Institutional Factors that Influence Pain Valuation for Severely Sick Patients among Nurses at Selected Hospitals in Kiambu County, Kenya

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Original Research Article

ABSTRACT

The incidence of pain ranges from 47% to 100%, presenting a challenge across all demographics. Inadequate pain assessment can delay management, increasing anguish and potentially worsening pain. Nurses have professional and ethical responsibilities to ensure effective pain relief, relying on their understanding, consistent assessment, and documentation. This study aims to assess institutional factors influencing pain assessment and understand nurses' factors affecting pain assessment in selected hospitals in Kiambu County, Kenya. Utilizing a descriptive research design, the study focused on 168 nurses selected through a census technique. A five-point Likert scale questionnaire was administered, and data were analyzed using SPSS Version 22 with descriptive statistics, including mean, percentages, tabulations, and frequencies. Findings revealed that hospitals employ various pain assessment tools for critically ill patients, with the behavioral pain

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assessment tool being the most common, followed by the critical-care pain observational tool and nonverbal pain assessment tool. Institutional factors such as pain evaluation procedures, communication channels, staffing levels, availability of equipment, teamwork, supervision, work regulations, and hospital environment significantly influenced pain assessment. Additionally, nurses' demographic factors, including experience and personal pain encounters, impacted assessment practices. Statistical analysis showed a significant relationship between pain assessment tools and outcomes, highlighting the importance of tool selection for effective pain management. The study concludes that tool types, institutional factors, and nurses' characteristics influence pain assessment and management among critically ill patients in Kiambu County. Recommendations include implementing capacity-building programs for nurses and prioritizing staffing, ethical practices, equipment provision, work culture, and safety. Incorporating pain management education into training for healthcare practitioners is also advised.

1. INTRODUCTION

1.1 Background of the Study

Pain is a global dynamic that is experienced by humans at any given moment during the lifespan [1]. agrees that pain relic's one of the chief details producing medical discussion universally. Numerous castigations are tangled in discomfort assessment; though, nurses have an essential part in the valuation, release, and assessment of discomfort. Because of the negative impact it has on daily living, managing pain effectively is a complex process [2]. Nurses, as members of a team, share some of the blame for poorly treated conditions, despite the wide availability of pharmacological and nonpharmacological therapies. Surgical patients get reaso]nable to severe acute discomfort connected to shock or current operation, which decreases their coziness level [3].

In Kenya, no single-item pain measuring instrument has been validated for usage, including the Faces Pain Scale-Revised (FPS-R) and the Numerical Rating Scale (NRS) as per study by [4] and [5]. This is crucial since not all pain assessment instruments are reliable when they are translated into another language or utilized in a different culture. Multicultural authentication of useful and acceptable pain valuation instruments for usage in Kenya is urgently needed. Kenya has received special attention because of its failure to offer adequate pain evaluation and management for children. Clinicians in Kenya are not qualified to measure pain, and pain evaluation is not commonly conducted in hospitals. As a result of the dread of opioids and a absence of prioritizing of pain treatment, pain is routinely undertreated. For both pediatric and adult patients, properly

assessing pain and doing so in a socially acceptable way are critical initial steps in overcoming these pain treatment problems [6].

1.2 Problem Statement

Pain is believed to affect between 47 and 100 percent of people, providing a significant problem for people of all ages, ethnicities, sexes, socioeconomic positions, and geographical regions [7]. Pain is a global issue that requires a multidisciplinary response, according to the World Health Organization, despite the fact that it does not appear on the list of disease burdens. A more severe form of depression may develop when pain is unavoidable. Cultural and linguistic differences further complicate the reliability and effectiveness of these pain assessment tools. Consequently, nurses often struggle to accurately assess and manage pain, leading to inadequate pain relief and increased patient suffering. The urgent need for culturally and linguistically validated pain assessment instruments in these hospitals highlights a critical gap in the healthcare system that needs to be addressed to improve patient outcomes. Because pain has an influence on a patient's quality of life, pain cognition is essential to achieving these objectives [8]. Patients and their professions may suffer physical and psychological effects as a result of improperly evaluated pain. Inadequate pain assessment can lead to a delay in giving analgesia, which can lead to more anguish, dread, and worry, as well as, potentially, more pain. In addition, insufficient or poor pain treatment can lead to frustration and aggressiveness in patients [9].

The focused on determinants of pain assessment on critically ill patients among nurses at selected hospitals of Kiambu County Kenya, hence the need to fill the existing gap.

1.3 Significance of the Study

The policy makers especially those in the Health Ministry in Kenya will find the study useful as they will understand the pain assessment methods for critically ill patients at critical care unit. It is anticipated that the results of the research might have an impact on the evaluation of the pain assessment methods especially for critically ill patients at critical care unit so as to advance nurses' awareness and expertise in pain valuation. The research will be a baseline valuation of pain for Cochlear implant patients at TL5H. Study finding will be shared in forums which will assist in change of approach and conduct in the direction of usage of pain assessment tools. The research will enable the management come up with the right infrastructure for assessment of pain for severely sick patients. Scholars will be capable of pursuing further research on the subject based on the study's recommendations. The conclusions of this research might be used by organization and other stakeholders at selected hospitals in Kiambu County Kenya to develop appropriate strategies to ensure that nurses have the necessary skills and knowledge to assess pain in mechanically examined patients in the hospital's critical care element.

2. LITERATURE REVIEW

2.1 Institutional Factors on Nurse's Assessment Pain

Pain evaluation and management in long-term upkeep facilities is complicated by a number of variables. To overcome these obstacles, institutional commitment is required [10]. The American Medical Directors Association Guidelines for Chronic Pain Treatment in Long-Term Precaution Settings identify communication, education, and staffing as key elements in establishing an institutional commitment to pain management [11]. To guarantee that information concerning a resident's pain is frequently transmitted and acted upon by the relevant personnel, communication procedures must be in place place [12].

Pain management education should be incorporated in both initial and ongoing training for all health care practitioners. Pain recognition training and mentorship should be provided to nursing assistants and other direct caregiving personnel. Misconceptions and falsehoods regarding pain should be debunked as part of pain management education. The training should assist employees in recognizing and overcoming their own cultural and gender prejudices. The correct use of pain assessment instruments, as well as how to promote and coordinate pain management, should be taught to staff. Staffing arrangements that allow personnel to stay with the same residents for longer periods of time have been shown to enhance pain detection [13].

In the United States, [14] focused on strategies to enhance nurses' pain evaluation in order to improve patient satisfaction. With the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores connected to payment, it was highlighted that patient satisfaction with pain treatment is becoming increasingly important. Following the intervention, the nurses' understanding increased considerably. According to focus group remarks, there is a need for education on the relationship between pain treatment and patient happiness. Patient happiness and pain management were linked in a study that enhanced results. The capacity to properly and consistently identify and attend to pain, as well as aid patients in methods that upsurge their pain management consummation, remained a continuing educational and practice requirement. However, the study only looked at one institutional element in terms of pain evaluation and management: the infrastructure for nurse education [15].

In Malaysia, [16] investigated attitudes regarding pain management in hospitalized cancer patients and their contributing variables, using questionnaires as data collecting techniques. The patients' pain understanding impacted their views toward cancer pain management. Patients with a limited understanding of pain were concerned about analgesic delivery. The researchers concluded that patients' views about cancer pain treatment were negative and needed to be addressed. Their opinions about addiction and tolerance were negative, but their attitudes toward religious fatalism and a desire to do good were positive. The views of the patients' careers and the patients' pain knowledge impacted their attitudes toward cancer pain management. However, in terms of pain evaluation and therapy, the study focused on only one institutional factor: institutional patients' pain knowledge [17].

Who utilized a quantitative design and questionnaires to collect data while researching the influence of a pain valuation exercise package on Nigerian nurses' understanding of pain treatment, it was discovered that current information regarding pain assessment and treatment was lacking. The nurses, chosen using a systematic random selection approach, showed that the pain instructive package had a positive impact on their knowledge, practice, and attitudes related to pain assessment and management. There is a necessity to develop and apply a continuous professional training package on pain and its assessment, with a particular emphasis on pain valuation techniques, standards, procedures, and patient recording.

In Kenya, studies have similarly highlighted gaps in nurses' knowledge and attitudes towards pain management. Research conducted in various county hospitals has shown that many nurses lack adequate training in pain assessment, leading to inconsistent and often inadequate pain management practices. A study by [18] revealed that nurses in Kenyan public hospitals often rely on their subjective judgment rather than standardized pain assessment tools, contributing to ineffective pain management. This underscores the need for targeted educational programs to enhance nurses' knowledge and skills in pain assessment and management within the local context [19]. Such programs could significantly improve patient outcomes by ensuring that nurses are well-equipped to evaluate and address pain effectively.

A supportive atmosphere is required to guarantee the appropriate and sustained use of tools, procedures, and charts, which may be achieved by increasing personnel, providing nursing, and providing sustenance management by knowledgeable and trained nurses. However, the research only looked at one institutional component in terms of pain evaluation and management: training programs.

3. RESEARCH METHODOLOGY

This research used a descriptive research design where the study used cross-sectional and quantitative data was used. The study was done in Kiambu County Kenya where the focus was on Thika level 5 Hospital, Kiambu level 5 hospital and Tigoni level 4 hospital. A sample size of 400 will result to a corresponding sample size of 196 respondents. The research comprised all the nurses employed at Thika Level 5 Hospital, Kiambu level 5 hospital and Tigoni level 4 hospital. The research instrument was a self-administered questionnaire that aided in the gathering of primary data. Closed-ended questions were included in the research tool to allow the researcher to collect particular information pertinent to the study. The pre-test was done on 10 nurses at Ruiru Hospital who did not partake in the actual study. The quantitative data generated from the questionnaires was coded and keyed into SPSS Version 22 for descriptive analysis to generate frequencies, percentages and tabulations. Frequencies and percentage distribution was used to examine the relation between independent and dependent variables individually.

4. RESULTS AND FINDINGS

4.1 Descriptive Analysis Institutional Factors in the Nurse's Assessment of Pain

Adequacy of Staff Involved in Pain Assessment Procedure: The study sought to determine whether the number of staff involved in the assessment of pain in your hospital is adequate.

From the study statistics, the majority (85.7%) of the nurses indicated the number of staffs involved in the assessment of pain in the hospital was not adequate, while 14.3% were of the contrary opinion. This implies that the number of staffs involved in the assessment of pain in the hospital is not adequate.

Effectiveness of Communication Channels Used: The research inquired on whether the communication channel between the nurse and patients in regard to patients conveying of pain to nurses was effective.

From the study statistics, the majority (81%) of the nurses indicated the communication channel between the nurse and patients with regard to patients conveying of pain to nurses is effective, while 19% were of the contrary opinion. This implies that the communication channel between the nurse and patients with regard to patients conveying of pain to nurses is effective.

Table 1. Adequacy with staffs involved in pain assessment

Adequacy with Staffs Involved in Pain Assessment	Frequency	Percent
Yes	144	85.7
No	24	14.3
Total	**168**	**100.0**

Manner in Which Patient's Pain-Related Complaint Was Handled: The study inquired on whether patients' complaints with regard to pain were acted upon appropriately and timely by the nurses.

Statistics show that the majority (91.1%) of the nurses indicated Statistics show that the majority (91.1%) of the nurses indicated that patients' complaints in regard to pain were acted upon appropriately and timely by the nurses, while 8.9% were of the contrary opinion. This implies that patient's complaints with regard to pain are acted upon appropriately and timely by the nurses.

Best Judges of Pain Intensity: The research sought to establish the best judges of pain intensity. Results are presented in the Table 4.

From the study statistics, the majority (94.6%) of the nurses indicated nurses are the best judges of pain intensity because they spend most of the time with the patient, while 5.4% disagreed with the statement. This implies that participants considered nurses to be the best judges of pain intensity because they spend most of their time with the patient.

Nurse's Attendance on Pain Management Training: he study sought to determine whether the nurses had attended pain training programs with regard to pain assessment.

Results showed that the majority (58.3%) of the nurses indicated having attended pain training programs in regard to pain assessment, while 41.7% indicated otherwise. This implies that at least half of the nurses mentioned herein had not attended any pain training programs with regard to pain assessment.

Adequacy of Pain Training Given to Nurses: The study sought to determine whether the pain assessment education that nurses received was adequate.

Statistics show that the majority (65.5%) of the nurses indicated that the pain assessment education they received during their training was inadequate, while only 34.5% indicated that the training was sufficient. This implies that the pain assessment education received by the majority of the nurses during their training was inadequate.

Table 2. Effectiveness of communication channels used

Effectiveness of Communication Channels Used	Frequency	Percent
Yes	136	81.0
No	32	19.0
Total	**168**	**100.0**

Table 3. Manner in which patient's pain-related complaint was handled

Manner in Which Patient's Pain-Related Complaint Was Handled	Frequency	Percent
Yes	153	91.1
No	15	8.9
Total	168	100.0

Table 4. Best judges of pain intensity

Best Judges of Pain Intensity	Frequency	Percent
Yes	159	94.6
No	9	5.4
Total	**168**	**100.0**

Table 5. Nurses attendance at pain management training

Nurses Attendance at Pain Management Training	Frequency	Percent
Yes	98	58.3
No	70	41.7
Total	**168**	**100.0**

Table 6. Adequacy with pain training given to nurses

Adequacy with Pain Training Given to Nurses	Frequency	Percent
Yes	58	34.5
No	110	65.5
Total	**168**	**100.0**

Table 7. Hypothesis of institutional factors and pain assessment

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	20.678a	9	.000
Likelihood Ratio	17.86	9	.000
Linear-by-Linear Association	2.417	1	.012
N of Valid Cases	168		

4.2 Hypothesis of Institutional Factors and Pain Assessment

Chi square was used to test the hypothesis where the Pearson Chi-square method was used to test the 2 types of hypothesis which are null and alternative hypothesis. This is in regard to whether institutional factors had a significant effect on pain assessment for critically ill patients among nurses at selected hospitals in Kiambu County Kenya.

The Pearson Chi-Square test yielded a statistic of 20.678 with 9 degrees of freedom, indicating a significant overall association between institutional factors and pain assessment (p = .000). Similarly, the Likelihood Ratio test resulted in a statistic of 17.86 with 9 degrees of freedom, supporting a significant association (p = .000). Furthermore, the Linear-by-Linear Association test showed a statistically significant linear relationship between institutional factors and pain assessment, with a chi-square statistic of 2.417 and 1 degree of freedom (p = .012). These findings suggest that institutional factors indeed play a significant role in shaping how pain assessment is conducted among nurses in the specified hospitals, emphasizing the importance of considering organizational contexts in pain management practices. The analysis encompassed 168 valid cases, ensuring the robustness of the results.

The discussion on institutional factors in pain assessment, supported by the reference to (*Erasmus*, 2022), provides a theoretical framework to contextualize the research findings. The mentioned factors, such as organizational policies, resource availability, and institutional culture, directly resonate with the broader understanding of how these elements influence nurses' perceptions and practices related to pain assessment. The standardization of pain assessment tools, emphasized in institutional protocols, aligns with the idea that organizational policies can shape the consistency and accuracy of pain evaluations. Similarly, the reference to resource availability reflects the impact of institutional factors on the thoroughness and timeliness of pain assessments, as noted in the research findings.

Moreover, the discussion underscores the significance of institutional culture, particularly its influence on prioritizing pain assessment within the broader context of patient well-being. The research findings from Kiambu County affirm the importance of understanding and addressing these institutional factors, as they directly correlate with the effectiveness of pain assessment practices. By acknowledging and optimizing these organizational dynamics, healthcare institutions can enhance the quality of care provided to critically ill patients experiencing pain, aligning with the broader goal of patient-

centered and interdisciplinary approaches to pain management.

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Institutional Factors that Influence Pain Evaluation in Severely Sick Patients

This research established that various institutional factors influence the way nurses handle pain cases in critically ill patients. One of the figures highlighted is the parsonel working in Kiambu County Hospitals. Based on the statistics from the majority of the nurses (85.7%), the study finds that the number of staff involved in the assessment of pain in hospitals in Kiambu County is inadequate. Another factor mentioned is the communication channel between the nurses and patients. According to the statistics, the majority (81%) of the nurses indicated that the communication channels between the nurse and patients in regard to patients conveying of pain to nurses were not as effective as expected. The findings contradict the proposal by Silverman and Kurtz Draper (2016) that to guarantee that information concerning a resident's pain is frequently transmitted and acted upon by the relevant personnel, communication procedures must be in place.

Another factors concern is the manner in which patient's pain complain were handled whenever raised, staistics show that majority (91.1%) of the nurses agreed that every patient's complain in regard to pain was acted upon appropriately and timely by nurses on duty, self-confidence is also on other key attribute when handling complex in problem such as pain, statistics (94.6%) show that nurses considered themselves as the best judges of pain intensity because they spend most of the time with the patients and that that Nurses' use of pain assessment instruments was hampered by their workload and an unfriendly working environment. Similarly, Schroeder et al. (2020) conclude that capacity training and Staffing arrangements that allow personnel to stay with the same residents for longer periods of time enhance pain detection.

Simultaneously, continuous staff training and development were too highly emphasized as contributing factors. Results show that the majority (58.3%) of the nurses had attended pain training programs; however, a significant number had not. Despite having attended such a program, the majority of the nurses (65.5%) were of the view that the pain assessment education they had received was inadequate and thus insufficient. This call calls for the implementation of the research recommendation by Rodriguez et al. (2018) that pain recognition training and mentorship should be provided to nursing assistants and other direct caregiving personnel.

5.2 Conclusion

The study concludes that institutional-related factors influenced pain evaluation procedures for severely sick patients within the selected hospitals in Kiambu County, Kenya. Some of the hospital-related factors include the internal communication channels, level of staffing, availability of patient handling equipment, teamwork amongst the nurses, and level of supervision, work regulations, and hospital work environment.

5.3 Recommendations

Given that institutional factors such as level of staffing, availability of patient handling equipment, teamwork amongst the nurses, level of supervision, work regulations, and hospital work environment were found to affect efficiency in main management, the study proposed the following: adequate staffing, promotion of personal observance of ethical nursing practice, timely provision of medical equipment, cultivation of a flexible work culture, and safe hospital work environments.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

CONSENT

The consent was obtained from the piloted nurses and the purpose of the pretest was to improve rationality and dependability of the research gadget

ETHICAL APPROVAL

The researcher sought Mt Kenya University's Ethics and Research Board's

permission (ERB). The National Commission for Science, Technology, and Innovation was also be contacted for permission to conduct the research. The Kiambu County Ethical Research Committee and the selected hospitals in Kiambu County Kenya

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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