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KNOWLEDGE, ATTITUDE AND USE OF PAIN RELIEF IN LABOUR AMONG WOMEN ATTENDING ANTE-NATAL CLINIC AT SHALOM COMMUNITY HOSPITAL, ATHI RIVER
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ABSTRACT

***Objective*: To find out the knowledge, attitude and practice of pain relief methods during labour among mothers attending antenatal clinics at Shalom Community Hospital, Athi River, Kenya.**
***Design*: Cross Sectional study**
***Setting*: Shalom Community Hospital, Athi River, Kenya**
***Subjects*: Two hundred and seven participants attending antenatal clinics at the facility were recruited.**
***Results*: The median age of the participants was 28 years and a median parity of one. Most of the study participants, 89.4%, were not aware of any pain relief method during labour. Among the 10.6% patients that were of a pain relief method, 54% had gotten the knowledge from the doctors. All the patients had experienced pain in labour with 72% rating the pain as severe pain. Only 37% of the patients were offered a pain relief method and the intramuscular injectable was offered to all. Majority (88%) of those offered a form of pain relief rated the pain relief method as ineffective. A majority of the women 93% would use a pain relief method in the next labour with epidural method being the most preferred method.**
***Conclusion:* The level of knowledge of pain relief methods among mothers is low. There is need to integrate information on pain relief options in labour as part of antenatal services offered routinely. Epidural analgesia services should be enhanced.**

INTRODUCTION

Labour has been described as painful even though the intensity varies from mother to mother (1). Pain during labour leads to release of catecholamines hence a reflex increase in blood pressure and oxygen consumption all of which could adversely affect uterine blood flow. Pain relief in labour is therefore an important factor in the management of pregnant women during childbirth. The use of epidural analgesia in labour is widespread in modern obstetric practice, and its benefits in terms of pain relief are well-recognised. In some cases like in cardiac diseases in pregnancy, pain relief is an important component of labour management. Pain relief by epidural analgesia in labour is however not a common practice in Kenya. Two surveys done in Hong Kong public hospitals in 1995 and 2001 reported that the local epidural analgesia rate was only 10 to 15% (2-3) which was lower than the rate reported in many developed countries (4-5). Stamer *et al* also found out that the practice of labour analgesia was not offered to all parturients despite an increase in medical knowledge of epidural analgesia in recent decades (6).

In some cultures, unassisted natural births are valued and seen as a source of pride. A study done in Togo found that refusal of painless labour was motivated by religious belief that painful delivery was in the natural order whereas some women who refused painless delivery stated that pain was the best expression of their femininity (7). Some studies, however, found that many women would choose pain relief if it was offered to them. In a study done in Nigeria, the majority of women described labour pain as severe and more than 86% of them would want the pain relieved (8). Another study in Northeastern Nigeria found that 81.6% of the parturients would like pain relief whereas 78.8% would recommend pain relief in labour (9).

The knowledge of epidural analgesia in labour

has been found by many studies to be varying. In a study conducted by Minhas *et al.*, 76% of women knew that epidural analgesia was a method of labour pain relief (10). In contrast, a study done in Northeastern Nigeria found that the knowledge for pain relief in labour was only 18% (9). A study by Atiya *et al* found that out of the women who participated in their study, only 9.1% had the knowledge of epidural analgesia as compared to 62.5% who knew about use of injections as a form of labour analgesia (11). Virgil *et al* also assessed the level of knowledge regarding labour analgesia and found out that knowledge was high among those who used labour analgesia, whereas knowledge was low among women who did not use any form of labour analgesia (12).

The intensity of labour pain has also been associated with post-partum mood disorders. A study by Boudou *et al* confirmed the link between the intensity of labour pain and mood disorders in early post-partum period (13). In another study, Niven *et al* found that memories of labour pains can evoke intense negative reaction in some women (14). Early detection of risk factors such as pain will help improve on the psychological impact of labour and especially on post-traumatic stress disorders.

MATERIALS AND METHODS

This was a cross sectional study carried out within Shalom Community Hospital, Athi River (SCHAR), Kenya. SCHAR is located in Machakos County. It serves as a referral centre for most of the smaller maternity units in the area. The ANC clinic is run by consultants, medical officers, clinical officers and nurses. The ANC clinic attends to 300 mothers per month. The study recruited mothers who were Para1 and above attending ANC who consented to participate in the study. Consenting persons were consecutively enrolled to reach the targeted sample size. Permission was sought from the Department of Obstetrics and Gynaecology and the Hospital Ethics and Research Committee. An interviewer administered questionnaire was used to collect data. The data collected included social demographic factors like age, education and parity. Data on knowledge, attitudes and previous practice of pain relief in labour was also collected. Sample size estimation was done using Kish and Leslie (1965) formula.

N=(ZxZ.P.Q)/DxD

Where N = is the sample size.

Z = Standard normal deviation corresponding to 95% confidence interval (1.96).

P = proportion of mothers with knowledge of epidural analgesia. This was 56% in a study done in Aga Khan University Hospital , Nairobi (10).

Q = 1-P

D = Standard error acceptable of 5% (0.05).

$N = (1.96 \times 1.96 \times 0.56 \times 0.24) / (0.05 \times 0.05)$

= 280.28 = 207 mothers.

The sample size (n) was obtained to be 207 participants. Data collected were filled into a database designed using Epi-data version 2.1 b. The database was then edited; corrections and clarifications of the raw data were done before the final database was created. This was then exported and analysed using STATA version 11.0.

RESULTS

We enrolled 207 mothers attending ANC between December 2013 and February 2014. Their knowledge, attitudes and use of pain relief in labour was assessed and recorded.

Table 1

Characteristics of the study participants

Variable	Overall (all patients) N = 207 n (%) IQR
Median age (yrs)	28 (26 – 30)
parity	1 (1 - 2)
Age (yrs)	
19 – 24 years	34 (16)
25 – 30 years	124 (60)
31 – 35 years	30 (15)
>= 35 years	19 (9)

Level of education	
Tertiary level:	84 (41)
Secondary level:	71 (34)
Primary level:	52 (25)
Knowledge of pain relief method	
No:	185 (89.4)
Yes**:**	22 (10.6)
Pain relief method aware of	
Epidural:	10 (45.5)
Intramuscular injectable:	10 (45.5)
Gases:	2 (9)
Source of information:	
Doctor:	12 (54.5)
Internet:	5 (23)
Friends:	4 (18)
Ante natal clinic:	1 (4.5)
Experienced pain in labour	207 (100)
Pain rating	150 (72)
Severe:	51 (25)
Moderate:	6 (3)
Mild:	
Pain relief method requested	
No:	164 (79)
Yes:	43 (21)
Pain relief method offered	
No:	189 (91)
Yes:	18 (9)
Use Pain relief method next time	
No:	14 (7)
Yes:	193 (93)
Preferred pain relief method next time	
Epidural:	106 (55)
Intramuscular injectable:	9 (5)
Gases:	78 (40)
Advice others to use pain relief	
No:	14 (7)
Yes:	193 (93)
Is pain relief a good thing to offer	
No:	14 (7)
Yes:	193 (93)

Table 1 shows the characteristics of the study patients. The median age of the study patients was 28 years of age and a median parity of one. Most of the study patients, 89.4%, were not aware of pain relief methods during labour. Among the 10.6% patients that were of a pain relief method, 54% had gotten the knowledge from the doctors. All the patients had experienced pain in labour with 72% rating the pain as severe pain. Despite all patients having experienced pain in labour only 21% had requested for a pain relief method. A majority of the women 93% would use a pain relief method in the next labour with epidural method being the most preferred method.

Table 2
Patient's experience in the previous labour

Variable	Patients who requested pain relief method (43) n (%) IQR
Pain relief method offered	
No:	27 (63)
Yes:	16 (37)
Pain relief method offered	
Intramuscular injectable:	16 (100)
Pain relief method effective	
No:	14 (88)
Yes:	2 (12)

Table 2 shows the results of the 43 patients who requested for a pain relief method. Only 37% of the patients were offered a pain relief method and the intramuscular injectable was offered to all. Majority (88%) of those offered a form of pain relief rated the pain relief method as ineffective.

Figure 1

Effectiveness of the pain relief method offered

Figure 1 shows the effectiveness of the pain relief method offered. All the 16 patients who were offered a pain relief method were offered the Intramuscular injectable pain relief method. Of these, only 12% said the pain relief method was effective.

Table 3

Knowledge of pain relief and the contributing factors

	Knowledge of pain relief method (n = 205)		
	Yes n = 22	No n = 183	P value
Age	29	28	0.241
Level of education			
Tertiary level:	13 (16)	69 (84)	0.180
Secondary level:	7 (10)	64 (90)	
Primary level:	2 (4)	49 (96)	
Pain rating			
Severe:	19 (13)	129 (87)	0.018
Moderate:	1 (2)	50 (98)	
Mild:	2 (33)	4 (67)	

Table 3 shows the knowledge of a pain relief method and possible contributing factors. There was no significant difference in the patient's age and level of education in terms of their knowledge to a pain relief method. However, there was a significant difference (p = 0.018) in the patient's knowledge of a pain relief method in regard to the pain experienced in the last labour.

Figure 2

Pain relief method aware of

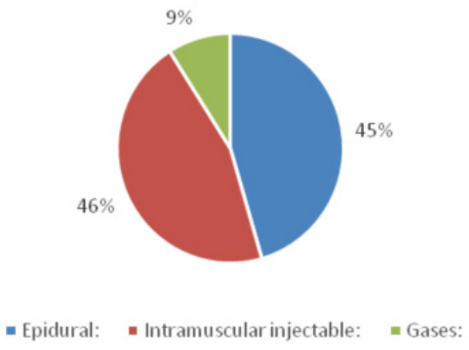

Figure 2 shows the pain relief methods the study patients were aware of. Most of the patients, 91% were aware of the epidural and intramuscular injectable method.

Table 4

Use of a pain relief method and the contributing factors

Variable	Used a pain relief method (n = 207)		
	Yes n = 18	No n = 189	P value
Age	29	28	0.78
Level of education			
Tertiary level:	11 (13)	73 (87)	0.264
Secondary level:	3 (4)	68 (96)	
Primary level:	4 (8)	47 (92)	
Pain rating			
Severe:	12(8)	138 (92)	0.001
Moderate:	3 (6)	48 (94)	
Mild:	3 (50)	3 (50)	
Pain relief method requested			
No:	2 (1)	162 (99)	<0.005
Yes:	16 (37)	27 (63)	

Table 4 shows the use of a pain relief method in a previous labour and the contributing factors. There was no significant difference in the patient's age and level of education in terms of having used a pain relief method in the previous labour. However, this was different in regard to patient's pain rating and patient's request for a pain relief method. There was a significant difference (p =0.001) in the patient's pain rating in regard to whether a patient used a pain relief method or not. A statistically significant difference (p <0.005) was noted in the patient's request for a pain relief in regard to whether a pain relief method was used.

Table 5

Attitude towards pain relief method and the contributing factors

Variables	Is pain relief acceptable (n = 207)		
	Yes n = 193	No n = 14	P value
Age	28	26	0.291
Level of education			
Tertiary level:	83 (99)	1 (1)	0.03
Secondary level:	67 (94)	4 (6)	
Primary level:	42 (8)	9 (18)	
Pain relief method offered			
No:	175 (93)	14 (100)	0.268
Yes:	18 (100)	0 (0)	
Can refer a friend			
No:	0 (0)	14 (100)	<0.001
Yes:	193 (100)	0 (0)	

Table 5 shows the study patient's attitude towards pain relief methods and some contributing factors. There was a significant difference, (p = 0.03) in the patient's level of education in regard to their view of whether pain relief methods are acceptable. A significant difference, (p<0.001) was also noticed in acceptability of the pain relief methods and whether they can refer a friend to use the methods.

Figure 3

Preferred pain relief method for referral

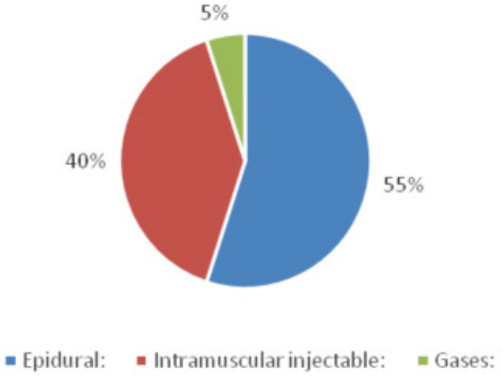

Figure 3 shows the preferred pain relief methods that the study patients would refer to a friend.Of the 193 patients who would refer their friend to use a pain relief method, over half of the patients 55% would refer their friends to use the epidural method.

DISCUSSION

Our study shows that only 10.6% of the mothers attending antenatal clinics at our hospital have knowledge of pain relief methods in labour. This was lower than found by Mung'ayi et al at Aga Khan University hospital in Nairobi which was at 56% (15). The number of mothers who had knowledge of pain relief methods was also lower than those studied in India by Nilima *et al*, South Africa by Mugambe *et al* and in Nigeria by Okeke *et al* at 78%, 56.3% and 38.9% respectively (15-17). At the University of Calabar Teaching Hospital in Nigeria, Akpan *et al* found only 4.5% of the mothers had knowledge of pain relief methods (18).

Despite 75% of the participants acquiring secondary and tertiary level education, knowledge

of pain relief methods remains low at our facility. Majority of the mothers 95.5% acquired information on pain relief methods from doctors, internet and friends while only 4.5% got the information from the antenatal clinics. Similarly, Nilima *et al* in India found that 78% of the mothers got information on pain relief from their doctors and the media (16). This is contrary to findings by Mugambe *et al* who found that more than half of the mothers got information on pain relief during their previous labour (15). Lack of information about pain relief methods during antenatal visits and in our education system maybe some of the factors contributing to the poor knowledge of pain relief methods during labour among our mothers.

All the participants experienced pain in their previous labour with 72% describing it as severe pain. In South Africa, 55.7% of mothers described the pain as severe while in Nigeria 68.3% had severe pain (8, 15). In our study, 21% of the mothers requested for pain relief during their previous labour, however, only 9% of these got some form of pain relief. This is lower than those who received pain relief in Nigeria 22.1% and in Nairobi 18% (19-20). All the mothers got pain relief via an intra-muscular injection and only 12 % of these mothers described it as effective, however, Mung'ayi *et al* in a Nairobi study found that 82% of women offered pain relief in a University hospital described it as effective (19).

Majority (93%) of our mothers would use pain relief in their next labour. Similarly a South African study found that more than half the women would ask for pain relief in labour while a study in Nairobi found that 90% of the women would use pain relief in the next labour (15, 19). More than half of the women preferred epidural analgesia while 5% preferred intramuscular injections. In contrast, Kuti *et al* found that 43.4 % of women would prefer intramuscular injections while 2.5% would prefer epidural analgesia (8). Almost all the participants (93%) would advice others to use pain relief and they thought pain relief in labour was a good service to offer.

In conclusion, despite the level of education, knowledge of pain relief methods in labour remains low. Use of labour relief methods during labour is low in our facility with a large unmet need for labour analgesia. Majority of women desire to have pain relief during labour but the service is not readily offered. Epidural analgesia in labour should be enhanced. We therefore, we recommend that education on pain relief methods be integrated in the antenatal clinics. Management of pain during labour should be part of intrapartum care in our maternity units.

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