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CHILDBIRTH CARE PRACTICES IN PUBLIC SECTOR FACILITIES IN JEDDAH, SAUDI ARABIA: A DESCRIPTIVE STUDY

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Title page

CHILDBIRTH CARE PRACTICES IN PUBLIC SECTOR FACILITIES IN JEDDAH, SAUDI ARABIA: A DESCRIPTIVE STUDY

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Title: Childbirth Care Practices in Public Sector Facilities in Jeddah, Saudi Arabia: A Descriptive Study.

Introduction

In 2000, 189 countries signed up to Millennium Development Goal 5 (MDG 5), which aims to improve maternal health and reduce maternal mortality. A key part of this strategy is to ensure women are delivered by skilled attendants capable of using effective practices which prevent or manage life threatening complications, while ensuring satisfactory care to women. There is a considerable body of scientific evidence on the effectiveness of childbirth care practices (for example, Cochrane Library, NMC and NICE guidelines, WHO database), yet evidence is also emerging that many countries are not adopting key beneficial practices while also retaining or adopting ineffective or even harmful practices.

Clinical practices should be evidence-based (Waldenstrom, 2007) as evidence-based medicine (EBM) enables practitioners to use the current best evidence on which to base healthcare decisions (Khan et al. 2003), it complements clinical expertise (Sackett et al., 1996) and identifies knowledge gaps (Tarling and Crofts, 2002). Strengthening practice rests on the application of an evidence-based approach, with the best available evidence stemming from research providing the basis for policies that guide practice. Evidence based practice (EBP) has become the main means of informing policy, practice, management and education within health care services across the developed world (Rycroft-Malone et al., 2004).

Saudi Arabia is a Muslim Arab monarchy in the Middle East. It has an estimated population of 25.37 million. In 2009 the total fertility rate was 3.04 children per woman, the neonatal mortality rate was 11 per 1000 live births, maternal mortality ratio (MMR) is estimated by interagency at 24[13-45] per 100,000 live births and nationally at 14.3 per 100,000 live births and 91 % of women give birth in health facilities. Childbirths are largely occur in hospitals

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and 98% are attended by skilled healthcare personal (MOH, 2008; WHO, 2011; WHO, 2012). While there are no statistics on the skill level of provider attending childbirth, obstetricians, midwives, nurse-midwives and nurses are all involved in childbirth care. The Saudi Arabian health system is mainly staffed by healthcare professionals recruited from all over the world such as the Philippines, India, South Africa, Malaysia, the UK, the USA, Europe, and other Arab countries, who may have different qualifications to fill the critical gap in numbers of Saudi healthcare professionals to meet medical and nursing workforce needs. These professionals may have different training backgrounds, and play a significant role in the support and care of women during childbirth. Obstetric, midwifery and nursing professions in Saudi Arabia are regulated by the Saudi health commission which provide registration and training programme. The current situation of midwives in Saudi is not clear as the midwifery profession is still part of the nursing profession. There are no statistics about the number of midwives working in Saudi Arabia; their number is included under the nursing profession statistics. Midwifery education in Saudi Arabia is still not fully established. In 2006 the Prince Sultan Medical Military City in Riyadh started to offer a postgraduate diploma in midwifery which is accredited by the Saudi Commission for Health Specialties (SCFHS) for nurses who hold a bachelor degree in nursing. Since then, many other programmes in Jeddah and Dammam have started to offer postgraduate diplomas in midwifery. In addition, the Ministry of Health (MOH) is offering an associate diploma in midwifery that allows the graduates to work within the MOH hospitals only as midwives.

The quality of maternal care worldwide is receiving increasing attention with regard to hospital policies and practices for normal childbirth and whether they are evidence-based. A literature search was conducted to identify the evidence concerning normal childbirth policies and practice in maternity wards worldwide. A wide range of well-established online databases was used including Medline, Maternity and Infant Care, Cumulative Index to

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Nursing and Allied Health Literature (CINAHL), Cochrane Library Database of Systematic Reviews, Pubmed and Google Scholar. Some studies found had examined the routine policies and practices of normal birth worldwide (Maimbolwa et al., 1997; Festin et al., 2003; Turan et al., 2006; Harris et al., 2007; Danichevski et al., 2008; The SEA-ORCHID study group, 2008; Chalmers et al., 2009). In the Arab world, studies of hospital policies and practices for normal childbirth have begun to assess whether they are within EBP (Khayat and Campbell, 2000; Abdulsalam et al., 2004; Khalil et al., 2005; Wick et al., 2005; Hassan-Bitar and Wick, 2007; Sweidan et al., 2008; Khresheh et al., 2009). All have shown deviation from EBP for normal childbirth.

The regional research network, Choices and Challenges in Changing Childbirth (CCCC) (2005) documented facility-based practices for normal labour and birth in Egypt, Lebanon, the West Bank and Syria, and compares regional facility-based childbirth practices according to WHO classifications of beneficial and harmful practices for normal birth. However, we were unable to identify any studies in the published literature which explored hospital policies or practices, or whether EBP is followed for maternity services during antenatal care, labour, birth and postpartum care in Saudi Arabia.

This study was conducted to explore reported hospital policies and practices during normal childbirth in maternity wards of public sector facilities in Jeddah, Saudi Arabia and to assess whether these practices are evidence-based. The ultimate objectives of the study were to generate baseline data of hospital policies, practices and routines applied in labour rooms and maternity wards for women having normal childbirth in Jeddah government hospitals; to obtain estimates of the frequency of certain practices and to identify the variation in hospital policies and practices.

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In this study the research question emerged from searching the literature about hospital policies and practices during normal childbirth and from the researcher's own experience, as follows: 'Do government hospitals in Jeddah, Saudi Arabia, adopt consistent obstetric policies and practices and to what extent are these in conformity with internationally accepted evidence based guidelines?'

Methods

Design and Sample

The research design adopted for this study is a descriptive survey. The nature of the research question, collecting information about hospital policies and practices for normal childbirth in maternity wards, lends itself to a quantitative approach (McColl et al., 2001; Bowling, 2002; Cluett and Bluff, 2006). Face-to-face structured interview was the main method selected for this study. Although it is highly time-consuming compared to a self-administered questionnaire, in face-to-face interviews, the interviewer can easily probe responses and clarify any ambiguities to reduce misunderstandings, and response rates are higher than for postal surveys because of the interpersonal interaction (McColl et al., 2001; Bowling, 2002). Hence, structured interviews are particularly appropriate in the hospital setting where department heads are always busy and returning a written questionnaire could be difficult for respondents, leading to a low response rate.

Based on the annual statistical book prepared by the MOH in Saudi, the sampling frame was 15 hospitals. We excluded all hospitals lacking a maternity or labour ward, which left a sample of 10 hospitals. The target samples were all government hospitals in Jeddah, providing maternity services. Jeddah city was chosen for this research because it has all hospital types available in Saudi Arabia. These included 6 MOH, 2 Military, 1 Teaching and 1 other specialist government hospital, a total of 10. All hospitals were invited to participate

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in order to capture the typical variation of public hospital services and all but one agreed. Ethical approval for the study was obtained from City University London's Research Ethics Committee Ref: MSc/09-10/20 and from the hospitals themselves. Nine out of ten hospitals approached provided ethical approval for the study. Ethical approval was not granted by one hospital, because its procedures took longer than expected and time was limited for this study. Informed consents were obtained from all participants who were interviewed.

A structured questionnaire was developed based on a tool extracted from the literature. It was used to interview key individuals responsible for the day-to-day running of the maternity ward in each hospital, either the head midwife (2), head nurse (6) or head obstetrician (1). In each hospital, there is only one head obstetrician and head midwife or head nurse who are responsible for the day-to-day running of the maternity ward. A copy of the questionnaire, the invitation letter, consent form and participant information sheet were sent to all head managers in all hospitals, via email, fax, or handed to them personally, prior to the formal interviews. The nature and purpose of the study was clearly explained to them, and they had the opportunity to ask questions. The questionnaire was sent in advance to the interested participants so they would complete the statistical information regarding the number of beds, patients, births, Caesarean sections etc. This took them approximately 1 hour to complete. Subsequently, the participant was contacted to arrange for a structured interview that also took approximately 1 hour, giving the researcher adequate flexibility to ask questions and probe according to the respondents' answers. Interviews were scheduled at the convenience of the head midwife, head nurse or head obstetrician, accommodating their responsibilities for patient care and not interfering with any meetings/activities they were participating in, whether pre-arranged or emergency.

The questionnaire comprised of two sections with a series of closed-ended questions. The first section collected general information about the hospitals' policies while the second

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section collected information about practices in maternity wards, especially labour units. The second section used a five point Likert scale (routinely, often, sometimes, rarely and never) to assess the frequency of practices. Interviews were conducted face-to-face, or by telephone where a face-to-face interview was not possible. For each hospital, already available statistical data, such as the number of Caesarean sections, normal births, episiotomies, stillbirths, and maternal deaths for 2009 were also collected. In total, 104 practices were studied: 87 related to the health of the mother and 17 to that of the newborn. The questionnaire was piloted on a small sample with similar characteristics to those in the full study in maternity wards in Jeddah.

The original semi-structured questionnaire was developed by Khayat and Campbell (2000). Abdulsalam et al. (2004) developed a new structured questionnaire by amending the original semi-structured one, then pre-tested it before full implementation. This new structured questionnaire was used in Sweidan et al.'s (2008) study with some of the sections edited. The questionnaire for the current study in Jeddah, Saudi Arabia, was developed by editing these aforementioned questionnaires with the developers' permission.

A total of nine hospitals were included in the study. In terms of financial resources, six of these hospitals were managed by the MOH, and three of them were financed by other government resources. Seven hospitals were multidisciplinary and two of them were maternity and child hospitals. Childbirth statistics were taken from the patients' record system at all nine hospitals. Private hospitals were not included in the sampling as practice in private and public sectors are very different and the main study focus was on typical public care.

Once the quantitative data were collected from participants, they were analysed using descriptive statistics. The Statistical Package for Social Sciences (SPSS) Program for

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Windows (version 16.0) was used to analyse the data by testing the survey and analysis for different factors, and to see the relationship and differences between variables. Frequency distribution and cross-tabulation were carried out. To ensure that the survey format was appropriate for data analysis, question items were pre-coded. In addition, statistical advice was sought, to avoid risk of error and facilitate data analysis (Bowling, 2002). This also ensured that an appropriate method of data analysis was identified, to extract the data required to meet the aims and objectives of the study. In order to eliminate any obvious errors made during the data collection, coding and input stages, the data were consolidated by looking at missing values and carrying out range checks and checks for consistency (Bowling, 2002).

Results

Table 1 presents data on mode of birth. In 2009 the total number of registered normal vaginal births was 15,349 (73.3%) for the nine surveyed hospitals. There were 4,689 (22.4%) Caesarean sections. Six of the nine hospitals in this study sample reported having a Caesarean section rate higher than 16%. Of these, five exceeded 20%. In contrast only one hospital from the other government hospitals had Caesarean section rate as low as 4%.

Hospital Obstetric Policies

All nine hospitals reported having a written policy for childbirth and postnatal care that are evidence-based and available for reference to all staff providing care. Most of the hospitals reported that they review their childbirth policies every two years. Almost all hospitals were capable of providing comprehensive essential obstetric care services, including emergency caesarean section continually including nights and weekends. Seven hospitals reported the need to transfer specific cases, especially if there were not enough beds available at the hospital for the mother or baby.

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The hospitals reported having their own mechanism for internal evaluation, employing either team feedback or previously collected statistics. Four hospitals used team feedback and one used previously collected statistics. The remaining four hospitals used both team feedback and previous statistics. All hospitals reported using an external mechanism for evaluation (Table 2)

Table 3 provides an overview of reported policies concerning social support during childbirth. Five hospitals reported that they did not allow a woman to be accompanied during normal labour and birth, though one allowed occasional exceptions to the policy. At one hospital it was up to the care provider as there is no policy on this issue. Only two hospitals reported that a companion was allowed to attend. They stated that the number of support persons allowed during normal childbirth was one, chosen by the women or jointly with her care providers.

Hospital Obstetric Practices

Table 4 shows the routine general practices concerning normal childbirth. Only one hospital used a birth plan on a routine basis, while others never used one as they were not available. Eight hospitals reported that they routinely gave women as much information and explanation as they desired.

First Stage of Labour

Table 5 shows the routine basic physical examination and observations of women during the first stage of labour. All hospitals reported doing general clinical examinations, blood test screening for Complete Blood Count (CBC) and blood group. They also routinely measured pulse, temperature and blood pressure, and urine was routinely tested for ketones, protein and sugar. In addition, examination findings were reported as being routinely explained to women

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in seven hospitals. The partograph was routinely used in six hospitals. Four of the hospitals reported allowing women routinely to take oral fluids during labour and birth.

Table 6 shows routine practices concerning the comfort of women during the first stage of labour. Eight hospitals reported giving women empathetic support during labour and birth as a routine practice. All hospitals reported requiring women to change into hospital gowns. Pubic shaving and enemas were routinely practised during the first stage of labour in four of the hospitals. All of the hospitals reported using some type of pain relief. Pain control by systemic agents, either IV or Intramuscular (IM) analgesic, was given routinely in three hospitals. Epidurals were never used in three hospitals. Non-invasive, non-pharmacological methods of pain relief during labour, such as massage and relaxation techniques were reported as performed routinely in three hospitals. Non-pharmacological methods of pain relief during labour, such as herbs, immersion in water and nerve stimulation, were never performed in any hospital. Bladder catheterization was reported as routinely performed during the first stage of labour in one hospital.

Table 7 presents routine practices concerning mobility and foetal monitoring during the first stage of labour. Four of the nine hospitals studied reported allowing women to move, while three hospitals sometimes gave them permission to do so. Six of the hospitals reported giving women freedom to choose their preferred position during the first stage of labour. Only one hospital reported routinely using the supine position during labour. Eight of the studied hospitals inserted prophylactic IV cannulas routinely. Seven hospitals reported routinely administering an IV infusion to all women in labour, and all of the hospitals reported using continuous EFM. Only one hospital routinely performed foetal monitoring with intermittent auscultation and three of the hospitals never used this procedure.

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Second Stage of Labour

Table 8 shows routine practices during the second stage of labour. Only one of nine hospitals reported moving women to a different room, at the onset of the second stage of labour as a routine practice. Seven hospitals reported that women are routinely placed in the lithotomy position, with or without stirrups, during labour. Two hospitals reported routinely massaging and stretching the perineum during the second stage of labour.

Four of the hospitals reported routinely conducting episiotomies on all primiparous women. Operative birth using vacuum was sometimes performed in eight hospitals, while forceps were sometimes used in four, and four hospitals never used forceps as an option for operative birth. Adherence to a specific duration for the second stage of labour, such as one hour, was followed routinely in one hospital.

Four hospitals reported routinely encouraging women to push at full dilatation, or nearly full dilatation of the cervix, before they felt the urge to bear down themselves. Perineum support during the appearance of the head was performed routinely in eight hospitals. The management of the foetal head at the moment of birth was performed routinely in seven hospitals. Active manipulation of the foetus at the moment of birth was performed routinely in five hospitals. Sustained, directed bearing down efforts (Valsalva manoeuvre) during the second stage of labour was routinely practised in five hospitals. Only one hospital routinely performed bladder catheterization during the second stage and in seven hospitals this was done sometimes, depending on the woman's condition.

Third Stage of Labour

Table 9 shows routine practices during the third stage of labour. All hospitals reported routinely giving women with a risk of postpartum haemorrhage, prophylactic oxytocin. Three

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out of nine hospitals reported using parenteral ergometrine (IM, IV) routinely. Eight out of nine hospitals reported performing early clamping of the umbilical cord, and one reported often performing this practice. All nine hospitals ensured sterility in the cutting of the cord, and seven hospitals routinely performed controlled cord traction. Only one hospital routinely performed revision (manual exploration) of the uterus after birth. All hospitals reported routinely examining the placenta and the membranes.

Postpartum Care

Table 10 shows data concerning postpartum care. All hospitals reported routinely leaving women under observation for two hours after normal childbirth, and all of them reported routinely performing frequent checking for uterine contraction. Seven hospitals reported routinely checking the bladder and encourage urination. All of the hospitals studied reported routinely suctioning, warming and drying the newborn directly after birth. Eight reported routinely allowing early skin-to-skin contact between the mother and newborn, and seven reported routinely supporting the mother to initiate breastfeeding, within the first hour postpartum. Seven hospitals reported routinely helping mothers with breastfeeding, and six reported routinely giving breastfeeding counselling to all mothers. Four of the nine hospitals reported a routine rooming-in practice (the newborn baby is kept in the same room as the mother).

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Neonatal Care

Table 11 shows routine general practices concerning neonatal care. Paediatric examination of the newborn was routinely practised in seven hospitals. Checking the Apgar score, measuring weight and height, head circumference, temperature, IM Vitamin K, IM hepatitis vaccine, checking dextrose stick (neonate of diabetic mother), urine output and for the passage of meconium, were routine practices performed in all hospitals. Chest circumference was

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routinely measured in eight hospitals. Erythromycin was routinely applied to newborn's eyes in six hospitals. Only three hospitals reported bathing the newborn directly after birth and five hospitals never did this.

Discussion

This study found that while all surveyed hospitals were well equipped to deal with obstetric emergencies, the picture was more mixed with respect to evidence-based procedures. While many EBP were reported as used in some hospitals, some procedures that are known to be harmful and unnecessary when used routinely were frequent including continuous foetal monitoring, lithotomy position, valsalva pushing and episiotomy. Other beneficial practices, such as companionship in labour, mobility and non-pharmacological comfort measures were neglected (NICE, 2007).

This study found that the Caesarean section rate was high (21%) across the nine hospitals for which this data was available, compared with WHO guidelines. This rate is comparable to the national population-based rate of 21% in 2008 (MOH, 2008) whereas the WHO recommends a maximum rate for Caesarean section of not more than 15% of all pregnancies (Sweidan, 2008). However, Waldenstrom (2007) argues that the appropriate Caesarean section rate is widely debated and she questions the evidence on which the WHO recommendation is based.

In line with the worldwide rise in the Caesarean section rate, Caesarean section is one of the most commonly performed surgical procedures in Saudi Arabia. Ba'aqeel (2009) observed a significant increase of more than 80% in the Caesarean section rate within government hospitals in Saudi Arabia from 1997 to 2006. The increased rate of Caesarean section could be due to the increased medicalisation of childbirth. However, it is clear from the literature that all this data was collected from government hospitals, and data about the Caesarean section rate in private hospitals was not available. This raises the question of whether private

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hospitals have a higher or lower Caesarean section rate than the government hospitals. Although caesarean section can save maternal and infant lives, and reduce morbidity if there is a medical indication (Waldenstrom, 2007; Lumbiganon et al., 2010) the increase is of concern not only because of the associated higher morbidity and mortality compared to the vaginal route, but also because of the effects on subsequent pregnancies and births (Ba'aqeel, 2009).

The increase in Caesarean section warrants further investigation to determine whether it can be attributed to the performance of greater numbers of medically unnecessary procedures. This highlights a number of questions including whether cultural preferences are a significant factor. Hassan-Bitar and Wick (2007) found that the increasing rate of Caesarean section was due to unnecessary routine interventions during labour. Additionally, there is wide variation between hospitals' Caesarean section rate, as was also observed in this small sample. This confirms the wide variation in caesarean section rates in the Arab region noted by Jurdi and Khawaja (2004). International studies have noted that variability in caesarean section rates are largely not explained by patient characteristics but associated with service characteristics (Paranjothy et al., 2005; Lutomski et al., 2012; Mackenbach and McKee, 2013).

The majority of hospitals in the sample reported having written, evidence-based policies regarding childbirth, breastfeeding, and postpartum care, yet the routine practices reported in this survey were in many cases not evidence-based. These findings support an earlier study carried out in Jordan in which the majority of hospitals reported having written policies regarding childbirth, breastfeeding and the care of mothers (Sweidan et al., 2008). In contrast, the majority of Syrian and Lebanese hospitals studied did not have written childbirth policies (Khayat and Campbell, 2000; Abdulsalam et al. 2004). This confirms the wide variation in the availability of written hospital policies in the Arab world but also suggests that further investigation of the use of such policies in practice is needed.

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During childbirth both professional and social supports are essential (Sweidan et al., 2008). In a comprehensive review of continuous social support for women during childbirth Hodnett et al. (2007) found that women who had continuous support during labour were likely to have a slightly shorter labour, were more likely to have vaginal birth spontaneously, be more satisfied with the childbirth experience, and were less likely to have pain medication. Only two (22%) of the hospitals sampled in this study reported allowing a companion to attend labour and birth. Empathetic support during childbirth, from caregivers and companions, can reduce the need for pharmacological pain relief, and thus improve the childbirth experience (WHO, 1996). In the majority of the hospitals surveyed (89%) empathetic support was reported as routinely provided by professional caregivers during labour and birth. However, there is no published literature that investigates how support is provided in practice.

Pubic shaving and enemas are examples of routines commonly practised in the maternity wards of government hospitals studied in Jeddah, although the WHO (1996) argues that these practices are known to be ineffective or harmful and should be eliminated. Routine pubic shaving before birth was practiced in 45% of the hospitals. There is insufficient evidence to recommend shaving for women on admission in labour (Basevi and Lavender, 2009). Shaving can lead to infection and discomfort during the period of hair re-growth and may cause the woman embarrassment (WHO, 1996). However, pubic shaving is an Islamic practice encouraged by sharee'ah based on the sayings of the Prophet Muhammad that should be performed every 40 days. Therefore, it could be argued from a religious standpoint that routine pubic shaving is a normal practice. This could be a challenging issue, as this practice, which is based on cultural tradition, could be harmful when conducted in the hospitals as a routine practice during childbirth. Therefore, further investigation is needed to explore the reasons behind this practice, and to explore women's acceptance of it. Enemas were found to be given routinely in around 45% of the hospitals. A similarly high rate (67%) was found in

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Jordanian hospitals (Sweidan et al., 2008). Enemas cause discomfort and embarrassment for women during labour. Furthermore, they could potentially increase the risk of infections and costs of service delivery, while insufficient evidence of benefit is available to recommend this practice (Reveiz et al., 2007; Sweidan et al., 2008).

Perineal tears can occur during normal childbirth. Episiotomy (a surgical cut to the perineum with scissors) can be performed by the midwife or obstetrician where indicated to prevent serious vaginal tears including third-degree and fourth-degree tears that can be difficult to repair (Carroli and Mignini, 2009). Other reasons for performing an episiotomy include signs of foetal distress and insufficient progress of birth (WHO, 1996). The above reasons do not suggest episiotomy as a routine policy as there is no clear evidence that liberal or routine use of episiotomy has a beneficial effect (WHO, 1996, NICE, 2007). Approximately half (45%) of the government hospitals in the current study reported that episiotomy is routinely practised on primparous women. A higher rate was reported in a study in Jordan, where episiotomy was performed as a routine policy for primiparous women in 67% of the hospitals studied (Sweidan et al, 2008). A recent systematic review found that restrictive episiotomy policies have a number of benefits, compared to routine episiotomy policies. These are less posterior perineal trauma, less suturing and fewer complications (Carroli and Mignini, 2009). A study on the 6 week postpartum complications of episiotomies found that many women reported feeling pain at the episiotomy site, painful intercourse, high temperature with shivering, infection of the episiotomy site, urinary incontinence and faecal incontinence (Hatamleh et al., 2008). It was also found that episiotomy has an increased association with third and fourth degree laceration (Hatamleh et al., 2008).

One area of concern highlighted by this study is mobility during labour, which has many advantages, including increasing the contractions that aid cervical dilatation (Sweidan et al., 2008). Only 44% of hospitals promoted mobility for all women possibly because several

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other practices have the indirect effect of reducing mobility during labour, such as IV infusion, which was reported to be given routinely during labour in 63% of the hospitals studied despite WHO (1996) reporting that routine IV cannula and infusion are considered harmful or ineffective, and should be eliminated. Prophylactic IV cannulation is performed in 89% of hospitals in Jeddah routinely, but as WHO (1996) points out, this practice invites unnecessary interventions, interferes with the natural process and restricts women's freedom to move. The majority (78%) of Jeddah government hospitals set up IV infusion routinely for all women. Similarly, 79% of Lebanese hospitals set up IV drips for all women (Khayat and Campbell, 2000).

Another practice that can reduce women's mobility is using continuous EFM using the Cardiotocography (CTG) machine which is applied in all the government hospitals studied in Jeddah. A similarly high rate (77%) was reported in Jordanian hospitals by Sweidan et al. (2008). Continuous EFM is associated with an increase in Caesarean section and instrumental vaginal births (Alfirevic et al., 2006; Nardin, 2007; Hatamleh et al., 2008). In the majority of labours without increased risk, EFM increases the number of interventions with no clear benefit for the foetus and with a degree of additional discomfort for women (WHO, 1996).

As a form of an active management, prophylactic oxytocin administration in the third stage of labour, at or after birth of the baby, followed by early clamping and cutting of the cord and controlled cord traction were categorised at the time of data collection under practices which are demonstrably useful and should be encouraged. The primary purpose of active management of the third stage of labour is to reduce the risk of postpartum haemorrhage (PPH) (Begley et al., 2010; Begley et al., 2011). Active management of the third stage of labour is associated with a lower incidence of postpartum haemorrhage greater than 1000 mL (Begley et al., 2010; Begley et al., 2011). Prophylactic oxytocin in women with a risk of PPH is administered routinely in all government hospital in Jeddah. There is recent evidence that

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prophylactic oxytocin at any dose decreases PPH greater than 500 mL (Westhoff et al, 2013). Other forms of active management of the third stage of labour include early cord clamping and cutting, and controlled cord traction to deliver the placenta. The majority of hospitals (78%) perform controlled cord traction routinely, and 89% perform early cord clamping routinely. The policy of early cord clamping lacked clear evidence at the time of the data collection, but recent trials indicate that routine early cord clamping is not beneficial (McDonald et al, 2013).

All the hospitals in the Jeddah study routinely warmed and dried the newborn directly after birth. According to WHO guidelines, straight after birth, the baby should be dried with warm towels and placed on the mother's stomach or in her arms. They also advocate early skin-to-skin contact for a range of physiological and psychological reasons, including maintaining infant temperature (WHO, 1996). The majority (89%) of the hospitals studied reported routinely practice of early skin-to skin contact. In 67% of the hospitals, there was routine prophylactic administration of Erythromycin ointment to eye of the newborn. However, Chen (1992) found that this does not significantly reduce the incidence of neonatal chlamydial conjunctivitis. Therefore, this routine practice should be examined in regards to its effectiveness.

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Study Limitations

To our knowledge, this study is the first to document the obstetric policies and routine practices for normal childbirth, applied in the maternity wards of government hospitals in Jeddah, Saudi Arabia and there is no national initiative for childbirth policies and practices in Saudi Arabia. We believe that this detailed assessment of the care delivered in one region of Saudi Arabia can be used to illustrate the problems facing the Saudi health system as a whole of the routine use of interventions during childbirth and medicalisation of childbirth.

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This study has four main limitations. The first relates to the questionnaires, in that they seek information by asking questions and receiving answers that cannot be probed for depth and expansion. Second, they provide information on what people say they do and not what they are actually doing (Green and Thorogood, 2004), although similar limitations could apply to more open interviews. The data were obtained through staff reports about policies, routines and practices not through the direct observation of obstetric care or indeed an analysis of hospital records, which cannot determine whether or not hospitals actually follow their written policies or if staff employed the practices they reported. Observation of clinical obstetric practices would strengthen the results of this research, as was done in a study conducted in Egypt (Khalil et al., 2005). However, such observation methods are costly, time-consuming and difficult to perform, and therefore in the light of the time and financial constraints of this research it was not possible to use this method. However, this study does provide an overview of current policies and reported practices regarding normal childbirth in maternity wards, to obtain baseline data. An audit of women's and babies' medical records would have been useful to further examine the reported practice of normal childbirth, but this would be time-consuming and there is no guarantee that all the procedures would be documented as practised.

The third limitation relates to the narrow scope in terms of geographic coverage, sampling and exclusion of the private sector. Random sampling was not possible because of the methodology chosen (interviews) and the geographic distances involved. Due to the cost and limited time available for a Master's degree, a convenience sample was used, consisting of all public hospitals in Jeddah. Wider generalisations cannot be made based on the findings of this research due to the lack of randomisation, geographical clustering and sampling difficulties.

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The fourth possible limitation of this study was that the questionnaires were answered by head midwives/nurses in some hospitals and obstetricians in others, introducing possible bias based on the job statuses of respondents. Given that they could have applied different interests and perspectives to their responses, this may have certain implications for the reliability and validity of the data (Sweidan et al., 2008). Despite these limitations, the study augments the information available about hospital routines and policies in Saudi Arabia, as well as highlighting areas worthy of further research.

This study has specific implications for obstetricians, midwives and nurses working in maternity units. It gives an overview of current hospital policies and practices during normal childbirth. It is likely to contribute to improving the health and well-being of women, and have implications for service provision. It could also help in the development of technical information for policy-makers, and healthcare professionals for normal childbirth care. Findings of this research should be communicated to health care professionals, and education strategies should be implemented to educate healthcare professionals and women about appropriate care.

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Conclusion

The high and routine use of inappropriate interventions and practices in Saudi maternity care is of considerable concern. The results of this study clearly indicate that there is wide variation between hospitals in Jeddah in some obstetric practices and certain aspects of reported routine practice are evidence-based, while others are not. Several routine practices and interventions were reported during normal childbirth in government hospitals in Jeddah, despite evidence and international guidelines recommending against their routine use. The findings of this study are broadly consistent with previous studies of obstetric practice both

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worldwide and in the Arab world. The findings revealed that common hospital practices for normal childbirth in the major Saudi public hospitals in Jeddah deviated from established best practice and could potentially be contributing to the incidence of obstetric complications and rising rates of caesarean section.

This study suggests there is an urgent need to establish a Saudi national policies and guidelines based on evidence to promote the normality of childbirth and the appropriate use of technology and intervention during normal childbirth. However, guidelines in themselves cannot be assumed to change practice and public and professional education is also needed (Villar et al., 2001; Al-Almaie and Al-Baghli, 2004; Giguère et al., 2012). So, a plan of action is needed to encourage the implementation of practices that medical evidence confirms will benefit both mothers and their newborn, and to eliminate practices that are unnecessary and likely to be uncomfortable for women in Jeddah and elsewhere. This study also suggests the need for development of a national database on maternal and infant morbidity and mortality including induction rates, episiotomy numbers, induction of labour, elective and emergency Caesarean sections, in the light of an increasing caesarean section birth rate and rising health care costs.

The researchers recommend that the position of Saudi midwives in their roles as supporters and educators of women concerning childbirth should also be investigated, because in Saudi Arabia midwives do not practice independently from obstetricians. Midwives are in a position to promote and initiate reflection and research on the complexity of normal childbirth. They need to be at the forefront of decision-making that supports normal childbirth in order to help facilitate EBP within healthcare settings.

The healthcare system provides women in Saudi Arabia with little information about childbirth and this need to be addressed. Therefore, urgent attention is needed to establish a

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programme that concentrates on giving women the right to make informed decisions. NICE (2008) recommends offering pregnant women evidence-based information and support to enable them to make informed decisions regarding their care. Although hospitals in this study reported providing information to women, the actual approaches to and standards of information provision would need to be explored using a different methodology. Research focusing on women's experiences of childbirth in Saudi hospitals, their preferences, and the extent to which they can exercise their choices would be useful.

The results of this study suggest the need for a bigger study with a sample size using appropriate random sampling techniques to cover all maternity facilities in Saudi Arabia. However, there is also need for a qualitative research approach to discover the factors that contribute to the findings of this research and to investigate the relationship between reported practices or policies and everyday practices in Saudi hospitals.

These research findings indicated a need to discover qualitative factors that contribute to the medicalisation of birth, and the increase in the use of unnecessary medical interventions in maternity wards in Jeddah, Saudi Arabia. However, the factors informing the routine use of interventions and the use of some unnecessary procedures during childbirth were not explored at this stage as different methods would be required. Consequently, a follow-up study is being conducted, adopting ethnographic approach to explore the use of interventions during the second stage of labour among healthcare professionals in practice in Jeddah, Saudi Arabia and what factors may be influencing their use.

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Table 1: Type of births

Type	**Total**	**%**	**M**	**SD**
Normal vaginal births	15439	73.3	1705	1623
Caesarean sections	4689	22.4	521	488
Instrumental births	524	2.5	58	41
Others	370	1.8	41	42
Total Birth	**20932**	**100**	**2326**	**2118**

SD= Standard deviation
M= Mean

Table 2. Reported obstetric policies and evaluation mechanism

Policy/evaluation mechanisms	**N**	**%**
Availability of actual "birth plan" form		
Yes	1	11
No	8	89
Childbirth policy		
Yes	9	100
No	0	0
Postnatal policy		
Yes	9	100
Breastfeeding policy		
Yes	8	89
No	1	11
Hospital statistics reporting system		
Record	9	100
Estimation	0	0
Internal mechanism of evaluation		
Based on statistic	1	11
Based on team feedback	4	44.5
Based on statistic and team feedback	4	44.5
External organisational mechanism of evaluation		
Non-governmental organisation *	3	33
Governmental committee	6	67

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Routine evaluation of other maternity practices in the hospital		
Yes	5	56
No	2	22
Missing value	2	22
Routine evaluation (audit) of hospital records related to birth		
Yes	4	44
No	5	56
Availability of childbirth polices to all staff who look after mothers		
Yes	9	100
These policies are evidence based		
Yes	9	100
If yes, these policies are reviewed		
every 2 years	6	67
every 3 years	2	22
every year	1	11

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Table 3. Reported policies concerning social support during childbirth

Support policies	N	%
Companion in the labour and delivery room during normal childbirth		
Not allowed	5	56
Not allowed but with exceptions	1	11
Up to provider (No policy)	1	11
Always allowed	2	22
Companions to accompany women having elective Caesarean section		
Yes	0	0
No	8	89
Sometimes	1	11
Companions during emergency Caesarean section		
Yes	0	0
No	8	89
Sometimes	1	11
Who determines the identity of the companion?		
Companion not allowed	5	56
Women	3	33
Health Professional	1	11

Table 4. Routine general practices concerning normal childbirth

Practices	N	%
Preparation of birth plan		
Routinely	1	11
Never	9	89
Giving women as much information and explanation as they desire		
Routinely	8	89
Often	1	11
Respecting women's informed choice of place of birth		
Not applicable	9	100

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Respecting choice of whom attends the birth		
Routinely	4	45
Often	2	22
Sometimes	3	33
Risk assessment of pregnancy during prenatal care		
Routinely	9	100
Use of X-ray pelvimetry		
Sometimes	2	22
Rarely	1	11
Never	6	67
Respecting the right of women to privacy in the birthing place		
Routinely	7	78
Often	2	22
Respecting women's choice in some practices during labour and birth		
Routinely	4	44
Often	2	22
Sometimes	2	22
Rarely	1	11
Single use of disposable materials and appropriate decontamination of reusable materials during childbirth		
Routinely	8	89
Often	1	11

Table 5. Routine practices during the first stage of labour concerning basic physical examination and observation of women

Practices	N	%
Doing general clinical examinations		
Routinely	9	100
Blood test screening for CBC and blood group		
Routinely	9	100
Measure pulse		
Routinely	9	100
Measure temperature		
Routinely	9	100
Measure Blood pressure		
Routinely	9	100
Test Urine for keton, protein and sugar		
Routinely	9	100
Rectal examination in first stage of labour		
Routinely	1	11
Never	8	89
Repeated or frequent vaginal examinations especially by more than one caregiver	1	11
Often	2	23
Sometimes	3	33
Rarely	3	33
Never		
Partograph use		
Routinely	6	67
Rarely	2	22

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Never	1	11
Oral fluids offered during labour and birth		
Routinely	4	44
Often	2	22
Sometimes	2	22
Rarely	1	11

Table 6. Routine practices during first stage of labour concerning comfort of women

Practices	N	%
Empathetic support by caregivers during labour and birth		
Routinely	8	89
Often	1	11
Changing mothers clothes into hospital gown		
Routinely	9	100
Use of enema		
Routinely	4	45
Often	1	11
Sometimes	2	22
Rarely	2	22
Use of pubic shaving		
Routinely	4	45
Sometimes	2	22
Rarely	1	11
Never	2	22
Prophylactic insertion of intravenous cannula		
Routinely	8	89
Often	1	11
Use of sterile gloves in vaginal examination		
Routinely	9	100
Woman covered during examination		
Routinely	9	100
Non-invasive, non-pharmacological methods of pain relief during labour, such as massage and relaxation techniques		
Routinely	1	11
Often	1	11
Sometimes	4	45
Never	3	33
Non-pharmacological methods of pain relief during labour, such as herbs, immersion in water and nerve stimulation		
Never	9	100
Pain control by systemic agents (IV, IM)		
Routinely	3	33
Often	1	11
Sometimes	5	56
Pain control by epidural analgesia		
Often	1	11
Sometimes	2	23

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Rarely	3	33
Never	3	33
Bladder catheterization		
Routinely	1	11
Sometimes	8	89
Frequent urination		
Routinely	5	56
Sometimes	4	44

Table 7. Routine practices during first stage of labour concerning mobility and foetal monitoring

Mobility and foetal monitoring practices	N	%
Intravenous infusion in labour		
Routinely	7	78
Sometimes	2	22
Use of continuous electronic foetal monitoring (EFM)		
Routinely	9	100
Foetal monitoring with Intermittent auscultation		
Routinely	1	11
Sometimes	3	33
Rarely	2	23
Never	3	33
Use of the supine position during labour		
Routinely	1	11
Sometimes	3	33
Rarely	2	23
Never	3	33
Freedom in movement in labour		
Routinely	4	45
Often	2	22
Sometimes	3	33
Freedom in position in labour		
Routinely	6	67
Sometimes	2	22
Rarely	1	11

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Table 8. Routine practices during the second stage of labour

Practices	N	%
Moving the labouring woman to a different room at the onset of the 2nd stage of labour	1	11
Routinely	3	33
Rarely	5	56
Never		
Lithotomy position with or without stirrups during labour		
Routinely	7	78
Often	1	11
Sometimes	1	11
Massaging and stretching the perineum during the 2nd stage of labour		
Routinely	2	22
Often	2	22
Sometimes	3	34
Never	2	22
Wearing masks during labour attendance		
Routinely	4	45
Often	2	22
Sometimes	2	22
Never	1	11
Use of Episiotomy		
Routinely	4	45
Often	1	11
Sometimes	3	33
Rarely	1	11
Operative birth (Vacuum)		
Sometimes	8	89
Rarely	1	11
Operative birth (Forceps)		
Sometimes	4	44
Rarely	1	11
Never	4	44
Encouraging the woman to push when full dilatation or nearly full dilatation of the cervix has been diagnosed, before the woman feels the urge to bear down herself		
Routinely	4	45
Often	1	11
Rarely	3	33
Never	1	11
Fundal pressure during labour		
Sometimes	2	22
Rarely	2	22
Never	5	56
Perineum support during the appearance of the head		
Routinely	8	89
Often	1	11
The management of the foetal head at the moment of birth		
Routinely	7	78
Often	2	22
Active manipulation of the foetus at the moment of birth		

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Routinely	5	56
Sometimes	3	33
Rarely	1	11
Sustained, directed bearing down efforts (Valsalva manoeuvre) during the 2nd stage		
Routinely	5	56
Sometimes	1	11
Rarely	3	33
Bladder catheterization		
Routinely	1	11
Sometimes	7	78
Never	1	11

Table 9. Routine practices during third stage of labour

Routine Practices	N	%
Prophylactic oxytocin in women with a risk of postpartum haemorrhage		
Routinely	9	100
Use of parenteral ergometrine (IM, IV)		
Routinely	3	33
Sometimes	4	44
Rarely	2	22
Use of oral tablets of ergometrine to prevent or control haemorrhage		
Sometimes	2	22
Rarely	1	11
Never	6	67
Early clamping of the umbilical cord		
Routinely	8	89
Often	1	11
Sterility in the cutting of the cord		
Routinely	9	100
Controlled cord traction		
Routinely	7	78
Often	2	22
Use of gloves in handling the placenta		
Routinely	9	100
Lavage of the uterus after birth		
Never	9	100
Revision (manual exploration) of the uterus after birth		
Routinely	1	11
Often	1	11
Sometimes	1	11
Rarely	2	22
Never	4	44
Examination of the placenta and the membranes		
Routinely	9	100

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Table 10. Postpartum Care

Postpartum care practices	N	%
Leave the women under observation for 2 hours		
Routinely	9	100
Frequent checking for uterine contraction		
Routinely	9	100
Check bladder and encourage urination		
Routinely	7	78
Often	2	22
Give anti-D to Negative RH mothers and positive RH babies		
Routinely	8	88
Sometimes	1	11
Warm & dry the newborn directly after birth		
Routinely	9	100
Suctioning of the newborn		
Routinely	9	100
Early skin-to-skin contact between mother and newborn		
Routinely	8	89
Often	1	11
Support of the initiation of breastfeeding within 1 hour postpartum		
Routinely	7	78
Often	1	11
Sometimes	1	11
Give breastfeeding counselling		
Routinely	6	67
Often	2	22
Rarely	1	11
Help mothers with breastfeeding		
Routinely	7	78
Sometimes	2	22
Allow rooming-in		
Routinely	4	45
Sometimes	2	22
Rarely	2	22
Never	1	11
Check on perineum before discharge		
Routinely	9	100
Give local analgesia for episiotomy pain		
Routinely	8	89
Often	1	11
Give advice on how to care about episiotomy		
Routinely	9	100
Check blood loss before discharge		
Routinely	9	100

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Table 11. Routine general practices concerning neonatal care

Practices	N	%
Paediatric examination of the newborn		
Routinely	7	78
Often	1	11
Sometimes	1	11
Check Apgar score		
Routinely	9	100
Measurement of weight		
Routinely	9	100
Measurement of height		
Routinely	9	100
Measurement of head circumference		
Routinely	9	100
Measurement of chest circumference		
Routinely	8	99
Never	1	11
Measurement of temperature		
Routinely	9	100
Erythromycin on eyes		
Routinely	6	67
Sometimes	1	11
Never	2	22
Bath directly after birth		
Routinely	3	33
Often	1	11
Never	5	56
IM Vitamin K		
Routinely	9	100
IM hepatitis vaccine		
Routinely	9	100
Checking dextrose stick (neonate of diabetic mother)		
Routinely	9	100
G6PD test		
Routinely	3	33
Sometimes	1	11
Rarely	1	11
Never	4	45
Checking urine output		
Routinely	9	100
Checking for passage of meconium		
Routinely	9	100

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