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Status of obstetric epidural analgesia services in Hong Kong public hospitals: postal questionnaire survey

香港公立醫院施行產科脊椎硬膜外鎮痛的情況：郵遞問卷調查

Objective. To examine the status of obstetric epidural analgesia services in Hong Kong public hospitals in 2001, and to compare findings with those from a similar survey conducted in 1995.
Design. Postal questionnaire survey.
Setting. Hospital Authority hospitals in Hong Kong offering an obstetric and delivery service.
Participants. Chiefs of Service of departments of anaesthesia and coordinators of obstetric anaesthesia and analgesia service.
Main outcome measures. The availability of an obstetric epidural analgesia service, specialist staff allocation to the service, existence of clinical protocols, rate of epidural analgesia, techniques of epidural administration, obstetric outcome or mode of delivery, and the incidence of adverse events associated with the use of epidural analgesia.
Results. Between 1 January and 31 December 2001, all eight Hospital Authority hospitals with an obstetric service provided epidural analgesia for labour pain relief, but only six (75%) offered a 24-hour service. A dedicated anaesthetist provided obstetric anaesthesia and analgesia during office hours in all units, but after hours in only three. This level of service provision compared favourably with that available in 1995, when only 82% of public maternity units provided epidural analgesia and only 36% offered a 24-hour service. The median epidural analgesia rate was 15% (range, 8%-20%) compared with 10% in 1995. The incidence of adverse events and complications was very low. Formal written protocols for the conduct of epidural analgesia for labour were used in six units. All units used mixtures of local anaesthetic combined with opioid, administered as intermittent boluses, continuous epidural infusion, or patient-controlled epidural analgesia.
Conclusions. Although there has been progress and improvement in the provision of obstetric epidural analgesia services in our public hospitals, the rate is still relatively low and the provision of services after hours is limited. Further progress will likely be hindered by current or future cutbacks in public hospital budgets.

Key words:
Analgesia, epidural;
Analgesia, obstetric;
Health care survey;
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關鍵詞：
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目的：調查香港公立醫院在2001年施行產科脊椎硬膜外鎮痛的情況，並與1995年類似調查的結果進行比較。
設計：郵遞問卷調查。
安排：醫院管理局轄下提供產科與分娩醫療服務的醫院。
參與者：麻醉科主管醫生，以及負責產科麻醉及鎮痛的統籌者。
主要結果測量：有否提供產科脊椎硬膜外鎮痛術、麻醉專科醫生人手安排、有否設定臨床指引、脊椎硬膜外鎮痛術的使用比率、進行鎮痛的技巧、分娩方式及施行脊椎硬膜外鎮痛有關的不良反應比率。
結果：2001年1月1日至12月31日，醫院管理局轄下8所設有產科部門的醫院，均有施行脊椎硬膜外鎮痛術以減輕分娩痛楚；其中6所(75%)有24小時提供此服務。在辦公時間內，8所醫院均有一位麻醉科醫生專門負責此服務；但只有3所醫院在辦公時間外維持同樣的人手安排。與1995年，只有82%的公立產科部門設有脊椎硬膜外鎮痛服務，及36%醫院提供24小時服務的情況相比，現時情況已有所改善。使用硬膜外鎮痛的中位數比率為15%(分佈：8%至20%)，1995年的同類數

字是10%。出現不良後果或併發症的情況非常少。6所醫院為產婦分娩施行脊椎硬膜外鎮痛制訂了正式的書面指引。所有醫院都是把局部麻醉和鴉片樣藥劑混合使用，施藥方式包括間歇脊椎硬膜外注射、連續脊椎硬膜外注射或脊椎硬膜外病人自控鎮痛。

結論：儘管香港公立醫院施行產科硬膜外鎮痛術的服務已較以前普及，水平亦有所提高，但施行比率仍然相對偏低，辦公時間後的服務仍然有限。然而要進一步改善服務的步伐，極可能因為公立醫院目前以至將來的削減預算而受到拖延。

Introduction

Epidural analgesia is the most effective method for pain relief during labour and is considered a component of routine obstetric care during labour in most developed countries today. In fact, one of the major factors quoted by women in their choice of a hospital birth over home birth in countries in North America and Europe is the access to pain relief during labour, especially epidural analgesia.[1,2] However, in a previous survey of obstetric analgesia services in Hong Kong's public hospitals, we reported that the local epidural analgesia rate was only 10%.[3] This rate was much lower than that in many other developed countries, and was attributed to inadequate service provision due to limited medical human resources, and low patient demand due to poor public awareness and cultural factors.

With improving standards of education and living in Hong Kong, the local population has come to expect a standard and quality of health care equivalent to that available in western countries. However, the current economic climate and the imbalance between health care demand and resources may prohibit local parturient women from receiving their choice of epidural analgesia. Major restructuring in the provision of public healthcare services within the Hospital Authority is in progress, with tightening of the budget and human resources, leading to the closure and merger of some maternity units. These changes will inevitably affect the provision of obstetric epidural analgesia services in public hospitals. Therefore, we repeated a survey of the current status of obstetric pain relief services in Hong Kong to assess how they have changed since our last survey conducted in 1995.

Methods

In February 2002, a postal questionnaire was sent to the Chiefs of Service of departments of anaesthesia and the coordinators of obstetric anaesthesia and analgesia at all Hospital Authority hospitals offering an obstetric delivery service, to collect retrospective data on obstetric epidural services in 2001. This questionnaire was followed up by individual telephone contact with the coordinators after 3 months. During the telephone interview, respondents were requested to clarify any missing or unclear information in the returned questionnaire or to return the questionnaire if they had not done so. The questionnaire was also sent to two private hospitals to obtain some representative figures from the local private health care sector.

Questionnaire

The questionnaire was adapted from the previous survey in 1995 and consisted of three sections (Appendix). The first section explored basic data concerning the obstetric anaesthesia and analgesia service at each hospital. The second section focused on the practice of epidural analgesia provided by the departments of anaesthesia, and the third section reviewed the incidence of adverse events and obstetric outcome associated with epidural analgesia. The main data collected were the availability of obstetric epidural analgesia service at each hospital, case-load and rate of epidural analgesia use during labour, specialist staff allocation to the service, existence of formal written clinical protocols, technique of administration of epidural medication, modes of delivery, and incidence of adverse events associated with epidural analgesia use.

The majority of questions required the respondent to select from a list of standard responses, whereas numeric information was requested for data such as annual obstetric epidural analgesia case-load, rate of epidural analgesia use, number of specialist sessions, number of adverse events and complications, and rates of the different modes of delivery following epidural analgesia. The questionnaire concluded with two open questions enquiring about difficulties encountered while setting up and running an obstetric epidural service.

Only descriptive data were obtained and presented. No attempt was made at statistical analysis. Using data from a previous survey published earlier in 1996 by the same authors,[3] we compared the status of obstetric epidural analgesia services in 2001 with those available in 1995.

Results

Eight Hospital Authority hospitals provided obstetric delivery service. Between 1 January and 31 December 2001, a total of 5350 women received epidural analgesia during labour in these eight public hospitals (Table 1). The median epidural analgesia rate was 15% (range, 8%-20%) in 2001 compared to 10% (range, 4%-50%) in 1995. In addition to entonox (50:50 mixture of nitrous oxide and oxygen) inhalational analgesia and intramuscular opioid (pethidine) injection, all hospitals surveyed provided lumbar epidural analgesia for pain relief during labour. Four departments of anaesthesia also provided intravenous patient-controlled analgesia (IV PCA)—commonly fentanyl—in special circumstances when both epidural analgesia and intramuscular injection of opioid are contra-

Table 1. Status of obstetric epidural service in Hospital Authority hospitals in year 2001

Hospital*	Annual delivery		Epidural rate (%)		24-h service	
	1995	2001	1995	2001	1995	2001
PWH†	6000-7999	6114	12	17	24-h	24-h, dedicated
PYNEH	4000-5999	3669	16	20	Limited after-hr	24-h
UCH†	2000-3999	3897	6	11	24-h	24-h
KWH	4000-5999	5317	8	8	Up till 10 pm	Up till 10 pm
TMH†	6000-7999	6021	4	10	Office-hour	Office-hour
QEH	4000-5999	4670	8	15	Office-hour	24-h
PMH	4000-5999	4254	No epidural service available	16	No service available	24-h, dedicated
QMH†‡	QMH 500-999	4520	No epidural service available	14	No service available	24-h, dedicated
	TYH 4000-5999		14		24-h	
OLMH	1000-1999	Obstetric unit closed	10	Obstetric unit closed	Office-hour	Obstetric unit closed
CMC	2000-3999	Obstetric unit closed	50	Obstetric unit closed	24-h	Obstetric unit closed

* PWH denotes Prince of Wales Hospital; PYNEH Pamela Youde Nethersole Eastern Hospital; UCH United Christian Hospital; KWH Kwong Wah Hospital; TMH Tuen Mun Hospital; QEH Queen Elizabeth Hospital; PMH Princess Margaret Hospital; QMH Queen Mary Hospital; TYH Tsan Yuk Hospital; OLMH Our Lady of Maryknoll Hospital; CMC Caritas Medical Centre

† Also offers intravenous patient-controlled analgesia

‡ TYH merged with QMH since November 2001

Table 2. Management of epidural analgesia during labour

Hospital*	Intermittent boluses	Continuous epidural infusion	Patient-controlled epidural analgesia (PCEA)
PWH	Yes	Rate adjusted by anaesthetist	-
PYNEH	Yes	Rate adjusted/titrated by midwife	-
UCH	-	-	PCEA only
KWH	Yes	Rate adjusted by anaesthetist	-
TMH	-	-	PCEA only
QEH	Yes	Rate adjusted by anaesthetist	-
PMH	Yes	Rate adjusted by anaesthetist	-
QMH	Yes	Rate adjusted by anaesthetist	-

* PWH denotes Prince of Wales Hospital; PYNEH Pamela Youde Nethersole Eastern Hospital; UCH United Christian Hospital; KWH Kwong Wah Hospital; TMH Tuen Mun Hospital; QEH Queen Elizabeth Hospital; PMH Princess Margaret Hospital; QMH Queen Mary Hospital

indicated, for example, parturient women with gestational or idiopathic thrombocytopenia. Although all eight hospitals had dedicated obstetric anaesthetists providing anaesthesia and analgesia services during office hours, only six (75%) provided 24-hour service. Of these six, only three had a dedicated obstetric anaesthetist available after hours. The main reason given for the limited service in some hospitals was inadequate human resources allocated for labour analgesia and anaesthesia service. Comparison figures for 1995 are given in Table 1: nine of the 11 (82%) obstetric units provided epidural analgesia service with only four units (36%) running a 24-hour service. Only two of these four units had a dedicated obstetric anaesthetist available after hours.

The practice and conduct of epidural analgesia were similar in all hospitals (Table 2). All units used a local anaesthetic and opioid mixture. Epidural drugs were administered either as intermittent boluses, continuous epidural infusion (CEI), or patient-controlled epidural analgesia (PCEA). Most hospitals employed a combination of CEI delivered by an infusion device, with intermittent anaesthetist-administered top-ups, while two hospitals used PCEA exclusively. No hospital had provisions for midwives to administer epidural analgesia top-ups, although one hospital had guidelines to allow and direct midwives to adjust the infusion rate of the CEI.

Except for two hospitals, all had formal written protocols for the administration of labour epidural analgesia. All units monitored maternal pulse rate, arterial blood pressure and foetal heart rate continuously during the use of epidural analgesia. Two of the eight units also monitored maternal blood oxygen saturation using pulse oximetry. Only four units charted maternal pain scores, and three tested maternal sensory block level during the course of epidural analgesia. All units conducted post-delivery epidural follow-up for every patient, both to detect any complications and for quality assurance. However, only four hospitals performed formal audit of the follow-up results.

There were no major complications, and the rates of other adverse events were low, the most common being accidental dural puncture (Table 3). The median (range) rate of caesarean section among parturient women who received epidural analgesia was 31% (22%-39%). A further 26% (16%-32%) required vacuum extraction, while 1% (0%-11%) had forceps-assisted delivery, and 40% (29%-61%) had spontaneous vaginal delivery.

Table 3. Incidence of adverse events or complications*

Complication	Incidence (out of a pooled total of 5350 labour epidural analgesia)	Rate	Rate (95% CI) [%]
Total spinal	0	0	0
Respiratory complications	0	0	0
Epidural infection	0	0	0
Accidental dural puncture	23	43 in 10 000	0.43 (0.27-0.65)
Post-dural puncture headache	15	28 in 10 000	0.28 (0.16-0.46)
Sensory or motor neurological complication	3	6 in 10 000	0.056 (0.01-0.16)

* A total of 5350 women received epidural analgesia during labour in Hospital Authority hospitals over the 12-month period from January to December 2001

The epidural analgesia rate in the private hospital which serves mainly expatriates was 80%, compared with 2% in the private hospital that serves the local Chinese population. In these institutions, midwives performed the epidural top-ups according to individual anaesthetist's prescriptions, in addition to anaesthetist-administered top-ups and CEI. Maternal pulse rate, arterial blood pressure, and foetal heart rate were monitored continuously, similar to all units in Hospital Authority hospitals. In addition, both private institutions charted maternal sensory block level, while the one which serves mainly expatriates also monitored maternal pain scores. The incidence of complications for these two institutions was similarly low as for the public hospitals.

Discussion

Since our previous 1995 survey of the provision of obstetric epidural analgesia services in public hospitals in Hong Kong, there has been significant restructuring of public hospital organisation within the Hospital Authority, including the closure and merger of some maternity units. On Hong Kong island, Tsan Yuk Hospital had recently closed and been integrated into Queen Mary Hospital, while in Kowloon, the maternity units at Our Lady of Maryknoll Hospital and Caritas Medical Centre had both closed and been integrated into the unit at Princess Margaret Hospital. A new maternity unit opened in early 2002 in Alice Ho Miu Ling Nethersole Hospital, Tai Po, in the New Territories, to serve the growing young population in the area. This latest maternity unit opened for service after the period of our survey and has since closed down following the severe acute respiratory syndrome outbreak, and hence is not included in this report.

All eight public maternity units in Hong Kong were able to offer epidural analgesia to parturient women, with 75% of these units providing a 24-hour service. In the other two units, no labour epidural analgesia service was available after 5 p.m. and 10 p.m., respectively. This is an improvement from the situation in 1995 when only 82% of public maternity units provided this method of pain relief and 36% offered 24-hour epidural analgesia service. In addition, the median epidural analgesia rate had increased from 10% to 15% over 6 years. This increase in the rate of epidural analgesia can be attributed to increases in both the availability as well as the demand for labour epidural analgesia. Despite the limitations and restrictions in anaesthetic resources, some of these departments in various hospitals have ensured the availability of epidural analgesia service by using resources from other areas, in an effort to comply with the training accreditation requirements of the Hong Kong College of Anaesthesiologists and the Hong Kong College of Obstetricians and Gynaecologists. For example, in the three units providing 24-hour epidural service where dedicated anaesthetists are not available after hours, the anaesthetists on-duty in the main operating theatres have to make arrangements to cover this service concurrently with their duties in the general operating theatres. The increased demand for epidural analgesia in labour has arisen from a greater public awareness of its superior quality of analgesia.

Despite this increase in the rate of obstetric epidural analgesia over the past 6 years, our rate in Hong Kong is still relatively low compared with figures from many other developed countries. The availability of an epidural pain relief service for labour has been recommended in all consultant obstetric units in the UK (United Kingdom Government Social Services Committee, 1980) and is required in United States military medical centres (United States Department of Defense, 1992). National surveys of the provision of obstetric epidural analgesia service from other countries such as the US, UK,[4] and France[5] have been published. The mean epidural rate in the UK was reported to be 24%, with 90% of the maternity units offering a 24-hour epidural service.[4] Similarly the mean epidural rate in France was 38%,[5] whereas that of the United States exceeds 60% at many institutions.[6]

Many factors may account for these differences, among which are differences in patients' expectations as well as caregivers' attitudes and expectations. A survey of 1109 women who delivered in a hospital or at home in a major city in Canada reported that the accessibility to epidural analgesia was a major reason for choosing to deliver in a hospital labour ward.[1] Cultural differences between eastern and western beliefs and norms may account for differences in both the 'demand' or request, and the 'supply' or provision, of epidural analgesia for labour. It is interesting to note that the epidural rate at the private maternity

hospital in Hong Kong that serves mainly expatriates was as high as 80%. This rate is comparable to some of the higher figures from western countries. In contrast, the epidural rate at the private hospital serving mainly the local Chinese population was very much lower.

Apart from humanitarian reasons, pain relief during labour is indicated for certain medical (eg underlying cardiovascular or respiratory disease) and obstetric (eg pre-eclampsia, twin delivery) indications. Epidural and combined spinal-epidural analgesia are without doubt the most effective methods for pain relief in labour and are far superior in terms of quality of analgesia compared with parenteral opioids. Recent evidence also suggested improved neonatal outcome in parturient women who received epidural analgesia compared to parenteral opioids.[7] Therefore, epidural analgesia should be given the appropriate attention and priority it deserves, consistent with the increasing clinical evidence in favour of this method of pain relief during labour.

All maternity units used a local anaesthetic and opioid mixture for epidural analgesia. The addition of opioid (usually fentanyl) to local anaesthetic allows the reduction of both the concentration and dose of the latter by a synergistic effect. This is consistent with current evidence-based clinical practice aimed at providing pain relief while minimising motor block and the subjective feeling of numbness to the lower body. Apart from intermittent bolus administration of epidural medication and CEI delivery by an infusor device, PCEA can also be used. Patient-controlled epidural analgesia requires a special delivery device called a 'PCA pump'. This device can be programmed to deliver a preset dose of medication when the patient activates a handset and to limit the frequency of drug delivery despite patient activation (the 'lockout interval' during which no further drug delivery is possible). It also allows the anaesthetist to preset a maximum dose that can be delivered within a fixed time interval (2-hour or 4-hour limit). This PCA pump is also the same device used for IV PCA.

In many western obstetric units, midwives who have received additional training and accreditation in labour analgesia can autonomously manage and 'fine tune' the epidural analgesia during labour. In contrast, the midwife's role in this area is very limited in our Hong Kong public hospitals where this practice is almost non-existent. No unit allowed midwives to give additional boluses or top-ups of epidural medication. Only one of the eight Hospital Authority hospitals surveyed had an arrangement where midwives were able to adjust the rate of the CEI within a range prescribed by the anaesthetist. In contrast, both obstetric units in the two private hospitals surveyed had guidelines in place for both midwife-administered top-ups or adjustment of the epidural analgesia infusion rate. The flexibility for the midwife to change the epidural infusion rate or to top-up the epidural is important because it allows adjustment of epidural drugs when there is unsatisfactory analgesia throughout the course of labour. This autonomy is especially important at night when there may not be a dedicated anaesthetist, or when the anaesthetist may not be immediately available. Concerns over the risk of complications related to inappropriate epidural drug administration should not hinder the rights of parturient women to consistent and effective analgesia. With proper training and clinical guidelines, such practice should be as safe and practicable in Hong Kong as it is in other countries. An alternative is PCEA, which is already being used in two centres in Hong Kong. There is evidence that PCEA may require fewer anaesthetic attendances, and may be associated with lower consumption of local anaesthetics and less motor block, when compared with CEI.[8]

All units monitored maternal pulse rate and arterial blood pressure, and foetal heart rate, but only 50% of units assessed the effect of the epidural block obtained with formal pain score and sensory blockade level assessments. The latter assessment is important because the information obtained may determine the need to either increase or decrease the dose of epidural medication to avoid inadequate pain relief or the unnecessary risk of potential side-effects.

We are pleased to report that the rate of adverse events related to epidural analgesia in our survey is very low. There was no life-threatening total spinal block nor respiratory compromise associated with a high level of epidural block. No epidural infection was reported. There was no epidural haematoma which could lead to spinal cord compression and permanent neurological deficits. The three cases of neurological complications were sensory and motor deficits which resolved before hospital discharge. The rate of accidental dural puncture was less than 0.5% (published acceptable rates are 0.5%-2%, with the higher rates for teaching hospitals), with post-dural puncture headache (PDPH) occurring in 65% of these cases. This rate is lower than the often quoted 70% to 80% rate of PDPH after dural puncture with epidural needles.[9]

In this survey, the median combined caesarean section and instrumental vaginal delivery rate in patients who received epidural analgesia was 58%, whereas only 40% had spontaneous vaginal delivery. These rates of caesarean section and instrumental vaginal delivery are greater than corresponding figures reported from overseas centres, which average 20% to 30% for caesarean section, 10% to 30% for instrumental vaginal delivery, and 40% to 70% for spontaneous vaginal delivery.[10,11] The effect of epidural analgesia on the outcome of delivery has been a contentious issue among anaesthetists and obstetricians for many years. The current consensus from collective data from numerous studies, with conflicting results, is that epidural administration of low concentrations of local anaesthetics does not adversely affect obstetric outcome or the mode of delivery. As shown by the large variation in the rates of the different modes of delivery among our local hospitals, there are many factors other than epidural analgesia which in-

fluence the outcome of labour, not least being the obstetrical management practice within individual units. Perhaps the comparatively higher interventional delivery rates in Hong Kong are related to differences in obstetrical management and the over-representation of higher risk obstetric patients among those receiving epidural analgesia during labour. However, this topic is beyond the scope of this survey.

In conclusion, obstetric epidural analgesia in our local public hospitals has made some progress over the past 6 years. With the restructuring of public hospitals within the Hospital Authority, there are now eight public hospitals in Hong Kong offering obstetric service, and all eight units provide epidural analgesia for obstetric pain relief. Although not all units have 24-hour epidural analgesia coverage, the rate of epidural analgesia for obstetric labour pain has increased from 10% to 15% over the 6 years between our two surveys. We have also found that epidural analgesia in Hong Kong is safe, with a very low rate of adverse events, comparable to international standards. However, any further progress in the provision of this service may not be possible, given current imposed reductions and cutbacks in our public hospital budgets. Despite this shortcoming, it requires reiteration that adequate staffing levels with well-trained and skilled anaesthetic, nursing and obstetric personnel; close maternal and foetal monitoring; and observation of clear and specific guidelines, are all essential requirements for the provision of a high quality service with a low adverse event rate.[12]

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Appendix

Questionnaire

Please tick the appropriate box.

1. How many deliveries are there annually in the obstetric unit in your hospital?

2. What methods of labour analgesia are available at your hospital?

	YES	NO
No analgesia		
Entonox inhalation		
Intramuscular opioid		
Lumbar epidural analgesia		
Combined spinal-epidural analgesia		
Others (e.g., i.v. PCA) —please elaborate		

3. Does your department provide a regular epidural analgesia service for labour pain?

YES	
NO	

If NO, please go directly to Question 18.

If YES, the epidural analgesia service is

24 hours	
Only daytime	
Others, please elaborate	

4. Is there a dedicated anaesthetist rostered to cover obstetric analgesia & anaesthesia?

	YES	NO
During the day (office hours)		
During the night (after hours)		

5. How many specialist sessions per week is provided by your anaesthetic department for this obstetric anaesthesia & analgesia service? (1 session = 0.5 day)

6. What is your unit's annual caseload of patients who received labour epidural analgesia?

7. How long has this labour epidural analgesia service been available in your hospital?

< 1 year	
1-3 years	
4-7 years	
8-10 years	
> 10 years	

8. What agent(s) is/are used for your epidural analgesia?

	YES	Which agent & what concn?
Local anaesthetic only		
Opioid only		
Local anaesthetic + opioid		
Others, please elaborate		

9. How is epidural analgesia maintained during labour?

	YES
Intermittent top-ups by midwife	
Intermittent top-ups by anaesthetist	
Continuous epidural infusion	
Patient-controlled epidural analgesia	
Others, please elaborate	

10. How is your patient on epidural analgesia monitored during labour?

			YES	NO
ECG				
NIBP	for top-up	every ___ min for ___ min		
	for maintenance	every ___ min or ___ hr		
SpO2		continuously		
		intermittently	Specify	
Regular pain scores				
Dermatomal levels			Frequency? Midwife or anaesthetist?	
CTG				
Others, please elaborate				

11. Are there any formal departmental clinical protocols or guidelines for labour analgesia?

YES	
NO	

12. Is there regular quality assurance on your labour analgesia service?

YES	
NO	

If you answered YES, what QA activities?

	YES
Patient follow-ups (if YES, please complete Q.13)	
Regular clinical audits	
Others, please elaborate	

13. Is follow-up conducted on all patients who received labour epidural analgesia?

YES	
NO	

14. If YES, please state when in relation to analgesia provided.

	YES
On the same day after cessation of epidural analgesia	
On the next day after cessation of epidural analgesia	
Only when indicated	
Other arrangement, please elaborate	

15. In the last 12 months, was there any case of

	NO	YES	If YES, how many & elaborate if possible
Total spinal			
Dural puncture			
Postdural puncture headache			
Neurological injury			
Epidural infection			
Respiratory complication – epidural/CSE – IV PCA			

16. What are the rates of the different modes of delivery after epidural labour analgesia in your hospital?

Spontaneous vaginal delivery	%
Vacuum extraction	%
Forceps assisted delivery	%
Caesarean section	%

17. Has there been any difficulty in the setting up and running of your labour analgesia service? We would appreciate your comments or suggestions on this matter.

18. If NO regular epidural service is available, please give reason(s) why.
    (i) Are there any plans to introduce or commence this service in the near future? If so, how soon?
    (ii) If NO, please give reasons why.