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CLINICAL INVESTIGATIONS

AN AUDIT OF PATIENT PERCEPTIONS REGARDING LABOUR PAIN AND THE PROVISION OF ANALGESIA IN A TEACHING HOSPITAL

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Background: Provision of adequate analgesia in labour remains a neglected aspect of our health care system. The perception and attitudes of patients regarding labour pain and analgesia has not received sufficient attention.

Methods: A questionnaire was administered by the investigator to parturients in a teaching hospital prior to and after delivery.

Results: All patients had received regular antenatal care. Patients anticipated severe pain in labour ($P<0.05$) and expected to be given analgesics. ($P<0.05$), though they were unaware of methods of analgesia available to them ($P<0.05$). Majority (96%) received labour analgesia ($P<0.05$), 81% Pethidine intramuscularly, and 16% epidural analgesia. 94% experienced pain during labour, with 80% having severe pain. All patients who had severe unrelieved pain had received intramuscular Pethidine as the sole analgesic. Patients who reported distressing effects following analgesics also experienced severe pain that was not relieved. ($P<0.05$).

Conclusions: There was inadequate provision of effective labour analgesia that fulfilled patient expectations. Several misconceptions regarding labour pain and analgesia were noted, with inadequate health education. Relief of severe pain was poor. The usefulness of intramuscular Pethidine for pain relief in labour is questionable.

McGill and Melzack[3] have scientifically proven that labour pain has one of the highest pain ratings. The occurrence of pain during labour and delivery has been shown to be harmful to both mother and fetus. Parturients in developed countries expect labour pain relief as a woman's right and epidural services have been fine tuned to offer perfect relief. However labour pain management is still a poorly addressed issue in Sri Lanka. Is there a cultural difference? Or is there an unmet need?

There is little data on patient perception and attitudes regarding labour pain. In addition, only a few studies have dealt with provision of analgesia during labour and the adequacy of analgesia given. Documentation on current provision and efficacy of pain relief given to women in labour is also lacking.

This study was conducted with a view to obtaining such information directly from parturients at a time when it is of greatest concern to them.

Therefore the aims of this study were –

1. To assess during pre/ early labour
   (Prior to the administration of analgesics)
   (a) The severity of pain anticipated
   (b) Patient expectation with regard to analgesia
   (c) The attitude of the parturient towards pain during labour and delivery
   (d) Patient knowledge of modes of analgesia available and the advantages/disadvantages of these methods.
2. To assess during the post partum period –
   (a) the severity of the pain experienced during labour
   (b) analgesia provided during labour
   (c) patient satisfaction with regard to the analgesia provided
   (d) distressing effects attributed to analgesics given
3. To determine the efficacy, duration of labour and the need for assisted delivery or caesarean section with respect to the different modes of analgesia given.
4. To ascertain the need for an effective pain control service in labour wards, and to assess the need for a programme to educate pregnant women regarding the option of painless labour, benefits of pain free labour and the modes of analgesia available to them.

Methods

Participants were selected from three wards of the De Soyza Maternity Hospital Colombo.

The cross sectional study was carried out during November and December 2003. Informed consent was obtained from each patient to collect, analyse and present the information collected from the study. The aims of the study were explained and patients were reassured of total confidentiality.

Fifty patients with viable pregnancies where spontaneous or induced labour was anticipated and those who were already in early labour (cervical dilatation <3cm) at the time of study were included. Patients who were enrolled in the study but later underwent emergency caesarean section after failed labour were also included.

Those scheduled for elective caesarean section, patients who had already received analgesics, patients managed in the intensive care unit and subjects unable to complete both questionnaires were excluded.

A preformed interviewer administered questionnaire was used. The questionnaire was administered in two stages. In the first stage the selected patients were questioned prior to the administration of any analgesics. These patients could receive different types of analgesia alone or in combination. In the case of the investigator being required to obtain informed consent to insert an epidural catheter for labour analgesia to a patient already enrolled in the study, the first questionnaire (annexure 1) was administered prior to obtaining informed consent for epidural analgesia. Where epidural analgesia was provided it was based on approved guidelines.

The second questionnaire (annexure 2) was administered to all patients who completed the first questionnaire. The responses were analysed with the *Epi info* statistical package.

Results

The data was obtained from fifty patients fulfilling the selection criteria.

Table 1. Patient population by age

Age	Number (%)
< 20	7 (14%)
20-30	37 (74%)
> 30	6 (12%)

30 (60%) subjects were primi gravidae while
20 (40%) were multi gravidae.($p<0.05$)

Table 2. Patient population by gravidity

Parity	Number (%)
1	30 (60%)
>1	20 (40%)

3 (6%) subjects had studied till grade 5.
33 (66%) patients received education till grade 6-10, while
12 (24%) had schooled till grade 11-12.
2 (4%) patients from the study population had professional qualifications.

Table 3. Study population according to level of education received

Educational status	Number (%)
Upto grade 5	3 (6%)
Grades 6-10	33 (66%)
Grades 11-12	12 (24%)
Professional	2 (4%)

All study subjects had previously attended antenatal clinics.

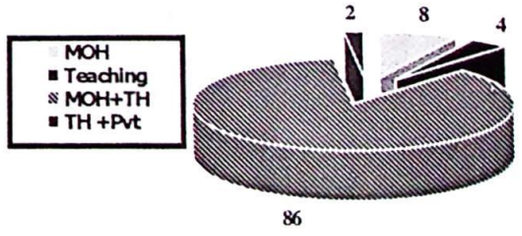
4 (8%) attended antenatal clinics conducted by the local public health clinic (MOH clinic).

2 (4%) received antenatal care only at the teaching hospital (TH).

43 (86%) of study subjects had attended antenatal clinics in the private sector and at the TH.

1 patient (2%) had been followed up in the private sector as well as in the TH.

Graph: Place of antenatal follow up (%)



All the study subjects expected labour to be painful.

2 (4%) expected mild pain,

11(22%) expected moderate pain and

37 (74%) expected pain to be severe in intensity ($P<0.05$)

Table 4. Anticipated severity of labour pain in the study population

Anticpated severity of pain	Number (%)
Mild	2 (4%)
Moderate	11 (22%)
Severe	37 (74%)

6 (12%) thought that labour pain maybe harmful to the mother.
17 (34%) felt that labour pain would be beneficial to the mother.
21(42%) felt pain did not have any effect.
6 (12%) were uncertain of the effect the pain would have on the mother.

Table 5. Patient perception on the effect of labour pain on the mother

Effect of pain on the mother	Number (%)
Harmful	6 (12%)
Beneficial	17 (34%)
No effect	21 (42%)
Uncertain	6 (12%)

8 (16%) thought that labour pain may be harmful to the fetus, while
11 (22%) believed that pain was beneficial to the fetus.
22 (44%) felt that pain had no effect on the fetus, while,
9 (18%) were uncertain of any effect that labour pain may have on the fetus.

Table 6. Patient perception on the effect of labour pain on the fetus

Effect	Number (%)
Harmful	8 (16%)
Beneficial	11 (22%)
No effect	22 (44%)
Uncertain	9 (18%)

35 (70%) patients believed that they should be in pain during labour (P<0.05).

23 (76.6%) of the 30 primi gravidae believed they should be in pain during labour.

12 (60%) of 20 multigravidae believed that they should be in pain during labour (P> 0.05).

Table 7. Gravid status compared to patient belief that they should be in pain during labour

Parity	Number (%)
Primigravidae	23 (76.6%)
Multigravidae	12 (60%)

37 of the 50 study subjects (74%) expected analgesia during labour (P<0.05).

23 (76.6%) of the 30 primi gravidae expected labour analgesia.

14 (70%) of the 20 multi gravidae expected labour analgesia. There was no statistical significance between these two groups (P>0.05).

Table 8. Status of parity compared to expectation of analgesia

Parity	Number (%)
Primigravidae	23 (76.6%)
Multigravidae	14 (70%)

4 of the 6 patients (66%) who believed that labour pain is harmful to the mother expected analgesia during labour compared to 37 (74%) of the study population (P>0.05).

6 of the 8 patients (75%) who believed that pain might be harmful to the fetus expected.

analgesia compared to 37(74%) of the study population (P>0.05).

Table 9. Patient expectation of anaesthesia compared to belief that labour pain may be harmful

	Belief that labour pain is harmful to mother (n=6)	Belief that labour pain is harmful to fetus (n = 8)	Total Population (n=50)
Request for analgesia	4 (66.6%)	6 (75%)	37 (74%)

Information on pain and analgesics provided during the antenatal clinic visits.

15 of the 19 patients (78.9%) who were aware of methods of analgesia available for labour pain expected an analgesic during labour (P<0.05)

3 of the 4 patients (75%) being followed up at the MOHs' (Medical Officer of Health) clinic were aware of the availability of analgesics for labour pain.

14 (32.5%) of 43 patients receiving care at both the MOH clinic and the Teaching Hospital were aware of the availability of analgesics for pain during labour.

There was no statistical significance between the two groups. (P>0.05)

Table 10. Awareness of availability of labour analgesia

Awareness of availability labour analgesia	Number (%)
Total population	19 (38%)
Followed up at MOH clinic	3 (75%)
Followed up at Teaching Hospital + MOH	14 (32.5%)

The public health midwife and other health workers at antenatal clinics were the source of information on labour analgesia for 5 (10%) of the study population. The mass media was the source of information for 14 (28%) patients.

48 (96%) of the study population received analgesics during labour (P<0.05).
(one patient refused analgesia while one had not been given any analgesic).

6 of those who received pain relief could not remember receiving any analgesic and therefore could not attribute any relief they obtained to any analgesic.

39 (81%) of the 48 received intramuscular Pethidine. 38 patients received only a single dose while one patient received two-doses.

8 study subjects (16%) received epidural analgesia (0.125% Bupivacaine + Fentanyl 2micg/ml) (P<0.05).
1(2%) received intramuscular Pethidine followed by epidural analgesia.

Table 11. Mode of analgesia given

Mode of analgesia	Number (%)
IM Pethidine – 1 dose	38 (79%)
2 doses	1 (2%)
Epidural (0.125%) Bupivacaine + Fentanyl 2micg/ml)I	8 (16%)
IM Pethidine + Epidural	1 (2%)

36 (75%) subjects received analgesia without having to request for an analgesic (P<0.05).

Of the 6 patients who requested analgesics, 2 received analgesics only on request; the others received multiple doses, some on request but others without.

47 (94%) of the study population stated they experienced pain during labour (P<0.05).

5 (10.7%%) subjects had mild pain, 4 (8.5%) moderate pain and 38 (80.8%) severe pain (P<0.05).

Table 12. Severity of pain experienced during labour

Pain during labour	Number (%)
Pain experienced	47 (94%)
Mild	5 (10.7%)
Moderate	4 (8.5%)
Severe	38 (80.8%)

Pain was relieved in 19 of the 39 patients who were given analgesic (48.7%) (P>0.05). Of the 50, 2 were not given analgesics. 3 were not in pain. 6 were unaware. Therefore analgesics were responsible for the relief of pain in 19 of 39 subjects.

Severe pain was not relieved by analgesics in 20 of the 38(52.6%) who experienced it (P>0.05). They had all received intramuscular Pethidine. 6 patients who experienced severe pain were unaware they received analgesics while 1 did not receive analgesics.

The average duration of labour in primigravidae who received intramuscular Pethidine was 7.4 hours (SD 2.7) and epidural analgesia 8.2 hours (SD 2.3) (P>0.05).

In multigravidae who received intramuscular Pethidine the average duration of labour was 8.5 (SD 3.1) hours and epidural analgesia 11.6(SD 4) hours (P>0.05).

79.4% (31 of 39) patients who received intramuscular Pethidine and 62.5% (5 of 8) patients who received epidural analgesia had a normal vaginal delivery (P>0.05).

17.9% (7 of 39) patients who received intramuscular Pethidine underwent emergency caesarean section. None of the study subjects who received epidural analgesia underwent caesarean section (P>0.05).

Delivery was assisted in 1(2.5%) of 39 subjects who received intramuscular Pethidine and 3 (37.5%) of the 8 subjects receiving epidural analgesia (P<0.05).

21 (63.6%) of 33 subjects who realized that they received intramuscular Pethidine and 3 (33.3%) of 9 subjects who received epidural analgesia reported distressing effects (Pain/nausea/vomiting) following the administration of the analgesic (P<0.05)

14 (58.3%) of the 24 patients who reported distressing effects also experienced severe pain which was unrelieved by analgesics (P<0.05).

Discussion

Though most patients in labour receive some form of analgesia, it is often inadequate. Yet, patients tolerate the pain, often without even requesting any analgesia[1].

The passive attitude of patients towards labour pain has been shown to be due to many reasons: the belief that pain during labour is inevitable, worry that analgesics may cause harm to the fetus and fear that reduction of labour pains reduces bonding between mother and child. Health workers may be hesitant to provide suitable analgesia believing that methods such as epidural analgesia could cause harm to both the mother and fetus. There is a view that these methods of pain relief prolong labour and increase assisted deliveries. Reduced awareness of simpler methods such

as the use of subarachnoid Morphine etc is a contributory factor. The use of a familiar method of analgesia may give a sense of security to those involved in management of labour.

For most parturients, the midwife is the main source of the information on labour pain and analgesia. Midwives may not be knowledgeable enough to provide adequate information for the patients to make an informed choice regarding analgesia[2].

All subjects studied expected labour to be painful, with a significant majority anticipating severe pain. Many believed it essential to experience the pain of labour. This opinion was held by subjects irrespective of their parity. Although all the study subjects had attended antenatal clinics, only a minority thought that pain may be harmful to the mother or the fetus. This may have contributed to the passive attitude towards pain during labour.

The majority, irrespective of their parity, believed that they should experience pain during labour. Most, however also expected analgesics. There was no difference between the multi gravidae and primigravidae in this aspect. The fraction of those who expected analgesia and believed that pain might cause harm to either the mother or fetus was not significantly different to the proportion who expected analgesia in the total study population. The current health education programme has been ineffective in convincing the patients of the potential harm caused by labour pain.

A significant majority were unaware of any modes of analgesia available to them during labour. Of those aware of the modes of analgesia available, the source of information for most was not a health care worker. This is unsatisfactory since it indicates a failure of an essential component of antenatal care. In addition, it may contribute to the spread of incorrect information by persons who are not competent to provide such information. Misconceptions about labour that exist in society will also not be dispelled.

Improving awareness of the public health midwives on subjects such as labour pain, effects of pain on the mother and fetus and availability of effective analgesia may help rectify this problem, especially since all patients believed they would benefit from more information on analgesia. This indicates an urgent need for adding information on labour pain and analgesia to the antenatal health education programme.

A majority of study subjects experienced severe pain during labour. The relief of pain by analgesics was not significant even though the majority of patients received an analgesic during labour. Most received intramuscular Pethidine. Intra muscular Pethidine was prescribed to all patients in labour except those with complications i.e. mitral stenosis. All patients who continued to experience severe pain despite receiving analgesics were subjects who had received intra muscular Pethidine.

There was no significant difference in the duration of labour in primigravidae receiving intramuscular Pethidine compared to those receiving epidural analgesia. There was also no significant difference in the duration of labour in multigravidae receiving intramuscular Pethidine and epidural analgesia.

The incidence of normal vaginal delivery was not significantly greater in those receiving intramuscular Pethidine.

The incidence of assisted delivery was significantly higher in those receiving epidural analgesia.

All of the patients who underwent emergency caesarian section had received intramuscular Pethidine and the section was indicated due to fetal distress.

The incidence of distressing effects following the administration of an analgesic was not significantly different between those receiving Pethidine intramuscularly and those receiving epidural analgesia. A significant percentage of those who complained of distressing effects following analgesics also had the double burden of unrelieved severe pain.

However there are insufficient numbers of patients receiving epidural analgesia to form a conclusive opinion on a comparison between pethidine and epidural pain relief.

It is mandatory to use an analgesic capable of relieving the severe pain of labour. The routine use of intramuscular Pethidine should be reconsidered, with priority given to other reliable methods available. Protocols for the selection of appropriate analgesics and for the management of unrelieved pain should be formulated. However, it is difficult to implement such issues in a resource poor setting like ours.

Labour management must include provision of women with optimum analgesia during childbirth. It is necessary to create awareness on the subject as well as to conduct further large-scale studies to reliably assess the magnitude of the problem. This would be the first step towards rectifying the shortcoming that exists.

References

1. Olayemi O, Aimakhu CO, Udoh ES. Attitudes of patients to obstetric analgesia at the University College Hospital, Ibadan, Nigeria. *J Obstet Gynaecol* 2003; **23** (1): 38-40.
2. Stewart A, Sodhi V, Harper N, Yentis SM. Assesment of the effect upon maternal knowledge of an information leaflet about pain relief in labour. *Anesthesia* 2003; **58**:1003-22.
3. Melzack M. Labour is still painful after prepared childbirth training. *Canadian Medical Association Journal* 125 (4): 357-63.

QUESTIONNAIRE NO. 1

a) No:
b) Date
c) Name:
d) BHT no/ ward:
e) Age:
f) Parity:
f) Educational status:
g) Mode of onset of labour – spontaneous/ ARM* / Foley**/ Syntocinon
h) Previous deliveries –
Mode of analgesia –
none/ injection/ epidural/ spinal/ do not know
Efficacy of analgesia –
none/ partial / complete

i) Point of administration of questionnaire –
prelabour/ early labour

1. Do you think labour would be painful? Yes/ No/ Don't know
2. If so, how painful? Mild/ moderate/ severe
3. Do you believe that you should be in pain during labour ? Yes/No
4. Effect of pain on the mother is – beneficial/ harmful/ Don't know
5. Effect of pain on the fetus is – beneficial/ harmful/ Don't know
6. Do you expect analgesia during labour? Yes/ No
7. Do you believe that you have a right to have pain relief during labour? Yes/ No
8. Do you know of the modes of analgesia available to you? Yes /No
9. How did you get to know about these? ANC/ Midwife/ Other
10. Would you have liked more information regarding labour analgesia? Yes/ No
11. What methods of labour analgesia have you heard of? IM/ IV/ Epidural/ Spinal

I consent to participate in this study, the analysis of the data and the discussion of the results obtained provided confidentiality is maintained.

* Artificial rupture of membranes
** Insertion of Foley catheter

Annexure 2

QUESTIONNAIRE NO. 2

a) No: BHT no: Name: ward: Date:
b) Time of onset of labour:
c) Time of delivery:
d) Mode of delivery: NVD/ Forceps/ Vaccum/ LSCS
e) Mode of analgesia: IM Pethidine/ Epidural-Bup/Fent/ Spinal – opioids/Bup

1) Were you in pain during labour? Yes/No
2) If so, how severe was the pain? Mild/ Moderate/ Severe
3) Were you provided analgesia? Yes/No
4) Did you request analgesia? Yes/No
5) Was it provided only on request? Yes/No
6) Compared to what you expected, how effective was the analgesia you received? Ineffective/ effective
7) Was your pain relieved by the analgesics? Yes/ No
8) Were you satisfied with the analgesia you received? Yes/ No
9) What mode of analgesia did you receive – IM/ IV/ Epidural/ Spinal
10) Do you feel that analgesics caused you any harm? Yes/No
11) If so what was most distressing?
12) Do you feel that analgesics caused your baby any harm? Yes/No
13) If so what?
14) If you were in labour again which analgesic would you choose?
The same/ different