents caused by false positives (Moss 1991). Midwives were clearly perceived as more willing and active in discussing health care issues than were SHOs and to have a better rapport with mothers. Hall (1996, 1999) has recommended that health education should be an essential component of the newborn examination and, as suggested elsewhere, greater emphasis in training could be placed on communication skills and health education. While providing reassurance to parents was considered to be an important aspect of the examination, it was also considered important that parents were not given false reassurance and misled into believing that all problems could be detected at this stage.

To summarise, all the groups interviewed considered the examination useful as a screening tool and to provide reassurance to parents, though there were mixed views about the appropriateness of discussing health care issues at the examination. The SHOs were clearly comfortable with the idea and experience of midwives carrying out the newborn examination either in hospital or at home. They thought it important that SHOs should have some experience of handling normal babies and that they should have some formal tutoring before examining, especially for hearts, hips, eyes and femoral pulses. The majority of midwives were happy about extending their practice in this area as it facilitated continuity of care and was within the scope of normal midwifery, although some were concerned about how it would impact on their

workload and the competing demands on their time. The view of GPs was important, as many of these SHOs would specialise as GPs. There was a consensus among those interviewed that midwives were appropriate professionals to carry out the examination of the newborn and possibly more so than SHOs or GPs, but should be trained, especially to detect heart murmurs and congenital dislocation of the hips.

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