Pain Management

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Abstract

Postoperative pain management is still a concern within the health care settings (Selby, 2011). Several researchers have noticed that unrelieved postoperative pain remains common despite the existence of effective pain relief strategies. There are various studies such as which place nursing professional in the centre for the effective pain management in the orthopaedic and surgical setting. There is evidence which shows that patient highly rely on nursing support in care while seeking pain relief in hospitalised environment. Hence the role of nurse's knowledge is critical in the pain management. The aim of this dissertation was to critically review contemporary literature focusing on nurses' knowledge and clinical practice for post-operative orthopaedic pain management. The study after the systematic key word search of online basis reviewed 8 selected studies. The review of literature divulged that role of nurse and nurse knowledge is very critical in the post-operative management of pain. However, there is a substantially knowledge deficiency among nurses in this regards. The literature review established that nursing skills is a broader concept which has other elements besides professional knowledge. However, in the post-operative orthopaedic setting in large hospital there is little and incomplete evidence on the impact of nurses' clinical skills on pain management. Hence, there is a need to conduct an inquiry to answer this question. This dissertation has presented a research proposal which seeks to conduct an exploratory survey examining the impact of nurses' clinical skills on pain management in an orthopaedic ward within a large teaching hospital. This study will be conducted in a large hospital it will involve collecting and analysing primary data, which will be collected through online survey from nursing professionals.

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Dissertation

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Chapter 1 Introduction

1.1 Background

Post-operative pain is defined as a condition of tissue injury together with muscle spasm after surgery (Zhang et al., 2008), in response to Robertson, (2007) study, it occurs in response to surgical interventions and resolves within a specified period. According to The British Pain Society 2012, the goal to optimal pain management is viewed as a human right. Therefore, it is nurses' responsibility to ensure optimal pain assessment and management for their post-operative patients.

Postoperative pain management is still a concern within the health care settings (Selby, 2011). Several researchers have noticed that unrelieved postoperative pain remains common despite the existence of effective pain relief strategies (Chung, 2013). Although the majority of surgical patient receive some form of postoperative pain assessment and management, it is estimated that 50-75% of patients' pain is not maintained postoperatively (Huang et al, 2010). The British pain society 2012 has urged the health professionals to consider pain as a fifth vital sign along as other vital signs. This will heighten awareness of the need to monitor pain and provide appropriate pain relief.

1.2 Aim

The aim this dissertation is critically review contemporary literature focusing on nurses' knowledge and clinical practice for post-operative orthopaedic pain management.

1.3 Rationale

There are various studies such as Kaasalainen, et al., (2007) which place nursing professional in the centre for the effective pain management in the orthopaedic and surgical setting. There is evidence which shows that patient highly rely on nursing support in care while seeking pain relief in hospitalised environment (Stenner, Courtenay, 2008). Nurses in critical and post-operative care are even expected to be capable of prescribing medicine for pain relief in acute and emergency conditions. On the other hand some researchers has observed that the patients were receiving optimal pain relief while in theatre and recovery unit, but on the returning to the ward, nurses lacked consideration of patients' pain needs. These lead patients had to wait for a while without pain relief (Kortesluoma et al., 2008).

Although pain measures tools were available in the researcher's clinical practice, nurses failed to use them, but relied on their own interpretation of the patient's pain and the associated behaviour of patients (Francke et al., 1997). All of these factors not only establish the significance of nurse role in the management of pain but also revile that nurse competency in providing effective pain management. Penoyer (2010) in a comprehensive study suggest that professional knowledge of nursing professional is critical in determining the health care outcomes of every intervention. Hence, as per Francke et al., (1997) it's important to explore the evidence from contemporary literature to confirm the direct relation between nurses' knowledge and clinical practice for pain management particular the post-operative setting. Hence this study seeks to review the contemporary literature on the topic.

Chapter 2 Search Strategy

2.1   Research Approach

In order to review the contemporary literature focusing on nurses' knowledge and clinical

practice for post-operative orthopaedic pain management, this paper has followed a qualitative

approach of research. The research strategy for this paper is to crucially review the contemporary

literature in a systematic manner on the research topic to answer the question. The secondary

data in this paper comprises of books and journal article.

2.2   Search Strategy

In order to gather the secondary data, systematic key words was carried out in online academic

data basis and search engine. For the systematic search of literature, researcher used five

keywords which werenurses' knowledge, clinical practice, pain management, post-operative, and

orthopaedic race and representation. In order to gather data in large quantity researcher applied

Boolean operators, which enable to search the data in various combinations. Data searching with

the help Boolean method of "And" and "Or to discover the pertinent data.

2.3   Criteria of Exclusion and Inclusion

Inclusion	Exclusion
The books and articles which the nursing knowledge regarding pain management for post-operative patients	Researcher excluded all those searched items that had discussed other topics/issues irrelevant to the research question
Studies available in English language	Researcher excluded all those searched items which were not in English
Studies which were published between 2005 to 2015	Studies which were published before 2005
Published studies only	Studies which are not published

2.5   Search Outcomes

The process of looking for relevant research articles was more time consuming and difficult than expected. This is because a small amount of articles had direct links to full text versions that were free and compatible. From a total of 312 articles 8 were chosen. The rest were excluded for a variety of reasons. Such as, some were not suitable for the chosen topic and some bypassed the topic. The period time for the search of relevant articles was from July 2015 - December 2015. Three databases were used; Cochrane, Cinahls and RCN library. This resulted in a total number of 150 citations which were used in this research project.

Chapter 3 Literature Review

3.1   Emergent Themes

From the systematic online search tenstudies were short listed for review of literature, from these

selected studies in the basis of commonness and recurrence, the three following themes were

generated:

Pain Management

Nurse's Knowledge of pain management

Nurse's perspective of pain management

3.2   Theme 1: Nurse's Knowledge of Pain Management

Machira, et al., (2013) in this selected article has briefly described the research background by

stating that in palliative care Pain is a common symptom among patients, but effective pain

management can be relieve the pain and in effectively implementing pain management strategies

role of nurses are and therefore nurses must have a positive attitude and a solid knowledge

foundation of pain management.

In this study Machira, et al., (2013) sought to evaluate and implement a pain management

educational programme (PMP) for Kenyan nurses. Machira, et al., (2013), in this strategy

utilized the qualitative method, the choice of research method is appropriate because this study

sought to measure effectiveness of an educational program. For this purpose Machira, et al.,

(2013) used a pre and post-test quasi-experimental design. This explicit identification of research

probes is a major strength of this study.

 Besides, this article has clearly identified the data collection and sampling, from two units of a

Kenyan health institution, 27 nurses were selected using quota sampling. Explaining the research

process this article clearly indicates that 7 hours of focused education were given to 9 nurses who

were selected randomly. This article explored a baseline deficit in the attitudes and knowledge among nurses related to pain management. However, among those nurses who received PMP intervention showed substantially higher and their knowledge of pain management was far superior than those who did not received the intervention. Machira, et al., (2013) in this study has clearly presented its findings and illustrated them besides it has also translated the results and concluded that in order to enhance knowledge and to influence professional attitudes towards pain management PMP is an effective tool.

Overall this is a good article, with the clear identification of research approach, sampling and data analysis techniques its results appear reliable and creditable. This is also because the findings of Machira, et al., and (2013) are consistent with previous studies as Dunwoody et al (2009), has also indicated that education and in-service training is vital for appropriate knowledge and clinical skills to manage pain in the clinical setting.

Weiner, (2001) suggests that conducting knowledge surveys among nurses and other multidisciplinary team members will help to identify knowledge gaps as well as, personal beliefs that may be all of which can preventing optimal pain assessment and ameliorate adequate management. Further in this regard, education may improve their pain management skills which can sometimes it can be difficult to address the problem once the barriers have become established (Shannon et al, 2010)

McNamara et al., (2012),in this selected article has briefly described the research background by stating that consistently Poor postoperative pain management reported as a major patient problem and nurses knowledge and attitudes in providing appropriate care significantly affect patient's condition. This article has refered to various other studies to establish the theoretical background of the work which is strength of this work. McNamara et al., (2012), in this article

has explicitly stated its by stating that this article sought to evaluate the effectiveness of an educational program for nurses on acute pain management to enhance the nurses' skills attitudes and more importantly their knowledge of pain management in postoperative setting.

This article has clearly described the data collection and analysis techniques, but it has not identified whether this study has used qualitative or quantitative method which appears as a flaw. Though, it's evident that this is a quantitative work as it involves statistical analysis to generate results. Identifying the research population and sampling McNamara et al., (2012), states that using convenience sampling, they picked 59 nurses from a teaching hospital, and these nurses were enrolled in acute pain course. McNamara et al., (2012), collected the data through a validated questionnaire before, immediately after the course and 6 weeks after the course. This clear identification of data collection is strength of this article.

 McNamara et al., (2012), has dedicated a separate section in this article to present the results and analysis, besides, this work has explicitly stated and illustrated the findings. McNamara et al., (2012), in this work has explored that the educational intervention for nurses substantially improved pain assessment and management knowledge of nurses , besides, this intervention favourably influenced this attitudes towards pain management and assessment. In context of this dissertation the findings of McNamara et al., (2012), are very important as they establish the high significance of nurse's knowledge in the management of post-operative pain of orthopaedic patient.

Overall, McNamara et al., (2012) has produced a quality study, clear and explicit identification of research method makes this work valid and reliable. Besides, the findings of this article are also consistent with the discoveries of Machira, et al., (2013) who emphasized on improving nurse knowledge of pain management through educational intervention. Munafo et al., (2008)

has also shown in their work that education is the key to optimal management of pain, and eliminating barriers preventing pain assessment and management. For this reason, there should be continuous programs and training for all the nurses, which will help identify knowledge gaps on pain assessment and management. In doing this, patients will receive a higher standard pain management, and reduce any episodes of unnecessary suffering.

This article has clearly stated its aim an objectives both in the abstract and introduction, the title of this article clearly reflected the aim of this study as Godfrey (2005), in this work sought to obtain to enhance knowledge of nurses by discovering the biological basis of interventions for pain which contribute to management of pain. Describing the context and background of this article Godfrey (2005) has highlighted the significance of nursing role in the assessment and management of pain. This study also signifies the need of professional knowledge and skills of pain management interventions among nurses. Godfrey (2005) argues that for the effective nursing management of pain there is essential requirement of sound understanding and knowledge of the biological foundation of the interventions that nurses can apply in the management of care. Overall this article has very unusual presentation of the work it does not have any methodology section, not it indicates what research method and approach this work utilise. The review of article somehow indicates that this is a qualitative desk research that has reviewed secondary data on three key pharmaceutical agents used, opioids, adjuvant drugs and non-opioids. The lack of identification of research method and even search strategy place this work is highly flawed as it has low reliability and validity. Though, the findings of this article are somewhat confirmable as Godfrey (2005) has extensively refered to various other academic sources.

Though, the results of this article are very significant in relation to this dissertation as Godfrey

(2005) has concluded that for nurses, in order to make a meaningful contribution in pain management are essentially required to develop sound knowledge of mechanisms of pain and must comprehend the physiological foundation for the non-pharmacological method utilised in delivery of care. Godfrey (2005) in this article has found that the different points along the pain pathway also be appreciated by nurses which are latent marks for the modulation of pain. Godfrey (2005) towards the end of this article recommends that professional nurses should develop basic knowledge and understanding of the means by which opioid and non-opioid analgesia applies their efficacy and should comprehend how adjuvant drugs act in the pathway of pain. emphasising on the need of nursing knowledge Godfrey (2005) has argued this understanding and knowledge can enable nurses to recognise the importance of a multimodal tactics in the pain control and facilitate them to play a more informed and effective role in the management of pain. Overall this article, despite major methodological and structural flaws is very illuminating and its findings can be considered reliable as they are well aligned with previous studies such as Munafo et al (2008) suggests that, by fully a fuller understanding of what pain is and how to control it, we will prevent delayed recovery, and increased hospital stay as well as, costs requiring extra resources.

Pain has been identified as the fifth vital signs in an attempt to facilitate accountability for pain assessment and management (British pain society 2012). In comparison withSwann, (2011) study, the effective measures of pain among post-operative orthopaedic patients is important in the assessing and monitoring their pain. A proper approach to acute postoperative pain management must include an appropriate assessment tool (Swann, 2011), as this reduces the experienced pain, increase comfort, improve physiological, psychological and physical function.

Pain assessment scales allow patients to report the intensity of their pain and provide a guide of how their pain is managed (Smeltzer et al 2008).appropriate pain assessment rating tool for the patient must be selectively chosen and explained by a qualified nurse (Melzack et al, 2009). These pain scales includes Numeric Pain Rating Scale (NRS)), Visual Analogue Scale (VAS), and verbal pain intensity scale. Melzack et al (2009) confirmed the validity and reliability of these pain rating scales, thereby supporting their essential value in clinical practice. In conflict, studies show that some nurses do not use pain rating scales effectively.

3.3   Theme 2: Nurse's Perspective of Pain Management

This study has presented substantial and multiple evidences to establish the context and background of this research. Stating the problem this study was dealing Van Raders, et al., (2007) stated thatfor postoperative pain management application of Patient-Controlled Analgesia (PCA) has become common practice and, in many cases, PCA is regarded as the care standard. However, this strategy is proven out to be very labour intensive and it consumes lot of nursing time. Hence Van Raders, et al., (2007) foundthatthere is a need to explore the pain management intervention and their effectiveness from the nursing perspective as well. Though, this article has not explicitly stated the aim or purpose of this work, which appears a major weakness of this article, and it takes a reader to read the entire introduction section to understand the objectives of the article. However, a brief and clear identification of research problem somehow overcome this limitation.

This article has separate methodology section though it neither does nor clearly defines whether it was a quantitative study which is another flaw of this work. However, since Van Raders, et al., (2007) has stated that they Conducted Randomized Control Trial (RCT) to conduct this research, hence it's evident that this was a quantitative work. At 51 sites in various European countries,

Van Raders, et al., (2007) conducted open-label, comparative, active-controlled phase IIIb, parallel-treatment randomized trial to assess the safety and efficacy of pain control in postoperative setting by using fentanyl ITS compared with a standard morphine regimen provided by an patient controlled analgesia pump (IV PCA). The choice of research method is considered appropriate because RCT are often carried out in scientific research where data from various sites is required to be collected over a long time. The factors which establish the high reliability and validity of this study are clear and detain identification of research population and sampling.

Van Raders, et al., (2007) has dedicated a separate section to present their findings and in that section they shows that Nurses' ratings tasks for of patient-care in relations to each system of pain management were meaningfully more positive for fentanyl ITS as compare to IV PCA morphine. From these findings Van Raders, et al., (2007) derives a conclusion that fentanyl ITS is considered by nurses as more easier pain management tool as compare to IV PCA morphine. In context of this dissertation these findings are important as the again establish the criticalness of nurses and their knowledge in the effective main management and establishes the need to overcome the barriers which deprives nurses from effective delivery of care. These findings of Van Raders, et al., (2007) are also consistent with other studies such as according to Chung et al (2005) postoperative acute pain management is still as a concern within the health care setting. Several researchers have noticed that unrelieved postoperative acute pain remains common despite the existence of effective pain relief strategies Chung et al (2005).

In relation with Broekmans et al (2012) study on pain in post-operative patients, she discovered that orthopaedic post-operative patients, who had minor surgeries under local anaesthetic such as carpal tunnel decompression, were less likely to complain of pain than those who has major

surgeries under general anaesthetic such as hip replacement. Now, although the pain reliefs were available to control their pain on the ward, she discovered that the barrier to effective pain management within this group of patients was due to their cultural beliefs on pain.

3.4   Theme 3: Pain Management

Layzell and Layzell (2008) has presented this article in very unconventional fashion, this study does not clearly state the aim and objectives of this work. Though this article has an abstract but for reviewer it does not clearly identify the aim of this work. This appears as a weakness of the study because as per Flick (2013), every scholarly work should clearly state its purpose and objective and title of the study must reflect the aim of researcher so that it can attract the attention of scholars and students immediately. Though, from the review of article it can be found that Layzell and Layzell (2008) in this work sought to discusses the significance of measuring preoperatively of patients and divulge how some critical risk factors among postoperative patients can lead to severe pain.

As another major flaw, this article does not have any methodology section, neither has it described the research approach nor does it provide any focused information on data collection. These are critical flaws of this article which can jeopardise the reliability and validity of a scientific research. The review of article somehow indicate that this is a qualitative desk research that has reviewed secondary data on commonly used non-steroidal anti-inflammatory drugs, analgesics, paracetamol, local anaesthetics, opioids and administration methods of local anaesthetics. This article has also presented a brief analysis of postoperative pain control approaches which focused on addressing the inter-patient differences in response to treatments and pain and avoid ineffective pain relief periods.

Layzell and Layzell (2008) in this article has explored that there are various medications and interventions for the postoperative pain care; some carry serious complications and risks of side-effects. For the effective management of postoperative pain there is an essential need for the coordinated measure of responsive and skilled interdisciplinary care team, including nursing staff, medical and pharmacists and physiotherapists. Layzell and Layzell (2008) towards the end recommenda new and more coordinated and technologically integrated approach for future pain management.

Overall the findings of this study, despite low methodological rigour are consistent with previous studies as Gatchel et al., (2014) in a study has emphasised that the problem of post-operative pain is so common and significance that it cannot be left alone on the shoulder of one care professional, besides, the management of pain has involvement of non-physical factor which necessitate an interdisciplinary well-coordinated management of post-operative pain. Similarly, Hayes and Gordon (2015) in a recent inquiry has suggested that lack of essential knowledge and skills among nurses in managing is not only common but it's a problem which requires long time and continuous training to enable every post-operative care nurse to provide successful and broad scope pain management to post-operative pain.

For this Hayes and Gordon (2015) suggest that the best and most feasible alternative is multidisciplinary team care for the relief of post-operative pain. Lewis et al., (2014) in another study has argued that multidisciplinary team care for the relief of post-operative pain cannot only accomplish the immediate goal of effective pain management , but with close integration and coordination with other professionals, nurses would have a much broader understanding of pain mechanics and they will gain first-hand knowledge in the process.

Clarke and Iphofen (2005) in this article, believing the patient with chronic pain, have provided the clear context and background of this study which is a major strength of this work. Though, the title of this work does not clearly reflect the aim of the study. The aim of this article is presented in very vague and complicated wording which makes its comprehension very difficult. Clarke and Iphofen (2005), in this article sought to review contemporary literature to explore the impact of health professional's knowledge of patient's pain experience creditable for the development of nursing practice.Clarke and Iphofen (2005) in this work sough to provide patient's account of their experience of pain that is considered to be reliable and credible; in other words, to their 'being believed' by nurses and other health professional.

As a major strength of this article it was noted that this study has clearly described its researchmethod and approach. This is a qualitative inquiry which has systematic review strategy to explore the contemporary literature. The choice of research approach appears appropriate because as per Flick (2013), in qualitative studies, the review of literature in a systematic manner is an effective strategy, because systematic review ensures that each and every study is reviewed on standard and identical perimeter which enhances the reliability and validity of the findings. Identifying the data collection procedure Clarke and Iphofen (2005) has indicated various academic databases from where the studies were collected, to ensure the reliability of the data collection this article has clearly identified the criteria of exclusion and inclusion.

Beside, this article has stated the key words used during systematic online search which were chronic pain', 'confirmation', 'attitude', 'belief' and 'listening to'.

Overall the results of this study cannot be regarded as comprehensive because Clarke and Iphofen (2005) could not discovered decent number of academic inquiries. One of the reason for this failure was the selection of key words, since Clarke and Iphofen (2005) had somewhat a

vague aim this subsequently hampered their data collection. Clarke and Iphofen (2005) in this article have found that 'being believed' is a critical component of not only the process of pain assessment but also the relationship between patient and professional.

This article signifies the need of patient perspective and experience of pain in the post-operative setting. Clarke and Iphofen (2005) has concluded that there are various factors, tasks and engagement which hampers nurse's involvement and concentration to give complete attention to patient and realise their experience. For Clarke and Iphofen (2005) these lacking in nursing practices actually affects their management of pain in large hospitals where nurses have to attend many patients and perform various task.

Overall the findings of this article are consistent with previous studies as Carr, (2009) has also discovered that interruptions such as, answering the telephone, participating in doctors' rounds, assisting other nurses and leaving the ward to look for needed resources, were the major barriers to effective pain assessment and management. However, as per Kehlet et al (2009) in assessing patients' pain, they relied on patients' behaviour as an indicator to pain. By this, nurses were more likely to administer adequate analgesia based on that report as a pain measuring tool. Hutchinson, 2010 in this context also suggested that patients must be trusted to report their pain score as they perceive it and have a humanitarian right to be pain-free. Inadequate pain assessment and management can lead to adverse complications for both patient and the healthcare facility (Hutchinson, 2010).

Chapter 4 Research Proposal

4.1   Research Background

Hospitalization in orthopaedic care environment is not easy. The patient is often sought and must frequently undergo procedures that prove to be painful. These examinations or those painful treatments administered in the patient's interest, generate so-called induced pain. These have the characteristic of being anticipated with appropriate means. Many studies (Lui, et al., 2008) have been done on this in the context of pediatric care and neonatology, which promoted the integration of the management of pain induced in their professional practice. However, this topic is rarely discussed in context of orthopaedic care for adult population (Ene, et al., 2008). Indeed, although the nursing pain management is refined in recent years among the adult population, interest in the induced pain is recent in the literature and in hospitals (Polomano et al., 2008). This lack of respect accorded the recognition of induced pain can have many consequences. In the short term, the person may experience fatigue, anxiety and agitation. In the moments when the person is too rough, it may be that the task should be repeated. The consequences can also develop in the long term. The patient may experience phobias and that feeling can sometimes generate a denial of care. The induced pain can also affect the patient's quality of life and change his relationship is with his surroundings or with the health care team (Gordon, et al., 2008).

The nurse has a major role to play in pain management, they must be able to evaluate and anticipate the pain may be felt by the patient during a procedure. Indeed, the nurse being closest to the patient for the duration of hospitalization, should consider this induced pain, as the consequences that it may cause can alter the patient-nurse relationship (Ortiz et al., 2014).

The pain in orthopedic patients is so complex that, despite the significant progress that has been done on the health sciences, have not yet been found effective remedies for some pain having certain orthopedic patients. That's why, increasingly resorts to the use of alternative and complementary therapies, and therapeutic procedures that until recently were not taught in college, and have a holistic approach to the disease process, considering the relationship between mind, body and spirit (Doi et al., 2014).

In line with these approaches, nursing care of orthopedic patients involves developing skills that can cope comprehensively and personalized management and pain of people, in terms of timeliness, continuity and quality; therefore, the nurse needs to help find alternatives quickly to solve this annoying, uncomfortable and sometimes maddening symptom sufferer.Nursing, education is perhaps the most commonly used to help patients understand the problem of pain; it is expected that, through education, the patient understands that its intensity can be modulated to their emotional and psychological contribution (Doi et al., 2014).

Similarly, in the many non-pharmacological treatment options for the management of mild to moderate pain, there are some alternative therapies that can be used by the nurse in orthopedic wards, as part of a multimodal approach to this situation, through which education is also applied (Schreiber et al., 2014). Thus, during certain procedures of alternative therapies, such as hydrotherapy, they are usually implemented techniques mental and physical relaxation, distraction and reconceptualization. It is known that these and other related treatments have been used by nurses for several years; however, there is little evidence on the nursing perceptive regarding the impact of nurses' clinical skills on pain management (Doi et al., 2014).

In contemporary clinical setting the clinical skills of nurses are gaining high professional significance. Because the nurse has a very important role for better management of patients to

relieve pain and suffering and optimally respond to the physical and psychological needs optimally (Schreiber et al., 2014).The nurse should have the teamwork ability that is to say, able to plan, organize tasks, use each other's resources, work with members of the healthcare team and have respect for the work of others; A professional nurse is also required to know how to use his theoretical knowledge, techniques, personal experience to take initiatives while respecting the limits of its powers (Schreiber et al., 2014).

4.2   Aim

The aim of this proposed study will be to conduct an exploratory survey examining the impact of nurses' clinical skills on pain management in an orthopedic ward within a large teaching hospital".

4.3   Rational and Significance

It's widely believed that the nursing staffs is a fundamental part of the primary care team as well as specialized care for its proximity to the patient and the family of this, even more when the patient has pain. Besides these health professionals are a valuable source of information for the doctor and it is they who administer the medication regimen, early warning changes with the disease, the possible side effects of the treatment and monitor the intensity of the pain as well as the degree of relief the same.

Hence,it's pivotal to examining how the nurses' clinical skills affect the pain management in an orthopaedic ward within a large teaching hospital. This proposed research will provide a new and deeper understanding on various essential nursing skills, the comparative significance in effective pain management and this study will also illuminate nursing leadership to develop strategies to further develop and enhance nursing skills in the light identified gaps and needs of nurses in large hospitals.

Chapter 5 Design and Methods

5.1   Introduction

From the above systematic review of literature it became evident that role of nurse is very critical in providing effective pain management service to postoperative patient. The review literature also divulges that to provide effective pain relief to post-operative orthopaedic patient, nurse's knowledge of pain mechanism and pain management strategy to shape nurse skills and determine the nursing care quality.It's also evident from the literature review that there is substantial deficiency in the nursing knowledge of effective management of post-operative pain. Nursing skills is a broader concept which has other elements besides professional knowledge. However, in the post-operative orthopaedic setting in large hospital there is little and incomplete evidence on the impact of nurses' clinical skills on pain management. Hence, there is a need to conduct an inquiry to answer this question. This chapter will outline the research methodology that this proposed study will utilise. This chapter provides a brief overview of research approach various aspects of sampling and data collection and also provide a brief sketch of anticipated findings.

5.2   Research Approach

The research approach this proposed study will utilise is quantitative approach. Basically there are two types of research methods apply in academic researches i.e. quantitative and qualitative. The question of ontological (the study of how reality looks) and epistemological nature (the study of how it is possible to acquire knowledge about reality) are overarching epistemological frameworks of understanding by all research. Quantitative research is based on science and science mainly inspired by positivism and critical rationalism, but however, the critical theory and pragmatism also used as overarching framework of understanding(Cohen, Crabtree, 2008).

The rational for the selection of quantitative approach is that today's health challenges are complex nature. Knowledge is not unambiguous. What kind of knowledge that the various health professions need to meet the individual on a good expedient manner is still under discussion and development. Today it is a requirement that professional responsibility is grounded in experience, theory and research-based knowledge (Pope, Mays, 2013). Quantitative research is a significant contributor to scientific knowledge as it is particularly suitable for mapping, look at relationships, illuminate cause - effect and measure the effect of measures. Quantitative research is so common in health research that one can overlook method concepts as necessary to understand, evaluate and apply research findings.

Using the quantitative approach, in order to conduct this research to examine the impact of nurses' clinical skills on pain management in an orthopaedic ward within a large teaching hospital, this study will conduct online survey of nurses in a large hospital.

5.3   Research Design

The research design here refers to the overall strategy, that this proposed study will utilise to conduct this work. Basically this proposes research will derive its finding from the primary data. The primary data in this study will comprise on the perspective of nurses on the impact of nursing skills. The rational for using the primary data for this study is that this study seeks to examine the impact of nursing skills on pain management and primary data will provide a first-hand, updates perspective on the topic.

5.4   Sampling

The research population in this proposed study will comprise of nurses from a big hospital, the sample population would comprise on the nurses who are either currently working in orthopaedic

setting or previously has worked there. The sample size for this study is expected to be around 200 to 150 nurses.

5.5   Data Collection

Data collection is the process of gathering and measuring information on targeted variables in an established systematic fashion, which then enables one to answer relevant questions and evaluate outcomes (Nieswiadomy, 2011). In this proposed study primary data will be collected throughan onlinequestionnaire. For this purpose researcher will prepare and exclusive survey questionnaire. As per Flick (2013), Survey is a very effective data collection tool when involving the collection of data from large sample size. Another advantage of this data collection tool is that for a student researcher this is very cost effective data collection tool. Though there are certain disadvantages with this data collection strategy, firstly, researcher unlike face-to-face interview, in survey researcher does not have any control on the information follow and for the peculiar nature of instruments only very brief information can be collected on some certain aspect.

5.6   Data Analysis

The primary data that will be collected through survey will be analysed by the researcher with the help of appropriate software and computer programs.

5.7   Ethical Considerations

There are certain ethical aspects which can affect the overall quality of an academic inquiry and researchers are thus required to follow the ethical protocols of academic research (Flick, 2013). In this proposed research, for the involvement of nursing professionals, the major ethical consideration would be to ensure the privacy of the participants, thus this study will not reveals the personal and professional identity of the any participants. Besides, this study, wherever it will utilise any secondary data will, provide a complete citation and reference of data source.

5.8   Anticipated Findings

The anticipated key findings of for this proposed study may show that the participants have knowledge deficits on pain management. However, they were aware of the severity of post-operative orthopaedic pain and benefits of pain management; however, their pain management practices were inconsistent. Pain measuring tools, which are vital for assessing pain, were available but rarely used in the clinical area. The participants, identified barriers to pain management and the need for training and education relating to pain management. Besides, this study is also expected to divulge how various aspects of nursing skills such as their pain assessment competence, communication and counselling skills etc. plays a role in the management of pain.

Conclusion

The literature review conduced shows that pain is undermanaged in the post-operative settings. Contributing factors involve knowledge deficit and inconsistent clinical practices of nurses. Pain management is still a critical aspect in the post-operative setting. It is important that nurses and other multidisciplinary team provide optimal pain management to improve post-operative recovery process. The key finding from the three themes is knowledge deficit, limited training and inconstancy of pain management.However, this proposed study is likely to encounter some limitations, the most important of which is the collection of primary data in adequate quantity. A major limitation in on-line survey is the low response rate from the participants. In order to overcome this limitation researcher is considering the option of physical collection of survey data, but this option will be utilised if needed.

When it comes to improving professional knowledge and developing nursing skills the role of technology is gaining growing importance, however, there is very little focus of scholarly work

on the application of modern ICT technologies for the facilitation nurses in the management of pain. Hence, for the future research it's suggested that there be a research to explore how modern ICT technology such as computer software and mobile apps can facilitate nurses in improving their clinical knowledge and skills for the pain management.

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