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REVIEWS

# Organisational barriers to effective pain management amongst oncology nurses in Saudi Arabia

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## ABSTRACT

Cancer pain is a multi-dimensional syndrome with a combination of acute and chronic pain that causes physical, psycho-social, behavioural, emotional and spiritual problems resulting in adverse effects on patients' quality of life. Nurses need to be well prepared with knowledge on pain assessment and management techniques in oncology units, due to their vital role in the decision-making process regarding pain management. However, limited research has been conducted regarding nurses' barriers regarding pain management in oncology units, especially in Saudi Arabia. The overall aim of this study was to explore the nurses' perceived barriers that hinder the delivery of effective pain management to cancer patients. Five focus group discussions were conducted using a purposive sampling of six to eight nurses in each group, with a total of 35 oncology nurses. The results of focus group analysis revealed two main thematic categories with associated sub themes, being nurses' workloads, and the absence of health team collaboration. This study provides an increased awareness of the barriers that may hinder the efficacy of pain management provided to cancer patients in Saudi Arabia context. Significant implications will benefit nursing practice, administration and education, in addition to identifying potential future research.

**Key Words:** Nurses' barriers, Oncology, Saudi Arabia, Pain management, Workload, Collaboration care

## 1. INTRODUCTION

Cancer is considered one of the leading causes of death globally.<sup>[1]</sup> Jemal *et al.*<sup>[2]</sup> estimated that by the year 2030 there will be 21.4 million new patients diagnosed with cancer annually. During the trajectory of this disease, significant symptoms are reported, especially in the advanced stages, where pain is the most upsetting symptom for patients with cancer.<sup>[3]</sup> Cancer pain is a multi-dimensional syndrome with a combination of acute and chronic pain that causes physical, psycho-social, behavioural, emotional, and spiritual problems, resulting in adverse effects on patients' quality of life.<sup>[4,5]</sup>

Managing pain in patients with cancer is possible; evidence indicates that 80 to 90 percent of pain can be relieved by correctly following international guidelines for managing cancer pain.<sup>[6]</sup> Despite advances in pain management techniques and the international prescribed guidelines for adequate pain management, studies have shown that patients with cancer continue to suffer from pain at different stages of their illness, mainly in the advanced phases.<sup>[7,8]</sup> The American Cancer Society<sup>[9]</sup> declared that 60 percent of patients who received treatment for cancer experienced moderate to severe pain, and the percentage increased up to 90 percent in the advanced stages of cancer.

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Many barriers hinder the delivery of effective pain management to patients with cancer; this might be healthcare professional-related, healthcare system-related, or patient-related.<sup>[10,11]</sup> Poor knowledge and negative attitudes towards pain management were reported as one of the most common barriers to effective pain management among nurses, with much research being undertaken in this area.<sup>[5,12,13]</sup> Systematic or organizational related barriers in which pain management occurs also often impose a number of constraints. These barriers then may unintentionally hinder the effective management of pain through such things as the availability of opioid drugs, lack of national policy, and hospital regulations that impede the nurses' performance.<sup>[5,10,12]</sup> Little research has been undertaken in exploring the organisational barriers to effective pain management and certainly none undertaken in Saudi Arabia.

Nurses working with patients diagnosed with cancer have a vital role in the decision-making process regarding pain management. Considerable personal and cultural beliefs about cancer causation and meaning predominate oncology nurses interpretations of pain, which can lead to inappropriate and inadequate pain management practices.<sup>[14]</sup> This study aimed to explore the nurses' perceived barriers that hinder the delivery of effective pain management to cancer patients in oncology wards within a Saudi Arabian context.

## 2. METHODS

Exploratory descriptive mixed methodology was employed for this study, with the qualitative arm only being reported here. The recruitment process began in Saudi Arabia in March 2012 and continued through to July 2012. After obtaining ethical approval from the Human Research Ethics Committee at RMIT University (BSEHAPP 37-11 Alqah-tani), data-collection procedure took place. Registered nurses with at least three months' work experience in adult oncology units at five large (> 500 beds) hospitals in Saudi Arabia were invited to participate in this study. Phase 1 involved the distribution of a survey which aimed to explore the oncology nurses' knowledge, attitudes, beliefs, and barriers about pain management. The results from Phase 1 involving 320 nurses are reported elsewhere.<sup>[15]</sup> At the completion of the survey, participants were asked if they were willing to participate in a focus group interview, Phase 2. If they were willing to be in a focus group, they provided their contact details for communication and invitation to participate in the group. These contact details were known only to the researcher and were kept separate from the data. From this list of potential participants, the researcher selected a purposive sample of participants in order to form the focus groups.

This sample was chosen on the basis of the range of Phase 1

scores and the various cultural groups. The researcher then emailed the purposive selected sample nurses the study objectives and the plain language statement to invite them to participate in this part of the study. Once the agreement had been obtained and arrangements for the focus group were made, each participant was allocated a code. Participants were then clustered into the focus groups according to their location (hospital), age, nationality, and high/low score response on the questionnaire.<sup>[16]</sup> The group composition and size was set to allow heterogeneity,<sup>[17]</sup> in order to stimulate discussion, diversity and to allow comparison and clustering of data collection from different groups. Each hospital from Phase 1 of the study hosted one focus group to facilitate attendance. In this study, the anticipated point of saturation was reached after the fourth focus group discussion. However, one additional focus group discussion was conducted to add confidence on achieving thematic saturation. In total, five focus group discussions were conducted, consisting of six to eight participants in each group, with a total of 35 nurses. The interview guide for the focus groups was developed based on the literature and was validated by an expert panel prior to being piloted.

The researcher applied Finch and colleagues<sup>[18]</sup> method of focus group discussion for managing the scene setting, introducing participants, presenting the results of Phase 1, running the discussions and ending the sessions. All the discussions were undertaken using the English language, which the participants were proficient with. The focus groups were digitally audio recorded and lasted for around 90 minutes on average. Prior to commencing the focus group, participants were given a consent form to sign and a brief demographic form to complete. In order to facilitate the discussion, the researcher, who was the moderator of the group, made sure that every member in the focus group had an opportunity to speak and thereby ensure that the discussion was not dominated by a few members.

Following collection and transcribing of the interview data, the researcher followed Morgan's<sup>[19]</sup> method for analysing focus group discussions which consists of three elements: coding the data, interpreting the data, and reporting the data. The common responses among participants both within and between the different focus group discussions were arranged and grouped systematically to generate the codes and later the subcategories using thematic analysis. NVivo 10<sup>®</sup> qualitative analysis software was used during the analysis as a means to assist in the coding and the development of categories. This method assisted the researcher in finding the commonality and patterns in the data by tracking the frequency of occurrences across the data, classifying, sorting and organizing the text in order to drive conclusions on the

final thematic categories.<sup>[20]</sup>

### 3. RESULTS

Data were collected from 35 registered nurses working in the oncology wards in designated Saudi Arabia hospitals. The majority of the participants were female (n = 30, 85.7%). Their ages ranged from 25 to 35 years (M = 29.4, SD = 2.5). The majority of the participants (n = 30, 85.7%) were expatriates and only 5 (14.3%) of the participants were of Saudi Arabian origin. The expatriates included Filipino nurses (n = 14, 40%), Indian nurses (n = 9, 25.7%), Indonesian (n = 2, 5.7%) and Jordanian (n = 5, 14.3%). Around two thirds of the participants (n = 24, 68.6%) were Christians. The focus groups contained nurses with experience ranging from two to eight years with an average of 5.3 years.

The thematic categories are presented individually along with textual examples to create an in-depth understanding of the responses given by participants. The participants are identified by pseudonyms and the focus group numbers. The themes that emerged from the focus groups data analysis were categorized into: communication barriers, cultural differences, nurses' workload, lack of knowledge, and absence of health team collaboration. This paper will present two substantive themes that relate to hospital administration and associated organisational barriers to effective pain management in oncology wards in Saudi Arabia, being nurses' workload and the absence of health team collaboration. The other substantive themes pertaining to interprofessional and personal barriers will be presented elsewhere.

#### 3.1 Nurse's workload

One of the themes identified from the focus groups as a barrier to the nurses ability to provide effective pain management, was that of their high workload. The participants commented that nurses in the oncology wards had very heavy workloads and this impacted their ability to provide high quality pain management to cancer patients. Consequently, this heavy workload contributed to nurses' inability to provide pain medication to the patient, either on the scheduled time or immediately when requested by the patients. In addition, this workload meant there was a lack of time available for providing health education as well as limited time to comprehensively document related to pain assessment and management. The emotional complexity of this frustration was clearly described in the following:

*"... We have extra workload in our oncology unit, it affects us as nurses, we could not deliver the high quality of care for our patients... Many nurses had limited time to write nurses notes, especially when too many patients complaining of pain"* (Mahmoud, FG 2).

The many focus group participants believed that the heavy workloads were closely interlinked with the high patient to nurse ratio. Common responses among the participants revealed that caring for too many patients forced the nurses to classify the patient's needs according to priority. This priority was not necessarily based on attending to the patient who was the "sickest" first if two patients needed pain management at the same time, as can be illustrated in the quote that follows. This resulted in some delay in responding to the patients' needs especially when they were in pain:

*"Actually here we are facing a lot of work loads. So when attending one patient we are neglecting other patients. Of course, when this happens, I mean having patients with many needs to be met at the same time, we select to attend patients before the others, for example, if one patient is crying from severe pain. After a long period of time we see the other patients and try to meet their pain needs"* (Nelie, FG 1).

As a consequence of not being able to respond to their patients' needs immediately, many nurses felt dissatisfied with the pain management care they were able to provide. Their dissatisfaction then meant that they felt distressed, and hopelessness in their capacity to care for their patients. The following example demonstrates the nurse's perceptions and experiences related to their workload and the associated stress that resulted:

*"... Yes, we are stressed, if we are unable to provide the medication on time when the patient is in need, it affects us because we feel bad since we are not helping our patients"* (Asefa, FG 5).

Not only did the heavy workload affect the nurse's ability to provide effective pain management, the participants felt that this also affected the quality of nursing care that they were able to deliver. For instance, it was noted by one participant that:

*"If we have many task to do in one day at the oncology unit, nurses will not deliver quality of nursing care to cancer patients in pain"* (Mahmoud, FG 2).

In addition, it was also interesting that the participants noted that heavy nursing workload not only resulted in their inability to meet the needs of patients but also affected their attitudes toward the patients. As a result of the heavy workload, nurses began to feel negatively about the reality of their patients' pain which they felt further resulted in suboptimal pain management. This led to a reduced satisfaction with their ability as a nurse to manage pain overall:

*"In my oncology unit, nurses handling six patients who are sick and you have one patient who is asking for morphine"*

*every hour, it will affect my attitude toward that patient. I will start thinking that maybe he is lying or addicted. Why do you need this medication? And sometime I ask the patients not call the nurses for this purpose”* (Ali, FG 4).

Many participants mentioned that the organizational focus of pain management was on giving pain medication and the heavy workload prohibited them from using the non-pharmacological techniques of pain management. This was clearly described by participants who emphasized their own subjectivity on the importance of using non-pharmacological techniques in managing pain but noted that the organizational time and workload constraints had prevented such an approach. As one of the participant said:

*“Actually, if you’re handling many patients such as seven patients in an oncology unit you will only focus on treating pain by analgesic medication . . . I know that there are other kinds of pain management, I mean non-pharmacological, like relaxation, guided imagery and so on, but we have no time to do so. And this is not for the benefit of our patients”* (Cecily, FG 5).

Finally, another important element in providing care for patients who suffered pain was to provide comfort and psychological support of these patients. Many nurses reported that another consequence of the heavy workload was that psychological support crucial with pain management was omitted. One participant noted this association with workload and quality of care and what they perceived as being the ideal number of patients to care:

*“ . . . I have more than four patients at a time, from my experience I used to miss the psychological aspect of caret. But if I have less number, for me I will give a professional treatment with psychological support”* (Muneerah, FG 2).

Participants commonly testified that the heavy workload could be resolved by decreasing the nurse-patient ratio:

*“I think we need to think about reducing the number of patients per nurses, which will help us to do our job properly, but the workload is overwhelming keep us busy all the time”* (Hadi, FG 1).

The perceived need for a reduced workload to facilitate crucial psychosocial care was clearly expressed among many of the oncology nurses. For example one participant explained that:

*“we are dealing with oncology patients, they are sick and need a lot of care, we need to reduce the workload to be able to do so. For example, reducing the ratio from six patients per nurse to three nurses, two or three patients for a nurse is more than enough in an oncology unit”* (Dorace, FG 4).

This organizational constraint of high and complex workload allocation added further to their inability to provide effective pain management to the oncology patients in these hospitals in Saudi.

### 3.2 Absence of health team collaboration

Lack of health team collaboration in relation to cancer pain and its management in Saudi oncology wards was perceived as another barrier among the participants that influenced nurses’ ability to be able to provide effective pain management. From the data the participants identified that they believed that the hospital policy and pain guidelines, including the narcotic policy, played a major role in effectively managing pain. While it is crucial that such policies and guidelines needed to be clear and applicable, the existing guidelines were identified as making a difference when compared to what has been available previously, as outlined in the following:

*“Yes, pain management is improving, because before issuing the policy, just three years ago, there was no policy for pain management. Before, there were no tools for assessing patients’ pain intensity, everyone was using his own way for assessing the pain. Now, we follow specific assessment tool, we know when to assess and how”* (Elisa, FG 3).

The emergent theme, however, was that in order to achieve and implement clear and applicable guidelines, there were considerable barriers to collaboration between the interdisciplinary health care professionals involved in providing care to cancer patients. Specifically the nurses and physicians were not united in collaboratively following these guidelines in order to provide effective pain management. The participants identified that it was difficult to apply these guidelines because of a breakdown in the collaboration between the physicians and nurses. For instance, as noted by one participant:

*“The guidelines and the policy of the narcotics here is clear. The guideline, for example, guide in how to prescribe the drug, how to administer it, so it must help us in managing our patients’ pain and understand their concern, but this needs nurses and physicians to be cooperation in this matter”* (Fatima, FG 4).

While the current guidelines were testified to have had improved when compared to previous guidelines, not everybody adhered to these guidelines. One of the specific sub themes identified was that the physicians were rarely present to prescribe the pain medication and their absence needlessly caused delays in drug administration to cancer patients. In Saudi Arabia, nurses cannot give pain medication without the drug prescription being written up or prescribed by a

physician before hand:

*“But ... when the patient need pain drug, we call the physician and most of the time he or she is not present to write the prescription, so it will take a long time before giving the drug for the patient”* (Elisa, FG 3).

As the participants identified, this lack of accessibility and availability of physicians was due to the fact that they had to concurrently service other hospital departments. As a consequence of the fact that the physician could be anywhere in the hospital, the nurses often had to wait some time before the physician was able to come and write up the pain relief medication prescriptions before the medication could be administered by the nurse. This delay in giving the medication therefore meant that the patients suffered more pain and influenced the quality of nursing care that they received. The effect of these delays and associated prolonged pain is clearly portrayed in the following:

*“I think we have a problem related to the presence of the physician. Sometimes, the physician is not in the unit to write the medication order, he is covering some area and he needs time to come to our unit... Sometimes, it will take hours.... Patients were in pain and cannot wait this time and start to scream at the nurse”* (Bidi, FG1).

In addition, the participants identified that the physicians did not always comply with the pain management policy in two aspects. Firstly, there needed to be a prescription of medications written up for the entire time that the patient was in hospital. Instead commonly nurses had to keep asking the physician to write up more medication and not just for one day or one incident. Furthermore, pain relief medications should be given on a regular and ongoing basis, for example, every four hours, rather than when requested by a patient. As a consequence of intermittent physician prescriptions, nurses testified to being forced to administer the medication according to the patients' requests and needing to wait for the physician to write up a prescription. For example, one of the focus group participants commented that:

*“Yes, the patient complain of pain and there is no prescribed medication, no written orders to follow, and patient will suffer until we call the physician and arrive to write the order, we learned that we should give the medication in around the o'clock bases for cancer patients, but because of what happens here, we wait till the patient ask for the drug”* (Ali, FG4).

Another aspect mentioned in the focus group discussions was related to the communication breakdown between the pharmacist, physicians and nurses regarding the narcotic prescription protocol. The participants explained that the pre-

scription needed to have a special stamp from the physicians and then to be taken by the nurse to the pharmacists in order to dispense the medication which then went to the ward for administration to the patient. Nurses interviewed testified to frustration of this chain of events in terms of its impact on their ability to timely manage their patients' pain. In essence, a participant clarified that:

*“For us we are encountering a problem in our unit, most of our physicians do not have the stamp, pharmacy code and the computer password and this form a big problem that we have to wait for the doctor with the code to come. Even in the pharmacy, we should wait for the long time ... Always delayed”* (Jo, FG 5).

An acknowledged lack of direct access to the pharmacy from the participants, sometimes created a situation in which the nurse had no access to the needed medication. A detailed explanation was provided by one of the participants, who said:

*“I'd like to share a really short story about the difficulty of getting medication from the pharmacy. It is very crowded... one of my patient's post-mastectomy. She was complaining of pain, So I tried to give her prescribed opioids, as the doctor wrote the prescription and stamped it... but the medication nurse was busy in the pharmacy. The pharmacy is crowded and they told her to wait there. So maybe after 40 minutes when I get the medicine, when I came to the patient she was sleeping from exhaustion I guess”* (Soidah, FG 4).

The overriding emotional concern was the everyday team work and workload realities that prevented them from effectively performing their roles with the lack of collaboration between the health professionals further impeded their implementation.

#### 4. DISCUSSION

Clearly the thematic findings of heavy workload and lack of interprofessional teams have influenced the organizational delivery of effective pain management. This included delaying the administration of pain medication, the lack of patient education, neglecting and delayed response to patients' complaints of pain, and poor documentation of pain assessment and management. The main reason for these omissions was that these techniques were time consuming and the physician and pharmacists involved in pain medication dispersal introduced a chain of complicated processes. In addition, despite the nurses being educated and aware of non-pharmacological techniques as supportive of evidenced based care for pain management, these interventions were seldom evoked. Non-pharmacological techniques, often described in the literature as complementary therapies, are used as adjuvant therapy to

pharmacological therapy for pain relief. They include massage, music therapy, relaxation techniques, herbal medicines and acupuncture.<sup>[21]</sup> Non-pharmacological techniques can maximise the effect of pharmacologic therapy and reduce its side effects.<sup>[22]</sup> Similarly, an Iranian study by Anoosheh *et al.*<sup>[23]</sup> indicated that a high workload, complex nursing task, and a low ratio of nurses to patients were conditions that influenced the quality of nursing care.

These focus group nurses discussions identified considerable professional dilemmas in that, while understanding the importance of relieving patients' pain, they felt they had failed to achieve this outcome as they were impeded in not being able to work effectively. As a consequence, nurses became dissatisfied and frustrated resulting in feelings of diminished job satisfaction. In turn, this resulted in nurses adopting negative professional and personal attitudes towards cancer patients with pain. Thus, leaving the patient and their families with sub-optimal pain management. As a result, nurses perceived an urgent, unmet need for a reduction in their patient workload working in the oncology wards by increasing work force.

The nursing shortage problem in Saudi Arabia has been highlighted in the Ministry of Health<sup>[24]</sup> report of 2011 stating that the yearly number of Saudi nursing graduates (which represents 27% of the total nurses) was insufficient to meet healthcare demands.<sup>[24]</sup> Further, the demand for nurses, based on population morbidity predictions, is expected to increase annually from the 65,000 present in 1998 to 120,000 in 2020. This is attributed to a rapidly aging population with concurrent rising rates of palliation and oncology needs. Consequently, the number of hospital beds will need to increase (from the 45,000 available in 1998) to 87,000 by 2020.<sup>[25]</sup> Accordingly, it has been estimated that Saudi Arabia requires at least another 25 years meeting only 30 per cent of its national needs from the Saudi nurses.<sup>[26]</sup> Currently there is a heavy reliance of expatriate nurses who form a large proportion of the nursing workforce in Saudi Arabia healthcare facilities due in part to the chronic shortage of Saudi nurses and the high turnover rates.<sup>[27]</sup>

There are a number of factors that need to be overcome to improve the employment and retention of Saudi nurses, in particular those working in oncology wards, including increasing nurses' salaries, improving their working environment, and increasing the number of Saudi nurses entering the work force.<sup>[28,29]</sup> However, cultural issues related to the public image of nursing in Saudi Arabia impede the number of female nurses enrolling to study in nursing in Saudi Arabia. These barriers to entry to nurse education are related to the culturally and gendered social restraints of working long

hours, working night shifts, and women not being permitted to drive in Saudi Arabia.<sup>[30]</sup>

In addition, the shortage of nurses in Saudi Arabia could be related to nursing burnout, and nurses leaving their jobs further exacerbated when working in oncology wards and the associated stress of death and dying patients. A number of studies have investigated nursing workforce attrition in Saudi Arabia concluding that the contributing factors include: dissatisfaction with their job (67.1%),<sup>[31]</sup> and dissatisfaction with supervisors' leadership style and work conditions,<sup>[32]</sup> with propensity for organisational commitment strongly linked to job performance.<sup>[33]</sup>

Concern with the adequacy, capacity, sustainability of the nursing workforce and ongoing attrition as well as burnout is a global problem. For example, in Canada, long working hours and a lack of social support were listed as the major reasons for the nurses quitting their jobs.<sup>[34]</sup> Similarly, in the USA, too much stress and the sense of too much responsibility were the main reasons for changing jobs.<sup>[35]</sup>

Furthermore, the analysis of the participants' responses in the current focus group discussions revealed there was minimal collaboration among the healthcare professionals; this situation strongly perceived to affect the nurses' attitudes towards pain management at oncology wards in Saudi Arabia. While some Saudi Arabia hospitals have written policies and guidelines regarding pharmacological pain management, there are many barriers in the organisational systems that prevent these guidelines from being appropriately applied. For example, the unavailability of physicians to write prescriptions for opioids hindered nurses' ability to administer pain medication on time. Further, physicians in Saudi Arabia oncology units prescribe pain relief medication as a "by need" order (that is, if necessary), rather than as regular medication. According to the American Pain Society<sup>[36]</sup> guidelines for treating acute and chronic cancer pain, analgesics should be administered on a scheduled basis (around the clock prescription) rather than when the patient asks for pain relief. The rationale for this regular drug administration is to maintain therapeutic levels of the drug in the blood stream, which promote a pain free state with minimal side effects.<sup>[37]</sup> Additionally, in Saudi Arabian oncology wards, there tends to be a lengthy protocol to be followed each time there is a new prescription for patients to obtain narcotic medication from the pharmacist, which is located outside the oncology unit. This was evident from the focus group discussions that clarified a lack of access to medication in the pharmacy, with nurses waiting on average 40 minutes to get opioid medication.

Earlier studies have consistently found results similar to the current study; namely, the negative consequences of inade-

quate cooperation by physicians and the improper prescription of pain relief medication.<sup>[38,39]</sup> Additionally, the present study's findings in relation to the lack of communication between members of the multi-disciplinary team on delaying adequate pain management was congruent with the findings of Berben *et al.*<sup>[40]</sup> Similar findings came from an ethnography study undertaken by Aziato and Adejumo,<sup>[41]</sup> who interviewed 12 Ghanaian nurses caring for surgical patients. The study found that organisational factors influenced the nurses' responses to pain, including organisational negligence and the challenges of teamwork.

Institutional barriers to pain management have also been identified in other studies undertaken in the Middle East. For example, Abdalrahim, Majali and Bergbom<sup>[42]</sup> found that experienced nurses in Jordan, who tried to act as a patient advocate in pain management, were ignored by the physicians; the physicians disregarded the nurses' notes, and refused to listen to their judgements. Nurses are seen as the professional group that is most able to advocate for the patients' needs in that they provide 24 hour care. Clearly collaborative and supportive patient centred teamwork among healthcare team members is the key to effective pain management of oncology patients.<sup>[43]</sup> Kaasalainen *et al.*<sup>[39]</sup> have emphasised the importance of formulating a trusting, concerted relationship among healthcare professionals, especially between nurses and physicians, to optimise pain management practices.

### Limitations

The main limitation of this study was that it did not consider the patients' and their families' perceptions in regard to pain management. Other limitations of this study may arise from using heterogeneous focus group discussion methods, such as the possibility of bias clustering of participants in the focus groups, which did not account for nurses' gender, nor their cultural and religious backgrounds. This study we would argue, however, is highly relevant to current Middle Eastern oncological nursing evidence-based practice. In addition, the study adds to the body of literature about the barriers to pain management for patients with cancer in multicultural healthcare settings.

## 5. CONCLUSION

This study aimed to explore the nurses' perceived barriers that hinder the delivery of effective pain management to cancer patients in Saudi Arabia. The focus group discussions revealed several major organisational thematic barriers faced by this cohort of nurses on oncology wards, who provide care for patients with cancer, specifically, nurses' workload and absence of health team collaboration. These barriers were perceived by the participants to have negatively influenced the delivery of effective nursing care to patients with cancer.

The current study has highlighted (especially to hospital administration) what is needed to ensure nursing care within hospitals is adequate and appropriate to meet the needs of the patients. Thus, Saudi Arabia hospital administrators need to draw on these findings and re-evaluate their policies and regulations in regard to the recruitment of nurses, especially in complex and highly demanding settings such as oncology wards. This evaluation needs to be linked to a management approach to identify the factors that contribute to nursing shortages and address these factors for future nurse retention and recruitment, specifically for local Saudi Arabian nurses in regard to workloads in oncology wards.

This study provides baseline data for nurses, administrators and educators in Saudi Arabia and Middle Eastern oncology settings that can be used to improve the current practice of patient care, both regionally and internationally, leading to the establishment of new pain management guidelines and implementation of these.

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### CONFLICTS OF INTEREST DISCLOSURE

The authors declare that they have no competing interests.

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