INTERPROFESSIONAL COMMUNICATION BETWEEN DOCTORS AND NURSES IN A TERTIARY HOSPITAL

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INTERPROFESSIONAL COMMUNICATION BETWEEN ANAESTHETIC DOCTORS AND NURSES IN THE OPERATING THEATRE IN A TERTIARY HOSPITAL

Effective interprofessional communication is essential in healthcare settings, particularly in the fast-paced and high-stakes environment of the operating theatre. However, little is known about how nurses perceive the communication between anaesthetic nurses and anaesthetic doctors in this setting. This research aims to explore and understand the perception of nurses regarding interprofessional communication between anaesthetic nurses and anaesthetic doctors in the operating theatre. The research project was conducted as an online, self-administered questionnaire, in a tertiary hospital in Kuala Lumpur, involving anaesthetic nurses working in the operating theatre. The study concluded that whilst professional interactions, competence, mutual respect and trust are satisfactory, there is much left to be desired for teamwork and the workplace atmosphere (having the lowest mean variables = 3, compared to other dimensions). The findings of this research can guide the development of training programs and interventions to improve interprofessional communication in the operating theatre, ultimately leading to enhanced patienty safety, quality of care and staff satisfaction.

KOMUNIKASI PROFESIONAL ANTARA DOKTOR ANESTETIK DAN JURURAWAT DI DALAM DEWAN BEDAH DI HOSPITAL TERTIARI

Komunikasi berkesan di antara doktor dan jururawat sangat penting di fasiliti kesihatan, terutamanya dalam persekitaran yang bergerak pantas dan berisiko tinggi seperti di dewan bedah. Walau bagaimanapun, tidak banyak yang diketahui mengenai persepsi jururawat terhadap komunikasi antara jururawat anestetik dan doktor anestetik di dalam dewan bedah. Penyelidikan ini bertujuan untuk meneroka dan memahami persepsi jururawat berhubung komunikasi professional antara jururawat anestetik dan doktor anestetik di dewan bedah. Satu projek penyelidikan telah dijalankan melalui soal selidik dalam talian, di sebuah hospital tertiari di Kuala Lumpur, melibatkan jururawat anestetik yang bertugas di dewan bedah. Kajian ini menyimpulkan bahawa walaupun persepsi terhadap interaksi profesional, kecekapan, hormat-menghormati dan kepercayaan adalah memuaskan, masih banyak lagi ruang untuk penambahbaikan boleh dilakukan untuk kerja berpasukan dan persekitaran tempat kerja (pemboleh ubah min terendah = 3 berbanding dengan yang lain). Penemuan daripada penyelidikan ini boleh digunakan untuk membangunkan program latihan dan intervensi yang bersesuaian untuk meningkatkan komunikasi antara profesional di dewan bedah, seterusnya meningkatkan kualiti penjagaan pesakit, keselamatan pesakit, dan juga kepuasan bekerja untuk kakitangan.

ACKNOWLEDGEMENT

All praise to the Allah, for the guidance and help to go through this challenging time. To have anchored me in the pursuit of knowledge, and for the will to carry on. May all those who have been a source of strength, motivation and the encouraging words to not give up, be showered with His blessings always.

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CHAPTER 1: INTRODUCTION

1.1 Introduction

Communication helps share critical information, coordinate tasks and promote teamwork among healthcare professionals, which is essential in preventing medical errors and adverse events (Merry et al. 2021). In the operating theatre, a patient subjected to anaesthesia receives care from a team involving the anaesthetist, an anaesthetic nurse and/or a medical assistant. The care provided is important to ensure smooth induction, maintenance, and recovery of the patient post-operatively (Smith & Mithra, 2010). In a tertiary healthcare centre, the large variety of patients and different types of surgical interventions mean that the anaesthetic team works in an environment where communication needs to be in the best form to ensure not only proper care and safety for the patient but also to prevent staff dissatisfaction and burnout.

1.2 Background of the study

Much research has been done to evaluate the perception of interprofessional communication between doctors and nurses in the surgical field. However, not many are done with regards to communication between the physician and nurses in the anaesthetic team in isolation. This may be partly because not all hospitals are adequately staffed with nurses to be specialised in anaesthesia. Out of the research done on physician-nurse communication in the operating theatre, there are reported varying perceptions of communication among healthcare professionals in the operating room, specifically noting that nurses and surgeons perceive the quality of communication differently.

Among the factors that influence physician-doctors communication are hierarchical structures in healthcare, time constraints during surgery and anaesthesia, role clarity and team dynamics, organizational structure and policies, and technological advancements and their impacts.

Recognising the problems currently encountered in interprofessional communication, a structured intervention or strategy can then be implemented to enhance communication between anaesthetic doctors and nurses. This would include interprofessional education and collaboration, team training, and standardization of communication protocols or checklists.

1.3 Statement of Problem

In the operating theatre where complex patients with complex surgeries are being performed, the significance of effective interprofessional communication cannot be undermined. Despite its critical role in ensuring patient safety and optimising patient outcome, inadequate communication between healthcare personnel remains a prevalent issue.

Without clear lines of communication, team members may struggle to coordinate their efforts, leading to disjointed workflows, frustrations, and conflicts. Lack of cohesion compromises the quality of care given to the patient, as teamwork is key to addressing unforeseen crises and challenges in the operating theatre.

Inadequate communication also contributes to missed opportunities for knowledge sharing and skill development. Valued opportunities to learn from sharing expertise and each other's experiences are then lost.

In light of these challenges, it is pertinent to address the issue of interprofessional communication between anaesthetic doctors and nurses in the operating theatre to enhance patient safety, optimise teamwork and collaboration, and foster a culture of continuous learning and improvement.

1.4 Purpose of the Study

The purpose of studying the interprofessional communication between anaesthetic doctors and nurses in the operating theatre aims to address several key objectives including;

1.4.1 Promoting teamwork and collaboration.

Interprofessional communication plays a vital role in fostering teamwork and collaboration within the anaesthetic team. Opportunities to enhance teamwork, promoting a supportive environment, and building mutual trust can be identified.

1.4.2 Identifying needs for training.

Through an assessment of potential communication obstacles within the organization, it is possible to delineate the respective strengths and vulnerabilities. Subsequent to this analysis, a tailored training intervention can be developed and implemented, with the aim of enhancing overall staff satisfaction.

1.4.3 Enhancing patient safety.

Recognition and subsequent engagement in open discourse and training aimed at enhancing communication between doctors and nurses in the operating theatre are critical to fostering more integrated and cohesive goal-setting and teamwork. This collaborative approach is essential in advancing patient safety outcomes.

1.5 Objectives of the Study

1.5.1 Primary Objective

Evaluate nurses' perspectives on current state of interprofessional communication in the operating theatre.

1.5.2 Secondary Objectives

1. Identify barriers and challenges that nurses perceive in effective communication with anaesthetic doctors.
2. Identify areas of improvement and potential strategies to enhance interprofessional communication and collaboration in the operating theatre.

1.6 Research Questions

What is the perception of anaesthetic nurses on the efficacy and weaknesses of professional communication between anaesthetic doctors and nurses in the operating theatre?

1.7 Significance of the Study

The study explores the current perspective of an integral part of the anaesthetic team, the anaesthetic nurses, on the doctor-nurse communication in a stressful working environment of the operating theatre. Identifying the strengths and weaknesses that may be present will benefit many, including the anaesthetic team itself, the patient and also the organisation or hospital.

Anaesthetic doctors and nurses working in the operating theatre can be made aware of the importance and fallouts in their interactions. This can open up room for discussion and further help decide on appropriate changes or specific training to enhance doctor-nurse communication. Improvement in the communication will then result in a more cohesive teamwork, leading to betterment of patient care and reducing patient harm.

Without analysing where we currently are in terms of anaesthetic doctor-nurse communication in the operating theatre, it is difficult to construct suitable coaching or education to refine intercommunication in the anaesthetic team.

1.8 Limitations of the Study

As this study uses a quantitative research method, there are many limitations to the outcomes of the study. Options for responses are based on the answers provided by the researcher. In the Likert Scale use for this study (options ranging from the scale of 1 = never and 5 = always), if we take an example of the statement from the questionnaire, “The stressful nature of working in the operating theatre prevents healthy relations”. If the respondent answers “Always” for this statement, further information such as the kind of stress and what could be done to alleviate this cannot be obtained.

The ambiguity in the data should be supplemented with a detailed and/or a focus group interview, to get an in depth view of the perspectives of both doctors and nurses in the anaesthetic team.

The study only involved perception of the anaesthetic nurses but not the anaesthetic doctors. Inclusion of anaesthetic doctors in the questionnaires may provide more rich data, and also enable us to compare and contrast the perceptions of all members of the anaesthetic team with regards to interprofessional communications.

CHAPTER 2: LITERATURE REVIEW

2.1 Background of Anaesthetic Team Communication

Merry,2021, underscores the significance of communication within anesthesia teams, noting that deficiencies in this area can result in adverse patient outcomes. The study advocates for the integration of communication and teamwork training into the ongoing professional development for perioperative team members, highlighting the critical role of effective communication in ensuring patient safety in the operating room.

The lack of attention to anaesthetic team communication, may be attributed to several factors. Firstly, most aspects of such communication are informally learned and developed with experience, suggesting a reliance on tacit knowledge gained through practice rather than formal training or systematic study (Smith, 2010). This informal approach might lead to less academic and research focus on the topic. Additionally, the emphasis in research and training often centers on communication during surgery in the operating theatre, which is seen as a more critical setting for immediate patient outcomes, potentially overshadowing the importance of communication among anaesthesia team members outside this context (Smith, 2010).

2.2 Importance of Effective Communication in the Anaesthesia Team

It is of note that, in the study by Douglas et al., 2021it was determined that nearly half (43%) of the examined anaesthesia malpractice claims were associated with patient injuries stemming from communication lapses. Despite the parallel nature of case demographics between claims linked to communication failures and those unconnected to such failures, a notable discrepancy was the heightened prevalence of communication issues in outpatient

environments. The findings highlight the imperative role of proficient communication among medical professionals in safeguarding patient well-being and suggest a pressing demand for enhanced communicative methodologies to diminish the frequency of medical misadventures and their resultant legal claims.

2.3 Factors Influencing Effective Communication within Anaesthetic Team

Teamwork in anesthesia is distinctive due to:

1. Multidisciplinary Collaboration: It involves a mixture of professionals with specific skills, all critical for patient safety during surgeries.
2. High-Risk Environment: The operating room demands quick teamwork responses to rapid and often unexpected changes in patient conditions.
3. Implicit Coordination: Team members rely on a shared understanding and trust, allowing for non-verbal cues and minimal communication to guide routine tasks.
4. Fluid Leadership: Leadership roles shift dynamically based on the needs of the situation, with different team members assuming command during crises.
5. Variable Teams: Members may change throughout the day, requiring constant adjustment and communication.
6. Balancing Priorities: Teams must manage time-sensitive tasks while maintaining patient care quality under institutional constraints.
7. External Pressures: Time and institutional demands often require teams to work efficiently and make quick decisions.

In summary, teamwork in anesthesia is characterized by adaptable leadership, fluid team composition, reliance on tacit knowledge, and the need for rapid response in a high-risk environment (Wacker & Kolbe, 2014).

Additionally, the context of the communication, whether at the induction of anaesthesia or during the handover to recovery room staff, plays a significant role. The use of positive words and phrases during induction has been noted to benefit patient comfort and safety, indicating that the content and tone of communication can significantly impact outcomes (Smith, 2010). Furthermore, the informal and often brief nature of handovers, which occur alongside other patient-related activities, also influences how effectively information and responsibility are transferred (Smith, 2010). These factors collectively shape the dynamics and effectiveness of communication within anaesthesia teams.

2.4 Challenges to Efficient Communication in the Anaesthetsia Team

Challenges to efficient communication within the anaesthesia encompass:

1. Hierarchical Structures: Dominance hierarchies may inhibit subordinate staff from expressing concerns or contesting decisions of superiors.
2. Cognitive Load: The responsibility to juggle numerous tasks can detract from the capacity to communicate clearly and effectively.
3. Interpersonal Tensions: Disagreements or strained relations among team members can result in reluctance to engage in open information exchange.
4. Cultural and Linguistic Diversity: Variation in cultural norms and language proficiency among team members might lead to communication discrepancies.
5. Auditory Interference: High levels of ambient noise and disruptions within the operating environment can compromise communication fidelity.
6. Temporal Constraints: Expediency and swift decision-making requirements can precipitate incomplete transmissions of information.

7. Physiological Strain: Exhaustion and the inherent stress of the operating room milieu can adversely affect communicative clarity and attentiveness.
8. Absence of Communication Protocols: Deficiencies in, or noncompliance with, established communication procedures such as standardized safety checklists can cause the omission of critical details (Wacker & Kolbe, 2014)(Etherington et al., 2019).

Addressing these challenges is imperative for safeguarding patient welfare and enhancing the operative coherence of the anesthesia team (Wacker & Kolbe, 2014).

The consultant anaesthetists generally saw themselves as leaders of the anaesthetic team. However, this perception was not widely shared by the anaesthetic assistants, who might view the senior theatre nurse or another figure as their team leader. The anaesthetic assistants typically felt they were part of the whole theatre team or an anaesthetic subgroup within that team, while a minority felt primarily part of the nursing team (Rutherford et al., 2012).

2.5 Monitoring Effective Communication in the Anaesthetic Team

Team monitoring within the realm of anaesthesia occurs via two primary mechanisms. The first mechanism, termed implicit monitoring, unfolds organically as practitioners observe their colleagues' performance, subsequently calibrating their conduct to align with the collective objectives and situational demands. The second mechanism, explicit monitoring, is characterized by formalized strategies such as preoperative briefings, structured procedural checklists, and adherence to established communication protocols. These strategies reinforce role clarity and collaborative engagement among team members. Moreover, engaging in systematic teamwork training initiatives has been demonstrated to enhance team dynamics and patient safety within these clinical settings (Rutherford, 2017).

Monitoring teamwork is crucial because it helps to ensure everyone knows their role and works well together, leading to better results. It makes sure communication is clear, improves how team members work together, keeps team spirit high, identifies areas where training is needed, increases safety, especially in healthcare, helps everyone understand the situation better for good decision-making, and helps the team adjust to changes quickly (Rutherford, 2017).

2.6 Importance of Continued Efforts in Improving Communication

Ongoing enhancement of interprofessional communication is imperative as it constitutes a foundational element for the safeguarding of patient safety within healthcare teams, especially in environments with elevated risks, such as the operating room. Inadequacies in communication can precipitate a cascade of negative consequences, including adverse events, misapprehensions, and errors, all of which detrimentally impact patient outcomes. A dedication to the continual refinement of communication modalities is conducive to the establishment of a healthcare culture that prioritizes cohesive teamwork, diminishes the impact of hierarchical structures, fosters collaborative efforts, and guarantees the precise and timely exchange of vital information. Such efforts are instrumental in the improvement of patient care, the diminishment of errors, and the cultivation of an environment that supports the well-being of healthcare practitioners (Etherington et al., 2019). There may be differences in perception between nurses and surgeons, which can impact teamwork (Carney, 2010). Therefore, ongoing training and education, such as interprofessional simulation-based programs, are crucial for enhancing communication and collaboration (Liaw, 2014).

To simplify, the recommendations for improving interprofessional communication in the operating room include:

1. Integrating checklists to ensure comprehensive information exchange and procedural adherence.
2. Implementing preoperative safety briefings for collective understanding of patient cases and team roles.
3. Offering specialized training to foster effective teamwork and communication skills.
4. Adopting closed-loop communication to confirm and verify information transfer.

These strategies aim to facilitate team unity, reduce hierarchical impediments, standardize communication practices, and ultimately improve patient safety and healthcare quality (Etherington et al., 2019).

2.7 Summary

Study exploring the interprofessional communication between anaesthetic doctors and nurses in the operating theatre is lacking. By reviewing the current perception of nurses on this topic, a baseline of where we currently stand in the topic can be established and this would open up room for identifying the strengths and weaknesses. From this point onwards, we can then proceed to work on what is lacking.

Literature review was done showing that while there are multiple studies done in the operating theatre between physician and nurses, most of the studies involved the surgical teams. The studies done also showed ethnic differences when done in different locations. Reviews also identified the themes surrounding professional communication such as,

physician-nurse communication, work surrounding, mutual assurance and recognition, ethical competence, workplace disagreements and collaboration.

The perception of nurses can impact various aspects of healthcare delivery, influencing interactions and relationships with other healthcare professionals. Understanding their perception provides insights into their experiences, perspectives, and contributions within the healthcare team. By evaluating this perception, we can identify barriers to effective communication and collaboration between doctors and nurses, leading to targeted interventions for improved teamwork in the operating theatre and better patient outcomes. Additionally, it helps identify biases or stereotypes that may affect the working environment and care quality provided by nurses.

CHAPTER 3: METHODOLOGY

3.1 Introduction

To assess the perceptions of anaesthetic nurses regarding communication between anaesthetic doctors and nurses, an online questionnaire was conducted targeting the population of anaesthetic nurses working in the operating theatre.

3.2 Research Design

The presented research is a quantitative, descriptive-analytic study with a cross-sectional design. The instrument for data collection is a self-administered survey consisting of 4 items on demography and 41 items on interprofessional communication, presented as a Likert-Scale questionnaire. This mode of research was chosen to encourage participation from more anaesthetic nurses, and also to allow them to answer the questionnaires in their own time and space.

3.3 Location of the Study

The study was conducted in the main operating theatre of Hospital Kuala Lumpur.

3.4 Population and Sample

3.4.1 Sample

Target population for the study was nurses who are working with the anaesthetic team in the operating theatre, in that they can give relevant input to the study. Purposive sampling was done, which involved nurses who are working with the anaesthetic team (also called GA nurses in the location of study); this included registered nurses (nurses who have undergone nursing education and are registered with the Malaysian Nursing Board) and post-basic nurses (registered nurses with Post Basic Peri Anaesthesia Care). The total number of this population is 70. Taking into account drop out rate of about 20%, the estimated participation is 56 participants.

3.4.2 Data collection

Questionnaire was distributed as an online survey with implied consent. Anaesthetic nursers working in the general operating theatre were contacted privately via telephone, and a link to the questionnaire was provided to them. The hyperlink provided directs participants to an online Google Form. The first page of the form included a participant information sheet which highlighted the research, its purpose, addressing ethical issues and data collection (refer Appendix A).Participants were provided with contact number and email of researcher should they have any enquiry. Participants were given the rights to participate or decline participation in the study, agreeing which, they are directed to the questionnaire page. If patient refuses to participate, the form will be submitted as refusal of participation. Participants were given the period of 1 month to answer the questionnaire

before data collection concluded. After the period of one month, the link was disabled and no other personnel except researcher is able to access it.

3.5 Instruments of the Study

The questionnaire which is included here as Appendix B1 and B2, comprised of two sections. The first section assessed demographic information, and the second section focused on the nurses' perceptions of interpersonal communication. The first part included four items: age, gender, whether the nurse is a post-basic or registered nurse, and years in service.

The second part of the questionnaire includes a questionnaire evaluating the nurses' perception on interpersonal communications, of which there are 41 items. This section dealt with the different themes of physician-nurse communication, workplace environment, mutual assurance and recognition, ethical competence, workplace disagreements and collaborations.

3.5.1 Validity of Instruments

Measurements of the instrument were done by face validity of potential participants. In items with broad terms, examples are given in parentheses to refine the understanding of the questionnaire.

3.6 Ethical Concerns

The research was registered with NMRR with Research ID RSCH ID-23-02729-CU0 and ethics approved by Medical Research and Ethics Committee (MREC), Ministry of Health (MOH) with NMRR ID-24-01124-DMP.

To address ethical concerns regarding the survey, a participant information sheet was provided, from which the purpose, conduct and voluntary participation in the survey was highlighted.

Participants were given the rights to not participate or to withdraw from the study at anytime.

If participant decided to withdraw midway, they could exit the website freely and no measures will be used to preserved the data they have filled in and all data will be destroyed.

To ensure confidentiality and anonymity, respondents were not required to sign in to an account to complete the survey. Sensitive data and any identifiers such as email addresses and phone number were not collected. This was also to promote honest responses from the participants.

Contact details of the investigators were also provided, should the participant have any questions or other issues regarding the research.

3.7 Data Analysis

After the period of data collection, the data collected from Google form were recorded as a separate offline document. The data are then coded and analysed in Microsoft Excel. New variables with the explored themes were introduced and calculated from the set data. Analysis done on the data includes the descriptive analysis of demography, the average score of each tested theme, and hypotheses on differences between views of registered nurses versus post basic nurses were tested. Reliability of the data was also calculated.

CHAPTER 4: RESULTS AND DISCUSSIONS

4.1 Introduction

Out of the 70 anaesthetic nurses working in the operating theatre, 32 nurses responded to the questionnaire. This meant only 45% of the population took part in the questionnaires. This limited size sample could be attributed to the method of sampling for the research, which was purposeful sampling. The disadvantage of this is that, this study may not be generalizable for a larger population of anaesthetic nurses. However, the result from this study can still be useful as the despite the population of interest is small, they are highly representative for the characteristics of attributes of the study. The low participation rate could also be attributed to inability to trace personnels whom did not take part in the survey, as no identifiers were collected in the survey.

For all the respondents who agreed to participate in the study, they have opted to answer the questionnaire in the Malay language.

Presented in the next page is the responding demographic data obtained from the first part of the questionnaires.

4.2 Demographic data

Table 4.2

Category		Percentage
Gender		
	Male	16%
	Female	84%
Job Category		
	Registered Nurse	75%
	Post Basic Nurse	25%
Age Group		
	25-30	53%
	31-40	44%
	41-50	3%
Years of Experience		
	<1	22%
	1-5	25%
	6-10	38%
	11-15	9%
	16-20	3%
	>20	3%

Demographic Distribution Among Respondents

Table 4.1 summarises the demographic distribution of respondents. From the table it is noted that there is more female compared to male respondents, at 84% compared to 16%. Out of the respondents, 75% of them are registered nurses and 25% are post basic nurses, i.e. those who have completed post basic certificate in perioperative nursing. The table shows that the majority (53%) of respondents are in the 25-30 years age group, while the

smallest percentage (3%) of respondents are in the 41-50 years age group. The age group of 31-40 years make up 44% of the respondents. As for working experience, most respondents (38%) are in the 6-10 years work experience group while the smallest percentage of respondents (3%) are in the 16-20 years and more than 20 years. Respondents with less than 1 year, 1-5years and 11-15 years of work experience make up 22%, 25% and 9% respectively.

4.3 Findings

The second part of the questionnaire comprises of 41 items, which are part of six themes highlighted for interprofessional communication. The themes which were identified and measured includes, physician-nurse interactions or communication, collaboration, workplace surrounding or atmosphere, mutual assurance and recognition, ethical competence and workplace disagreements.

For each theme, the average scores by gender, age group, job category and work experience were analysed, with the result presented as a table on the next page.

Table 4.3.1

Gender	Average Interprofessional Communication Score	Average of Workplace atmosphere Score	Average of Mutual assurance and recognition Score	Average of Ethical competence Score	Average of Workplace disagreements Score	Average of Collaboration Score
Female	4	3	4	4	4	3
Male	4	2	3	4	4	3
Grand Total	**4**	**3**	**4**	**4**	**4**	**3**

Age group	Average Interprofessional Communication Score	Average of Workplace atmosphere Score	Average of Mutual assurance and recognition Score	Average of Ethical competence Score	Average of Workplace disagreements Score	Average of Collaboration Score
25-30	4	3	4	4	4	3
31-40	4	3	4	4	4	3
41-50	3	3	4	3	4	4
Grand Total	**4**	**3**	**4**	**4**	**4**	**3**

Job category	Average Interprofessional Communication Score	Average of Workplace atmosphere Score	Average of Mutual assurance and recognition Score	Average of Ethical competence Score	Average of Workplace disagreements Score	Average of Collaboration Score
Post Basic Nurse	4	3	4	4	4	3
Registered Nurse	4	3	4	4	4	3
Grand Total	**4**	**3**	**4**	**4**	**4**	**3**

Work experience category	Average Interprofessional Communication Score	Average of Workplace atmosphere Score	Average of Mutual assurance and recognition Score	Average of Ethical competence Score	Average of Workplace disagreements Score	Average of Collaboration Score
<1	4	3	4	4	4	3
>20	4	3	4	3	4	4
11-15	4	3	3	3	4	3
1-5	4	3	4	4	4	3
16-20	4	4	4	5	4	3
6-10	4	3	4	4	4	3
Grand Total	**4**	**3**	**4**	**4**	**4**	**3**

Average Theme Score According to Demographics

The table shows that females had a higher score than male in all theme categories.

We can note that most respondents in the age group of 25-30 and 31-40 had an average score of above 4.0 on the physician-nurse communication. Also, respondents in the age group of 41-50 gave a high score to the questions related to workplace disagreements and collaboration as compared to respondents in the other age group.

We can note that most respondents in the job category of registered nurse gave better scores across all questions in the theme, except the theme with questions related to mutual assurance and recognition score. We can note that most respondents with the work experience of 16-20 years gave an average score of 5 for all the questions under the ethical competence.

Experienced nurses in the operating theatre generally view interprofessional communication positively, recognizing its critical role in patient safety (Nestel, 2006; Etherington, 2019). However, they also face challenges, such as role confusion and cultural differences (Nestel, 2006; Clayton, 2016). These challenges can be mitigated through effective teamwork, open communication, and interprofessional collaboration (Etherington, 2019). Despite these challenges, experienced nurses generally have a positive attitude towards perioperative conversation (Hansson, 2004).

Respondents in both job categories, and those with work experience of 1-5 years and 6-10 years gave average scores of 3 or below for the questions related to the workplace surrounding.

Both job categories gave an average score of 4 or above for questions related to physician-nurse communication.

Table 4.3.2

	Mean	Standard deviation
Physician-Nurse Communication Score	4	0.559
Workplace Surrounding Score	3	0.792
Mutual Assurance and Recognition Score	4	0.742
Ethical competence Score	4	0.818
Workplace Disagreements Score	4	0.754
Collaboration Score	3	0.712
Average score	4	0.559

Summary of Descriptive Statistics for All Themes

The following can be noted from the above table;

- Physician-Nurse communication (M = 4, SD = 0.559). The mean for this variable is relatively high. This indicates that there are positive interactions between the anaesthetic doctors and nurses. The standard deviation is low which indicates that these scores are consistent.
- Workplace Surrounding (M = 3, SD = 0.792). The mean for this variable is the lowest among the other themes. This indicates that most nurses gave low scores on the questions associated with this category. The standard deviation shows a big spread of scores, meaning that some nurses gave significantly better or worse scores than others.
- Mutual assurance and recognition (M = 4, SD = 0.742). The mean is closer to physician-nurse communication, which indicate a positive perception of respect and trust among anaesthetic doctors and nurses.
- Ethical competence (M= 4, SD = 0.818). The mean score indicates a generally positive perception of ethical behaviour among anaesthetic doctors and nurses. However, the

standard deviation is the highest here, indicating a wider range of experiences regarding ethical conduct. Some nurses may perceive higher ethical standards than others.

- Workplace disagreements (M = 4, SD = 0.754). The mean score suggests a somewhat moderate level of workplace conflict. The standard deviation is similar to mutual assurance and recognition, indicating some variation in how nurses experience conflict.
- Collaboration (M = 3, SD = 0.712): This score is the second-lowest, suggesting areas for improvement in teamwork. The standard deviation is moderate, indicating some nurses perceive better teamwork than others.
- Average score (M = 4, SD = 0.559): The average score reflects a somewhat positive overall perception. The standard deviation is again low, indicating scores tend to cluster around the mean.

From the above summary, tt can be extracted from study that while the perception of nurses regarding physician nurse interactions, mutual assurance and recognition, ethical competence and workplace disagreements are satisfactory, more data should be obtained to address the two themes with lower scores, namely, workplace surrounding or environment and collaboration between anaesthetic doctors and nurses.

Table 4.3.3

Workplace Environment Score	
Mean	3
Standard Error	0.173
Median	3
Mode	3
Standard Deviation	0.979
Sample Variance	0.959
Kurtosis	-0.932
Skewness	-0.181

Descriptive Statistics for Workplace Environment

Table 4.2.3 summarises the descriptive statistics for the workplace surrounding score. The workplace surrounding questions averaged a mean score of 3 and standard deviation of 0.979. The standard deviation indicates a moderate variability in the scores around the mean. Also, a negative skew of -0.181 indicates that the scores are slightly skewed towards the higher scores.

There were in total 8 items pertaining to work environment for the questionnaire. One of the item in this theme highlighted that for 31% of respondent, very often, the sounds of equipment in the operating theatre adversely affect communications. 31% of respondent also reported that very often, the stressful nature of working in the operating theatre prevents healthy relations. 34% reported that, very often, during emergencies in the operating theatre, proper communication among individuals cannot develop.

Environmental factors can lead to communication failures in several ways:

1. Noise and Distractions: A noisy or chaotic environment can interfere with the ability to hear, understand, and accurately interpret messages.

2. Space and Layout: If team members are physically spread out or barriers exist, it can hinder verbal and non-verbal communication.
3. Interruptions: Frequent disruptions can cause individuals to lose focus or forget to convey important information.
4. Poor Lighting: Inadequate lighting can affect non-verbal communication such as visual cues or signals, which are important in operative settings.
5. Workload and Staffing: High workload and inadequate staffing can lead to missed or rushed communications due to time pressures.
6. Equipment: Malfunctioning or poorly designed communication equipment can prevent messages from being sent or received properly.

Environmental issues like these can contribute to incomplete, inaccurate, or absent communication, ultimately affecting patient safety and care outcomes (Douglas et al., 2021).

In one study titled "Five-year audit of adherence to an anaesthesia pre-induction checklist," led by Alexander Fuchs et al., the consistency with which anesthesiology professionals followed a standardized safety checklist prior to inducing anesthesia was examined. The underlying purpose of this audit was to enhance patient safety by minimizing errors and complications related to airway management in anesthetic practices . The research covered a five-year period to gauge the persistence and identify potential improvement areas in the use of the checklist. Variables such as timing, setting, anesthesia type, and procedure urgency were analyzed to understand their influence on checklist adherence. (Fuchs et al., 2022).

Utilization of a checklist fosters enhanced communicative clarity by instituting a uniform framework for task execution, thereby aligning team member roles and expectations. The checklist acts as a cognitive prompt, mitigating the probability of oversight and enhancing the precision of information exchange. In scenarios of heightened complexity or urgency, checklists are instrumental in optimizing team synergy and ensuring the integrity of health outcomes.

This study is highlighted here as it correlates with the specific concern encountered in the operating theatre by the anaesthetic team, this may be adapted to help overcome part of the chaotic environment in the operating theatre, making sure that a crucial event such as securing the airway is not taken lightly when it takes place.

Table 4.2.4

Collaboration Mean Score	
Mean	3
Standard Error	0.126
Median	3
Mode	4
Standard Deviation	0.712
Sample Variance	0.507
Kurtosis	-0.554
Skewness	-0.541

Descriptive Statistics for Collaboration

Table 4.2.4 summarises the descriptive statistics for the collaboration score. The collaboration questions averaged a mean score of 4 and standard deviation of 0.712. The standard deviation indicates a moderate variability in the scores around the mean. Also, a negative skew of -0.541 indicates that the scores are slightly skewed towards high scores.

Within anesthesiology teams, obstacles impeding cohesive teamwork entail a high variability in operating room dynamics, frequent rotation of team members, and divergent priorities across different healthcare roles. Communication failures, particularly during transition phases and emergency responses, compound these challenges. Leadership and coordination may be inconsistent, further disrupting team synergy. Regular operational interruptions and an over-reliance on non-verbal, tacit understandings during routine procedures can fail under complex conditions, necessitating more explicit forms of cooperation. Implementing comprehensive educational programs and refining systemic protocols are essential for bolstering anesthesiology team coordination and efficacy (Wacker & Kolbe, 2014) (Douglas et al., 2021).

The consultant anaesthetists generally saw themselves as leaders of the anaesthetic team. However, this perception was not widely shared by the anaesthetic assistants, who might view the senior theatre nurse or another figure as their team leader. The anaesthetic assistants typically felt they were part of the whole theatre team or an anaesthetic subgroup within that team, while a minority felt primarily part of the nursing team (Rutherford et al., 2012).

From the same study, a few actions were underlined, to enhance teamwork withing an anaesthetic team, and this includes,

1. Improve communication: Always keep clear and open communication to share information and address any issues.
2. Develop soft skills: Focus on improving teamwork-related skills like problem-solving and collaboration.
3. Build mutual respect: Ensure everyone respects and values each team member's role.

4. Train together: Regular practice and training exercises help to better prepare the team to work together.
5. Promote good leadership: Leaders should involve everyone in decisions and planning.
6. Give and receive feedback: Regular discussions about past procedures can help improve future performance.
7. Know each other's work style: Understand how your colleagues work best to anticipate the team's needs.
8. Encourage open conversation: Make sure all team members feel confident to speak up if they see a potential issue (Rutherford et al., 2012).

4.4 Other variables

Among the participants there was 8 post basic nurses and 24 registered nurses. It was noted that most respondent in job category registered nurse gave better scores across all questions in the dimension except the dimension with questions related to mutual respect and trust score. Also, respondents in both job category of gave average score of 3 or below for the questions related to the workplace atmosphere. Both job categories gave average score of 4 or above for questions related to inter-professional interaction.

Table 4.4.1

Variable	Test	p	Mean difference	Effect Size
Inter-professional Interaction	Student's t	0.348	-0.133	0.229
Workplace surrounding	Mann-Whitney U	0.659	-0.146	-0.182
Mutual Assurance and Recognition	Mann-Whitney U	0.754	0.097	0.129
Ethical competence	Mann-Whitney U	0.761	-1.04E-01	-0.125
Workplace conflicts	Student's t	0.877	-3.81E-05	0.042
Collaboration	Mann-Whitney U	0.419	-0.239	-0.335

Independent Samples T-Test 1

Table 4.4.2

		Statistic	p
Average score	Mann-Whitney U	92	0.881

Independent Samples T-Test 2

Note. H_a μ *Post Basic Nurse* $\neq$ μ *Registered Nurse*

An independent sample t-test was conducted to analyze whether the differences were significant. The results indicated that there was no statistically significant difference between post basic nurses and registered nurses on the Inter-professional interactions (t(30) = 74, p = .348), Workplace surrounding (t(30) = -0.445, p = .659), Mutual assurance and recognition (t(30) = 0.316, p = .754), Ethical competence (t(30) = -0.307, p = .761), Workplace conflicts (t(30) = 92, p = .877), and Collaboration (t(30) = -0.819, p = .419).

Table 4.4.3

Cronbach's α	
scale	0.934

Reliability Analysis

The calculated Cronbach's Alpha is 0.934, therefore, it could be said that the internal consistency of this survey is very good.

CHAPTER 5: CONCLUSION

5.1 Conclusion

Overall, we can conclude that there were some positive aspects with regards to interprofessional communication, in the domains of physician-nurse interactions, mutual recognition, and ethical competence, where most nurses gave high scores to the questions associated with those themes.

The focus of improvement can then be shifted to address weaknesses in workplace environment and collaboration between doctors and nurses. To do so, a more in-depth, focus group interview should be conducted to gain more rich data on this problem.

With regards to improvement in the work surrounding or work environment, it is important to implement checklists, specific to anaesthesia between the anaesthetic doctors and nurses. A good example of this would be The SNAPPI(Stop, Notify, Assess, Plan, Prioritise, Invite Ideas) tool. The SNAPPI tool is an acronym used in the context of anaesthetic emergencies to structure communication within a healthcare team.

This is a structured framework for enhancing communication in medical teams during anesthesia-related emergencies. It encapsulates six distinct steps for transmitting critical information efficiently and effectively to team members, thereby fostering better crisis management and decision-making (Weller et al., 2014).

To improve teamwork and collaboration, it is crucial that training for effective teamwork and communication between different professions be made a compulsory part of education in healthcare.

5.2 Recommendation for future studies

The study can be extended to a larger sample (i.e. involving anaesthetic nurses from other hospitals) to improve the study findings.

The author would like to recommend that the perception of anaesthetic doctors with regards to interprofessional communication be explored as well. This will provide more information, as there were reports of difference in views before between physician and nurses.

It is recommended to do a mixed-method research, from which the quantitative data can highlight key areas of improvement, and the qualitative data can provide a more detailed breakdown of the barriers to effective interprofessional communication.

To address the flaws in the working enviroment, a focus group interview could be done to evaluate further on the elements of stress that lead to poor communication and further discussion on improving this area can then be done.

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