

Research article

Labour pain management practice by medical interns at Jimma University

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Background: Unmanaged severe labour pain can result in physiological and psychological health problems to women whereas pain management is a fundamental human right. Furthermore, healthcare providers have a duty of care to support women as per a principal of reproductive right and also to improve quality of health care.

Objective: The main objective of this study is to assess medical interns' knowledge, attitude and practice on labour pain management at Jimma University Medical Center.

Methods: Facility based cross-sectional study was conducted from November 12-13/2019. Self-administered structured questionnaire was used to collect data. All medical interns who fulfil the inclusion criteria was included. Pretest of the tool was done on five percent of sample among Riftvalley University Collage final year midwifery students. Data were entered using EpiData software version 3.1 and analyzed using Statistical Package for the Social Sciences version 20.

Results: A total of 185 medical interns included in to the study making a response rate of more than 100% as per the calculated minimum sample size. In this study the overall favorable attitude, good knowledge and good practice of medical interns in labour pain management were 45.9%, 54.1% and 31.9% respectively.

Conclusion: This study identified that, the overall knowledge, attitude and practice of Jimma University Medical Center medical interns' labour pain management were low. Consequently, the researchers recommend all concerning bodies including Ethiopian Federal Ministry of Education, policy makers and curriculum developer to work on mechanisms to improve this.

Key words: Attitude, knowledge, labour pain, medical interns, practice

INTRODUCTION

During vaginal delivery women experience labour pain from active process of delivering foetus (Simona et al., 2008). Labour pain management needs acting more than administering the best anesthetic, involving pharmacological and non-pharmacological mechanisms (Iliadou, 2009, Committee, 2017a,b, Hodnett et al., 2005) as unmanaged severe labour pain can result in physiological and psychological problems to women. Pain management is a fundamental human right

(Frank et al., 2007, Lowe, 2002, Apter et al., 2011) where healthcare providers have a duty of care to support women as per a principal of reproductive right and to improve quality of care. However, women often do not have access to effective pain relief in low resource settings (Mary et al., 2018, Nations, 2014, Mary et al., 2017a, Anteneh et al., 2020, World, 2012, Kurabachew et al., 2015, Abebe et al., 2016).

Few studies were conducted on this issue focusing on full professionals and midwiferies either on attitude, knowledge, or practice in Ethiopia (Workie et al., 2017, Simeneh et al., 2020a, Waggari et al., 2020, Ermias et al., 2017, Mary et al., 2017b).

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Additionally, context based updated data is important to contribute for intervention. Moreover, early attitude and knowledge of students develop in the university where they can learn from their seniors that can proceed throughout their service year (Paice et al., 2002, Passi et al., 2016, Geoffrey et al., 1995, Caragh et al., 2016). Accordingly, early assessment of the status of medical students' knowledge, attitude and practice can help to do interventions as early as possible. Nevertheless, there is no study conducted and published on these populations in Ethiopia. Thus, this study focused on assessment of medical interns' knowledge, attitude and practice on labour pain management at Jimma University Medical Center, Ethiopia.

METHOD

Study type and study design

A facility based cross-sectional study design conducted. The study was conducted at Jimma University Medical Center (JUMC) from November 12-13/2019. JUMC is one of a teaching and referral hospital in Ethiopia and is a single oldest hospital in southwest Ethiopia serving a catchment population of more than 15 million peoples. It is located at about 353 km away from Addis Ababa, a capital city of Ethiopia. Currently it is providing services to approximately 15,000 inpatient, 160,000 outpatient attendants, 11,000 emergency cases and 4500 child deliveries per year. It has four major wards namely, Pediatrics ward, Gynecology and Obstetrics ward, internal medicine, and surgery ward (Mohammed et al., 2019).

Sample size determination and sampling method

Samples size was calculated using single population proportion formula considering proportion of labour pain management practice among obstetric care providers in Hawassa city (Wakgari et al., 2020) which was 13.8%. A 5% of marginal error, 95 CI and $Z_{\alpha/2}$ standard score corresponding to 95% CI Glenn, 1992 was applied to calculate sample. Thus, $n = ((1.96)^2 * 0.13(1-0.13)) / (0.05)^2 = 174$, where n is the required minimum sample size. Before deciding the final sample, correction formula was used to get final sample since the total population is $312 < 10,000$. Accordingly, $nf = 174 / (1 + 174/312) = 112$, nf is the final required minimum sample size. Adding 10% for non-response rate final sample become 123. However, we collected data from a total of 185 medical interns considering that larger samples could provide a better estimate (Kate et al., 2003).

Ethical approval and participant consent

Ethical approval letter was obtained from Jimma University Institute of health institutional review board. Informed consent was obtained from participant before data collection and there is no personal identifiers used in this result writing.

Inclusion and exclusion criteria

This study was conducted among final year medical interns of 2019. The study included medical interns who were an Ethiopian only in their citizenship. Medical interns who did not successfully complete the obstetrics and gynecology attachment was excluded from the study.

Data collection tool and method

Structured questionnaire were prepared in English from

relevant literatures (Wakgari et al., 2020, Mary et al., 2017a, Bitew et al., 2016, Simeneh et al., 2020b, Ermias et al., 2018, Lydia et al., 2017). The tool was tested on five percent of the calculated sample among Riftvalley University Collage final year midwifery students before actual data collection started. Reliability test was assessed using Cronbach's alpha test and the result was within the acceptable standard ranging from 0.71 to 0.78. Data were collected within two days by self-administered questionnaire that were administered by trained diploma nurses working out of this facility. The investigators were doing supervision and checking for completeness of filled questionnaires daily.

Statistical analysis

After checking for completeness and coding manually, the data were entered using EpiData software version 3.1 and exported to SPSS version 20 for analysis. Attitude toward labour pain management which were assessed with 5-point Likert scale from strongly agree scored as 5 to strongly disagree scored as 1 for each individual showing positive and negative attitude respectively was classified as favorable attitude (mean and above) and unfavorable attitude (below mean) using mean score (Roberts et al., 1999, Wakgari et al., 2020). The "neutral" response was considered as disagree considering that the interns may fear to answer disagree since they are students and still in their teaching hospital. Similarly, we used mean score of yes answers to all asked questions relating to labour management knowledge to classify knowledge of the medical interns as poor knowledge (those who scored below the mean) and good knowledge (those who scored equal or above the mean) (Anteneh et al., 2020). We used the same approach to classify practice as poor practice and good practice using mean score of yes answers to asked questions relating to labour pain management practice. We did descriptive analysis only assuming that participants have most of the variables in common except their knowledge, attitude and practice of labour pain management.

RESULTS

Sociodemographic characteristics of the participants

A total of 185 medical interns were included in the making response rate of more than 100%. Majority of the study participants were male 117(63.2%). Most of them 112(60.5%) are below 24 years old (Figure 1).

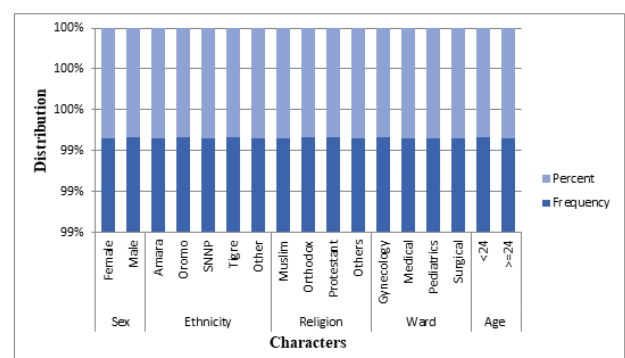


Figure 1. Socio-demographic characteristics of the study participants, 2019 (N=185)

Knowledge of labour pain management

Majority of the respondents 163(88.1%) know labor pain management and most of them 147(79.5%) think that pain relief should be given to relieve pain. Majority of them know unmanaged labour pain has adverse effect 147(79.5%). However, less half 48(25.9%) of them know monitoring labour pain contribute for quality of maternal health care. In general, more than half 100(54.1%) of the participants have poor knowledge of labour pain management (Table 1).

Attitude toward labour pain management

More than half of the study participants have unfavorable

Table 1. Knowledge of labour pain management among the study participants, 2019 (N=185)

Variables	Response	Frequency	Percent
Do you know labor pain management?	Yes	163	88.1%
	No	22	11.9%
Does monitoring labour pain contribute for quality of maternal health care?	Yes	48	25.9%
	No	137	74.1%
Do you know adverse effect of labour pain relief drugs?	Yes	141	76.2%
	No	44	23.8%
Can frequent position change help to relief labour pain?	Yes	105	56.8%
	No	80	43.2%
Do you know labour can be a very frightening experience for women, especially first births?	Yes	145	78.4%
	No	40	21.6%
Will women experience physical sensations ranging from discomfort to severe pain in laboring process?	Yes	163	88.1%
	No	22	11.9%
Do all women in labour and delivery need individualized care?	Yes	165	89.2%
	No	20	10.8%
Should pregnant women be encouraged to seek support from a skilled birth attendant?	Yes	156	84.3%
	No	29	15.7%
Doe helping her to relax make labour easier?	Yes	183	98.9%
	No	2	1.1%
Is it important to be familiar with the birth and emergency plan?	Yes	159	85.9%
	No	26	14.1%
Is it important to know if the woman and family have any preferences regarding labour and birth?	Yes	159	85.9%
	No	26	14.1%
	not sure	16	8.6%
Can full bladder prolong labour and cause pain?	Yes	115	62.2%
	No	70	37.8%
Do you know un managed labour pain has adverse effect?	Yes	96	52.2%
	No	88	47.8%
What level of pain would you expect them to experience during labouring?	Mild	35	18.9%
	Moderate	74	40.0%
	sever	76	41.1%
Why do you think pain relief should be given?	to relieve pain	147	79.5%
	to relieve stress	26	14.1%
	to feel confident	10	5.4%
Overall labour pain knowledge of the participants	Good Knowledge	85	45.9%
	Poor Knowledge	100	54.1%

attitude 98(53.0%) toward labour pain management (Table 2).

Labour pain management practice

More than half 108(58.4%) of those medical interns had ever offered labour pain relief either it be pharmacologic or non-pharmacologic pain reliever. Majority of them were offering the non-pharmacologic one 119(64.3%). Most participants 96(52.2%) know that pharmacologic pain reliever has adverse side effects. Majority of the interns have good practice 126(68.1%) of labour pain management (Table 3).

Table 2. Attitude of labour pain management among the study participants (N=185)

Variable	Agree (%)	Neutral (%)	Disagree (%)
Awareing her situation can help to minimize the physical pain and emotional distress of labour and birth	104(56.2)	38(20.5)	43(23.2)
Women should drink fluid during labouring	151(81.6)	32(17.3)	2(1.1)
The way a woman breathes can have a strong effect on how her labour will feel	141(76.2)	40(21.6)	4(2.2)
Encouraging the woman to urinate at least once in every 2 hours could help for progress of labour	128(69.2)	11(5.9)	46(24.9)
Supporting her to feel in control of herself, and to feel accepted whatever her reactions and behavior could help during laboring	84(45.4)	62(33.5)	39(21.1)
Companion in labour should be people the she wants to have at the birth	159(85.9)	18(9.7)	8(4.3)
A support from the woman's husband, close relatives or friends in labour favors good progress	143(77.3)	12(6.5)	30(16.2)
The woman has the right to know about the progress of labour and the condition of herself and the newborn	174(94.1)	3(1.6)	8(4.3)
Explaining what to expect during the delivery to the women and her support person is important	106(57.3)	4(2.2)	75(40.5)
Overall medical interns' attitude	Favorable attitude Unfavorable attitude		87(47.0) 98(53.0)

Table 3. Labour pain management Practice among Jimma University Medical Interns, 2019

3(1.6)	Response	Frequency	Percent
Do you answer all the laboring women's question regarding labour pain?	Yes	153	82.7
	No	32	17.3
Do you give counsel to women concerning labour pain?	Yes	161	87.0
	No	24	13.0
Do you offer opportunities for mother to make choice on her companions?	Yes	113	61.1
	No	72	38.9
Do you give advice and encourage laboring women to exercise pain relief activities?	Yes	149	80.5
	No	36	19.5
Do you show respect for labouring women?	Yes	183	98.9
	No	2	1.1
Do you foster the integration of cultural preferences on delivery ceremony?	Yes	73	39.5
	No	112	60.5
Have you ever offered any type of labour pain relief?	Yes	108	58.4
	No	77	41.6
Have you offered pharmacologic pain relief?	Yes	66	35.7
	No	119	64.3

Which pharmacologic pain relief you ever offered to laboring women	Pethidine	37	20.0
	Morphine	18	9.7
	Diclofenac	11	5.9
Have you ever offered non pharmacologic pain relief?	Yes	84	45.4
	No	101	54.6
Which pharmacologic pain relief you ever offered to laboring women	Touch and Massage	6	3.2
	Focus distraction	22	11.9
	Reassuring	43	23.2
	Encourage deep breathing	13	7.0
Overall practice	Good practice	126	68.1
	Poor practice	59	31.9

DISCUSSION

World health organization recommend good-quality and evidence based care for all child delivering women irrespective of the setting or level of health care (Organization, 2018). Women in labour can have intense pain with tension, anxiety and fear that can worsen the pain. Consequently, all health care professionals who are delivering service as birth attendant being at any educational level should be able to exercise methods of pain relief. There are also low-cost options of labour pain management which do not suffer individuals to afford (Smith et al., 2018). Accordingly, core education and training at pre-service level is equally important as in services level training to qualify the students in labour pain management (Organization, 2018). For the current study, the authors challenged to discuss its findings deeply with other studies since there is no similar study in Ethiopia or other comparable study area among medical interns (Eyob et al., 2013). However, this study could help to give a hint and to make it easier to know the level of knowledge, attitude and practice of medical interns and to act for better decision in forwarding recommendation.

Knowledge of labour pain management

This study revealed that good knowledge which is above mean score among medical interns is 45.9% (CI, 38.9-53.5). This result is lower than the study findings in East Gojjam zone (54.2%), Labour pain management knowledge among obstetric care providers in Hawassa city (88.9%) and Tigray Region (60.1%), (Wakgari et al., 2020, Anteneh et al., 2020, Ermias et al., 2017), but is higher than the study result (37%) from Dessie Referral Hospital (Workie et al., 2017), Ethiopia. The lower knowledge in this study can be as a result of medical interns can have lower knowledge compared to obstetric care providers who are on services and are more senior. Additionally, on service trainings they may attain and experience they do develop regarding pain management can boost their knowledge while this is less likely among medical interns. Moreover, obstetricians are more focused on the area of providing child delivery service while medical interns are expected to work on different departments and this can impose load to them not to concentrate in one area of service provision.

Attitude toward labour pain management

This study finding has shown that, less than fifty percent 47% (CI, 40-54.1) of the medical interns have favourable attitude. This is lower than the study in Tigray region where 56.7% of

the skilled labour attendants had positive attitude toward pain management (Ermias et al., 2017), but higher than the findings from in Southern Ethiopia where 34.7 % obstetric caregivers had positive attitude toward obstetric labor analgesia (Ermias et al., 2018), Dessie Referral Hospital (28.4%) (Workie et al., 2017), and Southern (34.7%) Ethiopia (Ermias et al., 2018). The overall attitude being higher in the current study may be due to those medical interns are currently on education and the ongoing learning may motivate them to develop favourable attitude toward helping women in labour pain.

Practice of labour pain management

Good practice of labour pain management from this study finding is 31.9% (CI, 25.4-38.9). This finding is comparable with the study result from Southern Ethiopia where overall, 37.9% of respondents had provided any form of labor analgesia to manage labor pain (Ermias et al., 2018). However, this overall practice of giving any method of labour pain management is very low and it is against the world health organization's recommendation where every woman should get important individualized care during labour and child delivery (Oladapo et al., 2018). On the other hand, this finding is lower than the study result from Addis Ababa (54.2%) (Hailemariam, 2016), from Amhara Regional State Referral Hospitals 40.1% (Bitew et al., 2016) in Ethiopia and Nigeria (48.8%) (Nwasor et al., 2011). This can be due to lack of confidence by interns to try whatever they think to relieve labour pain. Additionally, they may expect orientation and order from senior residents to give pain relief. Moreover, in referral hospitals where the current study take place, there might be high client flow and individual medical intern is mandated to attend more than one laboring women which can create shortage of time to give due attention for all.

CONCLUSION

This study identified that the overall knowledge, attitude and practice of the study participant is low. This suggests the importance to arrange training schedules on the area of compassionate respectful care for medical interns in relating to labour pain management.

This study is the first study to assess the knowledge, attitude and practice of medical interns who are at a relatively better stage to do intervention for better exercise of labour pain management as they grow up in to obstetricians. It is also good to indicate the available gaps in the area to conduct further study.

However, this study cannot identify factors associated with medical interns' knowledge, attitude and practice because it incorporated medical interns only who have no much different characteristics except in their socio-demographic characteristics. Consequently, the authors recommend further study which incorporate women who gave birth by labouring and by expanding study area to more than single unit to identify affecting factors which was not able to be done during the current study because of budget limitation.

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CONFLICT OF INTEREST

There was no competing interest among us in this work.

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