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Perspectives of the surgeons, anaesthetists, and pharmacists on post-operative pain management roles in the Ghanaian context

L. AZIATO¹ AND O. ADEJUMO²

¹*School of Nursing, University of Ghana, P.O. Box LG43, Legon, Ghana. E-mail: aziatol@yahoo.com/laziato@ug.edu.gh*

²*School of Nursing, University of the Western Cape, P. Bag X17, Bellville 7535, Cape Town, South Africa. E-mail: oadejumo@uwc.ac.za*

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Abstract

Post-operative pain is best managed by a multi-disciplinary team approach. An extensive review of the literature indicated that little is known about the roles of surgeons, anaesthetists, and pharmacists regarding post-operative pain management in Ghana. Therefore, this study was undertaken in order to fully understand how health professionals perceive their roles and the challenges that influence their decisions about post-operative pain management. A qualitative approach with a focused ethnographic design was employed involving eleven in-depth individual interviews. Purposive sampling approach was employed. The study was conducted at a tertiary hospital in Accra, Ghana. The study revealed that surgeons and anaesthetists practised pre-emptive analgesia by administering intra-operative analgesia, giving nerve blocks, and infiltrating surgical wounds. Sometimes, epidural analgesia and perfusers were used for patients who could afford them, particularly if they were expected to experience severe post-operative pain. Challenges reported by all the participants related to inadequate personnel, opioid effect and availability, inadequate training and collaboration, and effects of organisational culture were identified. It was concluded that effective collaboration among health professionals could enhance post-operative pain management. There is a need for enhanced commitment, in order to provide more effective post-operative pain management.

Keywords: Qualitative research, health team, surgery, and ethnography.

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Introduction

The multidisciplinary team concept involves team work in which there is joint action of two or more individuals where each health professional contributes a different skill, opinion or interest so that the group can be more efficient in achieving its targets (Nelson & Venhaus, 2005). The concept of the multidisciplinary team is relevant to post-operative pain (POP) management because the effective control of surgical pain involves the collaboration of different experts. The theoretical basis of a multidisciplinary team is derived from the benefits of effective team work. The core components of the

multidisciplinary team approach include an emphasis on the individuality of the patient, effective communication, good inter-personal relationships, understanding of the roles or expertise and limitations of individual team members, and the appreciation of the need for flexibility and adaptation. The effective integration of these components is believed to help the team achieve its goal of effective post-operative pain management (Hojat et al., 2003; Middleton, 2004; Taylor & Stanbury, 2009). The literature confirms the value of using a multidisciplinary team to manage pain effectively (Brown & Richardson, 2006; Spanswick & Parker, 2000). This implies that a mono-disciplinary approach to pain management is not recommended in contemporary pain management. Within the post-operative pain management context, the multidisciplinary team usually comprises surgeons/surgeons, anaesthetists, pharmacists, and nurses. The discussion of the multidisciplinary team concept also relates to the effective harmonisation of team players of post-operative pain management.

The anaesthetist plays a major role intra-operatively ensuring that the patient stays pain free during surgery. After the surgery, the anaesthetist assists the nurse to ensure that the patient recovers from the anaesthesia and is physiologically stable. The literature indicates that the anaesthetist plays a leadership role in the management of post-operative pain, especially where acute pain teams have been established and facilities such as patient controlled analgesia (PCA) and epidural analgesia are available (McDonnell, Nicholl & Read, 2003; Nagi, 2004). The anaesthetist screens patients for elective surgery; and therefore, should be thorough in the assessment and identification of potential problems that could affect pain management post-operatively (Rotbøll Nielsen, Rudin & Werner, 2007).

In addition, the pharmacist is also a member of the multidisciplinary team involved in POP management. In some countries like the UK, the pharmacist plays an active role to ensure that post-operative patients receive the right drug (s) by auditing the patient's treatment charts on the ward (Nagi, 2004). In Ghana, the pharmacist does not review patients' clinical documents routinely. The nurse, surgeon or anaesthetist may, however, consult the pharmacist to take a decision on the medication of a particular post-operative patient. As a member of the multidisciplinary team, the pharmacist may exhibit the core features that ensure effective team work such as good inter-personal relationships with all the other members, well developed communication skills, and the readiness at all times to play his/her role to ensure that post-operative pain is adequately treated.

Communication is regarded as an important determinant of a good relationship among team members. Poor communication has been shown to be very stressful for nurses (Foley, Kee, Minick, Harvey & Jennings, 2002). In a study to investigate communication between surgeons and nurses, it was realised that surgeons wanted nurses to be more prepared to meet the needs of patients. The

nurses however wanted more respect from the surgeons for what they know and their competence; hence they found calling surgeons about patient care stressful (Nelson & Venhaus, 2005).

In Ghana, surgical patients are managed according to the competence of health professionals in a particular health facility. For example, specialised and complex surgical procedures such as cardiac and renal surgeries are performed at the tertiary level in large facilities such as the Korle-Bu Teaching Hospital (KBTH). Also, contemporary technological devices for pain management such as the patient controlled analgesia are not common in the Ghanaian health system. A review of the literature suggests that the roles and dynamics of the multidisciplinary team regarding post-operative pain management have not been explored and this pre-supposes that the clinical issues concerning post-operative pain management are not fully understood.

Therefore, this study sought to determine the roles and perceptions of the anaesthetist, the surgeon and the pharmacist regarding post-operative pain management and the factors that influence their activities and roles. Nursing barriers to adequate pain management for surgical patients in Ghana such as inadequate knowledge, fear of addiction, organisational laxity, and team work challenges have been reported (Aziato & Adejumo, 2013). The need for further exploration of post-operative pain management from the perspectives of other health professionals involved in pain management emerged from the study of nurses' concerns. The research reported here forms part of a larger study aimed at developing context appropriate clinical guidelines for the management of post-operative pain in Ghana. In this article, the multidisciplinary team refers to the anaesthetist, surgeon, and the clinical pharmacist as nursing perspectives are published elsewhere (Aziato & Adejumo, 2013). In this study, the term surgeon is used to represent doctors (specialist or general) involved in the management of surgical patients.

Methodology

Design

The study adopted a qualitative approach with a focused multi-step ethnographic design. Qualitative research enables in-depth understanding of the phenomenon under study (Hammersley & Atkinson, 2007) and allows full understanding of perspectives of the multidisciplinary team about post-operative pain management.

Setting

The study was conducted at a tertiary hospital in Accra, Ghana – the Korle-Bu Teaching Hospital (KBTH). The KBTH has facilities for surgery and other health professionals such as surgeons, anaesthetists, and pharmacists that form part of the management of post-operative patients. The hospital has four 38-bed wards for general surgical patients. Surgeons/surgeons were sampled from one of these wards to enhance depth understanding of roles and perceptions. Anaesthetists and a pharmacist associated with the surgeons sampled were purposively selected to participate in the study.

Sample and data collection

The study adopted purposive and convenience sampling techniques which ensured that 11 participants including 8 surgeons, 1 anaesthesiologist, 1 nurse anaesthetist, and 1 pharmacist participated. As data collection progressed, anaesthetists and pharmacists were not routinely involved in post-operative pain management at the general surgical ward involved in the study; hence, the small sample recruited. All individual interviews were conducted in English and lasted between 45 minutes to 1 hour. Interviews were conducted at places and times convenient to participants. Interviews were recorded and transcribed. Detailed field notes were written which helped in gaining full understanding of the participants' world.

Ethics

The study was approved by the ethics committee of the University of the Western Cape in South Africa, and the Ghana Health Service Ethics Committee. Approval was obtained from the leadership of the Korle-Bu Teaching Hospital and individual informed consent was obtained from all participants. Anonymity and confidentiality were ensured by assigning identification codes to participants. Also all information that could be used to identify a participant were removed. Information sheets were given to participants a week before informed consent was obtained to allow them adequate time to make a decision to participate.

Data analysis

Interviews were transcribed verbatim and read several times to ensure that the participants' world was fully understood. After meaning was made from the data generated, the interviews were transported into NVivo 9 and the software was used to manage the data. The principles of content analysis were employed in this study and themes and sub-themes were identified and described.

Rigour

Rigour or trustworthiness was ensured by employing prolonged fieldwork which ensured that full understanding of pain management issues were understood in this study. Also, the data generated was confirmed by participants during concurrent analysis to ensure that their world was represented faithfully. Thick descriptions of participants' quotes were used to describe findings generated.

Results

The study revealed perspectives of own roles from the anaesthetists, surgeons, and the pharmacists regarding post-operative pain management. The factors that influenced their roles and perceptions were also described. Participants were identified as follows: S1 to S8 (surgeons), CP (clinical pharmacist), DA (surgeon anaesthetist), and NA (nurse anaesthetist). Pain management strategies, challenges of pain management, and organisational culture emerged as major themes. Sub-themes from these main themes were generated.

Participants' background

The participants were aged between 30 and 60 years. There were 3 consultant surgeons (1 female and 2 male), 3 resident surgeons (1 female and 2 male), 2 house officers (1 female and 1 male), 1 nurse anaesthetist, 1 anaesthesiologist, and 1 consultant clinical pharmacist. The house officers were involved in the study because they were actively involved in the management of post-operative pain within the context of the study although they did not have the specialty qualification to be called surgeons. The participants were Christians and could speak English fluently. The Ghanaian local languages spoken were Twi, Ga, and Ewe. They had worked at the tertiary facility between two years and 26 years.

Pain Management Strategies

The pain management strategy describes the pain management responsibilities of the multidisciplinary team, intra-operative pain management measures, and the use of perfusers. It was emphasised that the anaesthetist was responsible for intra-operative pain management and post-operative pain management at the peri-anaesthesia care unit or the recovery ward and the surgeons take over on the surgical ward.

Intra-operative analgesia

Intra-operatively, the anaesthetist gives analgesics rectally, intramuscularly (IM) and intravenously (IV) because it was believed that the anaesthetic gases alone do not control pain. The administration of analgesics at this point prevents the

patient from developing fast heart rate and increased blood pressure because of pain.

'Intra-operatively, you want to give a balanced anaesthesia. ...analgesia is part of anaesthesia. So you cannot give a balanced anaesthesia without giving pain killers or analgesics; so intra-operatively, you still have to give analgesics such as narcotics like pethidine, fentanyl, surfentanyl or morphine because they are very potent analgesics.' (NA)

It was also reported that the anaesthetist or surgeon may also infiltrate the surgical incision with a local anaesthetic agent before the skin is sutured. It was believed that a local infiltration with an anaesthetic agent such as Marcaine could prevent acute post-operative pain for about 90 minutes after surgery:

'The surgeon or anaesthetist can do skin infiltration with lidocaine or Marcaine - local anaesthetic agents. So after the suturing you can infiltrate the skin before you cover or before you suture the skin after you have sutured maybe the fascia or the subcutaneous layer, you can then infiltrate the skin with the drug before you close up; ...if you use a drug like Marcaine, it can take the patient about 90 minutes post-operatively and then you can continue with the pethidine or other suppositories.' (NA)

The infiltration with a local anaesthetic agent was corroborated by a surgeon as follows:

'...so there are times during the surgery, especially, the upper midline incision, when we finish the surgery, we infiltrate with a local anaesthetic so that when the patients wake up, they don't have pain.' (S2)

The study also revealed that the anaesthetist may employ nerve block in the form of epidural analgesia or some patients may be given perfusers (an automatic continuous drug dispensing device according to pre-determined health provider settings or input). It was revealed that the epidural kit is expensive and is not covered by the National Health Insurance Scheme (NHIS). Thus, epidurals and perfusers are used for patients who can afford them or those who are likely to have severe post-operative pain. At the time of data collection, however, none of the patients on the general surgical ward had epidural analgesia or a perfuser.

'...a few patients depending on the type of surgery they've had and what we envisage to be the post-operative pain they will

have; we may give perfusers of morphine set up on them post-operatively; some may also get epidural analgesia given to them if they can afford and we are able to see them pre-operatively and plan for them.’ (DA)

‘...if you even give an epidural, you can give an infusion of local anaesthetic or you can be giving boluses through the catheter, that can keep the patient pain free for 12 to 24 hours before we need to give another bolus; the patient can ambulate with epidural but it depends on the concentration of local anaesthetic that you use; if you use a higher concentration, you have more of a motor block; so their muscles are paralysed; if you use a lower concentration, it enhances ambulation.’ (DA)

Use of perfusers

The use of perfusers for those likely to experience severe pain and who can afford them was also corroborated by the surgeons. It was acknowledged however that the number of anaesthetists was inadequate and they were not able to meet the pain management needs of all surgical patients; hence, the necessity of concentration on patients at greater risk of severe pain.

‘...the anaesthetists are not many so if they are going to take care of pain management for every patient, they cannot cope; so they usually turn to concentrate more on patients who are going to have a lot of pain; so if someone has an Abdomino-Peritoneal (AP) resection; perineal surgery; abdominal surgery; then they may give them portable perfusers on their wrist or for obs and gynae (obstetrics and gynaecology) cases who have caesarian section; if they give the patient the perfusers, they follow up on the wards.’ (S2).

Challenges of pain management

Challenges faced by the multidisciplinary team were related to shortage of staff, opioid effect and availability, and inadequate training and collaboration.

Shortage of staff

The multidisciplinary team realised that there was a shortage of anaesthetists and this was echoed by the anaesthetists. It was believed that when other health professionals such as nurses are better trained in pain management, it would enhance the active team involvement of pain management as a whole.

'...our numbers are very low. That is why we will have to engage the services of other health professionals like nurses; train them, not as anaesthetists though, but train them in effective pain management so that they can supplement the duties of the anaesthetist.' (NA)

It was also reported that the number of house officers and clinical pharmacist were also inadequate. The lack of staff for the multidisciplinary team affected the establishment of acute pain teams or pain clinics within the context of the study.

'...we haven't got a pain service because we don't have the people on the ground; ...because for such a team to work, we need people who are not obligated to do anything else apart from that; so they can go to all areas where patients undergo surgery and make sure they take care of their pain; and apart from that, they can take care of patients who have chronic pain.' (DA)

Availability and effects of opioids

The anaesthetists realised that some post-operative patients experienced side-effects with the opioids administered through the perfusers. In this instance, antiemetics such as injection Kytril were given if the patient could afford it; or, injection Phenergan is given to counteract the pruritus or vomiting. It was perceived that patients needed to be adequately informed about the side effects of the post-operative analgesics so that they could make informed choices.

'What patients do complain about are the side effects of the opiates like pruritus. Morphine for instance causes a lot of pruritus. So, I educate the patient before the perfuser is inserted.' (NA)

The anaesthetists also revealed that they sometimes experience inadequate supply of drugs such as opioids. The inadequate supply of opioids was attributed to international regulatory restrictions associated with opioid abuse. Also, it was perceived that inadequate accountability of opioids contributed to the problem. Perhaps the inadequate supply of opioids hindered post-operative pain management.

'...but the problem with getting regular supply of opioid is that every country has a quota for opioids and so the world federation which regulates opioid use says 'oh, Ghana, this year you've already met the quota for the year so we can't give you any more opioids'; so you will have a situation where if there is none in the

country, then there is a shortage all over and you can't buy anymore.' (DA).

The anaesthetist, surgeon, and pharmacist within the context of this study perceived that patients did not receive adequate analgesics because of misconceptions about opioid administration such as nurses' fear of addiction. This perception was congruent with findings from the nurses' perspectives reported in an earlier publication (Aziato & Adejumo, 2013).

'...inadequate pethidine administration is because we have a lot of misconceptions about these opioid drugs; people are afraid that if we give, the patient will become addicted; and not breath well; but the truth is that if you work within the normal dose for that particular patient; you calculate the amount you need to give correctly, and you give it at the right frequencies, and you are monitoring, you shouldn't really have any problem.' (DA)

'...pain is not really managed properly because either it is not administered properly to the patient or the prescriptions are just written and nobody follows up; so sometimes when you follow-up on the patient; during the ward rounds, you realise that the patient is in pain.' (CP).

Inadequate training and collaboration

The multidisciplinary team were of the view that training was required to empower all health professionals on pain management and there should be establishment of pain clinics to enhance pain management. Also, the need for effective collaboration was also emphasised.

'...a lot of education needs to go on I must admit; I mean even amongst us health professionals in terms of surgeons and nurses concerning pain medication; there have been a few instances where we have had the department of anaesthesia giving lectures on acute pain management; we need to do a bit more.' (DA)

'I think there should be more of collaboration. We need to collaborate more. Nurses, surgeons, anaesthetists would need to collaborate more when it comes to pain management.' (NA).

There was a little collaboration where sometimes the surgeons reviewed patients' medications with the clinical pharmacist. At the time of data collection, however, the pharmacist was not actively involved in post-operative pain management decisions on the ward.

'...we review the medication charts of patients to see whether they have been given the right doses, the right frequency, whether it is the right drug for the right patient; because if you are giving analgesia to a particular patient, you have to determine whether that particular drug is suitable for the patient; ...we also consider the kinds of medication we have in the pharmacy and also recommend those drugs for the patients.' (CP)

'...there are some peculiar cases the anaesthetist can discuss with us what they think the patient should be given.' (S1).

Organisational culture

This theme describes pain management decisions employed by the multidisciplinary team and inadequate use of morphine within the context of the study.

Pain management decisions

The multidisciplinary team also realised that post-operative pain management was not a team decision (team of specialists). Individual surgical teams and anaesthetists prescribed analgesics according to their professional judgement regarding the appropriate dosage of analgesia.

'...post-operative pain management is more of individual surgeon or even individual anaesthetist own preferences; and somebody may decide to give his opioid 8 hourly and another will say 6 hourly or even 4 hourly; and we don't have protocol so it is more 'what I think as an anaesthetist will be ok for my patient, that is what I will give'; and the surgeons do the same; they all have their way; but generally most of the surgeons have almost the same preference for the frequency for which to give the pain medication.' (DA)

Inadequate morphine use

The study also revealed an organisational dimension where surgeons were more comfortable with pethidine as opposed to morphine injection for pain management. Anaesthetists and pharmacists were of the view that surgeons and nurses were not comfortable prescribing and administering morphine.

'Occasionally we use morphine; usually for postop pain, we don't; we tend to use morphine more for chronic pain; terminal cases or very severe pain;... morphine is good for postop pain but

somehow we are more used to the pethidine; we use oral tramadol a lot.' (S2)

Surgeons were of the view that the pharmacist did not provide all the analgesics prescribed. The clinical pharmacist responded that the inability to supply all drugs requested was a consequence of inadequate administration and accountability in relation to the ordering and use of drugs on the patients units.

Discussion

The study revealed aspects that were congruent with contemporary post-operative pain management such as the practice of pre-emptive analgesia which has been shown to be effective for the management of post-operative pain (Costantini, Affaitati, Fabrizio & Giamberardino, 2011). While anaesthetists and surgeons administer and analgesics intra-operatively, it was not confirmed if patients who received specific analgesics obtained better pain relief in this study. Perhaps the absence of a formal pain assessment tool in clinical practice within the context of the study hinders such confirmatory studies in Ghana. Indeed, post-operative patients continue to report moderate to severe pain after surgery.

The use of epidural analgesia patient controlled analgesia (PCA) is recommended in contemporary pain management. Perfusers used in this study may serve a similar purpose although the administration of analgesics is not controlled by the patient. Devices such as the PCA have been confirmed to be effective for post-operative pain management (McDonnell, Nicholl & Read, 2003; Polomano, Dunwoody, Krenzischek & Rathmell, 2008). It was reported that some patients who could afford the epidural kit and were anticipated to experience severe pain received epidural catheters and some had perfusers. However, it was noted that the National Health Insurance Scheme (NHIS) did not cover these gadgets for pain management. It was reported that opioids such as morphine administered through these gadgets resulted in itching. Therefore, patients needed education on the side-effects of opioids to gain their co-operation during post-operative pain management.

Inadequate staffing was identified in a previous study where it was stated that the number of surgeons were inadequate to meet the health needs of Ghanaians (Abdullah et al., 2010). This makes formation of multidisciplinary team more difficult. The complex nature of post-operative pain management requires the input of the multidisciplinary team and it is important for efforts to be made to increase the number of the team. This may lead to enhanced post-operative pain management and also the effective activity of acute pain teams. Increased multidisciplinary teams could also enhance decision making during pain management. Perhaps the organisational culture of anaesthetists not actively

involved in routine post-operative pain management on the surgical ward would change when the number of anaesthetists increases.

The literature documents that acute post-operative pain is managed with opioids such as morphine (Strassels, McNicol & Suleman, 2005). Hence, in contemporary post-operative pain management, morphine is preferred to other types of opioids such as pethidine as the result of negative metabolic effects of pethidine (American Society of Anaesthesiologists (ASA), 2012; Pasero & McCaffery, 2011). In the setting of this study however, surgeons preferred to prescribe pethidine post-operatively. The lack of preference for morphine was not fully understood. Thus, the need for further training on pain management was substantiated.

The pharmacist did not contribute directly to post-operative pain management in the ward at the time of data collection. It pre-supposes that the multidisciplinary concept of post-operative pain management is a mirage in the Ghanaian clinical context. However, contemporary pain management recommendations emphasise the effective collaboration of the multidisciplinary team (Hojat et al., 2003; Middleton, 2004; Taylor & Stanbury, 2009). It was realised that the multidisciplinary team such as the anaesthetist and the pharmacist were knowledgeable in post-operative pain management issues and their effective involvement would enhance pain management.

It was realised in this study that as individuals worked together in a team, there were some challenges that directly and indirectly influenced post-operative pain management. Within the setting of this study, prescriptions were written in the patients' folder and a prescription form (for drugs not covered by the NHIS and for patients who do not have NHIS) or written on the NHI medication form (for patients who had NHIS).

Limitations

This qualitative study like other qualitative studies did not involve a large sample; therefore, findings may not apply to other contexts. The study did not involve observations in the theatre, the peri-anaesthesia care unit, or the recovery ward. Thus, future studies should involve clinical observations in these settings to investigate what is actually happening in practice.

Conclusions

The study revealed that anaesthetists and surgeons sometimes provide pre-emptive analgesia to forestall post-operative pain experience among surgical patients. It is paramount to enhance the number of anaesthetists within the context of the study which could help in the establishment of acute pain teams.

Perhaps effective training of the multidisciplinary team including nurses would also improve post-operative pain management. Proper documentation and accountability of opioid analgesic is warranted to ensure that patients receive timely analgesia.

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