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Practices and Challenges of Pain Management During First Stage of Labour Among Midwives in University of Medical Sciences Teaching Hospital Complex, Akure

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ABSTRACT: *Most women perceive labour pain and childbirth as the most severe and agonizing event in a woman's life. Midwives play critical role in supporting women through the painful birthing process, to the desired favourable outcomes for mother and baby. The primary objective of this study is to evaluate the practices and challenges of pain management during the initial stage of labour among midwives at the University of Medical Sciences Teaching Hospital Complex in Akure. From July to October 2021, a facility-based descriptive cross-sectional study was conducted with 72 midwives employed at the University of Medical Sciences Teaching Hospital Complex in Akure. The first stage of labour pain management practices and challenges were evaluated among the study participants using a questionnaire. SPSS (version 23.0) was used in processing the data. In the first stage of labour, environmental pain management approach was shown to be the most used (95.4%), followed by psychospiritual pain management approach (91%); while the least employed was the pharmacological approach (63.4%). Effectiveness of the approaches were perceived to be in the following order: psychospiritual, environmental, physical, pharmacological and social. Lack of resources (84.7%) and understaffing (33.3%) were cited as part of the challenges associated with pain management. It is important for the government to provide adequate staff, equipment and conducive birthing environments; while the midwives continually educate patients on available non-pharmacological and pharmacological labour pain management approaches during their prenatal care visits, to enhance their self-efficacy and cooperation in labour.*

KEYWORDS: practices, challenges, pain management, first stage of labor, midwives

INTRODUCTION

The active process of delivering a foetus is known as labour, and it is characterized by regular, painful uterine contractions with gradual cervical dilatation and effacement (Harrington, 2021; Thompson, 2018). Normal labour starts at term (between 37 and 40 weeks of gestation), is spontaneous, has a foetus that presents by the vertex, and is over by 18 hours without any difficulties (Ibitoye, 2020). Most women consider labour and childbirth to be the most painful experience of their lives (Costa-Martins et al., 2016). The goal of pain management during labour is to keep the mother comfortable enough to take part in giving birth while minimising her discomfort. In a perfect world, there would not be any negative outcomes for mother or baby.

Many women worry about labour pain and how they will cope with it, despite the fact that there are no underlying pathogenic processes associated with labour (Gibson, 2017). Every woman should have her own option of pain medication during childbirth from a compassionate perspective and based on the subjectivity of pain alleviation (National Institute for Health Clinical Excellence, 2016). Midwives' ability to provide pain treatment during childbirth is hampered by a number of challenges. Some pain management techniques are not used because of issues such as lack of resources and the high expense of acquiring them, the midwife's workload, the woman's preconceived notions about what to expect during labour, and the midwife's own personal philosophy on the subject.

Women who are giving birth suffer considerably if they are unable to cope with the pain during the first stage of labour (Althabe et al., 2015). Pain is predominantly observed during labour and delivery, whether at a hospital or at home. If pain is not addressed, it could slow down labour, cause anxiety and stress, that can wear a mother out, and increase the risk of maternal death and illness (Ganchimeg et al., 2014; Beigi et al., 2017; Bishaw, et al., 2017). In order to keep the mother comfortable enough to take part in the birth process, pain medication during labour is used. Ideally, there would not be any negative consequences on the mother or the infant. While there are many options for relieving pain, none of them is perfect (Rosen, 2017).

According to Drzycka-Dbrowska et al. (2015), there are a number of barriers (system-related, staff-related, nurse-related, physician-related, and patient-related) that prevent health care professionals from providing optimal pain management during labour. Lack of well-defined standards and practices for managing pain, as well as restricted access to pain experts and analgesics, are system-related barriers. Physician-related barriers include the medical community's general lack of understanding of addiction and overdose, as well as its members' irrational fear of these issues. Lack of training, a heavy workload, and a lack of free time are all barriers that nurses face. Patient-related factors include, but are not limited to, reluctance to take analgesics, fear of adverse effects, and fear of addiction (Mdrzycka-Dabrowska et al., 2015).

The main objective of the study was to identify the practices and challenges of midwives during management of pain in first stage of labour in University of Medical Sciences Teaching Hospital Complex, Akure. Specifically, it assessed:

1. Midwives' approaches to managing pain in the first stage of labor.
2. Midwives' perceived effectiveness of the approaches.
3. Factors determining the choice of pain management method during the first stage of labour
4. The challenges Midwives face during management of pain in the first stage of labour.

Hypothesis raised was;

- There is no significant relationship between the socio-demographic characteristics of the midwives and the perceived effectiveness of their choice of pain management technique during the first stage of labour

RESEARCH METHOD

The methods and challenges of midwives in the management of labour pain at the University of Medical Sciences Teaching Hospital Complex (UNIMEDTHC) Akure were examined using a facility-based descriptive cross-sectional study design. All 72 of the midwives working in the maternity unit were counted as respondents because a total enumeration method was utilised. A self-administered questionnaire was used to gather data after receiving informed consent from willing participants. The instrument has three parts; the Socio-demographic characteristics of participants were gathered in Section A, the practices of midwives in managing pain during the initial stage of labour were evaluated in Section B, and the challenges faced by midwives in managing pain during the first stage of labour were evaluated in Section C. The instrument was given to test and measurement professionals and midwifery experts, who examined the questionnaire in order to determine the questionnaire's face and content validity. The instrument's dependability was evaluated via a test-retest strategy. Frequencies and percentages were utilised for descriptive analysis, whereas Chi-Square was used to test the hypothesis.

RESULTS

Approaches used in the management of pain in the first stage of labour

Table 1: Approaches used in the management of pain in the first stage of labour

S/N	Pain Management Approach	Frequency (n=72)
1	**Pharmacological**	
	(a)Opiates e.g., pethidine, diamorphine, meptazinol	47(65.3)
	(b)Inhalational analgesia Entonox	44(61.1)
	(c)Regional epidural	46(63.9)
2	**Psychospiritual**	
	(a)Use of religious item e.g., Bible, Quran, charms	66(91.7)
	(b)Prayers, incantation	65(90.3)
	(c)Listening to religious music	66(91.7)
	(d)Inviting spiritual leaders	65(90.3)
3	**Physical**	
	(a)Deep breathing/gas	66(91.7)
	(b)Hydrotherapy	63(87.5)
	(c)Massage	69(95.8)
	(d)Music therapy	63(87.5)
	(e)Homeopathy	31(43.1)
	(f)Transcutaneous electrical nerve stimulation	57(79.2)
	(g)Mobility and positioning	67(93.1)
	(h)Use of labour doulas	15(20.8)
4	**Social**	
	(a)Presence of spouse	52(72.2)
	(b)Presence of family members	45(62.5)
5	**Environmental**	
	(a)Adequate ventilation	72(100)
	(b)Noise reduction	69(95.8)
	(c)Cooling the air	65(90.3)

Table 1 is a presentation of the practice of midwives in the management of pain during the first stage of labour. All the five major categories of pain management techniques evaluated in the study were used by the midwives; however, the most used in the various categories were opiates (47(65.3%) among the pharmacological agents, religious items (66(91.7%) in the psych-spiritual category, massage (69(95.8%) among the physical approaches, presence of spouse (52(72.2%) in the social technique category, and adequate ventilation (72(100%) among the environmental approaches.

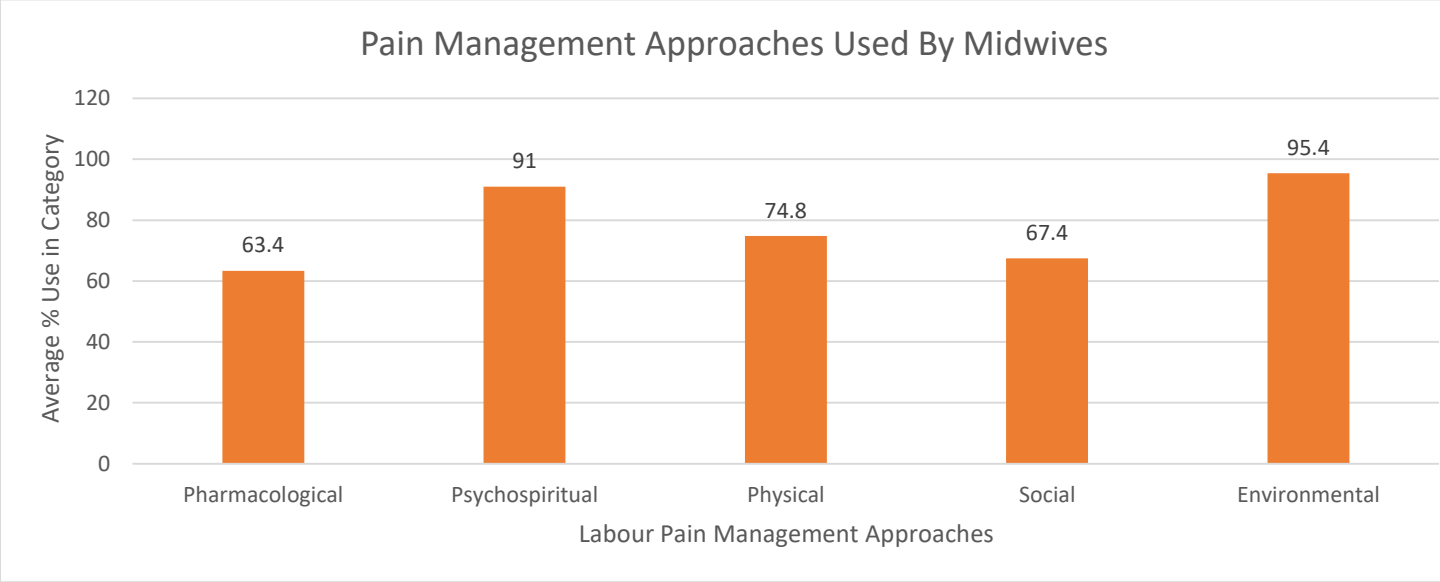

Figure 1: Pain management approaches used by midwives in the first stage of labour

Figure 1 shows the mean of percentages of midwives that use each type of pain management technique in each of the five categories of pain management approaches in Table 1. The environmental method was the most used (95.4%), followed by psychospiritual (91%), physical (74.8), social (67.4), and the least used approach was pharmacological (63.4).

Perceived effectiveness of the approaches used in the management of first stage of labor

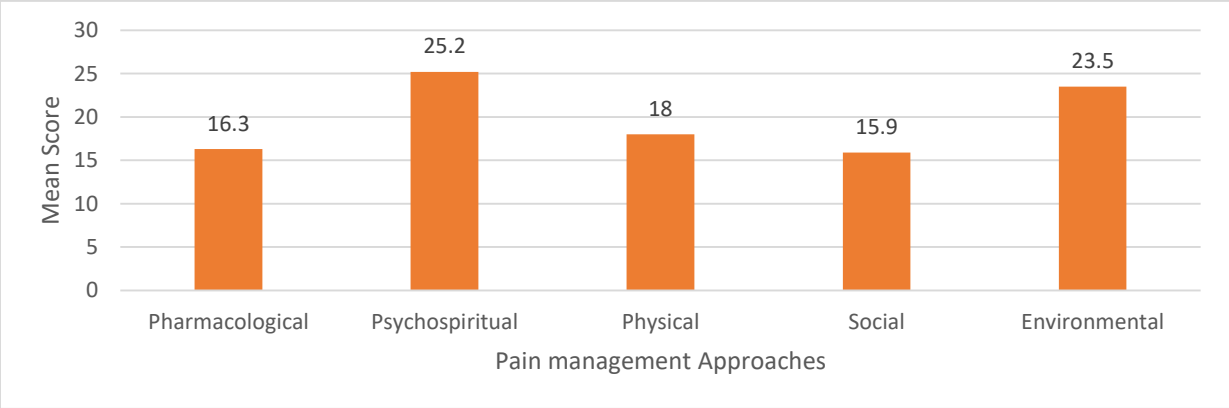

Figure 2: Perceived effectiveness of pain management approaches used in the first stage of labour by midwives

Figure 2 shows the midwives' perceived effectiveness of pain management approaches; this was gotten using the rated calculation for the mean values as for a typical Likert scale. The approach considered to be usually effective among the approaches used is the psychospiritual (25.2),

followed by the environmental method (23.5); while, the least effective was the social (15.9). Further examination of the perceived effectiveness of components of each approach is presented in Table 2.

Table 2: Effectiveness of the approaches used in the management of pain in the first stage of labour

S/N	Pain management approach	Perceived effectiveness Frequency (n=72) (%)			Mean score per item	Group Mean score
		Not usually effective (1)	Usually effective (2)	Usually very effective (3)		
1	**Pharmacological**					
	Opiates e.g., pethidine, diamorphine, meptazinol	05(6.9)	24(33.3)	18(25.0)	17.8	
	Inhalational analgesia Entonox	08(11.1)	24(33.3)	12(16.7)	13.3	16.3
	Regional epidural	04(5.6)	23(31.9)	19(26.4)	17.9	
2	**Psychospiritual**					
	Use of religious item e.g., Bible, Quran, charms	24(33.3)	28(38.9)	14(19.4)	20.3	
	Prayers, incantation	22(30.6)	35(48.6)	08(11.1)	19.3	25.2
	Listening to religious music	17(23.6)	45(62.5)	06(5.6)	41.7	
	Inviting spiritual leaders	20(27.8)	39(54.2)	06(8.3)	19.4	
3	**Physical**					
	Deep breathing/gas	13(18.1)	44(61.1)	09(12.5)	21.3	
	Hydrotherapy	02(2.8)	51(70.8)	10(13.9)	22.3	
	Massage	05(6.9)	51(70.8)	13(18.1)	24.4	18
	Music therapy	16(22.2)	41(56.8)	06(8.3)	19.3	
	Homeopathy	08(11.1)	19(26.4)	04(5.6)	9.6	
	Transcutaneous electrical nerve stimulation	05(6.9)	43(59.7)	09(12.5)	19.7	
	Mobility and positioning	07(9.7)	51(70.8)	09(12.5)	22.6	
	Use of labour doulas	01(1.4)	13(18.1)	01(1.4)	5	
4	**Social**					
	Presence of spouse	05(6.9)	41(56.9)	06(8.3)	17.5	16.3
	Presence of family members	08(11.1)	33(46.8)	045.6)	14.3	
5	**Environmental**					
	Adequate ventilation	06(8.3)	52(72.2)	14(19.4)	25.3	
	Noise reduction	12(16.7)	46(63.9)	11(15.3)	22.8	23.2
	Cooling the air	10(13.9)	46(63.9)	09(12.5)	21.5	

Table 2 is a detailed presentation of the perceived effectiveness of the component techniques in each pain management approach category used in the management of pain in the first stage of labour. The technique perceived to be most effective in the pharmacological group is regional

epidural with a mean score of (17.9); listening to religious music (41.7) in the psychospiritual group; massage (24.4) for physical; presence of spouse (17.5) for social; and adequate ventilation (25.3) for environmental category.

Factors determining the choice of pain management method during the first stage of labour

Table 3: Factors determining the choice of pain management method during the first stage of labour

	VARIABLE	**FREQUENCY (n=72) (%)**
1	Age of Patient	53(73.6)
2	Stage in Labour	64(88.9)
3	Parity of Patient	58(80.6)
4	Availability of the resources needed	63(87.5)
5	Number of patients on admission	55(76.4)
6	Number of staff on duty	56(77.8)
7	The workload	58(80.6)
8	Risk of infection or injury to staff	61(84.7)

As shown in Table 3, stage in labour (88.9%), availability of resources (87.5%), risks involved (84.7%), workload and parity of patient (80.6% each) were the major determinants of midwives' choice of pain management approach.

Challenges associated with pain management during the first stage of labour

Table 4: Challenges associated with pain management method during the first stage of labour

SN	**Challenges**	**Frequency (n=72) (%)**
1	Lack of resources	61(84.7)
2	Understaffing	24(33.3)
3	Language barrier	13(18.1)
4	Lack of space for family members in the labour room	06(8.3)
5	Low staff motivation	05(6.9)
6	Low pain threshold of the mother	05(6.9)
7	Environmental factors	03(4.2)
8	Lack of patient cooperation with health workers	03(4.2)
9	Lack of power to administer drugs without prescription	01(1.4)

The first three challenges in pain management identified by the respondents are: lack of resources (84.7%), understaffing (33.3%) and language barrier (18.1%) - Table 4. The least mentioned challenge is midwife's lack of power to administer drugs without prescription (1.4%). Other

challenges indicated by less than 10% of the midwives are: lack of space for family members in the labour room, low staff motivation, low maternal pain threshold, lack of patient cooperation, and environmental factors.

Test of Hypothesis

Ho1: There is no significant relationship between the socio demographic characteristics of the midwives and the perceived effectiveness their choice of pain management during the first stage of labour

Table 5: Relationship between the socio demographic characteristics of the midwives and the perceived effectiveness of their choice of pain management during the first stage of labour

Perceived Effectiveness of the choice of pain management utilized by midwives- By Socio-demographic characteristics	Chi- Square	df	P- value
Gender	2.268	2	0.322
Age	6.992	8	0.537
Years in Service	1.575	6	0.954
Years of service in the maternity section	7.168	6	0.306
Present Unit	12.240	10	0.269
How Often do you manage patients in Labour	3.605	6	0.730

Table 5 presents a summary of tests of the relationship between the midwives' socio demographic characteristics and the perceived effectiveness of their choice of pain management approaches. The p-values of all the tests of the socio-demographic variables against the midwives' choices are greater than 0.05; hence, the null hypothesis is accepted. There is therefore no significant relationship between the socio demographic characteristics of the midwives and the perceived effectiveness of their choice of pain management approach during the first stage of labour.

DISCUSSION

Women have options of pharmacological and non-pharmacological pain management approaches in labour. The order of utilization of the five groups of pain management approaches in this study are environmental (noise reduction, provision of adequate ventilation and cooling air), psychospiritual (use of religious items, prayers, listening to religious music and support of spiritual leader), physical (deep breathing, massage, music therapy, hydrotherapy, mobility and positioning), social (presence of spouse or family member) and pharmacological (opiates, inhalational analgesia and regional epidural). In a study in Nigeria, Ohaeri et al. (2018) found that psychological support was the most used method; while, Wakgar et al. (2019) reported that deep breathing technique was the most used approach of pain management by midwives in Ethiopia. Similarly, Sahile et al. (2017) found that psychotherapy and massage were the most prevalent

methods. The three studies confirm the prominence of psychospiritual and physical approaches in management of labour pain. The environmental techniques mostly reported in this study (noise reduction, provision of adequate ventilation and cooling air) were not found to be so reported in many studies; probably because a conducive environment is a basic necessity for quality health care and they were expected to be naturally present. The list of non-pharmacological options listed by Esra (2021) did not include the environmental techniques; but the following: water birthing, hypnosis, massage, breathing techniques, vertical positions, music therapy, tens, daydreaming, focus, biofeedback, hydrotherapy and breathing techniques and positions changes.

Intensity of labour pains have been reported to be reduced by physical or relaxation techniques (Maria Luisa et al., 2020), and the use of natural techniques (Esra, 2021). This study also shows that psychospiritual, environmental and physical approaches were more effective than the social and pharmacological. According to Esra (2021), non-pharmacological methods used in the management of labor pain were also effective in reducing the pain and duration of labor. Patient education in the third trimester of pregnancy improved self-efficacy among women educated on relaxation techniques and reduced pain among women educated on both manual and relaxation techniques (Maria Luisa et al., 2020). Non-pharmacological methods of labor pain relief are an important part of antenatal education (Esra, 2021); as it is in this study setting too. There was however, no relationship between the midwives' demographic characteristics (e.g., gender, age, years in service, years of service in maternity section, current service unit, and frequency of management of women in labour) and their perceived effectiveness of the pain management approaches in this study.

This study revealed the major influencers of midwives' choice of pain management techniques as: the stage of labour, availability of needed resources, the risk of infection or injury to staff, the workload and parity of the woman in labour. Contrary to these, Esra (2021) informed that most of the women in that study were interested in natural techniques before labor; and although most them opined that pain should be relieved, they were afraid of the harmful effects of pharmacological agents. Culturally in Nigeria, labour pain is perceived as a normal part of the birthing process; this may account for the women coping with the psychospiritual, physical and social approaches. These approaches are usually available, free, and can be taught to the women or significant others who would assist them in labour. –

The major challenges associated with pain management in this study are the lack of resources and understaffing. It is similar to the findings in the study by Ojo et al. (2020), where understaffing was also found to be a barrier to effective pain management during the initial stage of labour. Where the required resources are not available, and the midwives are overworked, free pain management strategies and those with which the woman and significant others could assist with, may be the preferred options as long as it is professional to use them. This may also explain the more use of the non-pharmacological approaches found in this and other studies. Adequate staffing

would prevent excessive workload on individual nurses; thereby promoting a client centered approach or primary nursing especially during the first stage of labour, and promote desired outcomes.

Implication for nursing practice and research

Pain management is a major function of nursing that has the potential to enhance the image of the profession; particularly in maternity care, when expectations are high and family members are around. Government should ensure adequate staffing and delivery requirements; as well as, provision of personal protective equipment and pharmacological agents. Conducive birthing suites with facility for family members' comfort to enhance their participation in client care, would augment the physical and social support roles of midwives who are currently overworked due to understaffing. Nurses and midwives should continually educate patients on non-pharmacological and pharmacological pain management in labour during their prenatal care visits to enhance their self-efficacy and cooperation.

CONCLUSION

The inevitability of pain in labour makes it essential that midwives who are prototype skilled birth attendants should appropriately support women through the birthing process. The midwives also need to be adequate in number, be provided with what they require to function effectively and be encouraged to provide individualized care using the best pharmacological and non-pharmacological pain management approach for each woman.

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