

Assessment Of Factors Influencing Midwives Management Of Labour Pain At Tertiary Hospitals In Ekiti State, Nigeria

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Abstract- Background: Childbirth is a critical time in the life of women during which they experience high level of pain and health care providers need to respond appropriately to the woman's reports on labour pain. Unmet pain management often lead to psychological trauma and subsequent feto-maternal mortality therefore, this study assessed the factors influencing midwives management of labour pain at tertiary hospitals in Ekiti State. Methods: A quantitative descriptive cross-sectional design was employed through self-structured questionnaire distributed among One hundred and seventy-eight midwives, all working at the obstetric units of the tertiary hospital in Ekiti State. Result: It showed that majority 96(55.9%) of the midwives had an average knowledge, and 118(68.6%) of midwives had a positive attitude towards pain management in labour. Moreso, findings revealed a positive significant relationship between educational qualifications of midwives and labour pain management while no significant relationship was found between the labour pain management and hospitals policy. Conclusion: Lack of labour pain relief equipment, shortage of staff and hospital policies influenced midwives management of labour pain. Therefore, availability of the labour pain relief equipment should be provided with the employment of more midwives.

Index Terms- Assessment, factors, labour pain management, midwives

I. INTRODUCTION

Labour pain is a major concern for most women even before the day of delivery as they become anxious about the pain that may be encountered during delivery and wants it relieved. One of the major determinants of maternal satisfaction in labour is adequate pain relief and the woman being able to cope with the pain.

Unmet expectation of pain management and a negative birth experience seem to affect women's decision about subsequent delivery, thereby opting for a caesarean section. Moreover, pain, anxiety and stress during labour affects uterine oxygen consumption as well as [uterine contractility](#), and this increases [peripheral resistance](#), cardiac output and blood pressure as a result of increased adrenaline secretions. This can lead to an increase release of catecholamines and cortisol into the circulation

causing widespread vasoconstriction (Czech, Fuchs, Lorek, Drosdzol-cop & Sikora, 2018).

Apart from maternal consequences such as heightened stress, fear, depression, confusion, hypertension, hypoglycaemia and tight and tense throat due to extreme screaming, Although pain management is one of the most critical aspects of patient care and it is relevant to all skilled health attendants, there have been few published pain management research studies focusing specifically on midwives working in maternity unit or labour wards. Management of pain in labour by midwives are affected by many factors and this study will therefore be assessing the factors influencing midwives management of labour pain at the three tertiary hospitals in Ekiti State, Nigeria.

The specific objectives of this study is to:

1. assess the level of knowledge of midwives on labour pain management (LPM)
2. assess the attitude of midwives towards labour pain management
3. determine the availability of drugs in management of labour pain by midwives
4. determine the availability of equipment for labour pain management by midwives
5. assess the influence of shortage of staff on management of labour pain by midwives
6. to identify significant relationship between educational qualification, hospital policies and management of labour pain

1.3 Research Questions

1. what is the level of knowledge of midwife on management of labour pain?
2. what are the attitudes of midwives towards management of labour pain?
3. what are the available drug in management of labour pain management?
4. what are the available equipment for management of labour pain by midwives?
5. what is the influence of shortage of staff on midwives management of labour pain?

Research Hypotheses

The following null hypothesis will be tested in the study;

- I. Ho1. There is no significant relationship between hospital policies and management of labour pain by midwives.
- II. Ho2. There is no significant relationship between educational qualifications of the midwives and management of labour pain.

Perceptions of labour pain intensity varies from one individual to another. Although, some women feel no pain in labour and give birth unexpectedly (Jones, Othman, Dowswell, Alfirevic, Gates, Newburn, Jordan, Lavender & Neilson, 2012). On the other hand labour pain has been reported to be the most severe pain that a woman experiences in her lifetime (Obuna & Umeorah, 2014). One of the major determinants of maternal satisfaction in labour is adequate pain relief that enables the woman to cope with the pain.

The Pathways of labour pain are visceral and somatic. The visceral one occur during the first stage of labour and it is connected with the tension exerted on the cervix which causes its dilatation, while the somatic kind of pain appears at the end of the first stage till second stage ends (Czech et al., 2018).

There are different pain relieving method used by women during childbirth (Thomson, Feeley, Moran, Downey & Oladapo, 2019). Commonly, these include non-pharmacological interventions (hydrotherapy, massage techniques, music therapy, emotional support from family members, breathing exercise, assuming specific positions) and pharmacological interventions include (epidural analgesia, opioids like pethidine, non-opioid drug like drugamol injection, diclofenac injection, pentazocine, and hyoscine butyl bromide injection).

A lack of specific education regarding different labour pain management (especially pharmacological options) during medical or midwifery undergraduate education is one of the factors influencing labour pain management and most healthcare providers lack information materials regarding pain management options (McCauley et.al, 2018). Some midwives have doubts regarding the efficacy of non-pharmacological methods.

The difficulty in providing individualised care for women in labour due to shortage of midwives compared to the high number of labouring women, although family members could stay with the woman in the early stages of labour in the antenatal ward, but their presence are always restricted in the labour room due to limited space and out of respect for the privacy of other women in labour room. Some healthcare providers are aware of measures for pain relief but facilities to implement this option may be unavailable. With regards to pharmacological options, some hospitals policies only limit the midwives to the use of non-opioid; whereas training on nerve block, epidural and the use of nitrous oxide are been left out

II. METHODS

2.1 Research Design

This study employed a descriptive cross-sectional survey of midwives working in the obstetric and gynaecological unit of the three institutions using a self-administered structured questionnaire to assess the factors influencing midwives management of labour pain at tertiary hospitals in Ekiti State.

2.2 Research Settings

The study was carried out in three tertiary hospitals in Ekiti State. These hospitals are Ekiti State University Teaching Hospital (EKSUTH), Afe Babalola University (ABUAD) Multisystem Hospital in Ado-Ekiti and Federal Teaching Hospital (FTH), Ido-Ekiti. These hospitals are tertiary hospital established by the state government(EKSUTH), private institutions (ABUAD) and federal government(FTH).

2.3 Sampling Technique;

Total enumeration method (purposive sampling) was employed to select all midwives in the units. In FTH (69 midwives), EKSUTH (67 midwives) , ABUAD (42 midwives), making a total of 178 midwives working in Obstetrics and gynaecology units that participated in the study.

2.4 Instrumentation

Data was collected using a self-developed questionnaire. The questionnaire consists of four sections. Sections A to G with thirty-seven items was used as the tool for collecting information from the registered midwives. **Section A:** assessed the socio-demographic data(7 items) indicating personal information about the subjects (midwives) . **Section B:** assessed the level of knowledge of midwives on labour pain management. There are 11(eleven) items assessed with multiple choice questions with four (4) options (A-D) in which only one of the options give the correct answer. The score ranges between 0-11, where any respondents with 0-3 has low knowledge, 4-7 moderate knowledge and 8-11 high knowledge. **Section C:** assessed attitude of midwives towards management of labour pain with 5 items using 5 likert scale. **Section D:** determined hospital factors influencing labour pain management. This factors comprised of four sub-construct . They are (i) The availability of drugs in management of labour pains by midwives with 4 items (ii)The availability of equipment for labour pain management by midwives with 3 items. (iii) Availability of staff on management of labour pain by midwives with 4 items .(iv) Hospital policies on labour pain management by midwives with 3items. The questionnaire was validated and reliability index using Chronbach alpha coefficient for midwives knowledge was 0.638, Attitudes was 0.980 and hospital factors was 0.666.

Inclusion criteria

All midwives working at the obstetric and gynaecological unit of the tertiary hospitals and are willing to participate in the study.

Exclusion criteria

Midwife not working at the obstetric and gynaecological unit as at the period of carrying out this research. Midwives on annual or maternity leave were excluded as they may not be available within the environment.

2.5 Method of Data Analysis

The collected data were coded into the computer using a statistical software Statistical Package for the Social Sciences (SPSS) version 23. The research questions were answered using descriptive statistics (percentages, mean score and frequency counts) while inferential statistics of Pearson correlation was used to test the two hypotheses at 0.05 level of significance.

III. RESULTS

Socio demographic data

Table 4.1 Respondents were found across the age spectrum of 21 to 51years and above with a mean age of 36years. More (32%) of the participants were between 31 to 40 years. Majority

(83.1%) were Christian by believe as a result of its commonest practice in the study settings. More than half (73.8%) of the midwives were married. Most (51.7%) of the participants were BNSc holders compared to participants with RM (43%), MSc (8%) and PhD (0.6%).

Table 1: Socio demographic data of the midwives

	Category	Frequency: N=172	Percentage %	x±SD
Age:	21-30yrs	45	26.2%	2.2±1.01. Mean age = 36yrs
	31-40yrs	55	32.0%	
	41-50yrs	48	27.9%	
	51yrs and above	24	14.0%	
Religion	Christianity	143	83.1%	
	Islam	28	16.3%	
	Traditional	1	.6%	
Gender	Male	6	3.5%	
	Female	166	96.5%	
Marital Status	Single	36	20.9%	
	Married	127	73.8%	
	Divorced	9	5.2%	
Educational qualification	R.M	74	43.0%	
	BNSc	89	51.7%	
	MSc	8	4.7%	
	PhD	1	.6%	
Duration of work experience	1-5yrs	52	30.2%	
	6-10yrs	46	26.7%	
	11-15yrs	22	12.8%	
	16yrs and above	52	30.2%	

Level of Knowledge of midwives

Table 2. Revealed the level of knowledge of midwives on labour pain management is average, for most 96 (55.9%) of the participants had an average knowledge at the rating of 4-7, 62(36%) had high knowledge at a rating of 8-11 while 14 (8.1%) of the participants rating from 0-3 had a low knowledge towards labour pain management.

Table 2: Level of knowledge of midwives on management of labour pain in tertiary hospital

X=6.6, M=7, Max=11, Min= 0			
Category	Classification	Frequency N=172	Percentage %
0-3	Low	14	8.1%
4-7	Average	96	55.9%
8-11	High	62	36%
Total		172	100

Table 3: Midwives knowledge towards labour pain management

Items	Correct options	Yes	No
What do you understand by the term labour pain?	It is the pain felt during the uterine contraction of child birth	94(54.7%)	78(45.3%)
Who are those qualified to manage labour pains independently by virtue of professional qualification?	Midwives are qualified to manage labour pains	153(89%)	19(11%)
Labour pain management is defined as?	Methods adopted to ease labour pain and help the woman in labour relax	94(54.7%)	78(45.3%)
At what stage of labour should pain be managed?	Labour pain should be managed during the first stage of labour	146(84.9%)	26(15.1%)
Which of these under listed measures do you use to manage labour pain?	Pharmacological and non-pharmacological methods	118(68.6%)	54(31.4%)
What degree of pain must a woman in labour experience before it is relieved?	The degree of pain must be moderate	91(52.9%)	81(47.1%)
Why should pain be relieved in labour?	Pain should be relieved in labour to enjoy the birth experience	50(29.1%)	122(70.9%)
What makes you assume that a woman is having pain in labour?	Woman is having pain in labour if she screams often.	110(64%)	62(36%)
The complications which may arise from pharmacological pain relief use towards the end of first stage of labour may affect?	The complication may affect both the mother and foetus	110(64%)	62(36%)
What is your view about pain management in labour?	Labour pain is a natural process which is inevitable but could be managed.	113(65.7%)	59(34.3%)
The decision to offer labour pain relief should be based on?	The decision should be based on joint decision made by the woman in labour and the midwife	61(35.5%)	111(64.5%)

Midwives attitudes towards management of labour pain in the selected tertiary hospitals

Table 4 showed the attitude of the respondents towards labour pain management. It is expected that all women must surely go through labour pain management (77.3%) and (75%) agreed that their previous experience enables them to understand that women goes through pain and needs to be relieved. However, (65.1%) of the midwives contradicted the belief that pain management is not necessary in labour and (68.6%) of the respondents disagreed that labour pain remains constant and can never be managed.

Table 4 Midwives attitude towards labour pain management

Items	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
It is expected that all women must surely go through labour pain	44(25.6%)	89(51.7%)	8(4.7%)	22(12.8%)	9(5.2%)
My previous birth experience enables me to understand that	38(22.1%)	91(52.9%)	22(12.8%)	21(12.2%)	-

women goes through pain and needs to be relieved					
Pain management is unnecessary in labour as it relieves the women for few moment and re-occur	21(12.2%)	39(22.7%)	25(14.5%)	69(40.1%)	18(10.5%)
Labour pain remains constant, hence can never be managed	13(7.6%)	41(23.8%)	36(20.9%)	55(32.0%)	27(15.7%)
My years of experience in pain management improves my labour pain management practices	36(20.9%)	85(49.4%)	40(23.3%)	9(5.2%)	2(1.2%)

Hospital factors

(A) Available drug in management of labour pain by midwives at tertiary hospitals in Ekiti State

Table 5 indicates the available drug in management of labour pain by midwives in selected tertiary hospitals in Ekiti State. Most (69.8%) shows that non- Opioids are the only available drugs for relief of pain that can be administered by midwives while (51.7%) agreed that epidural analgesia is readily available for patient use.

Table 5 Available drug in labour pain management by midwives at tertiary hospitals in Ekiti State

Items	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Non-Opioids like paracetamol, diclofenac and hyoscinebutyl bromide are the only available drugs for relief of pain by midwives	28(16.3%)	92(53.5%)	20(11.6%)	31(18.0%)	1(0.6%)
Inhalational analgesia like Entonox and nitrous oxide for labour pains can only administered by midwife on maternal request	10(5.8%)	37(21.5%)	67(39.0%)	52(30.2%)	6(3.5%)
In relieving of pain Entonox is always readily available for me to administer to my patient	4(2.3%)	33(19.2%)	46(26.7%)	74(43%)	15(8.7%)
In relieving of pain, epidural analgesia is readily available for use on my patient	3(1.7%)	86(50%)	47(27.3%)	27(15.7%)	9(5.2%)

(B). Available equipment for management of labour pain

Table 6. Revealed available equipment for management of labour pain by midwives at the selected tertiary hospital. Most (76.8%) of the midwives disagree that there is facility to practice hydrotherapy for labour pain management and less than half (42.4%) of the respondents agree that the labour room have diversional therapy such as listening to music and television (22.1%).

Table 6 Available equipment for management of labour pain by midwives at tertiary hospitals in Ekiti State

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
There is facility to practice hydrotherapy for labour pain management	9(5.2%)	31(18%)	32(18.6%)	89(51.7%)	11(6.4%)
My labour room have facilities for diversional therapy such as listening to music	4(2.3%)	69(40.1%)	24(14%)	65(37.8%)	10(5.8%)
My labour room have facilities for diversional therapy such as television	5(2.9%)	33(19.2%)	13(7.6%)	110(64%)	11(6.4%)

(C) Influence of shortage of staff on management of labour pain by midwives

Table 7. Showed the influence of shortage of staff on labour pain management by midwives. Majority (51.2%) of the midwives agreed that the husbands and other close relatives are allowed to give emotional support to the woman in labour and most (82.6%) of the midwives always attend to their patients individually to relief them of pain. However, majority (71.5%) of the respondents agreed that shortage of staff will lead to poor labour pain management while high influx of patient in the labour unit affects labour pain management practices.

Table 7: Influence of shortage of staff on management of labour pain by midwives at the tertiary hospitals in Ekiti State

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Husbands and close relatives are allowed to give emotional support to the woman in labour	27(15.7%)	61(35.5%)	26(15.1%)	47(27.3%)	11(6.4%)
I'm always too busy to attend to my patients individually as to relief labour pain	10(5.8%)	20(11.6%)	36(20.9%)	78(45.3%)	28(16.3%)
When the labour unit is short staffed, pain management in labour is always handled poorly.	23(13.4%)	100(58.1%)	24(14%)	16(9.3%)	9(5.2%)
High influx of patient in the labour ward unit affects my labour pain management practices	42(24.4%)	70(40.7%)	23(13.4%)	24(14%)	13(7.6%)

Test of hypothesis

Hypothesis 1: H_{01} = There is no significant relationship between hospital policies and management of labour pain by midwives
The results in Table 8 revealed no significant relationship between the labour pain management and hospital policy ($r = 0.139$, $n=172$, $p=0.069$). The hypothesis which stated that “There is no significant relationship between the labour pain management and hospital policies” was accepted by this findings. This implies that relationship does not exist between hospital policy and labour pain management.

Table 8: Correlation between hospital policies and management of labour pain by midwives.

Hospital Policies		Labour Pain management	Remarks
	Pearson correlation	0.139	Accept null hypothesis
	Sig. (2-tailed)	0.069	
	N	172	

Hypothesis 2: H_0 = There is no significant relationship between educational qualifications of the midwives and management of labour pain

Table 9: revealed a positive significant relationship between the educational qualification of midwives and labour pain management ($r = 0.188$, $n=172$, $p=0.014$). The hypothesis which stated that “There is no significant relationship between the educational qualifications and labour pain management” was rejected by this findings. This implies that educational qualifications have a great significant relationship with labour pain management. An increase in level of educational qualification may result in an increase in the level of management of labour pain.

Table 9 Correlation between educational qualifications of midwives and labour pain management

Educational qualifications		Labour pain management	Remarks
	Pearson correlation	0.188	Reject null hypothesis
	Sig. (2-tailed)	0.014	
	N	172	

*. Correlation is significant at the 0.05 level (2-tailed).

IV. DISCUSSION

The demographic findings in this study revealed that most of the midwives were between 31-50 years 103(59.9%), female 166(96.5%) and most were Christians (83.1%). The mean age was 36 years. This study is in line with a study led by Ohaeri et al (2019) who found that most of the respondents (98.2%) were female and Christian (83.7%). The mean age was 39.7 ± 9.83 years.

This study showed that most 96(55.9%) of the respondents had an average knowledge of labour pain management in the three tertiary hospital in Ekiti state. This might be as a result of their years of experience, increase in work load and continuing education regarding different labour pain managements. This was slightly different from the study conducted by Ohaeri et al., (2019) which revealed high level of knowledge (56.8%) from their findings found out that 6% had low level, 40.5% an average level of knowledge on labour pain management.

This study also found that Labour pain management is a methods adopted to ease labour pain and help the woman in labour relax and majority 118(68.6%) of respondents had a positive attitude towards pain management. This relates with the study led Sahile et al., (2017) 94.8% of respondents agreed to the use of labour analgesia, thus signifying a positive attitude towards pain management in labour. Nevertheless, 65.1% of the respondents agreed that pain management is necessary in labour. This corroborates with a study conducted by Ohaeri et al., (2019) who established a safe and optimal labour pain experience utilizes pharmacological and non-pharmacological interventions in achieving painless labour and it is explicitly anchored by nurse-midwives

This study showed that 120(69.8%) non-opioid analgesia such as paracetamol, diclofenac, hyoscine butyl bromide are available drugs used for labour pain management by midwives without prescription. This was in consonance with the study of Jones et al, (2012) who found out that the non-opioid drugs are administered by midwives with the primary aim to relieve the pain of labour. This contradicts the study by Azaito et al, (2017) where Opioids and non-opioids pharmacological agents such as Pethidine, Phenergan, Diclofenac, Buscopan, Midazolam, Xylocaine 1% and Tramadol were used by midwives to manage labour pain. Most midwives used Pethidine and Phenergan to sedate or calm the women in labour pain. Similarly, Burns et al., (2018) as well contradicts the findings and showed that in other parts of the world, parenteral (intravenous or intramuscular) opioids commonly used in labour include morphine, nalbuphine, fentanyl and more recently remifentanyl.

This study established that there were no adequate facility to practice hydrotherapy 132(76.8%) for labour pain management and no adequate diversional therapy in the labour room such as television 134(78%) and music 104(57.1%). This is in line with a study by Mousa et al., (2018), where about 91% of respondents agreed that there were no equipment for pain relief.

This findings established that most 142(82.3%) available midwives were not too busy to relieve pain in labour though the pain management could be poorly handled due to shortage of staff 123(71.5%). More staff are needed to reduce the workload on the available ones. This is in line with a study conducted McCauley et al., (2018) which revealed that many healthcare providers

highlighted the difficulty in providing individualised care for women because of the shortage of nurse-midwives compared to the high number of labouring.

Findings from table 8 of this study revealed no significant relationship between labour pain management and hospital policy ($r = 0.139$, $n=172$, $p=0.069$). This findings contradicts the study conducted by McCauley et al., 2018, about labour pain management and its restriction on midwives autonomy in which some hospital policies only limit the midwives to offer only non-opioid drugs while the administration of nerve block, epidural and nitrous oxide use are been left out.

Table 9 revealed a significant relationship between educational qualification of midwives and management of labour pain ($r = 0.188$, $n=172$, $p=0.014$). This findings was against the study conducted by Bitew et al., (2016) at Amhara regional state referral hospitals reported that Obstetric care givers who had diploma (low level qualification) were 2.69 times more likely to use obstetric analgesia methods than professionals who had second degree (high level qualification). More so, study conducted by Sahile et al., (2017) is in line with this study as reported that skilled attendants who were MSc intern (higher level qualification) were 2.87 times more likely to use labour pain management methods than professionals who had diploma (low level qualification).

V. CONCLUSION

Comfort in labour is not merely an emotional or physical relieving of malaise and pain, as labour pain is a major concern for most women even before the day of delivery as they become anxious about the pain that may be encountered during delivery and wants it relieved. Therefore, non-availability of equipment for pain relief, shortage of staff and hospital policies influences labour pain management. Therefore, this study recommends that health institutions should make equipment for labour pain management available, employment of more staff (midwives) and policy makers and healthcare administrators should develop policies that will facilitate midwives autonomy in labour pain management to enhance its effectiveness.

Ethical Approval

Ethical approval was obtained from Babcock University Health Research and Ethical Committee and the Health and Research Committee of the three tertiary hospital.

Conflict of interest

No conflict of interest was declared by authors

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