



Knowledge, Awareness and Acceptance of Labor Analgesia among Antenatal Women in a Remote Island: A Questionnaire Based Study

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Authors' contributions

This work was carried out in collaboration between all authors. Authors AP, AY and HMRK designed the study, performed the statistical analysis wrote the protocol. Authors AY and PJ collected data and wrote the first draft of the manuscript. Authors SKS and KA managed the literature searches and analysis. Authors AP and HMRK revised and edited the final version. All authors read and approved the final manuscript.

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ABSTRACT

Background: It has been a decade since the year 2007 was dedicated towards painless motherhood. However the use and acceptance of labor analgesia is still very rare in developing countries.

Objective: The present study was aimed to assess the knowledge, acceptance and reasons for rejection of labor analgesia among the expectant mothers.

Methods: The present observational study was conducted after approval from the institute. All

antenatal women who attended antenatal clinic were approached during January to March 2017. Data was collected from the consented women using a pretested questionnaire. Data were expressed in absolute numbers and percentage scale. Measures of central tendencies were calculated for quantitative data using INSTAT software and $p < 0.05$ was considered significant for comparison.

Results: Response from 280 women with mean \pm SD age and gestational age of 25.49 ± 4.89 years and 28.25 ± 8.75 weeks respectively were analyzed. 126 were primi or multiparous; 56 graded labor pain as unbearable yet only 30 (23.81%) wanted labor analgesia. Only 20 (7.14%) prospective mothers were having knowledge of labor analgesia. The nulliparous wanted significantly less labor analgesia compared to primi and multiparous ($p 0.003$). Desire to bear natural birth was the commonest reason to refuse painless labor. One quarter of the participants believed that labor analgesia was bad for child and against the will of God.

Conclusion: Knowledge and acceptance of labor analgesia is poor although women who had previous experience were significantly more inclined towards it. Misinformation and myths is also a major contributor for non acceptance of labor analgesia.

Keywords: Vaginal delivery; pregnancy and childbirth; analgesia; reasons for; acceptance or rejection.

1. INTRODUCTION

For most women, childbirth is a highly anticipated, joyful experience. However, it is also accompanied by the most severe pain a woman will ever experience. The American College of Obstetricians and Gynaecologists and the American Society of Anaesthesiologists have collectively noted that "parturition is the only circumstance in which it is considered acceptable to experience severe pain, amenable to safe relief, while under a physician's care". [1] The International Association for the Study of Pain declared 2007 to 2008 the global year against pain in women, with the slogan "real women, real pain". They highlighted the importance of treating pain among parturients and the substantial public health impact that could occur if this pain is neglected [2].

Pain – free labor is nearly universal in high income countries. However, in low – income countries where women are mostly burdened with high pregnancy rates and short inter-pregnancy intervals, pain relief in labor remains a distant reality. [3] young women in some cultures believed that labor pain is natural and inevitable and that the ability to accept and endure it is a sign of womanhood. [4] the present study was aimed to assess the acceptance and knowledge of antenatal women towards labor analgesia inhabiting in a remote Island and to find out the reason for not opting for it.

2. MATERIALS AND METHODS

The present prospective, questionnaire based, cross sectional observational study was conducted after obtaining approvals from the

institute research and ethical authority in a tertiary care hospital situated in an Islands of India. Antenatal women of any gravida and parity attending antenatal clinic during January 2017 to March 2017 for antenatal check up were approached and consented patients were enrolled for the study. Data were collected by using a pre-validated and pre-tested questionnaire tool printed in English. Socio-demographic and obstetrical data were entered by the data collector. The questionnaire was then handed over to the patients and requested to fill it up or tick the options from the questionnaire which ever they think appropriate / correct for the variables with regard to knowledge and acceptance of labor analgesia and the reasons for not opting labor in subsequent delivery. If the participant were not in favour of accepting labor analgesia, the reasons for the non acceptances were asked and written / noted. The participants who were unable to read or understand the questions; the study investigators were available to assist the participants to clarify doubts or make them understood in their own language (i. e. Hindi and Bengali). Patient who do not understand either of English, Hindi and Bengali; who attended antenatal clinic for termination of pregnancy; Who were in active labor and legally protected special tribal group of people were excluded. Qualitative data / descriptive responses were expressed in absolute numbers and percentage scale. Inter quartile range was calculated for gravid and parity. Mean, median, standard deviation (SD) and 95% lower and upper limit were also calculated for quantitative data using INSTAT software (Graph Pad Prism Software, La Zolla, CA, USA). A value of $p < 0.05$ was considered as significant.

3. RESULTS

Three hundred fifty antenatal women were approached, 280 (80%) women consented for the participation in study. The women were in the age group of 16 to 44 years with mean \pm SD age of 25.49 ± 4.89 years. Majority (51.07%) of the participants were multigravida / nullipara. The mean \pm SD gestational age of the antenatal women were 28.25 ± 8.75 weeks. The demographic, socioeconomic and obstetric parameters are presented in Table 1.

Table 1. Socio-demographic and obstetrical variables of the study participants

| Characteristics [N = 280] | Number (%) |
|---|-----------------------|
| Age [Mean (95% CI)] years | 25.49 (24.92 – 26.07) |
| Age groups (Years) | |
| 15 – 24 | 130 (46.42%) |
| 25 – 34 | 134 (47.85%) |
| 35 – 44 | 16 (5.71%) |
| Residence | |
| Rural | 163 (58.21%) |
| Urban | 117 (41.78%) |
| Religion | |
| Hinduism | 229 (81.78%) |
| Islam | 29 (10.35%) |
| Christianity | 22 (7.85%) |
| Education | |
| Illiterate | 6 (2.14%) |
| Up to Primary | 46 (16.42%) |
| Up to Secondary | 67 (23.92%) |
| Up to Higher secondary | 95 (33.92%) |
| Graduation and above | 66 (23.57%) |
| Occupation | |
| Student | 4 (1.42%) |
| Housewife | 254 (90.71%) |
| Working | 22 (7.85%) |
| Gravida [median / IQR (Q3-1)] | 2 / 1 (2 – 1) |
| Primigravida | 137 (48.92%) |
| Multigravida | 143 (51.07%) |
| Parity [median / IQR (Q3-1)] | 0 / 1 (1 – 0) |
| Nulli | 154 (55%) |
| Primi | 102 (36.42%) |
| Multi | 24 (8.56%) |
| Gestation age (Weeks) [Mean (95% CI)] | 28.25 (27.22 – 29.27) |
| 5 – 12 | 15 (5.35%) |
| 13 – 28 | 110 (39.28%) |
| ≥ 29 | 155 (55.35%) |
| Type of family | |
| Joint | 57 (20.35%) |
| Nuclear | 223 (79.64%) |

(N – total number, CI – confidence interval, IQR – inter quartile range)

Out of 280 women, 154 (55%) of the women were nulliparous and 126 (45%) women had parity ranging between one and five. All multiparous women had at least one previous hospital delivery. 44.44% of the women with experience of previous labor graded labor pain as unbearable and excruciating pain yet none of them received labor analgesia in their subsequent delivery / deliveries too (Table 2).

Table 2. Women with experience of labor pain and grading of pain as per them

| Parameters | Number (%) [N = 126] |
|---------------------------------------|----------------------|
| History of previous hospital delivery | 126 (100%) |
| History of previous LSCS | 26 (9.28%) |
| Grading of labor pain | |
| Excruciating / unbearable | 56 (44.44%) |
| Severe | 70 (55.55%) |
| Moderate | 0 |
| Mild | 0 |

Table 3. Knowledge of labor analgesia among the participants

| Questions | Frequency (%) |
|--|---------------|
| Ever heard about pain relief in labor? | |
| Yes | 20 (7.14%) |
| No | 260 (92.85%) |
| Source of information about labor analgesia | [N = 20] |
| Friends & relatives | 17 (85%) |
| ANM nurse | 02 (10%) |
| Media | 01 (5%) |
| Doctor | 00 |
| Literature | 00 |
| Different methods of labor analgesia | [N=20] |
| Inhalation of gas | 9 (45%) |
| Injection in the lower back | 7 (35%) |
| IV/IM injections | 4 (20%) |
| TENS | 0 |
| Relaxing/deep breathing exercise | 0 |
| Other methods | 0 |
| Availability of services in the hospital | [N = 280] |
| Yes | 18 (6.42%) |
| No | 223 (76.64%) |
| Do not know | 39 (13.92%) |

(ANM- ante natal and midwifery, TENS- Transcutaneous electrical nerve stimulation)

Only 20 (7.14%) participants were aware about painless labor; 80% heard about painless labor during their current pregnancy. 18 (6.43%) participants were aware regarding the availability of labor analgesia facility in their hospital. The knowledge of methods for labor analgesia was also limited with knowledge about use inhalational gases as the most common method. None of the participants had knowledge of more than one method for labor analgesia. Majority (85%) of them received information about labor analgesia from friends and relatives (Table 3).

Table 4. Eagerness for and reasons not for opting labor analgesia among the participants

| | Number (%) |
|--|-------------|
| Do you want labor analgesia? | [N=280] |
| Yes | 46 (16.43) |
| No | 234 (83.47) |
| Reasons cited for not opting labor analgesia | [N=234] |
| To experience natural birth | 126 (53.85) |
| Harmful to baby | 30 (12.82) |
| Against the will of God | 28 (11.97) |
| Refusal by family | 17 (7.26) |
| Methods do not work | 12 (5.13) |
| No response | 21 (8.97) |

(N- Total number)

Interestingly, 234 (83.47%) did not want labor analgesia either in present / subsequent vaginal delivery citing different reasons (Table 4). 53.85% of those who did not want labor analgesia wanted to experience natural child birth. The desire to experience natural birth without analgesia was higher among nulliparous women than the women who had suffered previous pain (63.77% versus 39.58%). 30 (23.81%) women with experience of previous labor pain wanted labor analgesia as compared to 16 (10.39%) nulliparous women in their upcoming delivery. The difference was statistically significant (p 0.003).

4. DISCUSSION

The pain of labor is associated with reflex increases in blood pressure, oxygen consumption and liberation of catecholamine, which could adversely affect uterine blood flow. The healthy parturient tolerates the increase in cardiac work, but high risk mothers, with cardiopulmonary disease etc. may not tolerate

these changes. For them effective analgesia may contribute to better outcomes. [5] There are wide ranges of labor analgesia techniques available like inhalational nitrous oxide, opioids, regional analgesia, breathing exercises, transcutaneous electrical nerve stimulation, acupuncture, etc. [3]. Epidural analgesia is regarded as gold standard [3]. However in the present cohort none of them had exact knowledge about it although they thought that giving injection in the back as a technique.

In developed countries, issues are focused on the choice of methods of labor analgesia and its complications, [6] while in developing countries like India child birth is still viewed as a physiological process managed with as little interference as possible. Many women still do not know that labor pain can be relieved. In the present study 92.86% of antenatal women had no idea about labor pain relief. This high level of lack of knowledge was found even in studies done in other part of India [7-10].

Women suffer from the agony of labor pain because of lack of awareness, unbound fears and limited knowledge about the availability of the analgesia service. In present study, all multigravida mothers had previous hospital delivery and hundred percent graded labor pain either as severe or unbearable pain yet none of them voluntarily wanted labor analgesia services for their subsequent delivery. Such low levels of utilization may be partly due to lack of knowledge, however it was found that even a very high number of women still were ready to bear the pain in their upcoming labor. It is prevalent in low resource settings too [11,12]. However it was also noted that the desire to bear the labor pain was much lower in women with previous experience which indicates that labor is a big source of pain and anxiety. This can lead to unnecessarily choosing knife over normal delivery in their subsequent delivery unless they have the knowledge that labor pain can be relieved. A study has shown that 50% of caesarean delivery on maternal request in multigravida women was the result of their previous bad experience of pain [13]. It has been observed that healthcare providers in developing countries are either ignorant or consider educating women on pain relief methods during labor as a low priority issue [7]. This apparent neglect is emphasized further by the observation that even women who had prior antenatal visits with health care providers did not have increased awareness. In present study too, none of the

antenatal women got information about labor analgesia from doctors is also indicating so.

A study from South Africa showed that women gained knowledge of pain relief from previous experience or from friends and relatives [14]. Similar results indicating the major source of information being from their friends and relatives were found in earlier studies too [15,16]. In contrary, a study done in Northern Nigeria showed the majority of women have heard of pain relief mostly from their caregivers and during the current pregnancy [12]. The level of awareness was also high in the said study which could be attributed to increasing discussions on the topic during antenatal visits.

Due to ever rising population in India, there is a lack of one to one care during delivery. Care givers do not get adequate time to prioritize the issue due to high volume of cases per caregiver. There should be mass media coverage for providing information about labor analgesia. Information could be disseminated through pamphlets or booklets distributed at antenatal clinics or making use of social media explaining the role and benefit of labor analgesia for the lay person.

Women in present study were mainly aware of either inhalation of gas or injection in the lower back as methods to provide pain relief in labor. In the Nigerian study, 80% of the respondents were aware of opiates as obstetric analgesia, but only 10% and 14% were aware of epidural and inhalation respectively [16]. Although the participants knew about the injection in back, none of the participants were aware about exact term 'epidural analgesia'. The finding of knowledge about inhalational analgesia was not found in previous study conducted in another part of the same country [7].

The commonest reason given by women for not selecting labor analgesia for their subsequent delivery was similar to the studies done by Nabukenya et al., Naithani et al. and Olayemi et al. [6,7,17]. However the study of Nabukenya et al showed that mother will love the baby if given birth naturally and so were not in favor of accepting labor analgesia. [6] In the present study none of the prospective mother thought so. Womanhood is assessed based on the ability of the woman to pass through the labor successfully and deliver vaginally, and are more concerned about the delivery of a healthy baby than the pain. 12.82% mother's did not opt for

labor analgesia because they think that it is harmful to baby and even educated mother believed that suppressing labor pain is against the will of God. These kinds of myths and belief can only be eliminated by mass dissemination of knowledge.

The present study is however limited with the fact that the present study was done with single centre participants. Although the numbers of participants enrolled were adequate to give > 80% power to the study yet the sampling was nonrandomized in nature. The study was also based on questionnaire which was even translated by investigator sometimes which may have effect on the answer pattern by the participants. The knowledge and acceptance depends on multiple factors like education level, income of the family previous exposure etc [10]. Even belief is very much affected by religion. As Labor analgesia is associated with religious belief so study in larger population and subgroup analysis is indicated.

Although the study is limited, the present study findings have a good clinical implication. There was very low acceptance and knowledge even in educated mothers which indicates that mere school education should not taken for granted that they will accept labor analgesia in future. They also need to be given information equally as uneducated and unexposed participants. We need to target out education against the myths and misbelieves with evidence. The most ironical finding that none of the participants received information from doctors is actually a wakeup call for changing the practice pattern for the benefit of the patients.

5. CONCLUSION

The level of knowledge and methods of labor analgesia are very less among the pregnant women. All women believe that labor pain is severe or unbearable yet desire to bear the labor pain is very prevalent. Around 24.7% women even felt that labor analgesia is harmful to baby and against the will of God. Dissemination of knowledge in antenatal period by health care givers is limited and needs to be improved.

CONSENT

All authors declare that informed consent was obtained from the participants both for data enrolling in the study and for publication of the data obtained without disclosing identity.

ETHICAL APPROVAL

We declare that the study was submitted to institute research review board and subsequently to the Institute Ethical Board. The study was conducted by using a questionnaire tool and with due permission from the participants. No ethical issues were present in the study.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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