

ORIGINAL ARTICLE

PERSPECTIVE OF NURSES REGARDING FACTORS AFFECTING QUALITY OF NURSING CARE IN INTENSIVE CARE UNITS: A QUALITATIVE STUDYAmanullah Khan¹, Dildar Muhammad²**ABSTRACT**

Introduction: Nurses have a significant role in ensuring patient safety by preventing adverse events and medical errors. Many factors like nurse-to-patient ratio, long working hours, miscommunication, environmental distractions, and inappropriate skill mix have been reported to be linked to preventable adverse events and medical errors. Wrong medication, inappropriate dosage, wrong route of administration, lack of drug labelling, errors of omission and deviation from policies and procedures are common errors associated with low quality nursing care. This study was conducted to explore perspective of nurses regarding factors affecting quality of nursing care in intensive care units in public sector tertiary care hospitals of Peshawar.

Material & Methods: Qualitative case study design was used for conducting this study. Six focus group discussions were conducted in three public sector tertiary care hospitals of Peshawar for data collection. Participants were recruited through purposive sampling technique. Thematic analysis approach was used for data analysis.

Results: Five main themes of factors influencing quality of nursing care were identified. These themes included, nurses related factors, patients and relatives related factors, working environment related factors, administration related factors and ICU settings and supplies related factors.

Conclusion: This study revealed that many factors related to nurses, patients, relatives of the patients, administration, working environment, and ICU setting and supplies were influencing quality of nursing care in intensive care units.

Key Words: intensive care unit, quality health care, nursing care

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INTRODUCTION

Intensive Care Unit (ICU) is a highly specialized and well equipped unit of a health care facility, where patients with life threatening diseases and injuries are admitted for close monitoring and life or organ support.¹ High quality health care in an ICU is provided by well-trained doctors, nurses and auxiliary staff, who vigilantly handle the patients and equipment, so that the desired patient outcomes

are achieved and patient's safety is ensured.² ICU is the place of any health care facility, where highest mortality takes place. In developed countries, the crude death rates in ICUs ranges from 8% to 29%. Approximately 4 million patients are admitted to the ICUs each year in the United States of America, with an average crude death rate of 8% to 19%,³ whereas, in ICUs in developing countries, the

same has been reported to be ranging from 18% to 37.7%.⁴ The crude death rates in ICUs for India, Sri Lanka, and Bangladesh are 18.1%, 23.5%, and 3.58% respectively.⁵⁻⁷ The highest crude death rates in ICUs in Pakistan, reported from Islamabad, Peshawar and Hyderabad were 16.2%, 50% and 55% respectively.^{4,8}

Nurses have a significant role in ensuring patient safety by preventing adverse events and medical errors. Many factors like nurse-to-patient ratio, long working hours, miscommunication, environmental distractions, and inappropriate skills mix have been reported to be linked to preventable adverse events and medical errors. In addition, deviation from policies and procedures, lack of drug labelling, wrong medication, inappropriate dosage, wrong route of administration and errors of omission are also common errors associated with low quality nursing care.⁹

Quality enhancement in the health care services is a top priority of all health care systems worldwide.¹⁰ Nursing care is considered a major element of the health care services globally,^{11,12} and enhancing quality of nursing care has become a crucial consideration for nursing administration, because of its significance in ensuring patient's safety, health and wellbeing.¹³

Quality Nursing Care (QNC) refers to the level of excellence maintained in the delivery of nursing care to clients.¹⁴ It has also been defined as nursing care provided to clients and groups in order to meet their expectations and needs, and which is in-line with relevant requirements and standards. It is the extent to which health care services increase the likelihood of intended health outcomes for individuals and groups, and is consistent with prevailing professional knowledge.¹⁵

Poor quality nursing care is reported to be associated with undesired patient outcomes like hospital acquired infections, falls, inadequate feedings, inadequate patient mobilization, lack of emotional and psychological support, inadequate discharge planning and high mortality rates.¹⁶⁻¹⁸ This study was conducted to explore perspective of nurses regarding factors affecting quality of nursing care in intensive care units in public sector tertiary care hospitals of Peshawar.

MATERIAL AND METHODS

The case study approach was used to explore perspective of nurses regarding factors affecting quality of nursing care in intensive care units. This study was conducted in three public sector tertiary care hospitals i.e Hayatabad Medical Complex, Khyber Teaching Hospital and Lady Reading Hospital of Peshawar. These hospitals are the prominent providers of intensive care to the people of Khyber Pakhtunkhwa, and adjacent country Afghanistan. Purposive sampling technique was used for the recruitment of participants for this study. Nurses having worked in ICUs of these hospitals for at least six months were included in this study, whereas, nurses working in ICUs but not directly involved in patient care such as Head nurses and nurse managers were excluded.

In total, six focus group discussions (FGDs) were conducted for the data collection. Two FGDs were conducted in each of these hospitals. Proper approvals for this study were obtained from ASRB (Advanced Study and Research Board) and ERC (Ethical Review Committee) of Khyber Medical University, Peshawar. Informed written consents were obtained from the participants. The primary researcher himself conducted all the FGDs, in the languages convenient to the participants' i.e Urdu and Pashto. A topic guide comprising of questions related to different aspects having influence on quality of nursing care, was used during focus group discussions. All the FGDs were digitally recorded and later on transcribed and translated manually. Transcripts were cross checked and confirmed with the participants. Thematic analysis approach was used for analysis of data. The transcripts were read repeatedly to get familiarity with data, and then open, axial and selective coding strategy was used to extract codes, categories and themes from data. The coding process was performed manually. In addition, QRS NVivo 8 computer software program was utilized for further shaping, managing and making sense of data.

RESULTS

A total of 29 participants with mean age 29.27 ± 5.73 and mean experience 7.25 ± 5.75 participated in this trial. Five main themes including nurse related factors, patients and their relatives related factors, working environment related factors, administration related factors and factors related to ICU setting

and supplies, were extracted from data, as shown below in figure-1. The demographic information of the participants is given in table-1.

Nurses related Factors

Nurses related factors were organized under five categories including professional competence, communication skills, empathy, healthiness and commitment.

According to the opinion of the participants, professional competence was the first significant attribute to be possessed by the nurses, in order to be able to deliver high quality nursing care to the patients. Up-to-date professional knowledge, skills, punctuality and professional attitude and behaviour were believed to be important factors affecting quality of nursing care. The views of a participant in this context were:

“First [important] thing is s/he must be knowledgeable, when you don’t have up-to-date knowledge, your caring approach is influenced” [FGD1/R2].

“The nurse must have [professional] knowledge. S/he must be experienced and skilful. These attributes make a nurse able to deliver a safe and effective care” [FGD5/R1].

Similarly, participants also discussed professional attitude and interest in patient care, as necessary features of nurses that affect quality of nursing care. If the nurses devote their selves completely to their professional responsibilities, while on duty, and avoid other unnecessary activities, like use of mobile phone, reading newspapers and books etc, their quality of care will improve. The participants told:

“So, when we [nurses] are on duty here in ICU, we should devote ourselves wholly to the patient care. Other things like mobile phone, computers, newspapers and books etc, may be avoided” [FGD2/R3].

“Nurses should be punctual, responsible and respectful. If we treat the patients in a humane and respectful manner, their satisfaction with nursing care is improved” [FGD1/R3].

Empathy was another attribute perceived by the participants to be linked with the quality of nursing care. The participants believed that those nurses who care for patients as they would care for their loved ones, provide good quality of nursing care to the patients.

“The second thing is to put yourself at the patient place, I mean, may God forbid, if I will be here on bed like this patient, how I will be feeling? So, we should treat patients with dignity and respect” [FGD3, R2].

Communication skills were also deemed to be very important for raising the quality of nursing care. The participants believed that good communication skills were not only important for a collaborated and coordinated care of the patient, but also for promoting patient satisfaction. The participants elaborated as under:

“For me, good communication skills are very crucial. They [nurses] need to communicate with other team members, departments and patients and their relatives. If their communication skills are good, things will be achieved smoothly. If not, a lot of problems will be there” [FGD6/R3].

“Look, nurses are dealing with people who are in a state of agony. Their words matter a lot. If they use a single word which is inappropriate, everything is jeopardized” [FGD6/R4].

The participants believed commitment i.e interest in job, punctuality, and readiness to shoulder professional responsibility, to be crucial factor linked to the quality of nursing care provided in ICUs. The participants shared their opinion as:

“The first thing according to my opinion is interest. If s/he takes interest in patient’s care, the quality is improved” [FGD2/R2].

“Other personal factors affecting quality of nursing care include, punctuality and dutifulness” [FGD1/R2].

The health status of the nurses was also viewed to be a very significant factor affecting quality of nursing care in ICUs. The participants believed that the physical and mental health of the nurses had a close relationship with the quality of nursing care they delivered in ICUs. As told by a participant:

“Another factor is, s/he [the nurse] must be free from illness and stress so that s/he will not be feeling fatigued” FGD2/R1].

Patients and their Relatives related Factors

The first group of factors related to patients and their relatives, that influenced the quality of nursing care was sociocultural background of patient. The participants shared that patients coming from certain socio-cultural background have a particular set of concepts and beliefs

regarding health care interventions, practices, and outcomes. It is sometimes very difficult for nurses to care for such patients and eventually the quality of nursing care is difficult to be improved. The participants said:

"We have a patient in ICU from a rural area, who did not allow us for head-to-toe assessment and change of dressing. Her relatives did all these things for her. When after few days we were allowed to assess her, she had developed pressure ulcers" [FGD4/R4].

Communication barrier due to difference in languages, was perceived to be another factor influencing quality of nursing care. A participant pointed out:

"Sometimes we have Persian or Kohistani patients, who don't understand our language. It is very difficult to communicate with them and make them understand" FGD1/R2].

The participants also shared that some-times the patients and their relatives don't cooperate with the nurses and fail to comply with the instructions. The interference of the relatives in the nursing care plan and intervention was also viewed a factor influencing quality nursing care. A participant added:

"Sometimes the patient is not cooperative, or s/he is very irritated or has psychiatric problems, or their relatives are problematic, so their quality of nursing care is influenced by these factors" [FGD2/R1].

Financial status of the patient is also an important determinant of the quality of nursing care a patient receives in ICUs. If the patient is financially unaffordable, s/he may not be able to make necessary medications and other required items available to the nurses. The participants added:

"According to my opinion, if they [the patients] can't afford financially, their care is influenced" [FGD5/R3].

"We are provided with a limited quantity of disposables, therefore, the suction catheters are kept at patient's bed side for reuse because the patients cannot afford to bring it from outside [FGD6/R1].

The participants also told that those patients whose relatives showed untoward behaviour and tried to interfere in the nursing plans and interventions were avoided by nurses, and the quality of nursing care they received, consequently declined.

"If they [patients and relatives] are respectful, in turn, they get respect, if not, we [nurses] also avoid to interact with them" [FGD3/R4].

"We have a patient whose one attendant is very rude and talk to us very harshly. When he enters the ICU, no one wishes to come across that patient" [FGD3/R5].

Educational levels of the patient and relatives were also perceived to be linked with the quality of nursing care. The participants revealed that educated persons already had a lot of information regarding their condition and were relatively, more helping and cooperative.

"The more they are educated, the easy is to communicate with them and make them understand the instruction. Educated relatives are more cooperative and respectful" [FGD6/R3].

Factors related to Working Environment

A conducive working environment is crucial for ensuring high quality nursing care. The participants of this study identified many factors related to the working environment, which were influencing quality of nursing care. These factors are placed under five categories i.e work overload, lack of job satisfaction, lack of recognition, lack of team-based approach, and lack of coordination.

Work overload was discussed as a major factor affecting quality of nursing care. The participants shared that the doctors were most of the times in their rooms, and auxiliary staff were also not taking interest in their duties. The nurses would go behind them many times to tell them that their services were needed. Thus, a lot of their time was wasted.

"We work for dispensers, for doctors and for ward-orderlies as well. Mostly they are not here. Nurses would go behind them to ask them, to come and do their work. The nurses bear all the work burden" [FGD1/R4].

Excessive documentation was also identified as a factor consuming a major portion of the time the nurses spent in ICUs. The participants said that the administration was over emphasizing documentation. As mentioned by a participant:

"They give more importance to documentation than patient care. If we do a nursing intervention but forget to document it, action is taken against us. Most of the times, we are busy in documentation and the patient care is compromised" [FGD2/R3].

Another factor influencing quality of nursing care was lack of job satisfaction. The participant said that the salaries of the nurses were low so that they were also doing second jobs to meet their expenses.

"The salary is fixed for most of the nurses, so they are pushed to do another job to maintain their homes and children. Their working capacity gets down by long working hours and thus, quality of care is compromised" [FGD6/R3].

Similarly, the stressful nature of job also badly influenced performance of nurses. Most of the participants stated that their working environment is very stressful and they feel mentally tired and exhausted. A participant said:

"I am in a state of continuous stress and tension and psychologically am not feeling relaxed. I do not want to come on duty every morning. When I wake up, I get stressed when I think of the problems in ICU" [FGD2/R2, 3].

Lack of team spirit was identified as another significant factor influencing quality of nursing care.

"We [nurses] do the work of all others, but they don't cooperate with us. Even if we are busy in handling an emergency, they never help us" [FGD2/R1].

To be effective, the health care endeavours need to be collaborated. All the health care members need to contribute in patient care. Sometimes, in emergency situation when saving the life is priority, its need is increased. But a participant explained her experiences as below:

"We need the doctor to come and advice the necessary treatment, the respiratory therapist to do suction and the nurse to carry out medical orders. It doesn't happen like this, all the work is to be done by the nurses" [FGD3/R4].

Lack of motivation and appreciation from team members, administration was also identified as an important factor affecting quality of nursing care. The participants shared that there was lack of formal and informal appreciation and recognition of the efforts of the nurses in their units. A participant narrated:

"First of all, no one is here to appreciate the contribution of nurses, so obviously, if there is an appreciation for nurses, they will be taking more interest in patient care" [FGD1/R4,5].

Administration related factors

The participants of the current study mentioned a number of factors affecting quality of nursing care, which were related to administration.

One of the factors identified by the participants was lack of security. There were many occasions when nurses were subjected to physical and psychological violence, but no security was provided. For instance, a participant shared:

"The nurses are not secured physically. We had a patient who died and his armed relatives abused us and assaulted us physically, but the security guards were not available on time" [FGD3/R5].

Besides lack of physical security, lack of job security was also brought under discussion several times by the participants in different focused group discussion.

"Last night I was on duty and I came to know that our BPS 16 status has been abolished and we have been converted to fixed pay servants. I couldn't sleep all the day and night because of mental agony" [FGD1/R4].

"The most important thing in MTI is lack of job security. Now the people are appointed under fixed pay and daily wages system. So, they are feeling vulnerable and eventually the quality of care is declined" [FGD1/R1].

Other frequently discussed factors were related to lack of job benefits. Low pay, lack of leaves and leisure activities were mostly discussed factors that influenced quality of nursing care in ICUs. The participant told:

"Second thing is that we don't have any kind of leaves. Even if someone dies in our homes, we are not allowed more than two days off" [FGD2/R2, 4].

"There is no fund, gratuity and pension for most of us. Majority of nurses are working on fixed pay basis. The future of nurses is not secured in any way, here in MTIs" [FGD5/R2].

Some participants identified poor staff management as a factor affecting quality of nursing care. There were concerns about frequent turnover of nurses and inappropriate staffing. According to the participants the ICU expert nurses were placed in general wards and non-ICU nurses were placed in ICUs.

"They have placed the ICU expert nurses in [general] wards and novice nurses in ICU. There is no training and orientation for these novice nurses. We are very much disturbed due this poor administration" [FGD2/R3].

In addition, lack of different types of resources was also an important factor affecting quality of nursing care. The participants identified different types of resources lacking in their units. The human and material resources shortage were almost the same for all the units. Participants frequently pointed out these factors that were influencing their performance.

“There is a sink at bed side of every patient, but no soap is there. Hand hygiene is very important for preventing cross infection” [FGD5/R2].

“If you check the sanitizers here, all the bottles are empty” [FGD5/R4].

Shortage of disposable items was also nearly a common problem for all the units studied in this study. In all focus group discussions, the participants complained about shortage of disposable items.

“In ICU, we are frequently repeating ABGs test for patients who are on ventilators. Only five disposable syringes are issued to us for every patient for 24 hours, which are not enough. We also run short of other items like color coded shoppers for dust bins etc” [FGD4/R1].

“We need thousands of examination gloves for a week. When we indent thousand, they [pharmacy] give us hundred or two hundred, which are hardly enough for a day or two” [FGD4/R5].

Regarding shortage of nurses, a participant said:

“We have been only two nurses working for nine patients for last few months, and repeatedly requesting for more staff” [FGD2/R2].

Apart from above factors, participants also identified lack of opportunities for professional development as factor influencing quality of nursing care. According to the participants, there was no program for continuous nursing education in most of the units understudy. Similarly, there were no training sessions and educational programs for nurses to update their knowledge and skills. Criteria for promotion and up-gradation were also not clear and not vividly communicated to employees. As elaborated by participants:

“No training sessions are arranged for us. We have few new equipment right now, and I don't know how to operate them” [FGD3/R3].

Another participant shared that although there were clinical nurse teachers, they were not competent enough to teach the nurses.

“We have clinical nurse teachers here, but instead of teaching the nurses, they will ask you about other things which don't fall under their domain” [FGD3/R4].

Factors related to ICU Setting and Supplies

Many factors, identified to be affecting quality of nursing care, were related to ICU setting and supplies. These factors were categorized under headings of lack of space, faulty design, lack of equipment, lack of maintenance, and lack of supplies.

Lack of space was identified as a major factor influencing quality of nursing care. The participants told that their units were too congested, so that there was no enough space for nurses to access the patient and provide care. A participant said:

“Our ICU is too congested that if there are two nurses caring for two consecutive patients, the nurses would touch each other. If a patient collapses, there is no space to adjust crash cart and other equipment near the patient” [FGD2/R3].

Some of the participants also asserted that the designs of their ICUs were not according to the international standards, and beside lack of space, there were other drawbacks which influenced their performance.

“The electric plugs at the patient's bedside are not enough, there is only one oxygen and one air outlets at patient's bed side. We need at least two of these outlets. The wash basins for hand washing are not there at patient sides” [FGD2/R3, 4].

The equipment required, were also believed to be not enough in some intensive care units. The participants told that the equipment like portable x-ray machines, portable mechanical ventilator, echocardiography machine and ABGs machines were not available in some units.

“We need a portable ventilator for patient transportation and equipment for measuring ETT cuff pressure. Ambu bags are also available in less number than the beds in our ICU” [FGD6/R4].

“We don't have ABGs machine in our unit. We send the sample to another ICU, which is difficult in transportation, and is time consuming as well” [FGD1/R2].

Besides lack of certain necessary equipment, lack of maintenance services was also an important factor mentioned during focus group

discussions. The participants told that in case any equipment got out of order, it took a long time to get it fixed.

“Sometimes it happens that some of our equipment gets out of order. When it happens, it takes a long time to get it fixed. Biomedical services are not available all the times, so our caring ability is affected” [FGD3/R2, 4].

“We have a ventilator here in our unit which is labelled as “out of order” since last three months. I don’t know when it will be fixed” [FGD6/R4].

Although majority of disposable items were provided to the patients in ICUs, yet many important items were not provided in the required quantity. Shortage of suction catheter, suction tubes, soap, sanitizer solution, gloves and colour coded shoppers for dust bins, were repeatedly identified as factors influencing quality of nursing care. A participant said:

“Last week we ordered hundred suction tubes but they [pharmacy] provided us only three. How can we run an ICU with only three tubes for a week” [FGD6/R3].

DISCUSSION

The findings of this study suggest that quality nursing care is influenced by many factors related to nurses, patients and their relatives, working environment, administration, and setting and supplies of intensive care units. These findings are in line with the existing literature either partly or wholly. Communication skills, which is a major nurse related factor affecting quality of nursing care is supported by another study from south Korea, in which the same factor was identified to be significantly influencing quality of nursing care.¹⁹ Similarly, another important nurses’ related factor identified in this study is professional competence of nurses, which is also consistent with the finding of previous studies in which the professional competence of health care providers has been reportedly, linked to the quality of care and patient safety.²⁰ The first category of factors related to patient and their relatives is their socio-cultural background. Patients belonging to different sociocultural backgrounds have different health perceptions, habits, attitudes and behaviours, therefore, many factors including their actions, mood and cooperation may hinder or facilitate the quality of nursing care they receive. Similarly, a study by Mosadeghrad, also found

that the quality of care, the patients received was influenced by their sociocultural background.²⁰ In contrast, another study has reported no significant relationship between quality of care and sociocultural background of the patient.²¹ Other factors identified in the current study are financial status and educational level of the patient. These findings of the current study are also consistent with findings from previous studies in which financial status of the patient was found to be affecting quality of health care they received.^{20,22} In the current study a number of factors identified to be influencing quality of nursing care, are related to working environment. The first factor identified in this study is work overload. This finding of the current study is also supported by the previous studies in which work overload has been found to be negatively influencing performance of employees.^{19,23} Lack of team-based approach and coordination were other important barriers identified in this study. Similar findings have also been reported by another research study.²³ The participants of this study told that they were subjected to lack of physical security and job security. Participants also reported to be deprived of their job benefits. The literature is suggestive of the fact that job security is linked to high quality performance and productivity.²⁴ Evidences from existing literature show that pay and other job benefits were significant factors for ensuring job satisfaction and promoting performance of nurses.^{21,22} Lack of resources was identified another factor influencing quality of nursing care. The shortage of resources was identified in terms of human, material and machines. Lack of resources has been reported to be associated with work imbalance and work overload, which in turn, lead to poor quality nursing care.²¹ According to participants there was no proper demonstration of newly installed equipment for nurses, so that they faced difficulty in operating these machines. The literature also supports these findings and it is suggested that updating knowledge and skills of nurses through continuous educational programs and training sessions have significant effects on quality of care and services offered in an organization.²⁵ According to participants, the ICUs studied in the current study had some limitations in terms of design, space, equipment, maintenance

services, and supplies. Almost all participants told that the space in their units was too limited that the access to patients from all the sides was difficult. Similarly, designs of various ICUs were also opined to be faulty. The previous study suggest that the ICUs must be properly designed and enough space must be allocated for every bed as area of services and circulation.²⁶ Certain necessary equipment like Ambu bags, devices to confirm endotracheal intubations, equipment for difficult intubation, suction machines, ambulatory mechanical ventilator, devices for measuring intracranial pressure, devices for measuring ETT cuff pressure and other monitoring devices were identified to be lacking. Furthermore, the nursing staff and medical staff were also lacking in number and competence. These factors have also been identified in literature to be affecting quality of services and nurses performance in various contexts.^{27,28} Equipment failure is a common phenomenon and can lead to threatening patient safety, if substitute is not readily available or repair is delayed. In the current study, according to the participants, the repair process was slow and it took a long time to get the damaged equipment fixed. It is evident from literature that equipment failure is a big problem in sensitive areas like ICUs. It disrupts the smooth delivery of services, and patient safety is threatened if proper management for the events is not in place.²⁹

The findings of this study are context specific and may be interpreted paying due attention to the exclusive organizational circumstances, barriers and facilitators, in the study area. Caution is also needed in determining the transferability of findings of this study to other countries and cultures, where circumstances may be different from the setting of this study. Some of the participants particularly female, were not eager enough to share information openly due to organizational environment, socio-cultural restraints and audio-recording.

At national level in general and at provincial level in particular, the department of health may consider enhancing quality of health care as a top priority, so that the delivery of safe and high-quality care to patients is ensured. A culture of learning and grooming for nurses' may be established at organizational level through structured in-service educational and

hands on training programs for nurses and other members of health care team in order to enhance their learning of evidence-based practices and use of advanced medical technologies in ICU settings. Opportunities may be provided to nurses for professional development through getting further education and post basic courses in intensive care, so that their knowledge, skills and attitudes are updated.

CONCLUSION

Enhancing quality of nursing care has become a crucial consideration for nursing administration worldwide, because of its significance in ensuring patient's safety, health and wellbeing. This study revealed that many factors related to nurses, patients, relatives of the patients, administration, working environment, and ICU settings and supplies were influencing quality of nursing care in intensive care units.

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Table 1.1: Demographic information of the study participants

Variable		Number	Frequency
Gender	Male	11	37.9
	Female	18	62.1
Marital status	Unmarried	10	34.5
	married	19	65.5
Educational Status	Diploma	16	55.2
	BS Nursing	12	41.4
	MS degree	1	3.4

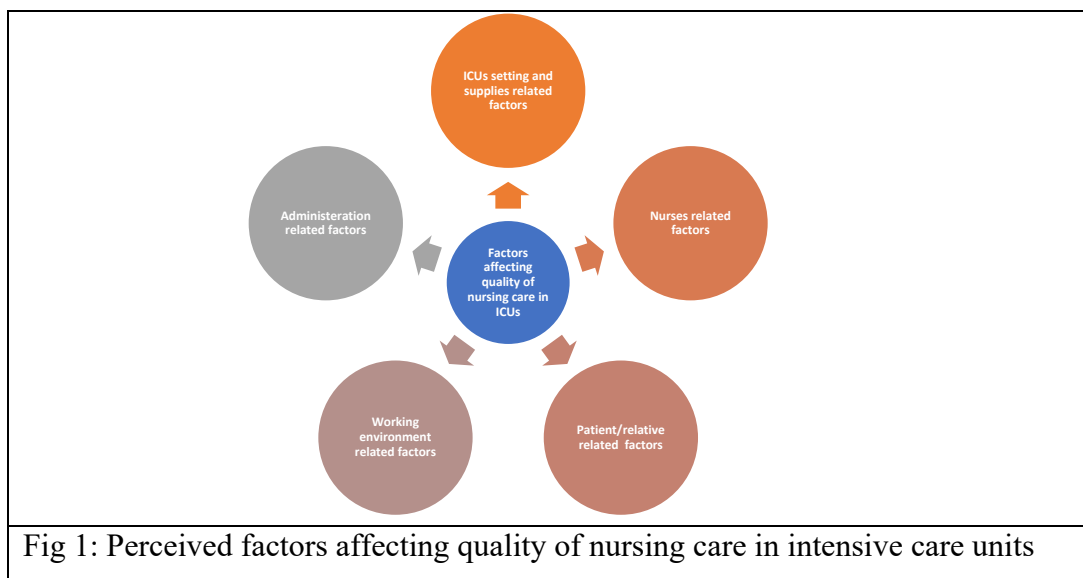


Fig 1: Perceived factors affecting quality of nursing care in intensive care units