

Post-Operative Pain Reporting Approaches In Patients With Major Abdominal Surgery In Zambia

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Abstract

Background: Patients who have had major abdominal surgery via the laparotomy approach almost always experience moderate to severe post-operative pain. The high levels of post-operative pain experienced by these patients demand for pain assessment methods that recognises the pain reporting approaches adopted by them. In many circumstances, pain reporting approaches reflect the value system of patients. This is an important aspect in post-operative management because the pain reporting approaches creates a foundation to culturally sensitive patient-centred pain care. Incorporation of such trends into patients care is part of the holistic approach to pain management that allows nurses to minimize the patients' post-operative pain experience.

Aim: Part of the purpose of this study was to determine the patient's perspective of their view of their own behaviours/reporting approaches utilised to convey the existence of postoperative pain to clinicians.

Methodology: This was an explorative sequential study that was performed with 32 patients who had undergone major abdominal surgery in the previous 48 hours at one of the selected hospitals. Descriptive statistics were used for the analysis.

Results: In the post-surgical period, all the participants mentioned that they experienced moderate to severe post-operative pain. Participants utilised nonverbal behavioural indicators of post-operative pain as well as self-reports to convey the existence of pain to their clinicians. It was, however, revealed that self-reports of post-operative pain stood at 25% while the use of nonverbal behavioural indicators of pain as an approach to reporting the pain was almost 100%. One of the significant hindrances to the provision of self-reports is based on the premise of the socialisation process of participants.

Discussion: The two approaches to the post-operative pain reporting approaches among patients who have had abdominal surgery is through the use of nonverbal behavioural indicators and verbal self-reports. Although both academic literature and practitioner discourse are happy that self-reports of post-operative pain offers a reliable measure of pain among post-surgical patients, the implicit imagery behind the metaphor, "the patients will voluntarily and timely verbalise the existence of post-operative pain to the clinicians", may intrinsically be problematic. In circumstances where patients are constrained by social norms to verbalise any form of pain, nonverbal behavioural pain indicators become useful reporting tools. Further, reports of nonverbal behavioural parameters provide proven and valid reports of pain.

Conclusions: In order to improve post-operative pain assessment among patients with major abdominal surgery, pain reporting approaches that address patients' socio-cultural values are necessary.

Summary Statement

Key Points

- Moderate to severe post-operative pain is a common occurrence among patients who have had major abdominal surgery.
- The fundamental guide to effective post-operative pain assessment method is inherent in a particular pain reporting approach adopted by the patient.
- Post-operative pain reporting approaches reflects the value system of patients which is very important in provision of culturally-sensitive care.

Research Findings/Key New Information

- There are two post-operative pain reporting approaches used by patients: self-reports and nonverbal indicators of pain.
- Post-operative patients are comfortable to use nonverbal indicators of pain than self-reports to express their pain experience.
- The patient socialisation process is an important factor that determines the preferred pain reporting approach.

Implications of this Paper

- How many post-operative pain reporting approaches are there?
- Which of the post-operative pain reporting approaches is preferred by patients?
- Use of nonverbal indicators of pain is the preferred reporting approach for post-operative pain.

Keywords: Reporting Approaches, Major Abdominal Surgery, Laparotomy, Post-Operative Pain, Post-Operative Pain Assessment, Pain Self-Reports, Nonverbal Behavioural Pain Indicators

Introduction

Globally, millions of people every year undergo major abdominal surgery to resolve various potentially catastrophic conditions ranging from intestinal obstructions, gastrointestinal tract perforations, haemorrhage, invasive cancerous tumours, blunt force/penetrative trauma injuries, to peritonitis [7,13] (Wong, 2012). In most cases, surgery is performed through the laparotomy approach, as also alluded to by Patel (2017). In Zambia, abdominal surgeries through the laparotomy approach are offered at all hospital levels (general, district and mission) including tertiary institutions at the rate of 100% unlike other types of surgeries which are performed at rates lower than 100% (Chisoso, 2012).

Like all the other types of surgery, abdominal surgeries also result in patients experiencing post-operative pain. The inevitable tissue damage to any pain-sensitive structures and consequent pathophysiological changes are the mechanisms that lead to post-operative pain [17]. Several literature have shown that all patients undergoing laparotomy will experience post-operative pain [2,15,16]. Since laparotomy procedures tend to cover a wide surface area in an attempt to ensure that an anatomical and physiological alteration in one organ has not affected other organs, it is therefore predictable that the levels of POP among patients will be high. Kalolo (2011) indicates that the levels of moderate to severe pain among patients following abdominal surgery are about 70%.

The high percentage of the levels of post-operative pain experienced by patients has huge negative implications for the patients and the health care system. Post-Operative pain also remains grossly under treated even when treatment is instituted, with up to 70% of patients still reporting moderate to severe pain following surgery [5]. Some researchers have specified that perhaps the biggest underlying contributor to the lack or under treatment of post-operative pain is simply a lack of standard guidelines that incorporates the pain reporting practices of patients to guide pain assessment and treatment [5,17]. Currently, clinicians essentially rely on pain assessment methods as well as treatments that have been developed for other patient populations and painful conditions, most notably opioids, the side effects of which can hinder rehabilitation and recovery.

With high levels of post-operative pain experienced by patients with major abdominal surgery, the key to pain relief relies heavily on the reporting approaches adopted by patients as such practices reflect the value system of patients. This is an important issue in post-operative management because the pain reporting approaches creates a foundation to culturally sensitive patient-centred pain care (Wahila,

Odimba and Ngoma, 2018). Thus, in the development process of the post-operative pain assessment tool for a selected tertiary hospital, one of the sub-aims was to explore the pain reporting practices of post-surgical patients. The post-operative pain assessment tool is a population-based instrument for assessing pain in patients who have had major abdominal surgery. According to Bernhofer and Sorrell (2014), the observation of post-operative pain can only be successful if an evidence-based pain management programme is multifaceted, targeting values, knowledge, and skills about managing pain at the level of the patient, the clinician, and the institution. Patient values, in particular the pain reporting practices provides an invaluable resource for initiating the post-operative pain assessment. Reporting practices offers clues to the type of assessment method that will yield better post-operative observation findings.

Methods

Design and Sample

The study conducted utilised an exploratory sequential design that was conducted through a three-phased approach. Post-surgical patients, who were enrolled at the level of phase III, provided the data regarding the post-operative reporting practices among patients who have had major abdominal surgery. Patients who had recently undergone major abdominal surgery due to several intra-abdominal causes were enrolled in the study that was conducted at a selected tertiary hospital and the study period lasted for three months between October 2018 and December 2018.

This study adopted the purposive sampling method through a critical case sampling technique to form a decisive foundation in also importantly identifying the pain reporting practices of patients as well as direct sample size. The study was performed with a total of 32 participants (patients) who had undergone major abdominal surgery within the last 48 hours, did not experience any complications during surgery, had successfully recovered from the effects of general anaesthesia and voluntarily joined the study on request.

Instrument and Procedure

A semi-structured interview guide was used to collect data from participants. The interview schedule was adapted from the Clinical Decision Making Survey tool [9] for pain management (Cronbach's alpha coefficient = 0.92). Since the original tool was several pages in length and required the researcher to record an in-depth inquiry of post-operative pain indicators, the tool was modified to allow for

obtaining quantitative data. Sections of the Clinical Decision Making Survey tool that were no longer relevant on consecutive stages of the study were deleted. The tool was modified to include satisfaction with the use of the tool or care received by the patients.

Data was collected at the end of the 48-hour post-operative period after pain assessment was instituted by use of the developed post-operative pain assessment tool. Appropriate pain interventions that were dependent on the patients' post-operative pain scores were also implemented prior to the interview. Thus, patients were "presumably" free of post-operative pain during the interview.

Data Analysis

Due to the epidemiological inquiry type of the study, data were analysed using descriptive statistics. The percentage of findings was calculated on the basis of the total number of participants who answered each question. All the participants who took part in the study were included in the analysis.

Data cleaning and quality measures involved the detection, removal and correction of errors and inconsistencies in a data set (Maletic and Marcus, 2000). Reading and re-reading through the data set was done to allow for data classification and identity. To avoid drawing of false conclusions, incomplete, duplicated or irrelevant data that did not answer the research question were identified and then stored separately before deleting it. Prior to deleting the data that was deemed unnecessary, re-reading through the data set was again done to avoid the loss of important information or valid data.

All the data was validated by checking for "representativeness" of key information and reflecting on the contrary evidence that appeared to question the preliminary findings of the study [4]. This process proved, as far as possible, that the data collection was done as per the pre-set standards, was inclusive, and without any bias.

Results

In order to have an in-depth understanding of the patients' post-operative reporting methods, it was found necessary to initially assess the existence of the pain among the post-surgical patients. All 32 participants in the study reported that they had experienced post-operative pain since the major abdominal surgery was carried out. The level of post-operative pain experienced by patients was then determined through the use of a numeric rating scale of 1 – 10, where the values 1 and 10 represented "mild pain" and "extreme pain" respectively. A score of 1 – 2 was categorised as mild pain, 3 – 5 as moderate pain and 6 – 10 as severe to extremely severe pain. The results revealed that 2 (6.2%) of the participants described the severity of the pain experienced as moderate, as one indicated a score of 4 while the other one stated a score of 5 out of 10. Six (18.8%) of the participants described their pain as severe, with scores ranging between 6 and 8 out of 10. The rest of the participants described their pain as extremely severe, with 15 (46.9%) of them indicating a score of 9 out of 10 and the remainder 9 (28.1%) stating a score of 10 out of 10.

A further inquiry was made to find out how much of the time had the participants experienced incisional pain since the operation. Responses to this inquiry was categorised into four parameters namely; almost constantly, frequently, occasionally and rarely. Close to half 15 (46.9%) of the participants reported that they felt the post-operative almost constantly, 12 (37.5%) of them indicated that the incisional pain after the operation was frequently and the remainder 5 (15.6%) of the participants stated that the frequency of the post-operative pain was occasional. None of the participants indicated that the frequency of the post-operative pain was rare.

The study results revealed that only 8 (25.0%) indicated that they were reporting the presence of post-operative pain to their clinicians, whilst 24 (75.0%) mentioned that they never provided any self-reports of post-operative pain to the clinicians. A further examination into the reasons why the participants who said "no" to provide self-reports of pain brought forth varied explanations. Nine (28.1%) of the participants reported that post-operative pain tend to lessen with time until it completely wanes off. Similarly, 4 (12.5%) participants thought that it was difficult to talk about post-operative pain when it was natural for it to occur. Some 14 (43.8%) of the participants believed that being strong quickened the healing process, with two participants stating that "a man needs to keep strong all the time."

Other participants indicated that they could not provide self-reports of post-operative pain because they did not want to bother the nurses who were always busy, as indicated by 5 (15.6%). Another 5 (15.6%) of the patients stated that they expected the clinicians to notice that they were experiencing post-operative pain. Surprisingly, 4 (12.5%) of the participants mentioned that they had never thought of telling the clinicians about the post-operative pain experience. It is important to note that two (6.2%) of the participants mentioned that they were scared to report the existence of post-operative pain because they feared to be ridiculed by clinicians.

Further, all the participants were of the view that they reported the existence of their post-operative pain to clinicians through an involuntary change in at least one of the behavioural indicators. Changes in mobility, facial expressions, activity tolerance, general behaviour, communication were the most notable means of behavioural indicators used to convey the existence of post-operative pain to clinicians.

All the participants indicated that post-operative pain made it hard for them to mobilise effectively. A quarter, 8 (25.0%) of participants reported that the existence of post-operative pain severely interfered with their mobility, 23 (71.9%) indicated that their level of mobility was moderately affected, and the remainder, 1 (3.1%) stated that the interference with mobility was mild. Some participants indicated that they felt more pain after making an attempt to move. Other participants indicated that the feeling of more pain when mobilising made it difficult for them to maintain communication with significant others and clinicians.

According to the study results, only 1 (3.1%) of the participants

mentioned that their experience of POP did not interrupt the performance of their daily activities of living, whilst the majority 31 (96.9%) of the participants reported that they had their daily activities interrupted because of the presence of post-operative pain. Seven (22.6%) of the participants rated their level of tolerance to daily activities as low (mild), 23 (71.9%) rated the level of tolerance as moderate and 1 (3.1%) rated the level of tolerance as high (severe). Some of the participants indicated that their daily activities were affected as they could not sit up or stand for longer periods of time, as advised by clinicians. Other participants reported that they failed to exercise for the recommended number of minutes.

Only 1 (3.1%) of the participants stated that he was not aware of his facial expressions changing as a result of experiencing post-operative pain, whilst the remainder, 31 (96.9%), were aware. Three (9.7%) of the participants reported that the negative change in facial expressions as a result of POP was minimal (mild), 18 (58.1%) mentioned that there was a moderate negative change and 10 (32.2%) stated that there was a significant (severe) negative change in facial expressions. The negative facial expression changes that were noticed by participants when feeling post-operative pain included closure of eyes, tightening of facial muscles and having a feeling of dull-like facial disposition. Majority of the participants cited frowning as a negative facial expression observed.

Almost all 31 (96.9%) the participants indicated that they were aware of their general behaviour changing because of the post-operative pain whilst only 1 (3.1%) stated that he was not aware. Most of the behaviours that the participants thought they were exhibiting when in pain was verbalisation through sobbing. Other behavioural changes expressed were agitation, restlessness, abnormal stillness, and rocking, writhing, facial expression in the form of grimacing, face distortion and feeling tense. Restlessness was particularly reported by patients who were in the zero to first day operative period. Other participants indicated that they felt nausea-like and a feeling of vomiting when in pain.

Slightly over half 17 (53.1%) of the participants stated that they experience some form of communication difficulties when in pain. Of the 17 participants, 11 (64.7%) reported that the communication difficulties was not experienced all the times (mild), 2 (11.8%) rated the communication difficult as relative (moderate) and 4 (23.5%) indicated that they experienced communication difficulties most of the times (severe). Some of the participants mentioned that they could not talk for too long due to the post-operative pain, others indicated that they failed to talk whilst others felt their speech being sluggish.

Discussion

The current study has revealed that there are mainly two post-operative pain reporting approaches among patients who have undergone major abdominal surgery in Zambia. The two approaches are through the use of post-operative pain nonverbal behavioural indicators and verbal self-reports. Although both academic literature

and practitioner discourse are happy that self-reports of post-operative pain offers a reliable measure of pain among post-surgical patients, the implicit imagery behind the metaphor, “the patients will voluntarily and timely verbalise the existence of post-operative pain to the clinicians”, may intrinsically be problematic. This study found out that self-reports of post-operative pain were very low at 25% while the use of nonverbal behavioural indicators pain reporting method was close to 100%.

The patients’ inability to self-report pain in the post-operative period can stem from cultural hindrances as can be deduced from the reasons for not voluntarily verbalising the pain existence as cited by participants. In as much as all the participants mentioned that they experienced severe post-operative pain, 9 (28.1%) of the participants reported that post-operative pain tend to lessen with time until it completely wanes off, 4 (12.5%) participants thought that it was natural for pain to occur and 14 (43.8%) of the participants believed that being strong quickened the healing process. Thus, in the present study, patients with severe pain were more likely to believe that good patients avoid talking about their pain despite considerable efforts on the part of clinicians both pre-operatively and post-operatively, to change these beliefs and attitudes. Beliefs have a sociological connotation that may be very intractable and, therefore, difficult to change. Clinicians must then rely on alternative reporting methods to determine if a patient has post-operative pain.

In comparison to this finding, Brevik and Stabhaug (2010) indicate that pain reports through portraying of nonverbal indicators are utilised for many patients who, due to several factors, are unable to self-report their pain. It could therefore be concluded that the nonverbal post-operative pain reporting approach is of paramount importance in clinical practice to provide for the optimal care of patients who, for known or unknown reasons, cannot willingly verbalise their pain. In addition, most of the available pain assessment rating scales require that patients must be able to communicate verbally, which may not be possible for post-operative patients in Zambia who are constrained by social norms to verbalise any form of pain [17]. Further, the examination of the available pain assessment tools also shows that reports of nonverbal behavioural parameters provide proven and valid reports of pain [1] (Puntillo et al. 2004).

A remarkable finding, though, is that the majority of patients in this study (93.8%) reported that nurses displayed appropriate interest in them when they reported pain. Findings by Fatma and Kerife (2017) are similar in that 93.2% of patients who have had abdominal surgery reported likewise. In our study, 78.6% of patients reported that nurses helped them attain a more comfortable position to ease their pain, and 75.7% said that nurses ensured a calm and quiet environment to enable them to mobilise or carry out any other activity of living comfortably. Some studies in the literature, have reported similar levels respectively 53.3%, 60% (Celik, 2013), 50%, 60% [10].

Conclusion

Despite progress made in acknowledging and sensitizing patients on the need of self-reports of pain, post-operative patients who had undergone major abdominal surgery still seem not to voluntarily report the existence of the pain adequately. Therefore, in order to improve post-operative pain assessment among patients with major abdominal surgery, pain reporting approaches that address patient socio-cultural values are necessary. The findings provide further support for the position of the Joint Commission on Accreditation of Healthcare Organizations (2001), who recommend a collaborative, interdisciplinary approach to pain management that includes all members of the healthcare team, input from the patient and family,

individualized, proactive pain control plans; and an institutional approach with clear lines of responsibility.

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References

1. Ampofo S.C.O (2016) Patient Satisfaction of Immediate Post-Operative Pain Management after Major Obstetrics and Gynaecological Surgeries. *Osu*
2. Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine (2005) Acute Pain Management. *Scientific Evidence*. 2nd edn; pp14–16.
3. Bernhofer E.I, Sorrell JM (2014) Nurses Managing Patients' Pain May Experience Moral Distress. *Clinical Nursing Research*. 24(4): 401-14.
4. Borovicka T, Jirina Jr, M, Kordik P, Jirina M (2012) Selecting Representative Data Sets.
5. Breivik H, Stubhaug A (2010) Management of Acute Postoperative Pain: still a Long way to go!. *Pain*. 137(2): 233-234.
6. Celik, S. (2013) Pain Levels of the Patients after 24-48 hours from Abdominal Surgery and Applied Nursing Interventions. *Gumushane University Journal of Health Sciences*. 2(3): 325-330.
7. Cheelo M, Brugha R, Bijlmakers L, Kachimba J, McCauley T, et al. (2018) Surgical Capacity at District Hospitals in Zambia: From 2012 to 2016. *World Journal of Surgery*. 42(11): 3508-3513.
8. Fatma A, Serife K (2017) Experience of Pain in Patients Undergoing Abdominal Surgery and Nursing Approaches to Pain Control. *International Journal of Caring Sciences*. 10(3): 1456.
9. Ferrell BR, Eberts MT, McCaffery M, Grant M (2012) The Clinical Decision Making Survey (CDMS). *Measurement Instrument Database for the Social Science*.
10. Idvall E, Berg A (2008) Patient assessment of Postoperative Pain Management – Orthopaedic patients compared to other Surgical Patients. *Journal of Orthopaedic Nursing*. 12(1): 35–40.
11. Kalolo MD (2011) Doctors and Nurses' Knowledge and Use of Pain Assessment Tools: A Case Study of Two Tertiary Hospitals. *Lusaka*.
12. Maletic J.I, Marcus A (2000) Data Cleansing: Beyond Integrity Analysis. *Proceedings of The Conference on Information Quality (IQ2000)*; Massachusetts Institute of Technology. 200– 209.
13. Mei W, Seeling M, Franck M, Radtke F, Brantner B, et al. (2010) Independent Risk Factors for Post-Operative Pain in Need of Intervention Early after Wakening from General Anaesthesia. *European Journal of Pain*. 14: 149. e1-149.e7.
14. Patel U (2017) A Cross-Sectional Study of Factors Contributing to Moderate to Severe Post-Operative Pain after a Laparotomy. *Lusaka*.
15. Size M, Soyannwo OA, Justins DM (2007) Pain management in developing countries. *Anaesthesia*. 62(Suppl 1): 38–43.
16. Spacek A (2006) Modern Concept of Acute and Chronic Pain Management. *Biomedicine & Pharmacotherapy*. 60: 329-335.
17. Wahila R, Odimba E, Ngoma C (2018) Developing a Pain Assessment Tool for Patients after Major Abdominal Surgery. *British Journal of Nursing*. 27(9): 503-507.
18. Yilmaz M, Gurler H (2011) Nursing Approaches toward Postoperative Pain in Patients: Patients' Opinions. *Pain*. 23(2): 71-79.