

# A Ten Sentinel Questionnaire Survey among the Primigravidae Antenatal Population of University of Malaya, Malaysia

Jasmin PY Loh<sup>1</sup>  
Eugene WK Leong<sup>2</sup>  
V. Sivanesaratnam<sup>2</sup>

## ABSTRACT

**Objective:** To evaluate primigravidae response to ten sentinel questions:

**Design:** A prospective questionnaire survey.

**Results:** 89 primigravidae enrolled. Affirmative response: 37(41.6%) heard of epidural analgesia; 31(34.8%) had urinary incontinence with cough; 51(57.3%) knew their own blood group; 77(86.5%) had sexual intercourse; 75(84.3%) had anxieties during this pregnancy; 49(55.1%) had vaginal discharge; 81(91%) intend to breastfeed; 46(51.7%) could name 3 benefits of breastfeeding; 37(41.6%) were worried about effects of ultrasound; 76(85.4%) wanted to know sex of the baby. In women 29-42 weeks period of amenorrhoea (POA); 63(90%) intended to breastfeed their child ( $p < 0.05$ ); 59(84.3%) of women wanted to know the sex of the baby on ultrasound ( $p < 0.05$ ). Women aged 21-30 years had more vaginal discharge ( $p = 0.03$ ); were not worried about the effects of ultrasound ( $p = 0.02$ ) and intend to breastfeed ( $p = 0.007$ ).

**Conclusions:** Further study in detail of each sentinel issue is warranted and some issues require our remedial attention.

**Key words:** Sentinel questions, primigravidae

---

<sup>1</sup> Jasmin PY Loh,  
Final Year Medical Student,  
Academic and Student Support,  
Faculty of Medical and Health Sciences  
University of Auckland,  
Private Bag 92019  
Auckland,  
New Zealand.

<sup>2</sup> Department of Obstetrics & Gynaecology,  
University of Malaya Medical Centre (UMMC),  
University of Malaya,  
Kuala Lumpur,  
Malaysia.

Correspondence:  
Jasmin PY Loh,  
Final Year Medical Student,  
Academic and Student Support,  
Faculty of Medical and Health Sciences  
University of Auckland,  
Private Bag 92019  
Auckland,  
New Zealand.

## INTRODUCTION

Sentinel surveys provide important baseline information that could influence the antenatal care given as well as the clinical practice of the obstetricians. The 10 sentinel questions selected in this study were determined according to what was pertinent and new in the realm of obstetrics in Malaysia but was by no means exhaustive. It is hoped that the findings from this study will spawn more local research in the relevant subjects that were examined.

The 10 sentinel questions: (Table 1)

Q1. Have you heard of epidural analgesia for pain relief in labour?

A recent study<sup>1</sup> revealed that in Malaysian hospitals where epidural analgesia was available, the rate of epidural for labour analgesia was less than 5% in both the government and the private hospitals. Epidural analgesia was available in all

**TABLE 1**  
A Sample of the questionnaire.

Name:					Last Menstrual Period:
Race:					Expected due Date:
Age:					Hospital Registration No:
Comments:					
1. Have you heard of epidural analgesia for pain relief in Labour?	Yes	No	Unsure		
2. Do you leak urine when you cough?	Yes	No			
3. What is your blood group?	Know	Don't Know			
4. How often do you have sexual intercourse during pregnancy?	None	≤ 1 x/week	≥ 2x/week		
5. What are your greatest anxieties during pregnancy?	1.	2.	3.	Others:	
6. Do you have excessive vaginal discharge?	Yes	No	Unsure		
7. Do you intend to breast-feed this child?	Yes	No	Not decided		
8. Can you name 3 benefits of breast-feeding?	Yes	No			
9. Are you worried about the effects of ultrasound on the baby?	Yes	No			
10. Would you like to know the sex of the baby during ultrasound?	Yes	No	Unsure		

private hospitals either on a 24 hours basis or as a partial service and mainly on a partial basis only in most government hospitals. This generally meant that epidurals were given for labour analgesia only when specially requested for. Therefore, it is important for pregnant women to be aware of this service in order to be able to utilise it.

**Q2. Do you leak urine when you cough?**

It is commonly thought that pregnancy and childbirth are associated with the development of urinary incontinence and lower urinary tract symptoms. Several studies<sup>2-5</sup> have attempted to look at the prevalence of stress incontinence during pregnancy and after, and its association with spontaneous/Cesarean section deliveries. However, further evaluation is warranted to provide more information for better management of these patients.

**Q3. What is your blood group?**

Knowledge of one's own blood group can give us an indication of the level of antenatal education and state of knowledge of the mothers. It gives us a general idea on how effective the current antenatal education programs are and gives us

feedback on areas of the program and the efforts that need reevaluation.

**Q4. How often do you have sexual intercourse during pregnancy?**

Sexual activity in pregnancy has been associated with preterm labour. While there have been several studies done on pregnant women in Western countries to examine the relationship between coital activity and preterm delivery, the data obtained cannot be automatically applied to Asian women. To date, there is scant data collected on Asian women mostly due to be reluctance to broach this embarrassing topic which is considered taboo in Asian society.

**Q5. What are your greatest anxieties during this pregnancy?**

There have been associations of anxiety in pregnancy with the development of obstetric complications. Some studies<sup>6-8</sup> suggest that severe anxiety gives rise to higher rates of Caesarean sections, but the rates were reduced with the introduction of psychosomatic support for these women. Responses from the survey would help us identify the potential worries early on in pregnancy, and allow us to address these

concerns at an early stage through various ways, such as antenatal education and support groups.

Q6. *Do you have excessive vaginal discharge?*

Vaginal discharge is a common complaint which warrants due attention because of the potentially serious implications. Bacterial vaginosis is the most prevalent cause of vaginal discharge (although 50% who have the infection remain asymptomatic)<sup>9</sup>. Infection with bacterial vaginosis can cause spontaneous abortion, preterm labour, preterm rupture of membranes and postpartum endometritis. Early detection and treatment can decrease the risk of these complications<sup>10</sup>.

Q7. *Do you intend to breastfeed this child?*

Q8. *Can you name 3 benefits of the breastfeed?*

Breastfeeding has been the focus of public health campaigns and research over the last few decades<sup>11-13</sup>. It is assumed that expectant mothers know that breastfeeding is good. However, knowledge does not automatically translate into action and in this survey, we attempt to identify those with or without the intention to breastfeed as well as their ability to name the benefits that breastfeeding brings.

Q9. *Are you worried about the effects of ultrasound on the baby?*

Ultrasound has been used for many years with a good safety record during standard clinical practice. However, there still appears to be a lot of anxiety and worry among the public on the safety of its use in early pregnancy.

Q10. *Would you like to know the sex of the baby during ultrasound?*

Preference for a male child among the Asian societies have been present for centuries<sup>14</sup>. However, with education and greater development, there is a general assumption that this view is changing. Inquisitiveness on the sex of the baby predelivery could be an indicator of gender preference.

## METHOD

This study was carried out from the 8<sup>th</sup> of January till 3<sup>rd</sup> February 2001. A single female medical student interviewed all the consenting respondents with a standard questionnaire in English. Primigravidae attending the antenatal clinic at University of Malaya Medical Centre (UMMC) were approached randomly.

Patients' response were recorded as well as the age, race, registration number, last menstrual period and the expected due date.

## DATA ANALYSIS

Statistical analysis was performed by the student's t-test for continuous data and the Pearson Chi-square test for paired data. The level of significance is taken as  $p < 0.05$ .

## RESULTS

There were a total of 89 primigravidae who participated in the prospective questionnaire survey. There were 75(84.3%) Malays, 8(9.0%) Chinese and 6(6.7%) Indians. The mean age was 25.65 years (range 15-39 years, SD  $\pm$  3.94). Mean gestational age was 32.47 weeks (SD  $\pm$  7.78). All questions were answered by all participants (Table 2). There were 6 participants with numerical age missing and 1 with period of amenorrhoea (POA) missing. These data were put as missing in the corresponding analysis.

### **Epidural Analgesia:**

37(41.6%) participants have heard of epidural analgesia for pain relief in labour. 1 participant (1.1%) was unsure. 32(42.67%) Malays, 2(25.00%) Chinese and 3(50.00%) Indians have heard of epidural analgesia. ( $p = 0.852$ )

### **Incontinence:**

31 (34.8%) participants reported leakage of urine when they cough. 29(38.6%) Malays, 2(25.00%) Chinese and 0(0.00%) Indians leaked urine when they coughed. ( $p = 0.133$ )

### **Knowledge of own blood group:**

51(57.3%) participants knew their own blood group. 41(54.67%) Malays, 6(75.00%) Chinese and 4(66.67%) Indians knew their own blood group. ( $p = 0.484$ )

### **Sexual activity:**

72(80.90%) participants reported having sex once or less a week. Of the 72 participants, 63(84.00%) were Malays, 6(75.00%) were Chinese and 3(50.00%) were Indian. 5(5.62%) participants reported having sex twice or more a week. Of the 5 participants, 4(5.33%) were Malays, none were Chinese (0.00%) and 1(16.67%) was Indian. 12(13.48%) participants reported not engaging in sexual activity since they found out they were pregnant. 8(10.67%) were Malay, 2(25.00%) were Chinese and 2(33.33%) were Indian. ( $p = 0.2333$ )

A TEN SENTINEL QUESTIONNAIRE SURVEY AMONG THE PRIMIGRAVIDAE ANTENATAL  
POPULATION OF UNIVERSITY OF MALAYA, MALAYSIA

**TABLE 2**  
responses from the participants.

Sentinel Questions	Yes (%)	No (%)	Unsure (%)	Total (%)
Q1. Head of Epidural analgesia Source of Information:	37(41.57)	51(57.30)	1(1.12)	89(100)
Magazines	15(40.54)			
Family members	18(48.65)			
Pamphlet from the hospital	1(2.70)			
During Orientation of the labour ward	1(2.70)			
Did not mention	2(5.40)			
Q2. Leak urine When they cough	31(34.83)	58(65.17)	–	89(100)
Q3. Know their own blood group	51(57.30)	38(42.70)	–	89(100)
Q4. Sexual activity in pregnancy				
≤ 1x per week	72(80.90)		–	
≥ 2x per week	5(5.62)			
None		12(13.48)		89(100)
Q5. Anxiety in pregnancy				
None		14(15.73)		
1 anxiety	41(46.07)			
2 anxieties	30(33.71)			
3 anxieties	4(4.49)			89(100)
Q6. Excessive vaginal discharge	49(55.69)	40(44.94)	–	89(100)
Q7. Intention to breastfeed	81(91.01)	5(5.62)	3(3.37)	89(100)
Q8. Able to name 3 benefits of breastfeeding	46(51.69)	43(48.31)	–	89(100)
Q9. Worried about effects of ultrasound	37(41.570)	52(58.43)	–	89(100)
Q10. Want to know sex of baby	76(85.39)	9(10.11)	4(4.49)	89(100)

### **Anxiety in pregnancy:**

41(46.07%) participants listed 1 subject that caused them anxiety in their pregnancy. Of those, 32(42.67%) were Malay, 6(75.00%) were Chinese and 3(50.00%) were Indian. 30(33.71%) participants listed 2 subjects causing them anxiety of which 28(37.33%) were Malay, 1(12.50%) was Chinese and 1(16.67%) was Indian. 4(4.49%) participants listed 3 subject causing them anxiety of which all four were Malay (5.33%), 14(15.73%) participants reported having no anxiety during pregnancy, of which 11(14.67%) were Malay, 1(12.5%) was Chinese and 2(33.33%) were Indian. ( $p = 0.472$ )

### **Vaginal discharge:**

49(55.06%) participants had excessive vaginal discharge, of which 44(58.67%) were Malay, 2(25.00%) were Chinese and 3(50.00%) were Indian. ( $p = 0.185$ )

### **Intention to breast-feed:**

81(91.01%) participants intend to breast-feed, of which 68(90.67%) were Malay, 7(87.50%) were Chinese and 6(100.00%) were Indian. 3(3.37%) were unsure, all of which were Malay and 5(5.62%) participants did not intend to breast-feed, of which 4(5.33%) were Malay and 1(12.50%) was Chinese. ( $p = 0.80$ )

**Ability to name 3 benefits of breast-feeding:**

46(51.69%) participants could name 3 benefits of breast-feeding. 38(50.67%) were Malay, 4(50.0%) were Chinese and 4(66.67%) were Indian. ( $p = 0.748$ )

**Worried about the effects of ultrasound on the baby:**

37(41.75%) participants were worried about effects of ultrasound on the baby. 35(46.67%) were Malay, 2(25.00%) were Chinese. ( $p = 0.050$ )

Would like to know the sex of the baby:

76(85.39%) participants wanted to know the sex of the baby, of which 63(84.00%) were Malay, 7(87.50%) were Chinese and 6(100.00%) were Indian. 4(4.49%) participants were unsure, of which all were Malay. ( $p = 0.010$ )

**Statistically significant results:**

Our analysis of women 29–42 weeks POA when compared to women 1–12 weeks and 13–28 weeks POA showed that 63(90.0%) intended to breastfeed their child ( $p < 0.05$ ) and 59(84.3%) wanted to know the sex of the baby on ultrasound ( $p < 0.05$ ).

Other significant results were seen in women aged 21–30 years when compared to women aged in groups of 10 years intervals; these women reported more vaginal discharge ( $p = 0.03$ ), were not worried about the effects of ultrasound on their baby ( $p = 0.02$ ) and they intend to breast-feed their baby. ( $p = 0.007$ )

**DISCUSSION**

Epidural analgesia in labour was introduced in UMMC in 1989 and it is available as a 24 hour service to women in labour. Recent data<sup>15</sup> showed that the percentage of women delivering vaginally who received epidural analgesia ranges between 8–9%. Responses from the women showed only 41.6% of participants have heard of epidural. 15 women said that magazines were their main source of information whilst 18 women said that they found out about epidural from colleagues and family members eg. sisters who have had epidural for previous pregnancies. One woman cited a pamphlet from the hospital as her source of information, and only one woman found out about epidural through an orientation program organized by the labour ward. Antenatal counselling needs new reemphasis on this, and the latter two methods above are two excellent ways of dispensing information which, sadly were not utilised properly in this case.

34.8% of women reported urinary incontinence with coughing. The prevalence of urinary incontinence during pregnancy reported in the literature ranges from 20 to 67%. A study by Mason et al<sup>4</sup> reported a prevalence of 59% with women of higher parity as more likely to suffer the symptoms whilst women who had a normal spontaneous delivery or an instrumental delivery suffered the symptoms more than women who had a caesarean section. However, in that study<sup>4</sup>, women of various parity were observed as compared to this survey, where we only looked at primigravidae with subjective symptoms. A direct comparison cannot be made and the significance of the findings in this survey need further evaluation with follow-up of these women after their pregnancy, and to correlate the findings with the types of deliveries that the women had undergone.

More than half of the women interviewed had knowledge of their own blood group. The next step would be to elicit information from these women on why they think it is significant or important to know their own blood group. It gives us a good indication of how involved these women are in their own pregnancy. However, we did not attempt to study the level of education that the participants had received, which might be an important factor that influences how much they understand about their pregnancy and their degree of involvement.

77 out of the 89 women interviewed revealed that they had sexual intercourse during their pregnancy. Whilst the women readily admitted to having sexual intercourse, there was some inhibition encountered when trying to elicit information about the frequency of their sexual activity. Data from North Carolina, USA<sup>16</sup> showed that intercourse during late pregnancy and recent female orgasm were associated with a reduced risk of preterm delivery. Another study<sup>17</sup> also showed that there was no significant difference in coital or orgasmic frequency between women who had premature labour to those who had a spontaneous delivery at term. No equivalent study has been carried out on Asian women and that can be largely attributed to the difficulty in collecting such intimate data from a still predominantly conservative society where such matters are not openly discussed.

75 women had at least 1 anxiety during their pregnancy. The subjects of anxiety listed in decreasing order were labour pain 47(41.6%), baby's health/well-being 23(20.4%), gestational diabetes mellitus 5(4.4%), stress at workplace 3(2.7%), family matters/support 2(1.8%), unable to eat due to hyperemesis gravidarum 2(1.8%) and others 31(27.3%) e.g. anticipation of complications during delivery, how to take care of their baby after birth, changes to their bodies and maternal medical conditions e.g. Idiopathic

Thrombocytopenic Purpura, thalassemia. The main worries listed (labour pain and baby's health/wellbeing) were consistent with findings from a study on 1072 pregnant women by Statham et al<sup>6</sup> as well as a study by Sjogren<sup>7</sup>. There has been associations of severe anxiety during pregnancy with high rates of Caesarean sections. Sjogren et al<sup>8</sup> concluded that psychosomatic support for women with severe fear of childbirth resulted in a 50% reduction of Caesarean section. It is therefore important that we aim to identify the women and their worries in order to address those worries in early pregnancy through antenatal counseling and support groups.

Physiological increase in vaginal discharge is commonly seen in pregnancy. However, Group B Streptococci, Bacterial vaginosis and candidal infections are often quoted as causes of excessive vaginal discharge. Infections are still listed as an aetiology of preterm labour<sup>9</sup>. A study by Simoes et al<sup>10</sup> found a prevalence rate of 39.6% of cervicovaginal infections. They also demonstrated that the accuracy of clinical diagnosis of infections was low. It is therefore imperative that obstetricians have a high index of suspicion for infections and advocate early screening and treatment for pregnant women<sup>10</sup>.

91% of the women interviewed have intention to breastfeed. However, only 51.7% could name 3 benefits of breastfeeding. Deshpande et al<sup>13</sup> found rates of breastfeeding in the US well below the target objective and suggest that health plans and employees may promote breastfeeding by providing breast-feeding education and support. Similarly, in Malaysia, public health campaigns have largely succeeded in imbuing the public with the good virtues of breastfeeding. The next step should have more emphasis on providing support to the mothers e.g. better access to breastfeeding facilities in public places and work places, encouraging fathers to feed infants breast milk by bottle and making all hospitals baby-friendly. There need to be an increase in the amount of information provided to the women (and men for that matter) especially about the practical aspects of the breastfeeding process. Women should also continue to receive support after delivery to ensure continuation of breastfeeding postpartum<sup>12</sup>.

41.6% of the women were worried about the effects of ultrasound on the baby. When queried, they responded that they were willing to have the scan after receiving reassurance from their doctors that the scan would not harm their baby. Recent data indicate no obvious harm to the fetus<sup>18-19</sup>. Health professionals especially doctors can allay the fear of these women by providing information and reassurance before they proceed to perform the procedure.

85.4% of the women wanted to know the sex of the baby during ultrasound. Most of them stated that they wanted to know "out of curiosity" whilst others wanted to be "prepared" (although they did not elaborate). Only 20 women indicated their gender preferences (12 women were hoping for a son, whilst 8 were hoping for a daughter). A study by Winkvist and Akhtar<sup>20</sup> on women in Punjab, Pakistan revealed that women frequently expressed a strong preference for sons mostly for economic reasons, reflecting women's subordinate position in society and the economic value placed on women's work. Mothers of daughters and those without children spoke of harassment in the family as well as in society. Although Malaysia has achieved much development and progress, the traditional values are still very much preserved, and further studies need to be carried out to determine if such harassment also exist in our society and the extent of it, as well as the impact gender preference has on our society.

## CONCLUSION

This study highlights several pressing issues that need to be addressed especially on the reevaluation of all aspects of antenatal education from its mode of delivery, implementation, content, proper training of health professionals in that area, to the constant feedback from its recipients to ensure continuing efforts to improve the system. Further study in detail of each sentinel issue is warranted and some of the issues require our remedial attention.

## ACKNOWLEDGEMENT

The Authors wish to thank Miss YC Yip, all the women who participated in the survey and the staff of the antenatal clinic, University of Malaya Medical Centre, Kuala Lumpur.

---

## REFERENCES

1. Chan YK, Ng KP. A survey of the Current Practice of Obstetric Anaesthesia and Analgesia in Malaysia. *J. Obstet. Gynaecol. Res.* 2000; 26(2):137-140.
  2. Thorp JM, Norton PA, Wall LL, Kuller JA, Eucker B, Wells E. Urinary incontinence in pregnancy and the puerperium: a prospective study. *Am J Obstet Gynecol* 1999; 181(2): 266-73.
  3. Viktrup L, Lose G, Rolff M, Barfoed K. The symptom of stress incontinence caused by pregnancy or delivery in primiparas. *Obstet Gynecol* 1992; 79(6):945-949.
  4. Mason L, Glenn S, Walton I, Appleton C. The prevalence of stress incontinence during pregnancy and following delivery. *Midwifery* 1999; 15(2):120-8.
  5. Iosif S. Stress incontinence during pregnancy and in puerperium. *Int J Gynaecol Obstet* 1981; 19(1):13-20.
  6. Statham H, Green JM, Kafetsios K. Who worries that something might be wrong with the baby: A prospective study of 1072 pregnant women. *Birth* 1997; 24(4):223-233.
  7. Sjogren B. Reasons for anxiety about childbirth in 100 pregnant women. *J Psychosom Obstet Gynaecol* 1997; 18(4):266-272.
  8. Sjogren B, Thomassen P. Obstetric outcome in 100 women with severe anxiety over childbirth. *Acta Obstet Gynecol Scand* 1997; 76(10):948-952.
  9. McGregor JA, French JI. Bacterial vaginosis in pregnancy. *Obstet Gynecol Surv* 2000; 55(5) Suppl 1):S1-19.
  10. Simoes JA, Giraldo PC, Faundes A. Prevalence of cervicovaginal infections during gestation and accuracy of clinical diagnosis. *Infect Dis Obstet Gynecol* 1998; 6(3):129-133.
  11. Humphreys AS, Thompson NJ, Miner KR. Intention to breastfeed in low-income pregnant women: the role of support and previous experience. *Birth* 1998; 25(3):169-174.
  12. Losch M, Dungy CI, Russel D, Dusdieker LB. Impact of attitudes on maternal decisions regarding infant feeding. *J Pediatr* 1995; 126(4):507-14.
  13. Deshpande AD, Gazmararian JA. Breast-feeding education and support: association with the decision to breast-feed. *Eff Clin Pract* 2000; 3(3):116-122.
  14. Clark S. Son preference and sex composition of children: evidence from India. *Demography* 2000; 37(1):95-108.
  15. Chan YK, Ng KP, Chiu CL. Trends in obstetric anaesthesia and analgesia over a ten year period in the University of Malaya Medical Centre, Kuala Lumpur. Department of Anaesthesia, University of Malaya. (In press: *Int J Obstet Anaesthesia*).
  16. Sayle AE, Savitz DA, Thorp JM, Hertz-Picciotto I, Wilcox AJ. Sexual activity during late pregnancy and risk of preterm delivery. *Obstet Gynecol* 2001; 97(2):283-289.
  17. Georgakopoulos PA, Dodos D, Mechleris D. Sexuality in pregnancy and premature labour. *Br J Obstet Gynaecol* 1984; 91(9):891-893.
  18. Bricker L, Neilson JP. Routine Doppler ultrasound in pregnancy. *Cochrane Database Syst Rev* 2000; (2):CD001450.
  19. Barnett SB, Ter Haar GR, Ziskin MC, Rott HD, Duck FA, Maeda K. International recommendations and guidelines for the safe use of diagnostic ultrasound in medicine. *Ultrasound Med Biol* 2000; 6(3):355-66.
  20. Winkvist A, Akhtar HZ. God should give daughters to rich families only; attitudes towards childbearing among low-income women in Punjab, Pakistan. *Soc Sci Med* 2000; 51(1):73-81.
-