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Research Article

Pain Perceptions in Post-Miscarriage Care among Swazi Women

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Abstract

Background: All patients who visit Raleigh Fitkin Memorial Hospital in Swaziland with incomplete miscarriages are treated using Dilatation and Curettage (D&C) under lignocaine Para-cervical block. Patients' pain perceptions in this setting are not known. This study assessed the pain experiences of patients undergoing D&C under lignocaine Para-cervical block at the facility.

Methods: This was a descriptive study with a qualitative component. Thirty-one consecutive consenting women who came to the facility presenting with incomplete miscarriage were asked to rate their intra-procedure pain perceptions on a 101-point VAS for pain within an hour of having undergone the procedure. An investigator-administered questionnaire was used to collect their demographic data, duration of bleeding prior to presentation and suggestions with regards to service improvements. An analysis was done to identify if any patient groups were likely to report more pain than others. Patients gave suggestions with regards to improvements that they would want to see in their care.

Results: Pain scores were between 0 and 96.0 mm, median 74.0 mm (IQR 50.0; 87.5 mm). Median age was 26.0 years. Patients 26.0 years old and below had a median pain score of 80.0 mm (IQR 67.5; 88.3 mm), those above this age had a median pain score of 50.0 mm (IQR 38.5;87.5 mm). Multigravid patients had a median pain score of 74.0 mm (IQR 50.0; 87.0 mm), compared to a median pain score of 85 mm (IQR 58.0;92.5 mm) for primigravids. Patients with less formal education (primary school and below) had a median pain score of 66.0 mm (IQR 50.0; 88.0 mm) compared to a median pain score of 78.5 mm (IQR 53.5;87.0 mm) for the rest. Patients rated overall care as average to satisfactory, at the same time asking for an improvement in pain management.

Conclusions: There is need to improve pain control in post-miscarriage care. Less-traumatic methods of evacuating the post-abortal uterus and adjuvants to Para-cervical block should be considered.

Keywords: Visual Analogue Scale (VAS), Post-miscarriage pain, Dilatation and Curettage, Post-miscarriage care

Background

Miscarriage management remains an integral part of daily maternal health service activities in Swaziland. Dilatation and Curettage (D&C) is the main mode of definitive management of incomplete miscarriages of all gestations [1]. The majority of evacuations are done under lignocaine Para-cervical block. Intra and immediate post-procedure pain control may not be adequate, or at least insufficient in some groups of patients. While it has been shown that no single pain control measure is sufficient for uterine interventions [2], it is important that the best alternatives are chosen if post-miscarriage care programs are to be successful.

Given that Para-cervical block has been shown to be ineffective as analgesia for Manual Vacuum Aspiration (MVA) [3], it is unlikely to be effective for D&C. In addition to procedural alternatives to D&C such as expectant management, medical management and MVA, there are also alternatives to the anesthesia component of definitive management of incomplete miscarriages [4].

While the benefits of combinations of different forms of pain control such as psychological support, pharmacological analgesic agents, local anesthesia and general anesthesia have been evaluated in previous studies, it is the possible variability in pain perception across cultures and geographical settings that may make it necessary to explore specific settings and, more importantly patient groups.

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In addition to being able to rate pain perception, a clinician is likely to be interested in clinically relevant differences pain rather than statistical differences [5], regardless of the pain quantification method employed. It has been demonstrated that 10-30% differences in pain perceptions are clinically significant [6,7]. Additionally, demonstrated differences may be used to determine which pain control interventions are adequate in certain patient profiles. For researchers and clinicians to be able to put relevance to pain control interventions, they need appropriate and validated methods to rate pain.

Visual Analogue Scales

Visual Analogue Scales (VAS) is instruments used to rate individuals' subjective perceptions of stimuli [8]. In the field of medicine, these scales are in everyday use in quantifying and comparing pain perceptions both between and within individuals.

Of the many pain measurement tools that have been proposed, the 101-point VAS is probably the most widely used [9]. It is a simple tool consisting of a 10 cm line with 0 on one end, representing no pain, and 10 on the other end, representing the worst pain [10]. Patients' pain ratings are measured to the nearest millimeter, hence the 101 points along the scale. Patients are asked to place a mark along the line which represents their level of pain.

The popularity of the VAS is not only based on the easiness of use but also that it is probably the most sensitive of the one-dimensional pain rating scales [5] The VAS for pain has been validated in many studies [8-10]. It has been shown to be an effective and objective way of assessing and quantifying acute, chronic and experimental pain [11].

Clinical significance of VAS scores may be enhanced by treating them as categories [9]. Most studies have shown that a difference of about 15 mm on the VAS signifies clinically different pain perceptions [12].

This study aimed to a) quantify patients' pain experiences, b) get patients' opinions as to whether the practice needs any modifications and if any, what exactly and, c) assess for any specific patient groups that may require a modification of the analgesic regimen. Improvements to post-miscarriage care may be planned with this study as a baseline.

Methodology

This is a descriptive cross-sectional study with a qualitative component carried out at the Raleigh Fitkin Memorial Hospital in Manzini, Kingdom of Swaziland. The study was conducted after approval from the Scientific and Ethics Committee of Swaziland and the Health Research Ethics Committee of the University of Stellenbosch, South Africa. Prior written informed consent was obtained from consecutive patients who came for D&C following incomplete miscarriage at any gestational age between the 1st and 30th of September 2014. Curettages for other indications such as molar pregnancy and dysfunctional uterine bleeding were excluded, as well as patients with known hypersensitivity to lignocaine.

An investigator-administered questionnaire with the VAS was given to consenting patients within an hour post-evacuation. The primary outcome measure was the pain score on the 101-point VAS for pain.

Additional information collected was patient age, race, marital status, level of education, employment status, spousal support, parity, gravidity, previous evacuations, duration of bleeding and their suggestions with regards to the service they received (open ended question posed). Duration of bleeding was defined as time from onset of bleeding to the time patients presented to the health facility.

A descriptive analysis of patients' pain scores was done, including sub-group comparisons based on age, gravidity, level of education and duration of bleeding.

Results

A total of 33, about 30% of projected monthly attendances for miscarriages, patients consented to take part in the study. Of these, 31 completed the forms sufficiently to allow reporting (Table 1).

Patient ages ranged from 18.0-36.0 years, interquartile range (IQR) 23.0 to 28.5, median 26.0 years. Twenty-four patients were single, 25 had some form of formal education with 7 of them having obtained a tertiary level education and 17 women were employed. Only 8 of all pregnancies were planned while 7 patients had had previous evacuations of any sort (Table 1). Only one patient reported a medical condition (asthma).

All patients (21) that responded to the question of spousal support rated their spouses as supportive. Bleeding periods ranged from as little as 6 hours to as much as 10 days, median 24 hours (IQR 12;72 hours). Patients reported pain scores between 0 and 96.0 mm, median pain score 74.0mm (IQR 50.0; 87.5 mm).

Most patients (17) described the uterine procedure pain as cutting, 6 described it as sharp, while the rest described the pain as pricking or crushing.

When grouped according to age, those at median age of 26 years and below had a median pain score of 80.0 mm (IQR 67.5; 88.3 mm), compared to a median pain score of 50.0 mm (IQR 38.5;

Parameter	Descriptive statistics (N=31)	
Age/Years	Median	26.0 (IQR 23.0; 28.5)
Level of education	None Primary Secondary Tertiary	6 2 16 7
Marital status	Single Married Unknown	24 6 1
Employment status	Employed Not employed Not reported	17 13 1
Pregnancy Plan	Planned Unplanned Not mentioned	8 21 2
Parity	0 1 2 >2	7 7 11 6
Previous evacuations	Yes No	7 24
Duration of bleeding/Hours	Median	24 (iqr 12.0; 72.0)

Table 1: Characteristics of study participants.

87.5 mm) for those above 26 years old (Table 2). Patients with at least one previous pregnancy reported median pain scores of 74.0 mm (IQR 50.0; 87.0 mm) with those losing their first ever pregnancy having pain scores of 85.0 mm (IQR 58; 92.5). Patients who had lesser formal education (primary school and below) had median pain scores 66.0 mm (IQR 50.0; 88.0 mm) compared to a median pain score of 78.5 mm (IQR 53.5; 87.0 mm) for those who progressed further in school.

22 (71.0%) of patients reported pain above 60.0 mm on the VAS, while only 12.9% reported pain below 30.0 mm (Table 3 and Figure 1).

Qualitative input

Although most patients rated the overall service they received at the facility as average to satisfactory, a majority of the women suggested the need to find methods of reducing pain as a main concern with some going as far as suggesting the use of General Anesthesia. 'Please improve pain control' was the commonest phrase in the qualitative survey (Appendix A: Study data). Another theme that arose in the qualitative inputs was the patient waiting time with patients requesting for improvements as far as turnaround times in the ambulatory departments was concerned. Although not formally documented, this appeared to be the commonest reason for patients' declining to participate in the study. Suggestions were also raised requesting more interaction with patients during the procedure as a possible way of improving intra-procedure pain control.

Parameter	Subgroups	Median Pain Score/ mm (IQR)
Age	26 years and below Above 26 years	80.0 (67.5; 88.3) 50.0 (38.5; 87.5)
Gravidity	Primigravidae Multigravida	85.0 (58.0; 92.5) 74.0 (50.0; 87.0)
Level of education	Primary School and below Beyond Primary School	66.0 (50.0; 88.0) 78.5 (53.5; 87.0)

Table 2: Sub-group pain scores

Pain Category	Number (%)
Mild (0-30 mm)	4 (12.9)
Moderate (31-60 mm)	5 (16.1)
Severe (above 60 mm)	22 (71.0)

Table 3: Patients pain ratings split into categories.

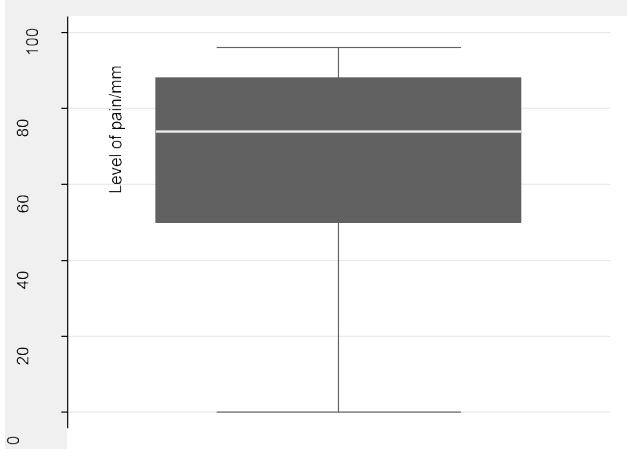

Figure 1: Box plot of pain scores

Discussion

The results show that patients are experiencing significant levels of pain during D&C following pregnancy loss. Suggestions raised by patients pointing out the need for 'improvements in pain management' add further weight to this finding and are in coherence with the numerical pain ratings. The results show that pain control in post-miscarriage care in Swaziland is not as good as in other settings. In a Canadian study, only 3.1% of post-abortal women experience severe pain with 14.7% reporting pain scores above 3 on the 10-point rating scale [13]. In our study, however, 71% of patients reported pain that falls in the category 'Severe', a total of 27 patients (87.1%) being in the categories 'Moderate' and 'Severe'. While differences in the methods of evacuation used are more likely to explain the deviation from other studies, there are other factors that may further explain the high pain scores noted in our patients. Anxiety related to the illegality of induced miscarriage, cultural differences, differences in study methodology and differences in literacy are some of the factors that could explain the higher pain scores noted in the current study.

Some categories of patients were more likely to report higher pain scores in this study, with younger patients, prim gravid patients and those with more formal education reporting higher pain scores than their respective counterparts. One explanation from the study could be anxiety, which seems to be associated with late presentation, except in the latter group where bleeding was shorter compared to those with lesser formal education.

Although most patients declined to take part in the study due to time restrictions caused by the long waiting periods in the ambulatory departments, the study sample is representative of patients attended to at RFM Hospital. Patients were recruited throughout a calendar month, reducing the possibility of bias caused by differences in health workers and the way they attend to patients. Secondly, the participating group comprises of patients from various classes with respect to socio-economic status, age, time at presentation, educational level, among other stratifying factors. While in most cases it is the satisfied patients that tend to take part in surveys, patients' suggestions pointing at shortfalls in pain management show that the bias related to this phenomenon may be minimal.

In addition to the low response rate in the study, there are other limitations. Other patient characteristics may influence pain perception and threshold besides the factors that were evaluated. A larger group, with participants enrolled over a longer period, would certainly lead to stronger inferences and also enable more robust statistical analyses. The fact that pain assessment was conducted at any time within an hour after the procedure may have introduced heterogeneity in the point at which pain assessment was carried out. An intra-procedure pain evaluation may have introduced more uniformity with regards to the temporal point of pain evaluation.

Other significant care issues of note came out of the study, besides those which the study specifically aimed to evaluate. One major finding was the delay in presentation to the health care facility. Although literacy and age, among other factors, could

influence this, the possibility of fear of prosecution due to the fact that inducing miscarriage is illegal may also contribute. It is worrying to note that some women only come to seek health care ten days after onset of bleeding. This may be associated with high maternal morbidity and mortality. This study showed a high rate of unplanned pregnancies in single patients. This may be an indicator of the prevalence of unsafe sexual practices which may need urgent addressing if the HIV/AIDS pandemic has to be brought under control.

This study may form the basis of a Quality Improvement Program aimed at improving pain control in post-miscarriage care, which is a vital component of quality of care. More emphasis in future studies may also be put on the time patients take prior to presentation which may be influenced by the legal framework in the country. If confirmed, advocacy may be strengthened with the hope of making safe abortion services available in the society.

Recommendations

Post-miscarriage care services in Swaziland should prioritize and improve pain management during dilatation and curettage following pregnancy loss. Possible use of adjuvants such as sedatives or additional analgesia such as diclofenac suppositories should be considered along with more intensive prior counseling and constant interaction with patients during procedures. Alternatively, less traumatic methods of evacuation should be considered for example MVA and medical methods, within the resource and monitoring capability limitations that the developing world faces in the use of the latter.

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