Original Article

Pain Relief in Postabortion Care Practiced by Healthcare Professionals in South Eastern Nigeria

Joseph Ifeanyichukwu Brian-Davis Adinma, Echendu Dolly Adinma[1], Nkemakolam Obinna Eke[2], Lawrence Ikeako[3], Chukwuemeka Ezema, George Uchenna Eleje

Departments of Obstetrics and Gynecology and [1]Community Medicine, Nnamdi Azikiwe University Teaching Hospital, Nnewi, Anambra State, [2]Department of Obstetrics and Gynecology, Federal Medical Centre, Keffi, Nasarawa State, [3]Department of Obstetrics and Gynecology, Anambra State University Teaching Hospital, Awka, Anambra State, Nigeria

ABSTRACT

Background: Postabortion care (PAC) is aimed at reducing maternal morbidity and mortality resulting from the incomplete abortion and abortion complications. The use of analgesia is an integral part of high quality PAC. Knowledge of the pattern of use of analgesia in PAC by healthcare professionals would help in planning group specific training programs for more effective PAC. **Aim:** This study is aimed at assessing the use of analgesia in PAC among healthcare professionals in South Eastern Nigeria. **Subjects and Methods:** This is a cross-sectional questionnaire-based survey carried out among healthcare professionals in Anambra State, Nigeria between June 1 and September 30, 2006. Participants were chosen using a multistage sampling technique. Pretested questionnaires assessing the practice of postabortion counseling were then administered. The data were analyzed using SPSS version 20.0 software. Frequencies were within 95% confidence limits. **Results:** A total of 437 health professionals were included in the study. The mean age was 38.2 (10.4) years. Formal PAC training influenced the use of analgesia positively ($P < 0.001$). The use of analgesia in PAC was also significantly higher among professionals working in tertiary healthcare center and private specialist hospitals when compared with other facilities ($P = 0.02$). In general complications were more when analgesia was not employed. Older professionals were more likely to employ pain relief in PAC ($P = 0.01$). Furthermore, doctors were significantly more likely to employ pain relief in PAC when compared to nurses ($P = 0.001$). **Conclusion:** This study revealed a low level of use of analgesia in PAC among the healthcare professionals. It also demonstrated a significant association between formal PAC training and use of analgesia in PAC. It is, therefore, recommended that increased PAC training and re-training activities with emphasis on the need for analgesia should be conducted for healthcare professionals to improve the quality of PAC received by clients.

KEY WORDS: Pain relief, post abortion care, Nigeria

INTRODUCTION

The standard of maternal healthcare in a society usually reflects on the maternal health indices. In developed countries, the level of maternal healthcare has risen to such a level that maternal mortality has virtually disappeared, which is in contrast with the situation in developing countries like Nigeria where the maternal mortality is still alarmingly high.[1] Developing countries account for more than 99% of maternal deaths with about 84% concentrated in Sub-Saharan Africa and South East Asia.[2] Nigeria still has one of the highest maternal mortality rates in the world.[3,4]

It is estimated that unsafe abortions account for about 13% of maternal deaths globally and as much as 25% in some countries.[5,6] About 205 million pregnancies occur globally each year and 80 million are unplanned. Of these, 42 million are terminated, 22 million legally, and 20 million illegally.[7-9] About 6.4 million abortions occur annually

Address for correspondence
Prof. J. I. B. Adinma,
Department of Obstetrics and Gynecology,
Nnamdi Azikiwe University Teaching Hospital, Nnewi, Nigeria.
E-mail: brianadinma@yahoo.com

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in Africa, and Nigeria accounts for about 610,000 of such cases.[10-12] Hence, in Nigeria, there are about 25 abortions per 1,000 women aged 15–44 years.[12] A large proportion of these women dies from the complications of abortions, either spontaneous or induced. In Nigeria, unsafe abortions account for over 36,000 deaths per year, accounting for about 30–40% of the maternal deaths.[13]

In Nigeria, as in other parts of the world, women usually seek abortion for a variety of reasons, including limitation of family size, spacing childbearing, contraceptive failure or lack of access to contraceptives, or due to rape.[14] Unmet need for family planning has been identified as the root cause for induced abortions, legal or illegal.[15] Some of these women seek to terminate their pregnancies by safe methods if possible, but often by whatever means that are available. Only about 40% of these women would have abortions performed by physicians in established health facilities while the rest are performed by nonphysician providers.[16] Therefore, most of these abortions are conducted by unskilled personnel under unhygienic and generally, unsafe conditions; hence, predisposing these women to various avoidable morbidities and mortality. It is estimated that 142,000 women are treated annually for complications of abortions in Nigeria.[17]

A nationally representative sample of facilities in Nigeria in the mid 90's estimated that 27% of women who received abortion care sought an abortion, 47% needed treatment for complications of an abortion attempt, and 26% were treated for complications of spontaneous abortion.[17] Furthermore, a similar survey carried out in Nigeria, among women admitted for abortion-related reasons in 2008, showed that 36% had attempted to end the pregnancy before coming to the hospital (including 24% with and 12% without serious complications), 33% obtained an induced abortion at the facility without having made a prior abortion attempt, and 32% were treated for complications from a spontaneous abortion.[17] Of women with serious complications, 24% had sepsis, 21% pelvic infection, and 11% instrumental injury; 22% required blood transfusion and 10% needed abdominal surgery. Another study was done in South Western Nigeria in the 90's showed that induced abortion complications accounted for 12% of all gynecological admissions.[18]

In order to minimize, the morbidity and mortality arising from unsafe abortions, postabortion care (PAC) was initiated. It is an approach that consists of a series of medical and related interventions designed to manage the complications of spontaneous and induced abortions, both safe and unsafe.[19] It is also aimed at improving women's sexual and reproductive health and lives. The PAC model comprises five elements which include treatment of incomplete and unsafe abortion and abortion-related complications that are life threatening, counseling, contraceptive and family planning services, reproductive and other health services, community, and service provider partnerships.[19]

Thereafter, the concept of woman-centered PAC was established in 2005 in order to ensure high quality PAC service delivery. Woman-centered PAC is a comprehensive approach to identify and satisfy each woman's medical and psychosocial needs during the period of treatment for abortion complications. This model consists of three key elements, which are a choice, access, and quality.[19]

A woman's experience during PAC is both emotional and physical. The amount of pain that women experience during a uterine evacuation varies with each individual. In general, the sources of pain and discomfort during a uterine evacuation are anxiety, cervical dilatation, and uterine cramping. A PAC provider should create a pain management plan in conjunction with the woman through discussion and clinical assessment before the procedure.[20] Every woman deserves adequate analgesia during PAC, and according to the Royal College of Obstetricians and Gynaecologists, analgesia should be provided for both medical and surgical uterine evacuations.[21] Analgesia in PAC involves pharmacological methods, as well as nonpharmacological methods such as verbal reassurance and gentle clinical technique. The medication that are usually employed in PAC analgesia include analgesics such as nonsteroidal anti-inflammatory drugs (NSAIDs), opioids; anesthetics, which may be local, regional or general.[22] Anxiolytics are also employed to decrease anxiety and to induce relaxation and sometimes, amnesia.[20,23] Analgesics are also given in the postprocedure period. A study done in Haifa Israel suggested that the application of a single suppository of an analgesic drug, especially indomethacin is a simple, inexpensive, and safe mode to reduce postabortion pain.[24] Pain that increases over time requires further clinical evaluation. A Ugandan study reported that, as much as 93.6% of patients, had manual vacuum aspiration without analgesia.[25]

There is a paucity of studies in PAC analgesia and this study, therefore, is aimed at determining the practice of pain relief in PAC practiced by health professionals in Anambra State, South Eastern Nigeria. This would help in planning group specific training programs for more effective PAC services.

SUBJECTS AND METHODS

This is a cross-sectional questionnaire-based survey conducted among health care professionals in Anambra State of South Eastern Nigeria between June 1, 2006 and September 30, 2006. The inhabitants are mainly Christian Igbos.

A list of the registered health facilities in Anambra State was obtained from the local ministry of health. These health facilities were categorized into primary, secondary, and tertiary. The primary health care centers and maternity homes managed by state registered nurses and midwives were categorized as primary, the general hospitals, and mission hospitals manned by nonspecialist doctors as secondary while the private specialist hospitals manned by specialists and teaching hospital were categorized as tertiary.

Using a simple random sampling technique, 20 different hospitals were selected from each group, giving a total of 60 hospitals. The healthcare professionals in the various facilities were given prior notice of the interviews, which were scheduled at convenient times at each facility, to enable them provide accurate information from their experiences and records. The doctors and nurses/midwives in these institutions were interviewed using pretested structured questionnaires to obtain information on their use of analgesia in PAC. Sociodemographic data were also obtained from the respondents.

The obtained data were analyzed using SPSS version 20.0 software (Armonk, NY: IBM Corp). Statistical relationships between variables were ascertained using Chi-square test. A $P < 0.05$ at 95% confidence interval was considered significant for all statistical comparisons. Approval was obtained for the study. Such approval is presented to the head of each health facility before access is allowed to the health records. Informed consent was also obtained from the health professionals before scheduling visits to their respective health care facilities.

RESULTS

A total of 437 healthcare professionals were included in the study, 230 (52.6% males) and 207 (47.4%) females. Their ages ranged from 20 to 61 years, with a mean age of 38.2 (10.4) years. Almost all the respondents, 435 (99.5%) were Christians. Of these, 276 (63.2%) were medical doctors, and 161 (36.8%) were nurses [Table 1].

Several methods of pain relief were employed by these healthcare professionals; they include the use of opioid and nonopioid oral analgesics, opioid and nonopioid parenteral analgesics, paracervical block, and general anesthesia. Anxiolytics and verbal reassurance of the patients were also employed. The most common pain relief employed by the healthcare professionals was injectable opioids/NSAIDs, 166 (38.0%) followed by general anesthesia 75 (17.2%) [Table 2]. Only 4 (0.9%) professionals offered anxiolytics. The general anesthesia and paracervical block were offered only by the doctors.

Table 1: Bio-social characteristics

	Frequency	Percentage
Age range		
20-24	25	5.7
25-29	104	23.8
30-34	42	9.6
35-39	50	11.4
40-44	94	21.5
45-49	58	13.3
50-54	24	5.5
≥55	40	9.2
Total	437	100
Sex		
Male	230	52.6
Female	207	47.4
Qualification		
GP	216	49.4
Resident	5	1.2
Specialist	55	12.6
Nurses	16	36.8
Religion		
Christian	435	99.5
Traditional	2	0.5
Duration of practice (years)		
≤15	301	68.9
>15	136	31.1

Mean age=38.2±10.4 years

Table 2: Various forms of pain relief used in PAC

Type of pain relief	Number	Percentage
General anesthesia	75	17.2
Paracervical block	21	4.8
Injectable (opioid/NSAID)	166	38.0
Oral analgesics only	17	3.9

PAC – Postabortion care, NSAID – Nonsteroidal anti-inflammatory drug

Table 3: Sociodemographic variables and use of pain relief in PAC

Variables	Use of pain relief (%)			Statistics		
	No	Yes	Total	χ^2	df	*P*
Location of practice						
Rural	165 (58.9)	115 (41.1)	280 (100)	1.54	1	0.21
Urban	102 (65.0)	55 (35.0)	157 (100)			
Sex						
Men	132 (57.4)	98 (42.6)	230 (100)	2.81	1	0.09
Women	135 (65.2)	72 (34.8)	207 (100)			
Occupation						
Doctors	152 (55.1)	124 (44.9)	276 (100)	11.4	1	0.001
Nurses	115 (71.4)	46 (28.6)	161 (100)			
Age (in years)						
<35	92 (53.8)	79 (46.2)	171 (100)	6.29	1	0.01
≥35	175 (65.8)	91 (34.2)	266 (100)			
Duration of practice (in years)						
≤15	189 (62.8)	112 (37.2)	301 (100)	1.17	1	0.28
>15	78 (57.4)	58 (42.6)	136 (100)			
Total	267 (61.1)	170 (38.9)	437 (100)			

PAC – Postabortion care

Table 3 shows the various sociodemographic variables and their association with the use of pain relief in PAC offered by the healthcare professionals. Only 115 (41.1%) and 55 (35.0%) of the health professionals in the rural and urban areas respectively, made use of analgesia during PAC. This higher proportion of healthcare personnel in the rural setting offering analgesia in PAC compared to those in the urban areas is not statistically significant ($P = 0.21$).

Furthermore, only 98 (42.6%) men and 72 (34.8%) women offered pain relief in PAC. This difference was not found to be statistically significant ($P = 0.09$). More doctors, 124 (44.9%) than nurses, 115 (71.4%) offered analgesia during PAC service delivery, and the difference was found to be statistically significant ($P = 0.001$). Age <35 years was found to be significantly associated with the use of pain relief in PAC ($P = 0.01$). However, duration of practice was not found to have any effect on the use of analgesia in PAC by the health professionals ($P = 0.28$).

Only a minor proportion, 170 (38.9%) of the health professionals in most of the healthcare facilities offered pain relief during PAC, except in the private specialist hospitals and teaching hospital where majority of 13 (54.2%) and 12 (57.1%), respectively, offered analgesia during PAC. This difference in the proportion of professionals offering PAC in the teaching hospital and private specialist hospitals compared with the other healthcare facilities is of statistical significance ($P = 0.02$) [Table 4].

Of those who had formal training on PAC, most, 155 (85.6%) employed pain relief in PAC while only 69 (49.6%) of those who had no formal PAC training used analgesia in PAC [Table 5]. This difference in the use of analgesia in PAC with respect to training on PAC is statistically significant ($P < 0.001$).

Table 6 shows the various complications experienced by the healthcare professionals during PAC, with respect to use and nonuse of pain relief. In general, the most common complication experienced was incomplete evacuation, 251 (57.4%) followed by hemorrhage 250 (57.2%), and infections of 188 (43.0%). The least was syncope, 5 (1.1%). Of the respondents who offered analgesia during PAC, the most common complication experienced was hemorrhage, 31 (18.2%) followed by incomplete evacuation 22 (12.9%); none of them had a case of syncope. Among the respondents who do not offer analgesia during PAC, the most common complication experienced was incomplete evacuation, 229 (85.8%), followed by hemorrhage, 219 (82.0%). No case of mortality was reported. These differences in experiences of complications during PAC among the health professionals, with regards to the use of analgesia in PAC were generally independently found to be statistically significant [Table 6]. Furthermore, formal PAC training was not found to be significantly associated with the presence of complications in this group ($P = 0.32$).

Table 4: Institution of practice and use of pain relief in PAC

Institution	Use of pain relief (%)		
	No	Yes	Total
General hospital	93 (62.0)	57 (38.0)	150 (100)
Primary health center	9 (69.2)	4 (30.8)	13 (100)
Maternity home	21 (65.6)	11 (34.4)	32 (100)
Private G. P hospital	23 (69.7)	10 (30.3)	33 (100)
Private specialist hospital	11 (45.8)	13 (54.2)	24 (100)
Teaching hospital	9 (42.9)	12 (57.1)	21 (100)
Mission hospital	101 (61.6)	63 (38.4)	164 (100)
Total	267 (61.1)	170 (38.9)	437 (100)

Table 5: Effect of PAC training on use of pain relief in PAC

Any formal PAC training	Use of pain relief (%)			χ^2	df	P
	No	Yes	Total			
No	241 (94.1)	15 (5.9)	256 (100)	284	1	<0. 001
Yes	26 (14.4)	155 (85.6)	181 (100)			
Total	267 (61.1)	170 (38.9)	437 (100)			

PAC – Postabortion care

Table 6: PAC complications and pain relief

Complication	Use of pain relief (%)			χ^2	df	P
	No	Yes	Total			
Cervical dystocia	101 (37.8)	11 (6.5)	112 (25.6)	53.6	1	<0. 001
Infection	175 (65.5)	13 (7.6)	188 (43.0)	142	1	<0. 001
Incomplete evacuation	229 (85.8)	22 (12.9)	251 (57.4)	225	1	<0. 001
Hemorrhage	219 (82.0)	31 (18.2)	250 (57.2)	173	1	<0. 001
Syncope	5 (1.9)	0 (0.0)	5 (1.1)	3.22	1	0.07
Uterine perforation	62 (23.2)	12 (7.1)	74 (16.9)	19.3	1	<0. 001
Total	267 (100)	170 (100)	437 (100)			

PAC – Postabortion care

DISCUSSION

This study shows a low level of use of analgesia in PAC among the healthcare professionals. This trend applies for the healthcare professionals in the rural and urban centers, as well as in all levels of healthcare facilities. This is not encouraging as analgesia in PAC is an important aspect of the high quality PAC service delivery, and the clients need such to relieve them of the psychological trauma, anxiety, and physical stress of the procedure.

The methods of pain relief employed by these healthcare professionals included opioid and nonopioid oral analgesics, opioid and nonopioid parenteral analgesics, paracervical block, and general anesthesia. The most common pain relief employed by the healthcare professionals was injectable opioids/NSAIDs (38.0%) followed by general anesthesia (17.2%). Injectable opioids and NSAIDs have been recommended as adequate for analgesia in PAC;[19,21] hence, most of the healthcare professionals offering analgesia provided adequate analgesia for the patients as 166 (97.6%) of them used such. General anesthesia and paracervical block were offered only by the doctors. This is not surprising, considering the level of skill required for the administration and use of such methods of pain relief. Furthermore, in general, anesthesia is not usually recommended for uterine evacuation in PAC, except in some complicated cases.[21] Only 4 (0.9%) professionals offered anxiolytics to their patients. Anxiolytics are

recognized to help in making the patient comfortable and also help in analgesia. This finding is not encouraging, and there is a need for further studies to assess reasons for nonuse of anxiolytics in PAC.

Most (85.6%) of the healthcare professionals who had training on PAC employed analgesia while delivering PAC services, unlike those who had no formal PAC training of, which is less than half of them employed analgesia in PAC. This statistically significant difference to be emphasizes, the need for formal PAC training among healthcare professionals at all cadres as such has been shown to significantly improve the quality of PAC service delivered by the healthcare professionals.

More doctors, 124 (44.9%) than nurses, 115 (71.4%) offered analgesia during PAC service delivery and the difference was found to be statistically significant ($P = 0.001$). This may be attributable to the fact that more doctors had received PAC training when compared to the nurses. Furthermore, doctors from their undergraduate training are more likely to be conversant with various methods of analgesia and their applicability. Age <35 years was found to be significantly associated with the use of pain relief in PAC ($P = 0.012$). It is uncertain as to the reason for this finding. Further studies may be required to help provide an explanation. The duration of practice was not found to have any effect on the use of analgesia in PAC by the health professionals. This is rather surprising, as the more experienced professionals were expected to be more knowledgeable with respect to the provision of high quality PAC services. Gender was also not found to have an effect on the use of analgesia in PAC.

The healthcare professionals in the private specialist hospitals and teaching hospitals were found to have a significantly higher level of use of analgesia in PAC. This is not surprising, as most of the specialists and all the teaching hospital staff involved in PAC had been trained on PAC. This further buttresses the need for PAC training of all healthcare personnel involved in PAC.

The major type of analgesia employed by the healthcare professionals was verbal reassurance in addition to analgesics, which may be oral, parenteral, paracervical block. This is expected as such should be enough to provide adequate pain relief during PAC delivery for the majority of patients. This is also supported by a study done in Haifa, Israel, which suggested the application of a single suppository of an analgesic drug, especially indomethacin, to reduce postabortion pain.[20] In general anesthesia was rarely required.

Complications in PAC delivery were common among the healthcare professionals, incomplete evacuation being the most common. This was not attributable to the fact that most of the healthcare professionals were not trained formally on PAC. These complications were mostly found among those that did not employ analgesia before the uterine evacuation; and the higher prevalence among them when compared to the healthcare professionals who employed analgesia in PAC was found to be statistically significant for each of the complications. The absence of syncope as a complication experienced among the healthcare professionals that employed analgesia may be attributable to the fact that the syncope is of the neurogenic source. This further emphasizes the need for analgesia in PAC, as well as the need for proper training of healthcare professionals on PAC with emphasis on PAC analgesia.

No case of mortality was reported during PAC service delivery by the respondents. This is very encouraging considering the fact that complications of abortions remain a major cause of maternal deaths worldwide and also in Nigeria. This suggests that maternal deaths from abortions in this part of the world may be mostly associated with abortion complications managed outside a formal hospital setting.

CONCLUSION

This study has shown a low level of use of analgesia in PAC among the healthcare professionals. It also demonstrates a significant association between formal PAC training and use of analgesia in PAC. Complications were also found to be more in the absence of PAC analgesia. The older health professionals were significantly more likely to employ pain relief in PAC when compared with the younger ones. Furthermore, doctors were significantly more likely to employ pain relief in PAC when compared to nurses. Gender and duration of practice were found not to influence the use of pain relief in PAC service delivery.

It is therefore recommended that increased PAC training and re-training activities with emphasis on the need for analgesia should be conducted for healthcare professionals to improve the quality of PAC received by clients, as well as enhance outcome of treatment.

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Conflicts of interest
There are no conflicts of interest.

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