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| **Name of student** | : | **Reyvien Arleyne Anak Allay** |
| **Matric number** | : | **78500** |
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# Perception and Attitude towards the Role of Caregiver in Family Engagement for Patient Care among Undergraduate Nursing Student in UNIMAS.

REYVIEN ARLEYNE ANAK ALLAY

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## DECLARATION

I hereby declare that the research study is entirely original, having completed the Final Year Project II requirements at Universiti Malaysia Sarawak. I declare that this research was carried out in accordance with ethical standards and that all information sources used in it were adequately cited and acknowledged in the references. I understand that the work I submit will be reviewed and evaluated in accordance with Universiti Malaysia Sarawak's academic policies.

Signature: 

Name: Reyvien Arleyne Anak Allay

Matric No.: 78500

Faculty of Medical and Health Sciences

Universiti Malaysia Sarawak

Date: 3/ July / 2025

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## ABSTRACT

**Background**: Family engagement is a key component of patient-centred care, promoting better communication, patient safety, satisfaction, and health outcomes. Families support patients emotionally, physically, and in decision-making, contributing to holistic care. For nursing students, understanding and promoting family engagement is crucial. Their perceptions and attitudes are shaped by education, clinical experience, and institutional culture. **Objectives:** To determine the perceptions and attitude of UNIMAS undergraduate nursing students regarding the role of caregivers in family engagement. Moreover, to examine the relationship between UNIMAS undergraduate nursing students' perception and attitude toward the caregiver's role in family engagement. **Methodology**: A cross-sectional study was conducted through a simple random sampling. The data was collected from UNIMAS nursing students(n=139). The perception and attitude of UNIMAS nursing students toward the importance of family engagement in patient care will be measured by using 24-item questions on Families' Importance in Nursing Care–Nurses' Attitudes (FINC-NA).**Results:** Findings showed that most UNIMAS nursing students had poor perception toward the caregiver's role in family involvement in patient care, where the total median score was 26 (*IQR* =18). Furthermore, most of them showed a poor positive attitude and low negative attitude towards the caregiver's role. The total median score for positive attitude is 26 (*IQR* =18), while the total median score for negative attitude is 14 (*IQR* =4). Spearman Rank Order Correlation has been used to assess the relationship between the variables, and it has been determined that there was a strong positive correlation between the perception and positive attitude, $r_s(139) = .671$, $p < .001$. However, the analysis of the relationship between perception and negative attitude reveals that there was a weak negative correlation between the two variables, $r_s$ (139) = -.228, $p$ =. 007.Conclusion**:** This study concluded that

UNIMAS nursing students have poor perception and attitudes toward the caregiver's role in family involvement. This study emphasises nursing education's need to incorporate family-centred care principles, practical training, and supportive clinical environments to enhance student preparedness for engaging caregivers in patient care.

Keywords: caregiver, family engagement, perception, attitude, nursing students, UNIMAS

***Tanggapan dan Sikap terhadap Peranan Penjaga dalam Penglibatan Keluarga untuk Penjagaan Pesakit dalam Kalangan Pelajar Kejururawatan Sarjana Muda di UNIMAS***

## ABSTRAK

***Latar Belakang**: Penglibatan keluarga merupakan komponen utama dalam penjagaan pesakit, dimana yang menggalakkan komunikasi baik antara satu sama lain, keselamatan pesakit terjamin, kepuasan, dan hasil kesihatan yang lebih baik. Selain daripada itu, keluarga juga menyokong pesakit secara emosi, fizikal, dan dalam membuat keputusan, sekali gus menyumbang kepada penjagaan yang menyeluruh. Bagi pelajar kejururawatan, pemahaman dan galakan terhadap penglibatan keluarga adalah amat penting. Persepsi dan sikap mereka dibentuk melalui pendidikan, pengalaman klinikal, dan budaya institusi.* ***Objektif:*** *Untuk mengenal pasti persepsi dan sikap pelajar kejururawatan prasiswazah UNIMAS terhadap peranan penjaga dalam penglibatan keluarga. Selain itu, kajian ini bertujuan untuk meneliti hubungan antara persepsi dan sikap pelajar kejururawatan prasiswazah UNIMAS terhadap peranan penjaga dalam penglibatan keluarga.* ***Metodologi:*** *Satu kajian telah dijalankan menggunakan pensampelan rawak mudah. Data telah dikumpulkan daripada pelajar kejururawatan UNIMAS (n=139). Persepsi dan sikap pelajar kejururawatan UNIMAS terhadap kepentingan penglibatan keluarga dalam penjagaan pesakit diukur menggunakan soal selidik 24 item "Families' Importance in Nursing Care – Nurses' Attitudes (FINC-NA)".* ***Keputusan:*** *Dapatan kajian menunjukkan bahawa kebanyakan pelajar Kejururawatan UNIMAS mempunyai persepsi yang lemah terhadap peranan penjaga dalam penglibatan keluarga terhadap penjagaan pesakit, di mana skor median keseluruhan adalah 26 (IQR = 18). Selain itu, majoriti pelajar juga menunjukkan sikap positif yang rendah dan sikap negatif yang rendah terhadap peranan penjaga. Skor median keseluruhan bagi sikap positif ialah 26 (IQR = 18), manakala skor median*

*keseluruhan bagi sikap negatif ialah 14 (IQR = 4). Korelasi Spearman Rank Order digunakan untuk menilai hubungan antara pembolehubah, dan didapati terdapat korelasi positif yang kuat antara persepsi dan sikap positif,* $r_s(139) = .671$, $p < .001$. *Walau bagaimanapun, analisis hubungan antara persepsi dan sikap negatif menunjukkan hubungan negatif yang lemah antara kedua-dua pembolehubah,* $r_s(139) = -.228$, $p = .007$. ***Kesimpulan:*** *Kajian ini merumuskan bahawa pelajar kejururawatan UNIMAS mempunyai persepsi dan sikap yang lemah terhadap peranan penjaga dalam penglibatan keluarga. Kajian ini menekankan kepentingan pendidikan kejururawatan dalam mengintegrasikan prinsip penjagaan berpusatkan keluarga, latihan praktikal, dan persekitaran klinikal yang menyokong bagi meningkatkan kesiapsiagaan pelajar untuk melibatkan penjaga dalam penjagaan pesakit.*

***Kata kunci****: penjaga, penglibatan keluarga, persepsi, sikap, pelajar kejururawatan, UNIMAS*

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| | |
|---|---|
| COVID | Coronavirus disease 2019 |
| Fam-B | Family as a Burden |
| Fam-RNC | Family as a Resource in Nursing Care |
| Fam-CP | Family as a Conversational Partner |
| FCC | Family-centred care |
| FINC-NA | Families' Importance in Nursing Care–Nurses 'Attitudes |
| FMHS | Faculty of Medicine and Health Science |
| FYP | Final Year Project |
| M | Mean |
| Mdn | Median |
| SD | Standard Deviation |
| IBM SPSS | Statistical Package for Social Sciences |
| TBL | Team-based learning |
| UNIMAS | Universiti Malaysia Sarawak |
| USA | United States of America |

# CHAPTER 1

# INTRODUCTION

## 1.0 Introduction

This chapter explains the study background, problem statement, research questions, research objectives, hypothesis, significance of the study, and definitions of terms, including operational and conceptual definitions.

## 1.1 Study Background

Family engagement in healthcare has increasingly been recognized as an essential part of patient-centred care, which focuses on providing care tailored to each patient's wants, needs, and beliefs (Seniwati et al., 2023). According to Wahyudi et al. (2023) the research found that when families are involved, patients are often actively engaged, improved communication and patient safety, patients experience better satisfaction, and even enhanced health outcomes. This encourages a supportive environment where family members can help their loved ones with their physical, emotional, and decision-making needs, leading to more holistic care (Robinson et al., 2021). Kong et al. (2021) study show that Malaysia had a low prevalence of informal caregivers (5.3% of the population) compared to other nations, such as the USA and Singapore. Informal caregivers are the people who provide care, typically unpaid and often a family member, to someone with whom they have a personal relationship with the sick person (Kong et al., 2021). Family involvement may also pose challenges, including conflicts in decision-making (Menon et al., 2020), cultural misunderstandings (Van Keer et al., 2015) and patient-family disagreements (Riffin et al., 2021). Hospitalization can be a challenging experience for patients' physical, mental, and emotional health for

patients and family members (Solomon & Goldfarb, 2023). This type of situation can lead to anxiety and depression among individuals and their families (Alzahrani, 2021). Botes and Langley (2016) indicated that supportive care from healthcare team members can alleviate stress and anxiety. Family is a basic human support structure and plays an important role in caring for one another. This supportive role of family continues during hospitalisation (Babaei & Abolhasani, 2020). Positive attitudes of healthcare providers, including nurses, towards families foster improved relationships and communication between healthcare teams and family members (Alcindor & Cadet, 2021). They are more likely to express concerns, pose inquiries, and share insights, which can benefit the patient's well-being and treatment (Kaakinen et al., 2018) . As the future frontliners, undergraduate nursing students must be adequately prepared to identify and promote family engagement in clinical environments. Perceptions and attitudes regarding family involvement in patient care are influenced by multiple factors, such as theoretical knowledge, institutional culture and clinical experiences (Østergaard et al., 2020; Putri & Yuswardi, 2024; Wong et al., 2023). Nursing education increasingly emphasizes interdisciplinary and patient-centred practices (Flaubert et al., 2021a), making it essential to understand students' perspectives on the inclusion of family members into care procedures. The multicultural and multiethnic population at Universiti Malaysia Sarawak (UNIMAS) creates distinct dynamics in family engagement. Cultural expectations, family structures, and communication practices significantly influence family participation in healthcare decisions (Taylan & Weber, 2023; Wahyudi et al., 2023). Examining the perceptions and attitudes of undergraduate nursing students regarding family engagement is essential for preparing them to deliver culturally sensitive and inclusive care.

## 1.2 Problem Statement

Although family engagement in patient care is essential, nursing students may face challenges understanding and integrating this concept into their practice (Coats et al., 2018). In Malaysia, it is common practice for Chinese families to hire maids or other professional caregivers to care for the person, especially care for older people. This is due to the rise of nuclear families, women in the workforce, and socioeconomic changes (Ang et al., 2022). As a result, Asian family caregivers' traditional function of caring for the sick or elderly has changed. Nurses engage more frequently with patients and their families. Hence, they are responsible for assisting family members in managing their hospital experience (Bello et al., 2023). The changes in caregiving dynamics also affect how healthcare professionals perceive their duty in caring for patients (Correia et al., 2022).

Besides that, Correia et al. (2022) also discovered that nurses encounter difficulties obtaining information due to caregiving dynamics, particularly during the COVID-19 era, as they are compelled to make more frequent phone calls due to the absence of alternative communication methods with families. Hence, the decline rate in informal caregivers may create additional burdens on nurses, causing many gaps in communication and patient care (Stephenson et al., 2021). Furthermore, these circumstances may impact nursing students, and this situation may challenge their confidence in providing quality care to patients, especially as they are still developing their skills and self-assurance in real-world settings (Kim et al., 2024). The disparity between theoretical frameworks and practical application in nursing has been a source of concern for many years, as it has been shown to impede student learning (Rezakhani Moghaddam et al., 2020). Family members attentive to their ill relatives assist nursing students in enhancing their soft skills related to therapeutic communication and decision-making, thereby improving patient care outcomes (Flaubert et

al., 2021b). However, without this informal caregiving experience, nursing students may feel less prepared to work with patients (Longhini et al., 2024). According to Shibily et al. (2021), involvement of family members in hospital care contributes to improved experiences and enhances patient outcomes.

Therefore, nursing students are required to foster positive attitudes towards caregivers, appreciate their perspectives, and possess the ability to communicate these attitudes and values effectively (Stephenson et al., 2021). At Universiti Malaysia Sarawak (UNIMAS), undergraduate nursing students are at a formative stage of developing professional attitudes and perceptions about patient care. Effective family engagement relies on communication skills (Prior & Campbell, 2018). If nursing students at UNIMAS do not receive adequate communication training, they may struggle to involve families in patient care. This highlights the importance of evaluating whether current educational approaches adequately prepare students for family-centred communication. Assisting patient care enhances nursing students' confidence, equips them to manage challenging situations, fosters a closer relationship with the care recipient, and ensures quality care (Schulz et al., 2016).

Moreover, as future nurses, they require adequate training in delivering family support. Family support training for nurses should prioritize practices applicable to routine interactions with patients and their families (Bello et al., 2023). Clinical placements significantly influence nursing students' perceptions of family involvement (Zulu et al., 2021). Therefore, clinical environments must foster a conducive learning atmosphere to enable nursing students to apply classroom knowledge to clinical practice (Motsaanaka et al., 2020). However, inadequate or inconsistent exposure to family-centred care practices during clinical rotations may result in nursing students developing negative perceptions or feeling unprepared for future practice. Despite the recognized challenges, research on how

these nursing students perceive and engage with family involvement in clinical practice is limited and needs to be investigated.

## 1.3 Research Questions

1.3.1 How do UNIMAS undergraduate nursing students perceive the caregiver's role in family involvement?

1.3.2 What are the attitudes of UNIMAS undergraduate nursing students about the engagement of family members in patients' care?

1.3.3 Is there any association between student characteristics, perception and attitude towards the caregiver's role in family engagement among the students?

1.3.4 Is there any relationship between UNIMAS undergraduate nursing students' perception and attitude toward the role of the caregiver in family involvement in patient care?

## 1.4 General Research Objective

The general objective is to examine the perceptions and attitudes towards the role of caregiver in family involvement for patient care among UNIMAS undergraduate nursing students.

## 1.5 Specific Research Objectives

1.5.1 To determine the perceptions of UNIMAS undergraduate nursing students regarding the role of caregivers in family engagement.

1.5.2 To determine the attitudes of UNIMAS undergraduate nursing students on the engagement of family members in patients' care.

1.5.3 To examine the association between students' characteristics, perception and attitude toward the caregiver's role in family engagement among the students.

1.5.4 To examine the relationship between UNIMAS undergraduate nursing students' perception and attitude toward the caregiver's role in family engagement

## 1.6 Hypotheses

### 1.6.1 Null Hypothesis:

a) There is no significant correlation between student characteristics, perception and attitude toward the caregiver's role in family engagement among the students.
b) There is no significant correlation between UNIMAS undergraduate nursing students' perception and attitude toward the caregiver's role in family engagement

### 1.6.2 Alternative Hypothesis:

a) There is a significant correlation between student characteristics, perception and attitude toward the caregiver's role in family engagement among the students.
b) There is a significant correlation between UNIMAS undergraduate nursing students' perception and attitude toward the caregiver's role in family engagement.

## 1.7 Significance of the Study

Understanding nursing students' perspectives can help identify areas requiring educational or supportive enhancements to adequately prepare students for family- inclusive

patient care. UNIMAS nursing education could use nursing students' family engagement perception and attitudes to design curricula and clinical training that emphasise empathy, emotional intelligence, interaction skills and caring behaviour. Assessing that prepares them to involve families in patient care. By examining the perceptions and attitudes at this stage of training, UNIMAS nursing education can also address knowledge gaps, and nursing students can explore family engagement in patient care challenges and benefits through this study by examining the literature on patient and family engagement in healthcare teams, transforming academic learning into practical insights.

Besides that, investigating these family engagement dynamics is essential in nursing, as students may face various family backgrounds and expectations during clinical. Thus, the findings of this study may provide information for nursing students about approaches to care based on the cross-cultural practices of diverse family members. Students from families where caregiving is a shared responsibility may have a deeper understanding of the significant caregiver's role in family engagement in patient care. In contrast, families with less emphasis on caregiving may have less exposure. This study aims to evaluate the current perceptions and attitudes of undergraduate nursing students at UNIMAS regarding family engagement, considering various family backgrounds. Additionally, student nurses tend to avoid interactions with families and often experience anxiety during the encounters (Shajan & Snell, 2019). Therefore, this study may help nursing students appreciate the family's role in patient care, which is critical in facilitating patients' recovery process or outcome and improving patient-family relations. This study supports effective communication and cultural awareness among nursing students.

Furthermore, completing this research at the undergraduate level fosters the professional growth of future nurse researchers. This study offers a foundation for

subsequent research by identifying needed themes, perceptions, and attitudes. Therefore, this research can serve as an outline for more extensive studies, educating students with the knowledge, skills, and experience necessary for advanced research in higher education or professional practice.

## 1.8 Operational Definition of Key Terms

The following terms were defined as:

### 1.8.1 Perception

a) **Conceptual definition:** A belief or opinion shared by many individuals and based on how things appear (Cambridge Dictionary, 2024a).

b) **Operational definition:** Perception refers to the comprehension and interpretation that nursing students possess regarding family involvement in patient care. The perception of UNIMAS nursing students towards the importance of family engagement in patient care was measured by using 24 -item questions on Families' Importance in Nursing Care–Nurses 'Attitudes (FINC-NA). The instrument uses a 5- point Likert scale which range from 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), and 5 (strongly agree). The higher mean score indicates higher good perception.

### 1.8.2 Attitude

a) **Conceptual definition:** Can be defined as an opinion, feelings toward something or someone, or a behaviour (Cambridge Dictionary, 2019).

b) **Operational definition:** Refers to how nursing students feel about involving family members in patient care. It includes students' thoughts, feelings, and assumptions about the idea of family involvement in the care setting. The attitude of UNIMAS nursing students towards the importance of family engagement in patient care was measured by using 24 -item questions on Families' Importance in Nursing Care–Nurses 'Attitudes (FINC-NA). The instrument uses a 5- point Likert scale which range from 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), and 5 (strongly agree). The higher mean score indicates higher good attitude.

### 1.8.3 Caregiver

a) **Conceptual definition:** A caregiver is a person who helps someone with their daily activities, such as eating, bathing, or getting dressed. Caregivers can be paid or unpaid, and can be family members, friends, or professionals (Cambridge Dictionary, 2024b).

b) **Operational definition:** In this study, caregiver is defined as family members that care for sick individual during patient's care process.

### 1.8.4 Family Engagement

a) **Conceptual definition:** Family engagement is seen as part of patient- and family-centred care, where families are encouraged to take a role in the patient's healing journey. Family-centred care is a values-based approach to healthcare that respects and responds to the needs and values of individual families, fostering therapeutic relationships among family members, patients, and healthcare providers (Davidson et al., 2017; Kydonaki et al., 2021) .According to Prior and Campbell (2018) the

Royal Children's Hospital in Melbourne, Australia, has implemented a policy that defines family-centred care and patient including information exchange, involvement of patients and families in decision-making, and collaborative care delivery.

b) **Operational definition:** Family engagement is defined as the active participation of family members in various aspects of an individual's care process, as perceived and facilitated by undergraduate nursing students.

### 1.8.5 UNIMAS undergraduate nursing student

a) **Conceptual definition:** A person that registered in a professional or vocational nursing education program (Nursing Student Definition | Law Insider, n.d.)

b) **Operational definition:** Nursing students from year 1 to year 4 enrolled in an undergraduate program at Universiti Malaysia Sarawak (UNIMAS).

## 1.9 Summary

This chapter has addressed the study's context, the problem statement, and its importance. The objective is to comprehend the significance and purpose of conducting this research among undergraduate nursing students at UNIMAS. In the subsequent chapter, the researcher will examine the literature review concerning attitudes and perceptions related to family engagement and its correlation.

# CHAPTER 2

# LITERATURE REVIEW

## 2.0 Introduction

This chapter presents a literature review that provides an overview of the perceptions and attitudes regarding family engagement among undergraduate university students and nurses worldwide. This section reviews pertinent literature accessible in online databases, such as Google Scholar, ResearchGate, PubMed, and ScienceDirect, to enhance comprehension and generate insights. The keywords utilized in the online databases are attitude, perceptions, family engagement in patient care, the role of family in health outcomes, and nursing students. The search filter is organized by the previous ten years, from 2015 to 2024, to guarantee relevance. Furthermore, to guarantee thorough research, it is imperative to assess the quality of studies by examining their methodology, sample size, reliability, and validity while prioritizing those with rigorous methods and substantial findings. The literature review will be delineated in the subsequent subsections

## 2.1 Perception towards the role of caregivers in family engagement for patient care

Nurses serve as the primary caregivers in healthcare settings and are essential in incorporating family members into the care process. As a future nurse, nursing students' perceptions of family engagement significantly influence the quality and extent of this interaction. The collaborative approach between nurses and family members fosters a holistic, patient-centred environment, facilitating recovery and often resulting in improved health outcomes for patients.

According to Shibily et al. (2021), 78.8% of participants believed that family presence significantly improved patient outcomes, even though some nurses had difficulty engaging with families. This reflects a broader recognition of the value of family involvement in improving care quality and patient well-being. The study also found that students and nurses recognize the positive impact of family presence on patient outcomes. Participants generally agree that the presence of family helps patients recover and reduces family anxiety while having no negative impact on clinical performance. Despite these positive perceptions, some nursing students and nurses reported difficulties with family engagement, emphasizing practical issues. According to the same study, students have a limited perception of family-centred care because they did not receive enough exposure to family interactions during their clinical practice training. Nursing students struggle to organize family-centred clinical experiences due to limited space, insufficient family involvement during clinical practice, and inadequate supervision from clinical instructors (Jafarian-Amiri et al., 2020). Negative attitudes toward family-centred care (FCC) can impede high-quality nursing care (Al-Oran et al., 2024). Aside from that, Swan and Eggenberger (2021) research focuses on nurses' perceptions of the benefits and challenges of family involvement in healthcare. Family-centred care empowers patients and families, establishes trust and comfort, affirms the significance of family care, promotes unity among nurses, families, and patients, deepens relationships, increases the value of family care, relieves burdens, and provides nurses with meaningful work. However, the study identifies several challenges, including conflicting information from family members, the absence of family members, disengaged families, cultural differences that may burden nurses, misaligned goals among family, patient, and nurse, overwhelmed nurses, and emotional responses that make nurses feel unprepared and vulnerable (Swan & Eggenberger, 2021).

This can be supported by another study by Mabunda (2024), which suggests nurses have negative perception toward family members. Out of 360 respondents, n = 313 (86.9%) agreed that there were challenges with family members' involvement in mental health care, while n = 47 (13.1%) disagreed. The challenges can complicate the care process, requiring nursing students to develop strategies to balance the benefits of family involvement with the potential drawbacks (Aryuwat et al., 2024). These studies balance positive attitudes toward FCC and practical challenges in clinical practice. Addressing these challenges through targeted education, clinical training, and support systems is critical for fostering.

### 2.2 Attitude towards the role of caregiver in family engagement for patient care

The attitude of healthcare providers, including nursing students, toward family engagement is crucial, as it directly impacts the quality of care and the overall healthcare experience for patients and their families. Research on nursing students' attitudes toward family engagement reveals diverse outcomes shaped by clinical experiences, personal beliefs, and levels of training. Improving these attitudes can lead to better patient outcomes, enhanced family satisfaction, and a more positive overall healthcare experience.

Ceylan and Turan (2023) examined the attitudes of Turkish nursing students regarding parental involvement in paediatric care and determined that these attitudes are moderate. Similarly, Çınar Özbay et al. (2023) found that students learning family-centred care (FCC) via distance education exhibited moderate attitudes, reflected in a pretest mean score of 4.03 ($SD = 0.25$) on the FCC Attitude Scale. Nonetheless, the outcome was moderate due to the focus on students engaged in distance education, which may restrict hands-on practice and diminish opportunities for direct interaction with families. Each study indicates

consistent findings: students acknowledge the significance of family involvement, yet they may lack conviction or confidence in enabling it. This suggest that students comprehended FCC principles adequately but did not demonstrate particularly favourable attitudes. The study identified several barriers that hinder nursing students' implementation of FCC. Factors include limited clinical exposure, scarce opportunities for family interaction during training, inadequate time for family education, insufficient competence in this area, lack of supervision from clinical instructors, and conflicting organizational priorities within hospital settings (Gemuhay et al., 2019; Jafarian-Amiri et al., 2020) . This suggests that adequate support and resources improve nursing students' attitudes toward family-centred care, offering a favourable perspective for the future of this approach in nursing (Ghasemi et al., 2020). Pawłowska et al. (2020) conducted a mixed-method study examining student participation in activities to improve the outcomes and experiences of healthcare services for patients and their families through collaborative practice. Families in the study observed that interprofessional collaboration skills among students had a significant positive impact. This discrepancy underscores the complexity of attitudes, indicating that context and assessment methods affect outcomes. The favourable outcomes observed in this study may be attributed to the organized and supportive framework of interprofessional education. The study underscores the substantial advantages of involving nursing students in interprofessional collaborative practice activities. Participation in collaborative practice among various healthcare professionals and family members enhances students' teamwork and family engagement skills. This finding indicates that hands-on, team-based learning experiences foster positive attitudes toward FCC. The study by Elshafa Mohamed et al. (2024) provides evidence that nursing students possess a highly positive perception of Team-Based Learning (TBL), especially regarding learning, engagement, and motivation. This suggests that TBL

experiences significantly influence nursing students' attitudes towards their education favourably. Some students favoured individual study rather than participating in group discussions (Beckers et al., 2016). In conclusion, the findings indicate a definitive direction for enhancing nursing education to improve students' attitudes and, subsequently, the quality of care delivered, presenting a positive perspective for healthcare. Simulations, case-based learning, and team-based clinical practice connect theoretical knowledge with practical application.

### 2.3 Relationship between characteristics, perception and attitude toward the role of caregiver in family engagement for patient care.

Family-centred care (FCC) prioritizes collaboration among healthcare providers, patients, and families (Winkelmann et al., 2023). Nursing students' attitudes and perceptions regarding family engagement are essential for integrating these principles into clinical practice. Positive attitudes foster a greater willingness to engage families in care, perceiving them as active participants instead of passive recipients (Barreto et al., 2022). Engaged families positively influence students' perceptions and attitudes towards FCC while barriers such as inadequate time, insufficient competence, and limited instructor support can contribute to adverse perceptions and attitudes (Azak et al., 2024).

A study by Chironda and Brysiewicz (2024) investigates the relationship between the sociodemographic attributes of nursing students and their perspectives on family involvement. Descriptive analysis revealed that third-year nursing students demonstrated higher FNPs (2.97) than second-year students (3.90), with statistically significant differences in the means ($p < 0.0001$). The study's results demonstrate that third-year nursing students

have assessed their faculty nurse practitioners more positively than second-year students. In another example, Al-Oran et al. (2024) demonstrated that fourth-year undergraduate nursing students showed more favourable perceptions of family-centred care (FCC) than their third-year colleagues ($t = 7.345$, $p < 0.001$). This could result from the increased clinical exposure, practical experience, and confidence typically acquired by third-year students. Senior students regularly engage directly with patients and their families, deepening their comprehension of the importance of familial participation in patient care. They may have a heightened awareness of the benefits of incorporating family members into care plans. As a result, they may view family involvement more favourably (Holst et al., 2017). Junior students may possess an inadequate comprehension of the dynamics of nurse-family interactions due to their restricted exposure (Farzi et al., 2018). Their experience in exchanging information and emotions between nurses and family members may be limited, leading to decreased comfort with family engagement practices (Fitzgerald & Ward, 2019). The lower scores in interaction and reciprocity among second-year students can be linked to their continued education of the interpersonal skills necessary for effective nurse-family relationships. However, In Saudi Arabia, Alabdulaziz and Cruz (2020) discovered that perceptions of FCC were modest, with junior students exhibiting more positive perceptions than seniors (mean score $M$ =3.76, $SD$ = 0.67). This observation could result from junior students having limited practical clinical experience, resulting in fewer situations where family involvement is complicated, tedious, and challenging to comprehend (Onishi et al., 2017). The identified differences probably arise from the expanded clinical exposure to patient care linked to advanced year levels, resulting in increased clinical stress (Alabdulaziz & Cruz, 2020).

Additionally, Al-Oran et al. (2024) noted that female Jordanian nursing students evaluated FCC domains more favourably than their male colleagues ($t$ = -5.291, $p < 0.001$). Another study by Dilrukshi and Amarasekara (2023) demonstrated that female nursing students exhibited a more favourable attitude towards families as conversational partners with the mean score of 31.06 ($SD$ = 3.76) than their male counterparts with the mean score of 29.77 ($SD$ = 3.77). The difference was statistically significant, with $t$ (237) = -2.06, $p$ = 0.04, indicating that gender influences attitudes toward family involvement in nursing care. The more favourable attitudes of female nursing students could originate from social or cultural norms that emphasize nurturing and caregiving roles for women, which closely align with the principles of family-centred care (FCC). In contrast, men may not be sufficiently socialized into caregiving roles, which could result in variations in perceptions and comfort levels when interacting with families in care environments (Prosen, 2022). Furthermore, the female nursing students and nurses population is superior to that of the male population (Maurud et al., 2022). According to the World Health Organization, in 2020, merely 10% of nursing professionals globally are male (Yip et al., 2021).

The study by Azak et al. (2024) illustrates the correlation between perception and attitude, revealing that n = 360 (63%) of undergraduate nursing students at a state university in Istanbul recognized the family-centred approach to care, with n = 292 (81.1%) crediting their awareness to coursework. Most students, n = 520 (90.9%), believed parents should participate in care practices within the hospital, and n = 535 (93.5%) supported their involvement in decision-making. In the research conducted by Hsiao et al. (2024), mental health nurses exhibited a favourable disposition towards incorporating families into care, achieving a mean score of 98.96 on the Families' Importance in Nursing Care-Nurses' Attitudes scale. The nurses indicated a higher perception of family nursing practice,

achieving a mean score of 2.44 on the Family Nursing Practice Scale. The findings of both studies confirm a significant correlation between perception and attitude, demonstrating that favourable perception results in a positive attitude among nursing students and nurses. This highlights the necessity of establishing educational and professional settings emphasizing family participation in care. Students and nurses from both groups exhibit solid encouragement for family participation in care. Nevertheless, the study highlights potential deficiencies in practical experience, as theoretical knowledge does not consistently change into applied competencies. The research is constrained by the available data on racial identification. The study's findings may lack generalizability to diverse racial or ethnic groups if race is not specified. Race profoundly impacts patients' healthcare experiences, influencing their interactions with providers, the quality of care received, and overall satisfaction (Shen et al., 2018). The lack of racial data impedes analysing how different racial groups view family-centred care and other healthcare practices, limiting the study's ability to provide a comprehensive perspective.

## 2.4 Conceptual Framework

This study investigates the relationship between student character traits and their perceptions and attitudes regarding family involvement in patient care. The conceptual framework categorizes these variables into three types: independent variables, mediating variables, and dependent variables.

The independent variables include gender, year of study, clinical experience, culture, and household income. These characteristics influence students' perceptions of the family's role in patient care. Senior students typically possess greater experience, which may enhance

their comprehension of family involvement (Chironda & Brysiewicz, 2024). Cultural and personal backgrounds may influence individuals' perspectives and attitude (Cipta et al., 2024). This study establishes that these characteristics shape students' perceptions and attitudes towards family involvement.

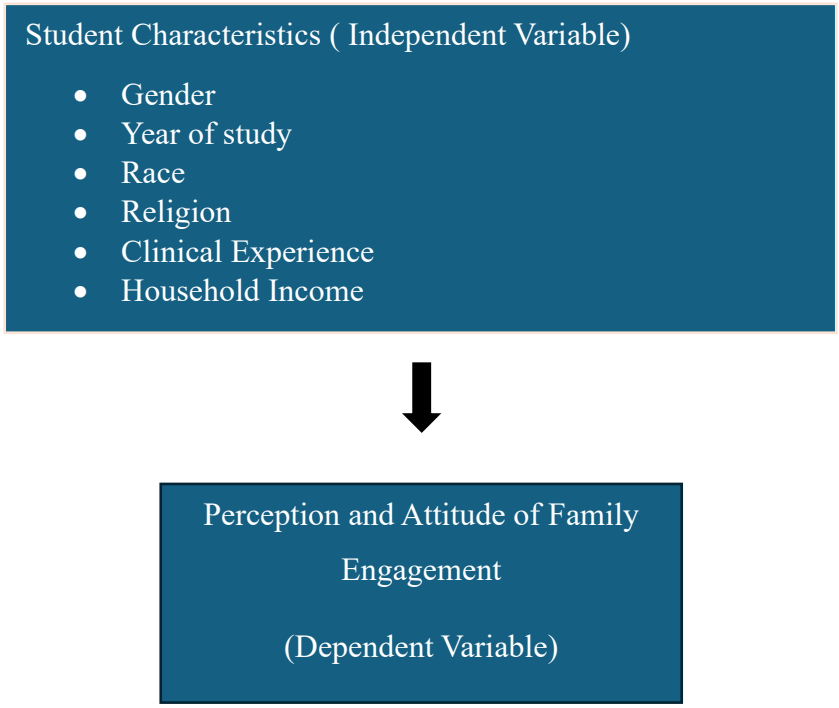
Perception serves as the connection between student characteristics and their attitudes. This pertains to students' understanding and acceptance of the family's role in patient care. Perceptions of families as beneficial and significant increase the likelihood of supporting family involvement (Alcindor & Cadet, 2021) .On the other hand, If families are perceived as a challenge or burden, there may be a reduced willingness to involve them (Shibily et al., 2021) .

Attitude is the outcome in this framework. It indicates the extent to which students are prepared and willing to involve families in care, particularly in planning and decision-making processes. A positive attitude indicates that the student perceives families as collaborators in care (Cranley et al., 2022), whereas a negative attitude may due to from insufficient training or lack of confidence (Al-Oran et al., 2024) .

This framework highlights the interconnections of student characteristics, perceptions, and attitudes. Student features, including clinical experience and cultural background, profoundly influence their perceptions of family engagement. Perceptions of family involvement significantly shape attitudes (Liu, 2024) . Positive perceptions improve attitudes, and favourable attitudes subsequently strengthen perceptions (Büssing et al., 2020). Students who experience effective family involvement will likely perceive it more favourably (Shibily et al., 2021)

**Figure 2.1**

*Conceptual Framework*




## 2.5 Summary

In conclusion, comprehending perceptions and attitudes regarding the caregiver's role in family engagement is crucial for achieving effective patient outcomes and well-being in healthcare environments. Examining the correlation between individual traits, perceptions, and attitudes regarding the caregiver's role in family involvement is essential. In the literature review discussed, most of the articles reported that healthcare workers, including nursing students, were found to have a good perception and attitude toward family engagement. Nurses and nursing students with favourable attitudes and perceptions regarding family engagement are more inclined to involve families in caregiving effectively. This collaboration enhances communication, promotes continuity of care, and improves

patient recovery and satisfaction. Perception and attitude towards the FCC require a holistic approach encompassing education, training, and efficient communication. Hence, improving positive perceptions and positive attitudes among healthcare workers, nursing students, and patients are essential components of effective strategies to enhance the FCC.

# CHAPTER 3

# METHODOLOGY

## 3.0 Introduction

This chapter describes the overall methodology for the research, divided into several sections: research design, research setting, population, sampling method and sample size, inclusion and exclusion criteria, research instrument, ethical considerations, data collection procedure for pilot study and actual study, data analysis method, and summary.

## 3.1 Research Design

This study employed a cross-sectional quantitative approach to explore the relationships between UNIMAS undergraduate nursing students' attitudes and perceptions regarding the role of the caregiver in family involvement for patient care. A cross-sectional study represents a form of observational study design that examines data from a population at a single point in time (Kesmodel, 2018). This design eliminates the need for lengthy follow-up periods and makes examining variables within the population is easier. Hence, these techniques allow the analysis of large data sets within limited timeframes and budgets, and they are both practical and resource efficient (Setia, 2016). Furthermore, cross-sectional studies are generally more suitable because they do not require interventions or follow-ups with participants, reducing ethical complexities. The process of obtaining ethical approval is quite clear-cut, primarily emphasizing the importance of participant consent and the confidentiality of data (Wang & Cheng, 2020). Consequently, a cross-sectional study was selected for this research.

### 3.2 Research Setting

This study was carried out at the Faculty of Medicine and Health Science (FMHS), focusing on undergraduate nursing students at University Malaysia Sarawak (UNIMAS). UNIMAS located at Jalan Datuk Mohammad Musa, 94300 Kota Samarahan Sarawak, Malaysia.

### 3.3 Population

Approximately 237 nursing students from Year 1 to Year 4 were randomly selected from various backgrounds.

### 3.4. Inclusion & Exclusion Criteria

The inclusion criteria comprise undergraduate nursing students from UNIMAS who have engaged in clinical practice of year 2 to 4, as well as those willing to participate in the study. In the meantime, the exclusion criteria included nursing students from year 1 and who were unwilling to participate in this study. The nursing students who were recruited for the pilot study were be excluded.

### 3.5 Sampling

#### 3.5.1 Sampling Method

Sampling refers to the process of selecting a subset from a larger population for specific research objectives (Bhardwaj, 2019). This study uses simple random sampling as its sampling method. This selection method ensures that every individual has an equal chance

to take part in the study, with the selection process relying solely on chance (Etikan, 2017). Simple random sampling has several advantages. It guarantees an unbiased, representative, and equal likelihood of the population (Noor et al., 2022). A random selection that is free from bias and a sample that accurately represents the population is crucial for making valid conclusions from study results.

Furthermore, the random sampling sample must encompass individuals with similar characteristics representative of the broader population (Noor et al., 2022). Therefore, the shared focus of this study is the UNIMAS nursing students across all four years of their program. Participation in the study is open to all the UNIMAS nursing student from diverse backgrounds, and respondents were selected until the minimum sample size has been achieved. Nonetheless, a significant drawback of the simple random sampling method is its requirement for a comprehensive list of all population members (Sharma, 2017). One approach to address this issue is by obtained the details of nursing students from each cohort. Moreover, the randomizer website was used to generate random numbers. Students of each cohort were assigned numbers in alphabetical order for the selection purposes.

### 3.5.2 Sample Size

The calculated sample size using Taro Yamane (1973) formula.

The sample size calculation as the following:

$$n = \frac{N}{1 + N(e)^2}$$

n = sample size

N = population size

e = error (0.05) reliability level 95%

In this Yamane formula, the acceptable sampling error, e, is 0.05 with the total population size,

N, of 237. The calculation of the sample:

- Y2 (63), Y3 (57), Y4 (64)

$$n = \frac{184}{1 + (237)(0.05)^2}$$

$$= 126$$

Based on the formula, the estimated sample size for this study is 126 participants. However, the researcher must account for participant compensation, particularly for those who decline to participate; thus, an additional 10% should be added to the sample size (Andrade, 2020) . Therefore, an additional 10% attrition rate will be implemented to ensures that the study has enough fulfilled the calculated sample of participants.

The calculation as the following:

Calculation of sample size with attrition rate:

(Sample size x 10%)

126 x 10% = 13, therefore 126 + 13 = 139 participants.

After adding in 10%, the total sample size for this study was 139 participants.

### 3.6 Research Instrument

The study instrument was employed to gather the essential data for the research assignment. To ensure accessibility and convenience throughout the distribution process, an online version of the questionnaire was created using Google Forms. This online Google form has been selected because it is accessible on any device with internet access, including computers, tablets, and personal phones, allowing participants to complete the questionnaire at their convenience. There is also no requirement for printing or physical distribution. The questionnaire was conducted in English to gather data from respondents. The questionnaire is divided into two main parts to enable systematic and coherent data collecting. Section (A) comprises participant socio-demographic information, while Section (B) assesses the perceptions and attitudes of UNIMAS nursing students regarding family engagement using a self-administered questionnaire on FINC- NA adapted from the prior research conducted by Benzein et al. (2008).

The adaptation process involved a comprehensive evaluation of the original questionnaires to identify the sections and items most relevant to the primary focus of this study, which examined perceptions and attitudes regarding the caregiver's role in family engagement for patient care among undergraduate nursing students at UNIMAS. Modifications were implemented to ensure the language and content were suitable for the academic and cultural environment of students at Universiti Malaysia Sarawak (UNIMAS). Prior to the use and modification of the questionnaires, the original authors' written consent was obtained to ensure the ethical application of their instruments.

Section A examined the socio-demographic data of participants, encompassing gender, year of study, race, religion, prior experience in healthcare settings and household income or parent income. This section requires participants to indicate their answers by

ticking (✓) the appropriate box, which includes either single-choice questions or fill-in-the-blank items. This section presented a demographic overview of the sample, enabling the identification of possible correlations or trends among variables.

Meanwhile, Section B focused on the perception and attitude of UNIMAS nursing students toward the importance of family engagement in patient care, as measured by the Families' Importance in Nursing Care–Nurses' Attitudes (FINC-NA). This study employed a modified instrument consisting of 24 items, reduced from the original 26 to eliminate redundancy while maintaining the instrument's reliability and validity and ensuring alignment with the contextual needs of the target population. The questionnaire was evaluated using a five-point Likert scale, which ranges from 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree, and 5 for strongly agree. Participants were required to mark their answers in the designated box. This questionnaire comprises only three domains after deletion one domain Fam-OR due to weak reliability. The first domain “Family as a Resource in Nursing Care” (Questions 1 to 13) examines the perception of the nursing student towards the presence of family members that contributes positively to the care process (Fam-RNC; 13 items, scoring range from 13 to 65). The second domain “Family as a Conversational Partner” (Question 14 to 20) assesses the positive attitude whether the nursing students invite family members to participate in care (Fam-CP, 7 items, scoring ranges from 7 to 35) and the last domain is “Family as a Burden” (Questions 21 to 24) consists of questions aimed at evaluating nursing students' negative attitude levels in the presence of the family (Fam-B; 4 items, score from 4 to 20). A high score reflects a positive disposition towards families. FINC-NA questionnaire from the original author was demonstrated high internal consistency for the total scale with a Cronbach's alpha of 0.86 and between 0.67 and 0.78 for the subscales in a critical care setting (Benzein et al., 2008).

### 3.7 Ethical Consideration

Ethical approval was obtained from the Research and Ethics Committee of the Faculty of Medicine and Health Science at the University of Malaysia Sarawak (UNIMAS). The research was conducted by ethical standards to safeguard the rights, privacy, and confidentiality of participants. There were two online Google forms; a separate link to the Google form was provided. Participants who consented to participate in the study received a formal informed consent document detailing the study's objectives, their rights, and the confidentiality protections in place. They were informed that their participation was completely optional and that they could withdraw from the study at any time without incurring any penalties or consequences. Meanwhile, another link to the Google form includes the online survey questionnaire, which contains a summary, details regarding the study's objectives, and the questionnaires. Written permission, obtained via email, was given to the original authors before using the questionnaires to authorize the adaptation and modification of the research instruments used in this investigation. Before the questionnaire was implemented, authorization was approved. Moreover, participants' confidentiality, anonymity, and privacy are maintained. All personal data is collected and kept confidential. The data collected during the study was maintained in strict confidence. The data were securely stored in a password-protected file on a laptop. They will be retained for five years, as per research guidelines, before being permanently deleted in accordance with these guidelines. No personal identifying information was revealed, as separate links were used, and the data was evaluated solely by the researcher and supervisor. The confidentiality of participants was preserved by assigning numerical identifiers in place of their names. This study guaranteed the integrity of the research process and protected the rights and privacy of participants by adhering to these ethical principles.

### 3.8 Data Collection Procedure

#### 3.8.1 Pretest

A pretest was carried out prior to the pilot study in this research. A pretest is a preliminary distribution of a questionnaire or assessment tool to a small sample from the same population designated for the primary study (Smith et.al., 2015). According to Smith et.al. (2015), pretests ensure the clarity of questions and the relevance, comprehensiveness, and mutual exclusivity of response options between the researcher and the respondent. Additionally, the pretest enables the researcher to evaluate response latency, and the duration required to complete each survey item (Smith et.al., 2015). This study conducted the pretest with eight random nursing students from years 2 to 4. The student's feedback indicated confusion regarding whether "family members" in the questionnaire pertain to the student's family as moral support or the patient's family in nursing care. Hence, redo statements have been refined to focus more specifically on the patients' families. Additionally, other feedback indicated that the questionnaire was repetitive; therefore, students suggested combining some items from different domains into a single domain. Hence, domain Fam-OR was removed, and some of its items were combined into domain Fam-RNC. One item from Fam-CP is also being deleted. The student completed the questionnaire within 5 to 10 minutes during this pretest.

#### 3.8.2 Pilot Study

Before collecting data, a pilot study was conducted. A pilot study is an initial investigation to data collection instruments, evaluate research protocols, sample recruitment strategies, and other methodologies in preparation for a larger study (Lowe, 2019). A pilot

study was conducted to replicate the methodologies of the primary study, assessing its feasibility by examining the inclusion and exclusion criteria for participants, the efficacy of the proposed techniques and procedures, and evaluating the measurement instruments employed in the study (In, 2017). The pilot assessed the comprehensibility and appropriateness of the questionnaire, and the clarity, definition, and consistency of the questions presented. Comprehension of respondents' information statements and consent forms was also evaluated (Doody & Doody, 2015). Connelly (2008) recommends that a sample size of 10% is adequate for novice researchers conducting a pilot study. This pilot study included 13 participants who met the specified inclusion and exclusion criteria prior to data collection for the main study, which aimed to evaluate the validity and reliability of the questionnaire items. Participants involved in the pilot study were excluded from the primary research study. This pilot study utilized face validity. According to Allen et al. (2023) face validity encompasses a test's clarity, relevance, difficulty, and sensitivity to its target audience. To establish evidence of face validity, the target population must verify that the items are clear, comprehensible, relevant, straightforward to answer, and without judgment, intrusion, or distress (Allen et al., 2023). A questionnaire with high face validity is essential for obtaining high-quality data. A test demonstrating that its items effectively assess the intended construct would exhibit strong face validity (Johnson, 2021). The questionnaire was evaluated by academic experts and research supervisors. The language was refined, and clarity was enhanced using the feedback from these experts. The pilot study data are being entered and analysed using SPSS version 27 to assess the reliability of the questionnaire items. In a pilot study, the internal consistency of the questionnaires was evaluated using Cronbach's Alpha correlation coefficient to evaluate the study's reliability. (Taber, 2018). According to Taber (2018), the Cronbach Alpha score falls between 0.70 and

0.90, which is considered good, strong, and acceptable for internal consistency and reliability.

In this pilot study, Cronbach's alpha for the perception domain FamRNC was found to be acceptable for the revised version (13 items; $\alpha$ = 0.75) after combining three items from the domain Fam-OR, as they were identical to items in the FamRNC domain. Meanwhile, for the positive attitude domain, FamCP was suitable for the revised version (7 items; $\alpha$ = 0.82) after the deletion of one item due to weak and negative correlations with other items. The negative attitude domain, FamB, was also acceptable (4 items; $\alpha$ = 0.74). The questionnaire's reliability was preserved during the refinement process, which also effectively captured students' perceptions and attitudes toward family engagement. Hence, this outcome verified that the adapted FINC-NA items were suitable for assessing students' perceptions and attitudes toward the role of caregivers in family engagement without necessitating any additional modifications. No reliability analysis was conducted for Section A (Participant's Sociodemographic Data), as this section primarily contained factual demographic information, such as gender, year of study, race, religion and household or parents' income. Nevertheless, responses were reviewed to ensure that participants could efficiently enter their information. The section was well comprehended, as no issues were reported.

### 3.8.3 Actual Data

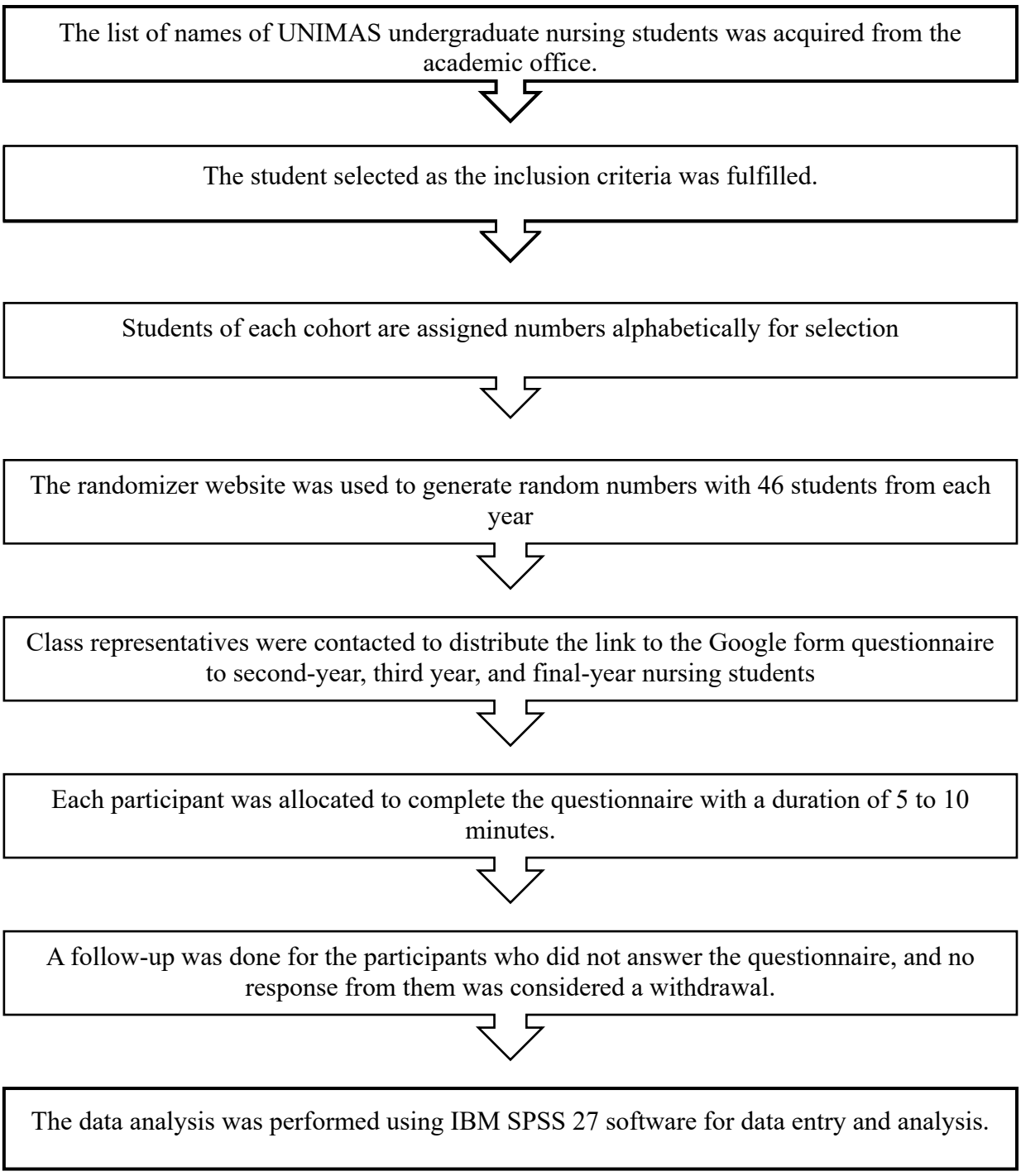
The data collection begins following approval from the Research Ethics Committee, Faculty of Medicine and Health Sciences, University Malaysia of Sarawak (UNIMAS), anticipated between February and April 2025. The list of names of UNIMAS undergraduate

nursing students was acquired from the academic office. The randomizer website used to generate random numbers, with members of each cohort assigned numbers alphabetically for selection to respond to the questionnaire (Urbaniak & Plous, 2013). The data collection procedure for the main study did not include participants from the pilot study. Data collection utilized online FINC-NA questionnaires via Google Forms, distributed to all participants meeting the inclusion criteria. Google Forms is developed through an online social networking platform. Class representatives were contacted to distribute the link to the Google form questionnaire to second-year, third year, and final-year nursing students using the WhatsApp platform. Before initiating the survey, all participants were provided online consent to ensure confidentiality. A brief description, the study's purpose, the researcher's contact information, consent, and a link to the online survey questionnaire are included. The questionnaire includes the researcher's contact number for inquiries. The first page includes informed consent, allowing respondents to indicate their agreement to participate before completing the questionnaire. A participant's non-response to this action is considered a withdrawal from the study. The questionnaire is divided into two sections for data collection purposes. Each year, participants have one week to complete the online questionnaire, with each item marked as mandatory for response. During this time, the researcher communicated with the class representatives via WhatsApp to verify that the students were able to complete the questionnaire without any concerns. The researcher was accessible to offer support in the event of any issues or challenges. Additionally, the researcher continues contact with the class representatives until all the students answered the questionnaire. This Google Form remained active and accessible during the data collection period. The completion of all questions required a duration of 5 to 10 minutes. A follow-up was done for the participants who did not answer the questionnaire, and no response from them was considered a

withdrawal. The questionnaire link closed upon completing responses from all second, third-, and fourth-year nursing students. The data analysis was performed using IBM SPSS 27 software for data entry and analysis

**Figure 3.1**

*Process of Data Collection*



### 3.9 Data Analysis

Data was analysed using the Statistical Package for Social Sciences (SPSS) version 27. Descriptive statistics were presented as medians (IQR), percentages, and frequency distributions to illustrate the sociodemographic data, perceptions, and attitudes toward family engagement among undergraduate nursing students at UNIMAS. Categorical variables, including gender, year of study, race, and religion, were analysed using frequency and percentages, while the continuous data were summarized using median (IQR) (Mishra et al., 2019). Moreover, the Kolmogorov-Smirnov test was employed to assess the normality of the continuous data, given that the sample size for this study is $n \geq 50$ (Mishra et al., 2019). The Kolmogorov-Smirnox test was performed to determine the distribution of the data, which $p < 0.05$ is considered as statistically significant and does not follow a normal distribution (Kwak, 2023). Visual assumptions on histogram, and Q-Q plot also support the assumption for the data (Ghasemi & Zahediasl, 2012). Inferential statistics were conducted to evaluate the study's hypotheses. Mann-Whitney U test was utilized to assess median difference in family engagement perceptions and attitudes between male and female nursing students (Mann & Whitney, 1947). A Kruskal- Wallis test was conducted to identify the median difference for continuous dependent data in three or more group such as year of study, race, religion and household or parent's income between the perception and attitude in family engagement (Hazra & Gogtay, 2016). Spearman correlation was performed to evaluate the relationship between the perception and attitude toward the caregiver's role in family involvement in patient care among UNIMAS undergraduate nursing students using the categorical and continuous data (Schober et al., 2018). The selection of non-parametric statistical tests for this study is influenced by the normality distribution of the scores and the

required presumptions (Sheard, 2018). All the findings were considered statistically significant with $p < 0.05$.

### 3.10 Summary

This study employed a cross-sectional quantitative research design involving undergraduate nursing students at the Faculty of Medicine and Health Sciences, UNIMAS. The study's respondents were selected according to the inclusion and exclusion criteria outlined in the chapter. Simple random sampling was employed and computed utilizing the Yamane formula (1973). The sample size comprised approximately 139 respondents, accounting for the attrition rate and data collection. This study instrument consists of two sections, with the self-administered questionnaire distributed to participants. Data in this study was analysed using IBM SPSS version 27, implementing both descriptive and inferential statistics. This chapter addresses the ethical considerations before collecting any data.

# CHAPTER 4

# RESULT

## 4.0 Introduction

This chapter presents the results of 139 undergraduate nursing students at UNIMAS from Year 2 to Year 4. This chapter is organized into eight separate sections. The study's objectives outline the findings from the data analysis. Section 4.1 details the response rate, while section 4.2 addresses the data-cleaning process. Section 4.3 outlines the participants' sociodemographic characteristics, while section 4.4 details the data distribution. Section 4.5 examines the perception regarding the caregiver's role in family involvement among UNIMAS nursing students. Section 4.6 examines the attitude towards the caregiver's role in family involvement among UNIMAS undergraduate nursing students. Section 4.7 explore the perception towards the caregiver's role in family involvement among UNIMAS nursing students and sociodemographic. Section 4.8 examine the attitude towards the caregiver's role in family involvement among UNIMAS undergraduate nursing students and sociodemographic. Finally, section 4.9 explores the relationship between the levels of perception and attitude toward the caregiver's role in family involvement in patient care among UNIMAS undergraduate nursing students. Section 4.10 provides a concise overview of Chapter 4. The analysis of data was performed utilizing SPSS version 26.

## 4.1 Response rate

139 undergraduate nursing students from UNIMAS were randomly selected and invited to participate in the study by completing the questionnaire via Google Forms through

the WhatsApp platform. A total of 139 participants completed this questionnaire, achieving a response rate of 100%.

### 4.2 Data cleaning

Procedures for data cleaning were implemented prior to the analysis. The data was complete, and every respondent fulfilled the necessary inclusion and exclusion criteria for the study.

### 4.3 Participants' sociodemographic data

A total of 139 respondents were analysed. There were 116 females (83.5%) and 23 male (16.5%) with majority among of them were Malay, n = 58 (41.7%), followed by Bumiputera Sarawak, n = 44 (31.7%), Bumiputera Sabah, n = 32 (23.0 %) and Chinese, n = 5 (3.6%) .Meanwhile for religion, the majority of them were Islam that consist of n = 81(58.3%).Besides that, in this study consists of respondent's years of study in nursing, with from Year 2, n = 47 (33.8%) of them, n = 42 (30.2%) were from Year 3, and n = 50 (36.0 %) were from Year 4 . All the participants have previous experience in healthcare setting during practicum. Furthermore, out of the total number of respondents, the majority household or parents' income were 45(32.4%) RM1500 – RM 3500. Table 4.3 shows the summary of respondent's sociodemographic characteristics, including gender, race, religion, year of study, previous experience in healthcare setting during practicum and household or parents' income.

**Table 4.3**

*Sociodemographic Information: Respondents' Characteristics.*

| | | n | % |
|---|---|---|---|
| **Gender:** | **Male** | 23 | 16.5% |
| | **Female** | 116 | 83.5% |
| **Year of study:** | **Year 2** | 47 | 33.8% |
| | **Year 3** | 42 | 30.2% |
| | **Year 4** | 50 | 36.0% |
| **Race:** | **Malay** | 58 | 41.7% |
| | **Chinese** | 5 | 3.6% |
| | **Bumiputera Sarawak** | 44 | 31.7% |
| | **Bumiputera Sabah** | 32 | 23.0% |
| **Religion:** | **Islam** | 81 | 58.3% |
| | **Christian** | 57 | 41.0% |
| | **Buddhist** | 1 | 0.7% |
| **Previous Experience in Healthcare setting during practicum:** | **Yes** | 139 | 100.0% |
| | **No** | 0 | 0.0% |
| **Household income/Parent(s) income:** | **Below RM 1,500** | 26 | 18.7% |
| | **RM 1,500–RM 3,500** | 45 | 32.4% |
| | **RM 3,500–RM 5,500** | 20 | 14.4% |
| | **RM 5,500–RM 7,500** | 9 | 6.5% |
| | **RM 7, 500 and above** | 39 | 28.1% |

### 4.4 The distribution of data

No outliers or extreme values were identified during the data screening process. Due to the substantial sample size exceeding 50 respondents in this study, the Kolmogorov-Smirnov test was utilized (Mishra et al., 2019). Mishra et al. (2019) indicate that a p-value exceeding 0.05 ($p > 0.05$) implies a normal distribution of the data. The data distribution in the perception domain FamRNC exhibited a significant deviation from normality, as evidenced by the Kolmogorov-Smirnov test $D\ (139) = 0.119, p < 0.05$. Similarly, the positive attitude domain FamCP also demonstrated a significant departure from the normal distribution in the Kolmogorov-Smirnov test $D\ (139) = 0.156, p < 0.05$. Moreover, the negative attitude domain FamB did not follow a normal distribution, as indicated by the Kolmogorov-Smirnov test, $D\ (139) = 0.187, p < 0.05$. A normal distribution, or Gaussian distribution, exhibits a symmetrical bell-shaped histogram with the highest frequency located at the centre of the distribution (Habibzadeh, 2024). However, the data regarding perception and attitudes, both positive and negative, deviates from a bell-shaped distribution (refer to appendix I, J and K). The Q-Q plot of the three datasets indicates that the data do not follow a normal distribution. If the data are normally distributed, the result would be a straight diagonal line (Ghasemi & Zahediasl, 2012). In contrast, significant deviations of the data points from this line on a Q-Q plot indicate that the data is not equivalent to a normal distribution (refer to appendix I, J and K). Table 4.4 presents the normality test results for participants' perceptions, positive and negative attitudes, respectively.

**Table 4.4**

*Tests of Normality*

| | Kolmogorov-Smirnov[a] | | |
|---|---|---|---|
| | Statistic | df | Sig. |
| Perception | .119 | 139 | .000 |
| Positive Attitude | .156 | 139 | .000 |
| Negative Attitude | .187 | 139 | .000 |

a. Lilliefors Significance Correction

## 4.5 Perception towards the caregiver's role in family involvement among UNIMAS nursing students.

The perception of nursing students was tested from the domain of Family as a resource in nursing care (Fam-RNC). Based on Table 4.5.1, the statement with the highest median score was “Patients’ family members should be invited to actively take part in the patient’s nursing care” (4, *IQR*= 3) and the highest response of the statement, with 54% of the respondents choosing "Agree" as their answer. The total median score for this domain was 26 (*IQR* =18). This showed that UNIMAS undergraduate nursing students hold negative perceptions regarding the caregiver's role in family involvement. The results are not categorised into levels because the original author did not specify the cut point for this questionnaire. A cut point is a threshold value employed to classify continuous data into separate categories (Busch, 2021). In the absence of a specified cut point by the original author, the application of data-driven cut points tends to inflate test performance across various simulated data sets and this bias likely influences numerous published studies on diagnostic validity (Ewald, 2006).

**Table 4.5.1**

*Descriptive of perception towards the caregiver's role in family involvement among UNIMAS nursing students (n=139)*

| Statement | n (%) | | | | | |
|---|---|---|---|---|---|---|
| | **Strongly Disagree** | **Disagree** | **Neither** | **Agree** | **Strongly Agree** | **Score Mdn (IQR)** |
| The presence of patients' family members eases my workload | 73 (52.5%) | 7 (5.0%) | 20 (14.4%) | 39 (28.1) | 0 | 1 (3) |
| The presence of patients' family members gives me a feeling of security | 68 (48.9%) | 9 (6.5%) | 36 (25.9%) | 26 (18.7%) | 0 | 2 (2) |
| The presence of patients' family members is important to me for training in therapeutic communication as a future nurse | 86 (61.9%) | 2 (1.4%) | 6 (4.3%) | 45 (32.4%) | 0 | 1 (3) |
| Patients' family members should be invited to actively take part in the patient's nursing care | 57 (41.0%) | 2 (1.4%) | 5 (3.6%) | 75 (54.0%) | 0 | 4 (3) |
| Patients' family members should be invited to actively take part in planning patient care | 65 (46.8%) | 2 (1.4%) | 3 (2.2%) | 69 (49.6%) | 0 | 3 (3) |
| A good relationship with patients' family members gives me job satisfaction | 75 (54.0%) | 1 (7%) | 3 (2.2%) | 60 (43.2%) | 0 | 1 (3) |

| | | | | | | |
|---|---|---|---|---|---|---|
| Getting involved with patients' families gives me a feeling of being useful | 83 (59.7%) | 2 (1.4%) | 15 (10.8%) | 39 (28.1%) | 0 | 1 (3) |
| I gain a lot of worthwhile knowledge and experience while handling the patient's family which I can use in my practicum | 85 (61.2%) | 1 (0.7%) | 14 (10.1%) | 39 (28.1%) | 0 | 1 (3) |
| The presence of patients' family members is important for the family members themselves | 72 (51.8%) | 5 (3.6%) | 62 (44.6%) | 0 | 0 | 1 (2) |
| It is important to spend time with patients' families | 58 (41.7%) | 8 (5.8%) | 42 (30.2 %) | 31 (22.3%) | 0 | 3 (2) |
| I use myself as a resource of knowledge for patient families so that they can cope with their situation | 86 (61.9%) | 2 (1.4%) | 20 (14.4%) | 31 (22.3%) | 0 | 1(2) |
| I consider patients' family members as cooperating partners | 82 (59.0%) | 3 (2.2%) | 16 (11.5%) | 37 (26.6%) | 1 (0.7%) | 1(3) |
| I ask patients' families how I can support them | 67 (48.2%) | 8 (5.8%) | 29 (20.9%) | 35 (25.2%) | 0 | 2(3) |
| | | | Mdn = 26 | IQR =18 | | |

Mdn = Median IQR = Interquartile Range

### 4.6 Attitude towards the caregiver's role in family involvement among UNIMAS undergraduate nursing students.

The attitude towards the caregiver's role in family involvement was separated into 2 domains which are domain Family as a conversational partner (Fam-CP) a positive attitude while domain Family as a burden (Fam-B) a negative attitude. For the positive attitude domain FamCP, based on Table 4.6.1, all the statements have the same median score but with a difference in score within the interquartile range. The highest positive response of the statement was " I invite patients' family members to actively take part in patient's care" whereby 36% of the respondents chose "Agree" as their answer. The total median score for this domain was 12 (*IQR* = 10). This showed that UNIMAS undergraduate nursing students hold a low positive attitude regarding the caregiver's role in family involvement.

**Table 4.6.1**

*Descriptive of positive attitude towards the caregiver's role in family involvement among UNIMAS nursing students (n=139)*

| **Statement** | **n (%)** | | | | | |
|---|---|---|---|---|---|---|
| | **Strongly Disagree** | **Disagree** | **Neither** | **Agree** | **Strongly Agree** | **Score Mdn + IQR** |
| I invite patients' family members to have a conversation regarding the progress of the patient's condition | 79 (56.8%) | 4 (2.9%) | 26 (18.7%) | 30 (21.6%) | 0 | 1 (3) |
| I ask patients' family members to take part in discussions from the very first contact, | 79 (56.8%) | 3 (2.2%) | 22 (15.8%) | 34 (24.5%) | 0 | 1 (4) |

| | | | | | | |
|---|---|---|---|---|---|---|
| when a patient comes into my care | | | | | | |
| I always find out what is the relationship between the family and the patient | 85 (61.2%) | 2 (1.4%) | 19 (13.7%) | 32 (23.0%) | 1 (0.7%) | 1(4) |
| I invite patients' family members to speak about changes in the patient's condition | 88 (63.3%) | 3 (2.2%) | 15 (10.8%) | 33 (23.7%) | 0 | 1(3) |
| I invite family members to discuss about the direction of the care when planning care | 86 (61.9%) | 7 (5.0%) | 15 (10.8%) | 31 (22.3%) | 0 | 1(3) |
| I invite patients' family members to actively take part in patient's care | 80 (57.6%) | 3 (2.2%) | 6 (4.3%) | 50 (36.0%) | 0 | 1(3) |
| Discussion with patients' family members during first care contact saves time in my future work | 76 (54.7%) | 2 (1.4%) | 32 (23.0%) | 29 (20.9%) | 0 | 1(3) |
| | | | | Mdn = 26 | IQR =18 | |

Mdn = Median IQR = Interquartile Range

For the negative attitude domain Fam-B, based on Table 4.6.2, the statement with the highest median score was "The presence of patients' family members makes me feel that they are checking out on me in a bad way" (4, *IQR* = 4), and "The presence of patients' family members holds me back in my work" (4, *IQR* = 4). The highest positive response of the statement was " The presence of patients' family members holds me back in my work"

whereby 52% of the respondents chose "Disagree" as their answer. The total median score for this domain was 14 (*IQR* = 4). This showed that UNIMAS undergraduate nursing students hold moderate negative attitude regarding the caregiver's role in family involvement.

**Table 4.6.2**

*Descriptive of negative attitude towards the caregiver's role in family involvement among UNIMAS nursing students (n=139)*

| **Statement** | **n (%)** | | | | | |
|---|---|---|---|---|---|---|
| | **Strongly Disagree** | **Disagree** | **Neither** | **Agree** | **Strongly Agree** | **Score Mdn + IQR** |
| The presence of patients' family members makes me feel that they are checking out on me in a bad way | 34 (24.5%) | 52 (37.4%) | 32 (23.0%) | 16 (11.5%) | 5 (3.6%) | 4 (4) |
| The presence of patients' family members makes me feel stressed | 18 (12.9%) | 51 (36.7%) | 46 (33.1%) | 15 (10.8%) | 9 (6.5%) | 3 (4) |
| The presence of patients' family members holds me back in my work | 20 (14.4%) | 54 (38.8%) | 44 (31.7%) | 14 (10.1%) | 7 (5.0%) | 4 (4) |
| I don't have time to take care of patients' families | 21 (15.1%) | 43 (30.9%) | 52 (37.4%) | 14 (10.1%) | 9 (6.5%) | 3 (4) |
| | | | Mdn = 14 | | IQR = 4 | |

Mdn = Median IQR = Interquartile Range

## 4.7 Perception towards the caregiver's role in family involvement among UNIMAS nursing students and sociodemographic.

A Mann- Whitney U test revealed no significant difference in the perception levels for males (*Mdn* = 26.0), and females (*Mdn* = 25,0), *U* (139) = 1199.5*, p* = 0.445.

**Table 4.7.1**

*Association between the perception towards the caregiver's role in family involvement in patient care with gender (n=139)*

| | n | Mann-Whitney U | p- value |
|---|---|---|---|
| Gender | 139 | 1199.500 | .445 |

A Kruskal- Wallis test revealed no statistically significant difference in perception across three different year of study groups, *H* (2, 139) = 2.57, *p* = .277. The senior of year 4 recorded a significantly higher median score (*Mdn* = 29.76) than the junior of year 3 (Mdn = 26.55) and year 2 (*Mdn* = 29.36).

For race, participants were divided into four groups according to their race. A Kruskal- Wallis Test revealed no statistically significant difference in perception across three different year of study groups, *H* (3, 139) = 1.183, *p* = .757. The Chinese recorded a significantly higher median score (*Mdn* = 28), followed by Malay (*Mdn* = 26), Bumiputera Sarawak and Bumiputera Sabah (*Mdn* = 25).

For religion, participants were divided into three groups according to their religion. A Kruskal- Wallis Test revealed no statistically significant difference in perception across three different religion groups, *H* (2, 139) = 1.567, *p* = .457. Christian recorded a significantly higher median score (*Mdn* = 27), followed by Islam (*Mdn* = 25), and Buddhist (*Mdn* = 17).

For household or parent's income, participants were divided into five groups according to their income. A Kruskal- Wallis Test revealed no statistically significant difference in perception across five different household or parent's income groups, $H$ (4, 139) = 3.759, $p$ =. 440. Income that between RM 3500 to RM5500 recorded a significantly higher median score (*Mdn* = 28), followed by below RM 1500 (*Mdn* = 26.50), RM 7500 and above (*Mdn* = 25), RM 1500 to RM3500 (*Mdn* = 23) and RM 5500 to RM 7500 (*Mdn* = 22).

**Table 4.7.2**

*Association between the perception towards the caregiver's role in family involvement in patient care with sociodemographic data (n=139)*

| | n | Kruskal - Wallis H | df | p- value |
|---|---|---|---|---|
| **Year of study** | 139 | 2.568 | 2 | .277 |
| **Race** | 139 | 1.183 | 3 | .757 |
| **Religion** | 139 | 1.567 | 2 | .457 |
| **Household/Parent Income** | 139 | 3.759 | 4 | .440 |

## 4.8 Attitude towards the caregiver's role in family involvement among UNIMAS undergraduate nursing students and sociodemographic.

A Mann- Whitney U test was conducted to compare the total positive and negative attitude score for males and females. Preliminary analyses were performed and found that the assumptions of normality were violated for positive attitude domain Fam-CP, $D$ (139) = 0.156, $p < 0.05$ and negative attitude domain FamB, $D$ (139) = 0.187, $p < 0.05$. A Mann-Whitney U test revealed no significant difference in the positive attitude domain Fam-CP for males (*Mdn* = 16), and females (*Mdn* = 12), $U$ (139) = 1083.5, $p$ = 0.151. Similarly, A Mann-

Whitney U test revealed no significant difference in the negative attitude domain Fam-B for males (*Mdn* = 13), and females (*Mdn* = 15), *U* (139) = 1567*, p* = 0.182.

**Table 4.8.1**

*Association between the attitude towards the caregiver's role in family involvement in patient care with gender (n=139)*

| | | n | Mann-Whitney U | p- value |
|---|---|---|---|---|
| **Gender** | **Positive Attitude** | 139 | 1083.500 | .151 |
| | **Negative Attitude** | 139 | 1567.000 | .182 |

A Kruskal- Wallis test revealed there is statistically significant difference in positive attitude across three different year of study groups, *H* (2, 139) = 9.570, *p* = .008. The senior of year 4 recorded a significantly higher median score (*Mdn* = 14.50) than the junior of year 3 (Mdn = 10) and year 2 (*Mdn* = 11). Similarly, A Kruskal- Wallis test revealed there is a statistically significant difference in negative attitude, which Year 3 recorded a significantly higher median score (*Mdn* = 16) than the senior Year 4 (Mdn = 14) and junior year 2 (*Mdn* = 14).

For race, participants were divided into four groups according to their race. A Kruskal- Wallis test revealed no statistically significant difference in positive attitude which the Chinese recorded a significantly higher median score (*Mdn* = 22), followed by Bumiputera Sarawak and Bumiputera Sabah (*Mdn* = 12.5) and Malay (*Mdn* = 12). Similarly, A Kruskal- Wallis Test revealed no statistically significant difference in positive attitude which the Bumiputera Sarawak recorded a significantly higher median score (*Mdn* = 15), followed by Chinese, Bumiputera and Malay (*Mdn* = 14).

For religion, participants were divided into three groups according to their religion. A Kruskal- Wallis test revealed no statistically significant difference in positive attitude which the Christian recorded a significantly higher median score (*Mdn* = 13), followed by Islam (*Mdn* = 12), and Buddhist (*Mdn* = 9). Similarly, A Kruskal- Wallis Test revealed no statistically significant difference in negative attitude which the Buddhist recorded a significantly higher median score (*Mdn* = 16), followed by Chirstian (*Mdn* = 15), and Islam (*Mdn* = 14).

For household or parent's income, participants were divided into five groups according to their income. A Kruskal- Wallis test revealed no statistically significant difference in positive attitude. Income that RM 7500 and above, and below RM 1500 recorded a significantly higher median score (*Mdn* = 13), followed by between RM 3500 to RM5500 (*Mdn* = 12.5), RM 5500 to RM 7500 (*Mdn* = 11) and RM 1500 to RM3500 (*Mdn* = 10). Similarly, A Kruskal- Wallis Test revealed no statistically significant difference in negative attitude. Income that RM 5500 to RM 7500 recorded a significantly higher median score (*Mdn* = 15) and followed by below RM 1500, RM 1500 to RM3500, between RM 3500 to RM5500 and RM 7500 and above (*Mdn* = 14).

**Table 4.8.2**

*Association between the attitude towards the caregiver's role in family involvement in patient care with sociodemographic data (n=139)*

| | | n | Kruskal -Wallis H | df | p- value |
|---|---|---|---|---|---|
| **Positive Attitude:** | **Year of study** | 139 | 9.570 | 2 | .008 |
| | **Race** | 139 | 1.249 | 3 | .741 |
| | **Religion** | 139 | .519 | 2 | .772 |
| | **Household/Parent Income** | 139 | 2.715 | 4 | .607 |
| **Negative Attitude:** | **Year of study** | 139 | 8.340 | 2 | .015 |

| | | | | |
|---|---|---|---|---|
| **Race** | 139 | .822 | 3 | .844 |
| **Religion** | 139 | 1.704 | 2 | .427 |
| **Household/Parent Income** | 139 | 3.192 | 4 | .526 |

**4.9 Relationship between the levels of perception and attitude toward the caregiver's role in family involvement in patient care among UNIMAS undergraduate nursing students.**

Table 4.9.1 shows the relationship between perception and positive attitude reveals that there was a strong positive correlation (Schober et al., 2018) between the two variables $r_s$ (139) = .671, $p$ < .001, with low level of perception (*Mdn* = 26 ) associated with lower positive attitude (*Mdn* = 12) .However, perception and negative attitude reveals that there was a weak negative correlation between the two variables $r_s$ (139) = -.228, $p$ = .007, with low level of perception (*Mdn* = 26) associated with low negative attitude (*Mdn* = 14).

**Table 4.9.1**

*Relationship between perception and attitude toward the caregiver's role in family involvement in patient care among UNIMAS undergraduate nursing students (n=139)*

| | $r_s$ | p – value |
|---|---|---|
| **Perception and Positive Attitude** | 0.671 | 0 .000 |
| **Perception and Negative Attitude** | - 0.228 | 0.007 |

**4.10 Summary**

This chapter illustrates the results of a study conducted with 139 undergraduate nursing stu dents from UNIMAS, encompassing Years 2 to 4. The analysis was based on the study's objectives. It has been shown that most UNIMAS nursing students had poor perception

toward the caregiver's role in family involvement in patient care, where the total median score was 26 (*IQR* =18). Furthermore, most of them showed a poor positive attitude and low negative attitude towards the caregiver's role. Spearman Rank Order Correlation has been used to assess the relationship between the variables, and there was a strong positive correlation between the perception and positive attitude, $r_s$ (139) = .671, $p$ < .001. However, there was a weak negative correlation between perception and negative attitude, $r_s$ (139) = -.228, $p$ = .007

# CHAPTER 5

# DISCUSSION

## 5.0 Introduction

This chapter discusses the study's results, which are presented in different sections based on the research objectives. In this chapter, perception, attitude, student sociodemographic and their relationship toward the caregiver's role in family involvement in patient care will be discussed further in detail. Furthermore, the main result will be summarized accordingly, and future recommendations will be discussed based on the implications of this study. Lastly, the encountered limitation throughout this study and conclusion will be discussed at the end of this chapter. The aim of this study was to examine the perceptions and attitudes towards the role of caregiver in family involvement for patient care among UNIMAS undergraduate nursing students, which are the significant variable in identifying factors that influence students' understanding and acceptance of family involvement in care.

## 5.1 Discussion of the results

### 5.1.1 Perception towards the role of caregiver in family involvement for patient care among UNIMAS undergraduate nursing students

In this study, the respondent indicated a negative perception of with the total median score 26 (*IQR* =18) regarding the caregiver's role in family involvement in patient care. This outcome contradicts with the findings of Shibily et al. (2021), in which a significant percentage of participants, n = 270 (78.8%), recognized that family presence significantly contributed to improving the patient's condition. Similarly, in the nurse perceptions study

conducted by Lim and Bang (2023), 162 nurses employed at a single tertiary children's hospital in South Korea exhibited a higher perception score (mean score = 4.07). The unfavourable perception in the current study may be related to their inadequate practical experience, limiting their comprehension of the benefits and challenges of family participation in patient care. Besides that, insufficient exposure may prevent students from fully recognizing the beneficial effects of family engagement on patient outcomes. Given that each practicum lasts only one month or less, with numerous procedures to accomplish, bedside learning, and compulsory assessments, the student may lack the opportunity to engage with the caregiver. Thus, the student will not perceive it as significant to interact with them, as they have other matters to address during their shift. Clinical experience allows students to synthesize theory with practice. It equips student nurses with the necessary skills for clinical practice, ensuring their competence and confidence in delivering patient care (Rozario et al., 2022) . Therefore, a conducive clinical learning environment, primarily emphasizing caregiver engagement, can facilitates optimal learning during clinical placements (Woo & Li, 2020).

Moreover, this study indicated that most respondents demonstrated a high median score (4.00, IQR= 3), regarding the statement, "Patients' family members should be invited to participate in the patient's nursing care actively." These results align with those of Mason et al. (2021) and Lim and Bang (2023), as both exhibit high mean scores for that statement. Recognizing the importance of family involvement and incorporating them into practice regarding nursing care are fundamental components of a patient- and family-centred care model (Nickel et al., 2018). Although the negative perceptions indicated in the study, the nursing students continue to acknowledge and accept the significance of family involvement in nursing. The gap between the negative overall perception and the positive score on this

statement may suggest conflicting beliefs. In contrast, students conceptually support family involvement yet feel unprepared, unsupported, or overwhelmed by its practical implementation. The results align with the findings of Hetland et al. (2018), in which 374 critical care nurses in the United States recognized the advantages of family involvement. Nonetheless, they frequently experienced a sense of unpreparedness and stress when incorporating families into care, especially in high-acuity environments such as intensive care units. In addition to enhancing the quality of nursing practice with families, educators can implement academic programs that create simulation learning experiences and assist students in nurturing the relational skills necessary for confidence in clinical environments, while also promoting reflective practices in both classroom and clinical training regarding patient, individual, and family health (Svavarsdottir et al., 2022; Swan & Eggenberger, 2021)

On the other hand, the other statements with the lowest median score with (1, *IQR* = 3), indicates that nursing students underestimate family members' emotional, psychological, and supportive needs during hospitalization. This discovery contradicts the research conducted by Laryionava et al. (2020), which employed qualitative semi-structured interviews with 22 oncologists and 7 oncology nurses, revealing that oncologists and nurses perceive families as active contributors in the decision-making process, aiming to achieve consensus and mitigate conflict. Thus, this low score indicates the student has a possible deficiency in empathy regarding the family experience and comprehension of family-centred care principles. The nursing student may primarily perceive family presence as beneficial for the patient or the healthcare process, rather than for the well-being or coping of the family members. This discovery confirms the study by Hendry and Walker (2004), highlighting that time is a limited asset for nurses as well as for nursing student. When service demands surpass available time, nurses prioritize patient care.

### 5.1.2 Attitude towards the role of caregiver in family involvement for patient care among UNIMAS undergraduate nursing students

This study evaluates the attitude from two perspectives: positive and negative. The domain Fam-CP reflected a low positive attitude with total median score of 26 (*IQR* = 18), while the domain Fam-B indicated moderate negative attitudes with total median score of 14 (*IQR* = 4) regarding the caregiver's role in family involvement in patient care. The Fam-CP domain indicates the level to which students consider family members as essential collaborators in care and communication. However, the results of this study indicate that students do not consider family members as cooperative partners in care planning or decision-making. This may result from insufficient training or confidence in engaging family members in clinical discussions, along with limited exposure to family-centred care (FCC) principles during education or practice. This conclusion has been supported by the research conducted by Fisher et al. (2012), in which their study consisted of 64 undergraduate nursing students engaged in a parent-led post-conference along with a nursing instructor. The nursing students conveyed concern regarding communication with parents. This signifies a deficiency in their training and underscores the necessity for additional practical experiences to enhance confidence in these interactions. While nursing education offers general communication skills emphasising therapeutic interaction, it lacks training on communicating with caregivers (Wittenberg et al., 2020). The research conducted by Cranley et al. (2022) indicated that clinical nurses in Hong Kong exhibited a less positive attitude towards family participation in nursing care. Similarly, Imanipour and Kiwanuka (2020) study indicated that some ICU nurses noted family support practices were limited despite the ICU nurses holding a positive attitude regarding the significance of family in

care. As nursing students who are going to be future nurses, it is advisable to devise practice and educational strategies focused on enhancing family care.

Furthermore, the Fam-B domain assesses the degree to which students perceive families as impediments or sources of stress in the provision of care. This study reveals that undergraduate nursing students at UNIMAS exhibit a moderately negative attitude. This suggests that a considerable percentage of nursing students perceive family involvement as obstructive to their responsibilities, thereby complicating care delivery during their shifts. The research by Putri and Yuswardi (2024) reveals that although nurses typically endorse family participation, 52% regard families as a hindrance. Nursing students' apprehensions regarding heightened workload, potential conflicts, rapport-building, and the necessity for enhanced communication may hinder their willingness to involve families in the care process. The research conducted by Kiwanuka et al. (2023) indicates that nursing students' concerns may hinder nursing practice, as evidenced by the participation of 460 nurses from two tertiary hospitals in Uganda who identified barriers such as time constraints, work overload, and family-related conflicts that adversely affect family nursing practice.

### 5.1.3 Perception and Attitude towards the caregiver's role in family involvement among UNIMAS undergraduate nursing students with sociodemographic.

The inferential statistical analysis indicated that perception was not significantly affected by gender ($p = 0.445$), year of study ($p = 0.277$), race ($p = 0.757$), religion ($p = 0.457$), or household/parent income ($p = 0.440$). Attitude showed no correlation with gender, race, religion, or household/parental income ($p > 0.05$). This study, supported by Shibily et al. (2021), examines the perceptions of 270 nurses and nursing students regarding family

involvement in the care of hospitalized adult patients in Saudi Arabia. The findings indicate that there are no significant differences in attitudes toward family involvement based on gender, nationality, age, education level, or years of work experience, with p-values exceeding 0.05.

This finding suggests that nursing students, regardless of their backgrounds, generally share similar perceptions and attitudes regarding the caregiver's role in family engagement in patient care. The consistency in perception across sociodemographic factors in this study can be described through Gestalt principles, particularly Pragnanz and the principle of experience. The Pragnanz principle posits that individuals tend to perceive and interpret complex images or concepts in their simplest form (Todorović, 2008). Thus, nursing students can clarify and interpret the caregiver's role through their nursing education. Furthermore, their exposure is limited during clinical placements with families, resulting in perceptions mainly influenced by theoretical learning. This may lead to consistent perceptions across the cohort, regardless of demographic background (Todorović, 2008). Nursing students are likely to develop their perceptions and attitudes based on common, simplified educational frameworks rather than varied personal or experiential interpretations. A novel research study must investigate the factors influencing an individual's perception.

Additionally, the year of study was associated with both positive ($p$ = 0.008) and negative ($p$ = 0.015) attitudes regarding the caregiver's role in family engagement, as assessed by the Fam-CP and Fam-B domains, respectively. This study found that 4th-year undergraduate nursing students exhibited a more positive attitude towards the role of caregiver in family engagement compared to students in the 3rd, 2nd, and 1st years. This finding aligns with the results of Al-Oran et al. (2024), which involved 124 eligible nursing

students. The study revealed that 4th-year undergraduate nursing students had more positive perceptions of family-centred care (FCC) compared to 3rd-year students ($t$ = 7.345, $p$ < 0.001). Students' attitudes in the nursing program may become more defined due to enhanced clinical practice and theoretical knowledge (Gemuhay et al., 2019). The findings suggest that educational progression has a greater influence on students' perspectives than their background does.

### 5.1.4 Relationship between perception and attitude towards the role of caregiver in family involvement for patient care among UNIMAS undergraduate nursing students

A strong positive correlation was observed using Spearman's Rank Order between perception and positive attitude, $r_s$ (139) = .671, $p$ < .001. The correlation indicates that nursing students with a moderately improved perception will likely exhibit a moderately improved attitude, and vice versa. However, due to a high percentage of low student scores, the group demonstrates a consistent lack of improvement in both perception and attitudes. The results suggest that students may not fully grasp the significance of the caregiver's role, which could explain their weak attitudes. The strong correlation indicates that this relationship is interconnected, despite being currently low. The analysis of the relationship between perception and negative attitude indicates a weak negative correlation between the two variables, $r_s$ (139) = -.228, $p$ = .007. This weak relationship suggests that it was not significant enough to influence attitude. This finding is contrasted with the previous study of Azak et al. (2024) illustrates the good strong correlation between perception and attitude, revealing that 360 (63%) of undergraduate nursing students at a state university in Istanbul recognized the family-centred approach to care, with 292 (81.1%) crediting their awareness to coursework. Most students n = 520 (90.9%), believed parents should participate in care

practices within the hospital, and n = 535 (93.5%) supported their involvement in decision-making. The difference between the results might be the UNIMAS nursing students may not fully comprehend or respect the caregiver's role, which alone fails to account for the negative attitudes they exhibit. The weak correlation indicates that additional factors may also be affecting negative attitudes. Insufficient emphasis on family-centred care principles in the nursing curriculum may result in students lacking the fundamental understanding and abilities required for effective family involvement in patient care. The educational gap may lead to unfavourable perceptions and attitudes regarding family involvement (Kuppens et al., 2018).

## 5.2 Summary of findings of the study

Overall, the majority of UNIMAS undergraduate nursing students had poor perception toward the caregiver's role in family involvement in patient care, where the total median score was 26 (*IQR* = 18). Furthermore, most of them showed a poor positive attitude and low negative attitude towards the caregiver's role. The total median score for positive attitude is 26 (*IQR* = 18), while the total median score for negative attitude is 14 (*IQR* = 4). There was a statistically significant association, and a strong positive relationship found between the perception and positive attitude towards the role of caregiver in family involvement for patient care. Meanwhile, there was a statistically significant association, and a weak negative relationship found between the perception and negative attitude towards the role of caregiver in family involvement for patient care.

## 5.3 Implications of the study

This study presents important implications for nursing education, clinical training, and healthcare practice about family involvement in patient care. The limited perspective and negative attitude among nursing students regarding the caregiver's role indicate a deficiency in the existing nursing curriculum and soft skills among the students. Educational programs should include comprehensive modules addressing family-centred care, caregiver roles, and the psychosocial advantages of involving families' educational care. Integrating case-based learning (Golaghaie et al., 2019), simulations (Khalil et al., 2023) and reflective discussions (Roca et al., 2020) can effectively bridge the knowledge gap and foster a more empathetic understanding. Moreover, the findings indicate a gap between theoretical frameworks and clinical practice. Students may conceptually approve of family engagement yet still perceive a lack of preparation or support in clinical environments. The student also can enhance their soft skills by practice active listening with patients, families, and peers (Sancho-Cantus et al., 2023). Effective communication between patients and their families can builds trust as well as reduces misunderstandings in care (Kwame & Petrucka, 2021). Nurse educators and clinical instructors can be role models by representing effective and respectful communication with caregivers (Froneman et al., 2016). Institutions must promote supportive environments that enable students to observe and practice family-inclusive care with confidence and security (Zhang et al., 2022).

## 5.4 Limitations of the study

Despite the existing evidence, there is a lack of studies that clarify the learning process of undergraduate nursing students regarding the care of families as caregivers. This

indicates that additional research should focus on addressing this gap. On top of that, the study faced financial limitations since it was s self-funded study. Apart from that, the findings from this study were exclusively centred on UNIMAS nursing students, which restricts the ability to generalise the results to all nursing students in Malaysia, as students from other institutions may yield different results and outcomes.

## 5.5 Conclusion

This study revealed that a significant proportion of UNIMAS undergraduate nursing students exhibited a poor perception and a low positive attitude regarding the caregiver's role in family involvement in patient care, despite their conceptual endorsement of family participation. This disconnect may result from restricted clinical exposure, a lack of confidence, and inadequate emphasis on family-centred care within the nursing curriculum. A significant positive correlation was identified between perception and positive attitude, whereas a weak negative correlation was found between perception and negative attitude, indicating that enhanced understanding may improve attitudes. This study emphasises nursing education's need to incorporate family-centred care principles, practical training, and supportive clinical environments to enhance student preparedness for engaging caregivers in patient care.

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## APPENDIXES

### APPENDIX A: COVER LETTER FOR ETHICAL APPLICATION

Reyvien Arleyne Anak Allay,
Faculty Medicine and Health Sciences,
Universiti Malaysia Sarawak,
94300 Kota Samarahan,
Sarawak.

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The Chairman,
Medical Research Ethics Committee,
Faculty Medicine and Health Sciences,
Universiti Malaysia Sarawak,
94300 Kota Samarahan,
Sarawak. Date: 16th December 2024

Dear Professor/Associate Professor/Dr/Sir/Madam,

REQUEST FOR APPROVAL TO CONDUCT RESEARCH PROJECT

I am a final-year student pursuing a Bachelor of Nursing with Honours at the Faculty of Medicine and Health Sciences, UNIMAS. I enrolled in MDJ 4653 Final Year Project I, in which the course is coordinated by Madam Shalin Lee Wan Fei. Please find my details as follows:

**Full name:** Reyvien Arleyne Anak Allay

**Matrix number:** 78500

**IC No.:** 020708130096

I would like to request for the kind approval from the Faculty of Medicine and Health Sciences Medical Research Ethics Committee to conduct the following study:

**Research title: Perception and Attitude towards the Role of Caregiver in Family Engagement for Patient Care among Undergraduate Nursing Students in UNIMAS**

**Supervisor's name:** Dr. Ong Mei Fong

**Email address:** mfong@unimas.my

**Supervisor's HP number:** 016- 937 7562

Please find the required documents as appended for your kind consideration and approval. Thank you.

Yours sincerely,

(Reyvien Arleyne Anak Allay)

**APPENDIX B: PARTICIPANT INFORMATION SHEET**


## PARTICIPANT INFORMATION SHEET

| | | | |
|---|---|---|---|
| 1. | **Title of the study** | : | **Perception and Attitude towards the Role of Caregiver in Family Engagement for Patient Care among Undergraduate Nursing Students in UNIMAS** |
| 2. | **Main Researcher** | : | **Reyvien Arleyne Anak Allay** |
| 3. | **Supervisor** | : | **a) Course coordinator: Shalin Lee Wan Fei**<br>**b) Main research Supervisor: Dr Ong Mei Fong** |
| 4. | **Institution** | : | **Department of Nursing**<br>**Faculty of Medicine & Health Sciences**<br>**Universiti Malaysia Sarawak** |
| 5. | **Name of sponsor** | : | **No external funding** |

## PARTICIPANT INFORMATION SHEET AND INFORMED CONSENT FORM

(for adult subjects)

### 6. Introduction:

It is important that you understand why the research is being done and what it involves. Please take your time to read through and consider this information carefully before you decide if you are willing to participate. Ask the study staff if anything is unclear or if you would like more information. After you are properly satisfied that you understand this study, and that you wish to participate, you must sign this informed consent form.

Your participation in this study is voluntary. You do not have to be in this study if you do not want to. You may also refuse to answer any questions you do not want to answer. If you volunteer to be in this study, you may withdraw from it at any time. If you withdraw, any data collected from you up to your withdrawal will still be used for the study. Your refusal to participate or withdrawal will not affect any medical or health benefits to which you are otherwise entitled.

This study has been approved by the Medical Research and Ethics Committee, Ministry of Health Malaysia.

**7. What is the purpose of the study?**

The general objective is to examine the attitudes and perceptions of family involvement in patient care among UNIMAS undergraduate nursing students. By focusing on these key factors, we seek to explore how improved perception, and positive attitudes may help identify areas requiring educational or supportive enhancements to prepare students for family-inclusive patient care adequately. By examining these factors at this stage of training, UNIMAS nursing education can also address knowledge gaps and teach professional and empathetic family interactions. Therefore, this study may help nursing students understand the family's role in patient care, which is critical in facilitating patients' recovery process or outcome and improving patient-family relations. This research will be conducted for a duration of 6 months (25/1/2025 till 31/06/2025). There will be three groups in this study which are from year 2 to year 4 of nursing students, and the allocation will be randomized. The expected total number of participants will be 139, with 46 participants in each group.

**8. Who can participate in this study?**

In this intervention study targeting nursing students, the inclusion and exclusion criteria have been meticulously defined to delineate eligible participants. The inclusion criteria comprise undergraduate nursing students from UNIMAS who have engaged in clinical practice from Year 2 to 4, as well as those who are willing to take part in the study. Additionally, eligible participants must proficiently communicate in either English or Malay, possess a smartphone with access to WhatsApp and the Internet, and be Malaysian residents. In the meantime, the exclusion criteria included nursing students from Year 1 and who were unwilling to participate in this study. These criteria collectively aim to create a homogeneous participant group, ensuring the study's precision, validity, and relevance to the targeted research objectives.

**9. What are my responsibilities when taking part in this study?**

It is important that you respond openly and comprehensively to all inquiries posed by the study staff, a process expected to consume approximately 10-15 minutes of your time. Subsequently, you may or may not receive contact from the researcher through WhatsApp messages if you haven’t answered the questionnaire within the time frame. This form contains 3 sections which will enquire about social demographics, individual family engagement, perception and attitude towards family engagement topics.

**10. What are the potential risks and side effects of being in this study?**

Participation to this study is completely voluntary and will not affect your treatment, and the risk is minimal. You are free to decline to answer any of the questions that you feel uncomfortable with, and you can opt to withdraw from study at any point without incurring any penalties.

**11. What are the benefits of being in this study?**

There may or may not be any benefits to you. Information obtained from this study will hold the potential for significant benefits to nursing students. By focusing on enhancing perception, and attitude related to family engagement, participants may gain a deeper understanding of the significance of family involvement in patient care, helping them appreciate its impact on patient recovery and well-being. Through self-reflection and exposure to study activities, participants may improve their understanding about the importance of communication, empathy, and interpersonal skills when interacting with patients and families in clinical settings. Furthermore, the study may offer practical guidance for healthcare providers and policymakers in designing targeted interventions to support family engagement in patient care. However, it is important to note that feedback on study findings will not be provided at the end of the study.

**12. Who is funding the research?**

This study does not receive any external funding, is fully sponsored by the main study researcher. You will not be paid for participating in this study. There are also no plans to develop commercial products through this study.

**13. Will my medical information be kept private?**

All your information obtained in this study will be kept and handled in a confidential manner, in accordance with applicable laws and/or regulations. When publishing or presenting the study results, your identity will not be revealed without your expressed consent. Individuals involved in this study, qualified monitors and auditors, and governmental or regulatory authorities may inspect the study data, where appropriate and necessary.

**14. Who should I call if I have questions?**

If you have any questions about the study and you want information about this study, please contact the main study researcher, Reyvien Arleyne Anak Allay at telephone number 014- 3562737 or supervisor of this study, Dr Ong Mei Fong, who can reach through the email address: mfong@unimas.my

If you have any questions about your rights as a participant in this study, please contact: The Secretary, Medical Research & Ethics Committee, Ministry of Health Malaysia, at telephone number 03-3362 8407/8205/8888.

## APPENDIX C: INFORMED CONSENT

### INFORMED CONSENT FORM

Title of Study: Perception and Attitude towards the Role of Caregiver in Family Engagement for Patient Care among Undergraduate Nursing Students in UNIMAS

By signing below, I confirm the following:

- I have been given oral and written information for the above study and have read and understood the information given.
- I have had sufficient time to consider participating in the study and have had the opportunity to ask questions, and all my questions have been answered satisfactorily.
- I understand that my participation is voluntary, and I can freely withdraw from studying without giving a reason. I understand the risks and benefits, and I freely give my informed consent to participate under the conditions stated. I understand that I must follow the study researcher (Reyvien Arleyne Anak Allay) instructions related to my participation in the study.
- All personal details will be treated as STRICTLY CONFIDENTIAL
- I will receive a copy of this subject information/informed consent form signed and dated to bring home.

**Subject:**

| | |
|---|---|
| Signature: | I/C number: |
| Name: | Date: |

**Investigator conducting informed consent:**

| | |
|---|---|
| Signature: | I/C number: |
| Name: | Date: |

**Impartial witness:**

| | |
|---|---|
| Signature: | I/C number: |
| Name: | Date: |

**APPENDIX D: QUESTIONNAIRE**

**Section A: Sociodemographic**

**Please tick (✓) the option that best applies to you.**

1. Sex:

    - Male
    - Female

2. Year of study:

    - Year 1
    - Year 2
    - Year 3
    - Year 4

3. Race:

    - Malay,
    - Chinese,
    - India,
    - Bumiputera Sarawak,
    - Bumiputera Sabah,
    - Others; _____

4. Religion:

    - Islam,
    - Christian,
    - Hindu,
    - Buddhist,
    - Others; _____

5. Previous Experience in Healthcare Setting during practicum:

    - Yes
    - No

6. Household income/ Parent(s) income

    - Below RM 1,500
    - RM 1,500–RM 3,500
    - RM 3,500–RM 5,500
    - RM 5,500–RM 7,500
    - RM 7, 500 and above

**Section B: Perception and Attitude towards Family engagement**

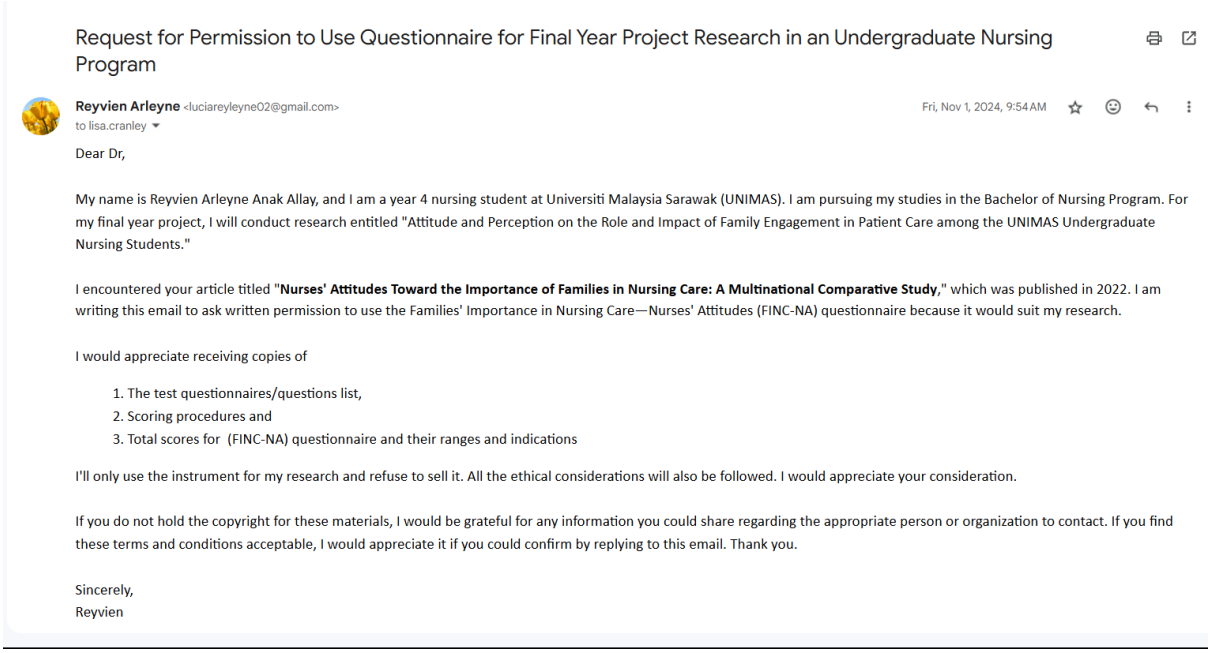
**On a scale of 1 to 5, please SELECT the number that best reflects your perception and attitude toward your work with families.**

| | | strongly disagree | disagree | neither | agree | strongly agree |
|---|---|---|---|---|---|---|
| | **Family as a resource in nursing care (Fam-RNC)** | | | | | |
| 1 | The presence of patients' family members eases my workload | 1 | 2 | 3 | 4 | 5 |
| 2 | The presence of patients' family members gives me a feeling of security | 1 | 2 | 3 | 4 | 5 |
| 3 | The presence of patients' family members is important to me for training in therapeutic communication as a future nurse | 1 | 2 | 3 | 4 | 5 |
| 4 | Patients' family members should be invited to actively take part in the patient's nursing care | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | Patients' family members should be invited to actively take part in planning patient care | 1 | 2 | 3 | 4 | 5 |
| 6 | A good relationship with patients' family members gives me job satisfaction | 1 | 2 | 3 | 4 | 5 |
| 7 | Getting involved with patients' families gives me a feeling of being useful | 1 | 2 | 3 | 4 | 5 |
| 8 | I gain a lot of worthwhile knowledge and experience while handling the patient's family which I can use in my practicum | 1 | 2 | 3 | 4 | 5 |
| 9 | The presence of patients' family members is important for the family members themselves | 1 | 2 | 3 | 4 | 5 |
| 10 | It is important to spend time with patients' families | 1 | 2 | 3 | 4 | 5 |
| 11 | I use myself as a resource of knowledge for patient families so that they can cope with their situation | 1 | 2 | 3 | 4 | 5 |
| 12 | I consider patients' family members as cooperating partners | 1 | 2 | 3 | 4 | 5 |
| 13 | I ask patients' families how I can support them | 1 | 2 | 3 | 4 | 5 |
| | **Family as a conversational partner (Fam-CP)** | | | | | |
| 14 | I invite patients' family members to have a conversation regarding the progress of the patient's condition | 1 | 2 | 3 | 4 | 5 |
| 15 | I ask patients' family members to take part in discussions from the very first contact, when a patient comes into my care | 1 | 2 | 3 | 4 | 5 |
| 16 | I always find out what is the relationship between the family and the patient | 1 | 2 | 3 | 4 | 5 |
| 17 | I invite patients' family members to speak about changes in the patient's condition | 1 | 2 | 3 | 4 | 5 |
| 18 | I invite family members to discuss about the direction of the care when planning care | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 19 | I invite patients' family members to actively take part in patient's care | 1 | 2 | 3 | 4 | 5 |
| 20 | Discussion with patients' family members during first care contact saves time in my future work | 1 | 2 | 3 | 4 | 5 |
| | **Family as a burden (Fam-B)** | | | | | |
| 21 | The presence of patients' family members makes me feel that they are checking out on me in a bad way | 1 | 2 | 3 | 4 | 5 |
| 22 | The presence of patients' family members makes me feel stressed | 1 | 2 | 3 | 4 | 5 |
| 23 | The presence of patients' family members holds me back in my work | 1 | 2 | 3 | 4 | 5 |
| 24 | I don't have time to take care of patients' families | 1 | 2 | 3 | 4 | 5 |

## APPENDIX E: PERMISSION TO USE QUESTIONNAIRE



Request for Permission to Use Questionnaire for Final Year Project Research in an Undergraduate Nursing Program

**Reyvien Arleyne** <luciareyleyne02@gmail.com> Fri, Nov 1, 2024, 9:54 AM

to lisa.cranley

Dear Dr,

My name is Reyvien Arleyne Anak Allay, and I am a year 4 nursing student at Universiti Malaysia Sarawak (UNIMAS). I am pursuing my studies in the Bachelor of Nursing Program. For my final year project, I will conduct research entitled "Attitude and Perception on the Role and Impact of Family Engagement in Patient Care among the UNIMAS Undergraduate Nursing Students."

I encountered your article titled "**Nurses' Attitudes Toward the Importance of Families in Nursing Care: A Multinational Comparative Study**," which was published in 2022. I am writing this email to ask written permission to use the Families' Importance in Nursing Care—Nurses' Attitudes (FINC-NA) questionnaire because it would suit my research.

I would appreciate receiving copies of

1. The test questionnaires/questions list,
2. Scoring procedures and
3. Total scores for (FINC-NA) questionnaire and their ranges and indications

I'll only use the instrument for my research and refuse to sell it. All the ethical considerations will also be followed. I would appreciate your consideration.

If you do not hold the copyright for these materials, I would be grateful for any information you could share regarding the appropriate person or organization to contact. If you find these terms and conditions acceptable, I would appreciate it if you could confirm by replying to this email. Thank you.

Sincerely,
Reyvien

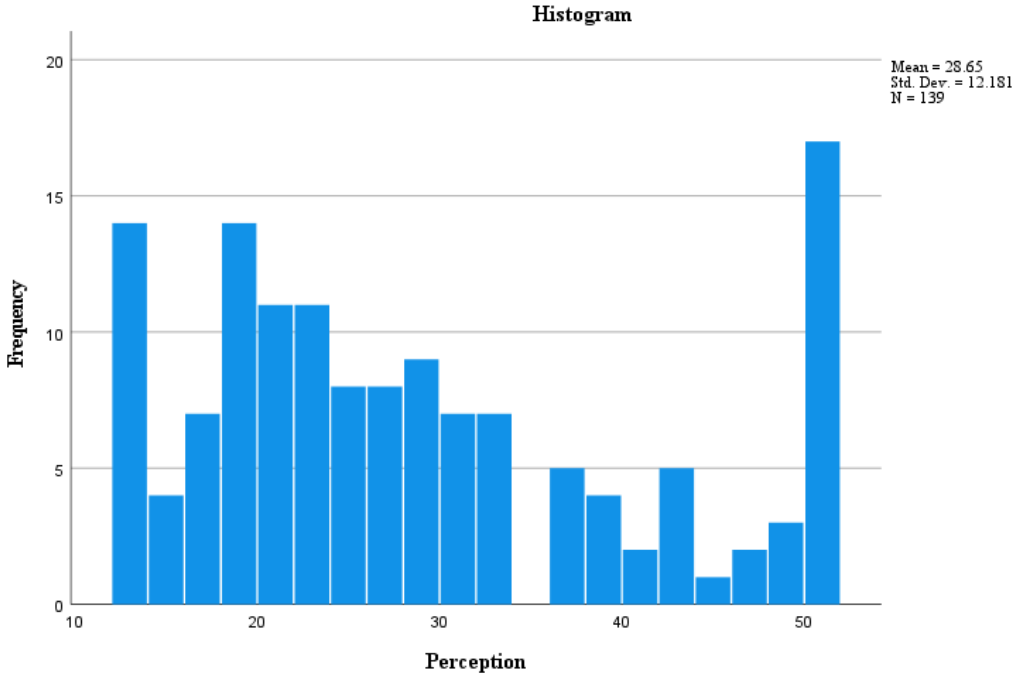
**APPENDIX F: GRANTT CHART**

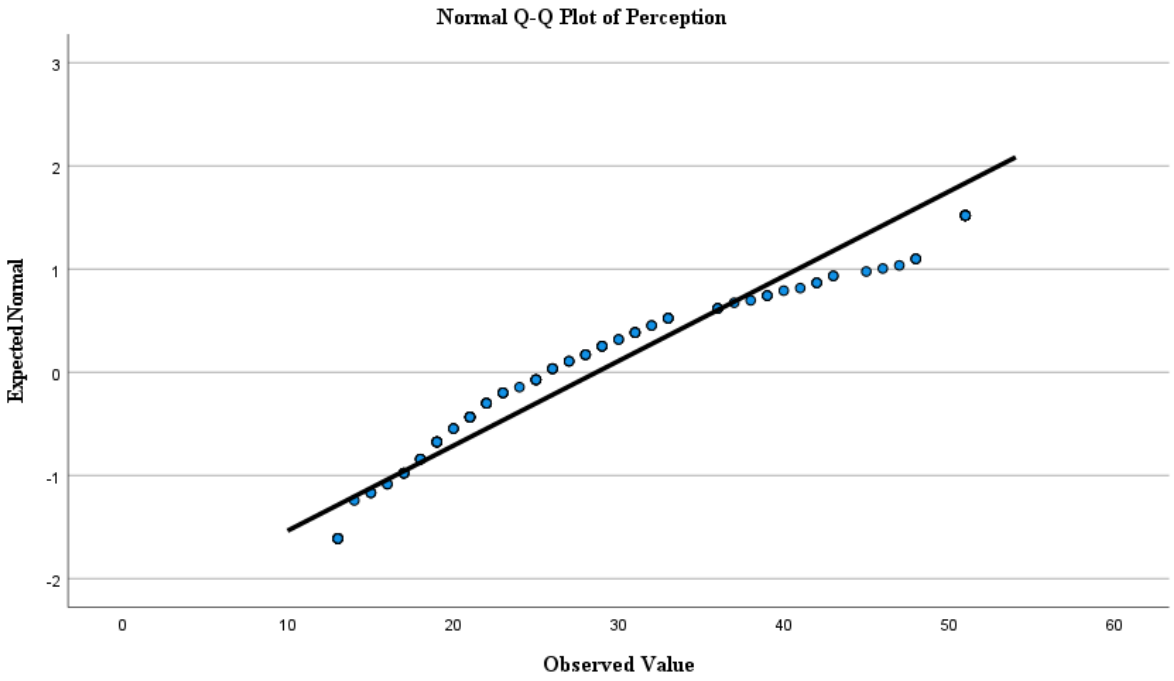
| Process | Month | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | | | | 2025 | | | | | | |
| | Sept | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul |
| Determination of research title | | | | | | | | | | | |
| Literature review | | | | | | | | | | | |
| Meeting with supervisor | | | | | | | | | | | |
| Submission of proposal defence slides | | | | | | | | | | | |
| Presentation Research proposal defence | | | | | | | | | | | |
| Submission: Letter for ethical approval | | | | | | | | | | | |
| Submission: First draft | | | | | | | | | | | |
| FYP 1: Submission of research proposal | | | | | | | | | | | |
| Data collection | | | | | | | | | | | |
| Data analysis | | | | | | | | | | | |
| Writing up report | | | | | | | | | | | |
| Submission: final draft | | | | | | | | | | | |
| FYP 2: Final report submission | | | | | | | | | | | |

## APPENDIX G: BUDGET PLANNING

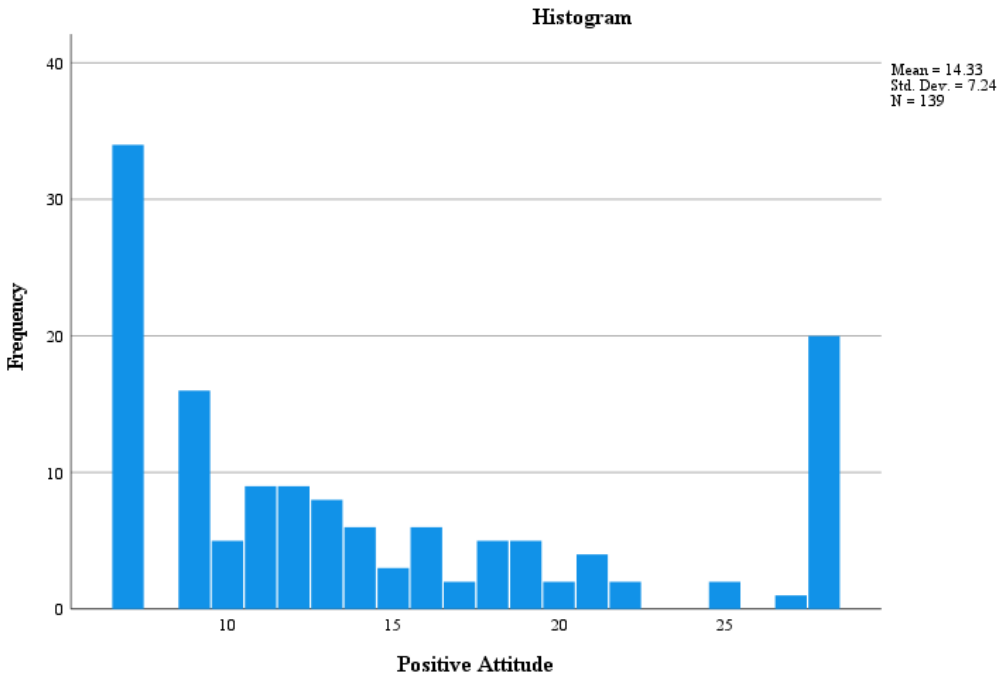
| No | Item | Quantity | Price Per Unit | Budget |
|---|---|---|---|---|
| 1. | Mobile Data (Digi) | 9 Months | RM15.00 Per Month | RM15.00 x 9 = RM135.00 |
| 2. | Printing for slide proposal defend presentation | 2 | RM0.50 each page (Colour) | RM0.50 x 15 page = RM 7.50 Total = RM15.00 |
| 3. | SPSS Version 27 Software | 1 | RM5.00 | RM5.00 |
| 4. | Printing for Poster | 1 | RM40.00 | RM40.00 |
| 5. | Printing For Written Final Year | 1 | RM0.10 each page (Black & White) | RM0.10 x (~ 110 pages) = RM 11.10 |
| 6. | Binding of Written Final Year | 1 | RM5.00 | RM5.00 |
| | | | Total Budget: | RM 211.10 |

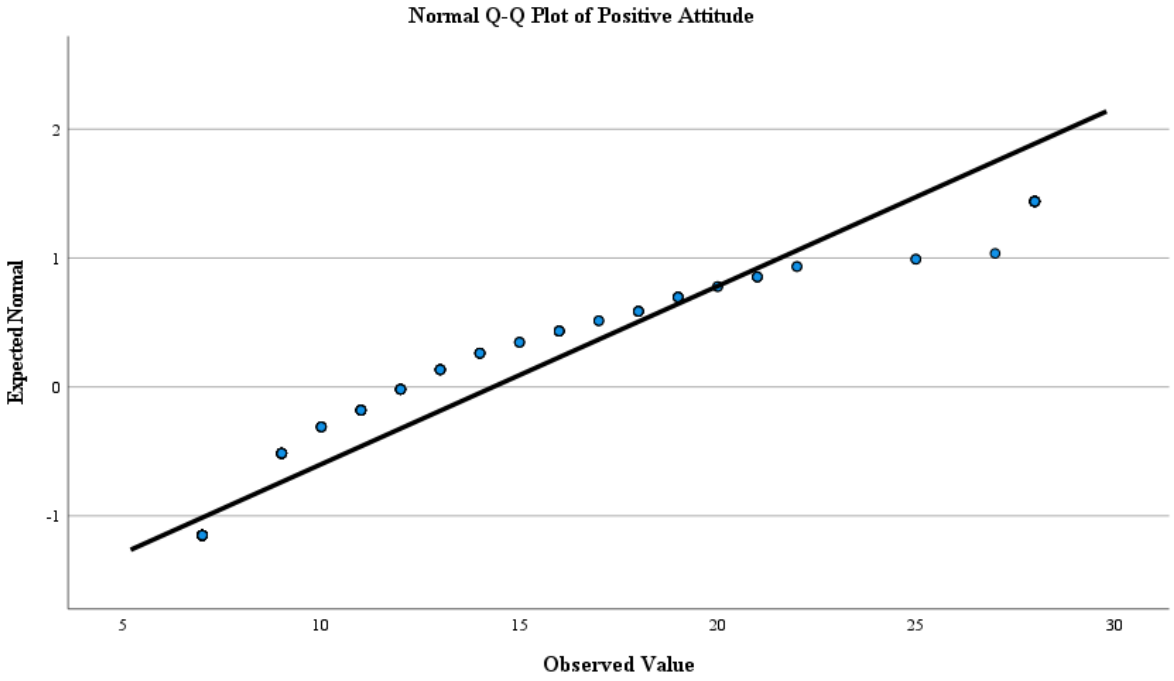
## APPENDIX H: HISTOGRAM AND Q-Q PLOT OF PERCEPTION



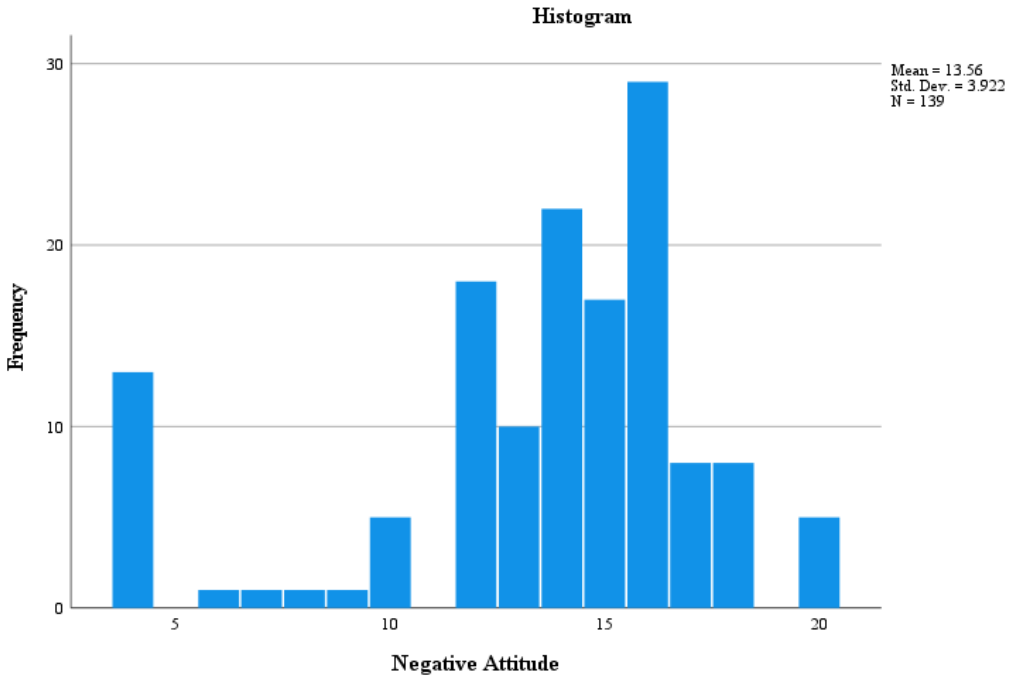


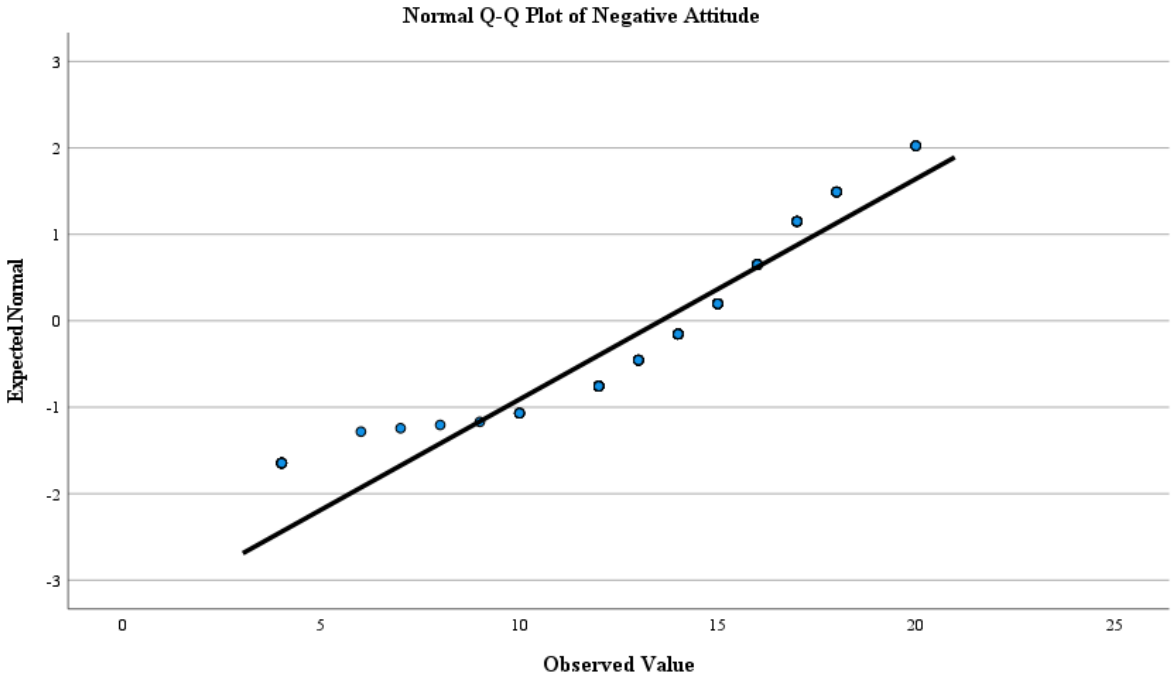

## APPENDIX I: HISTOGRAM AND Q-Q PLOT OF POSITIVE ATITTUDE



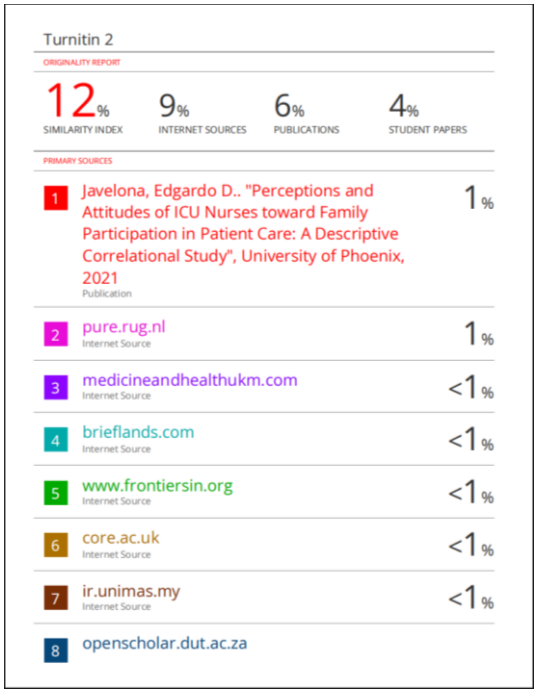



## APPENDIX J: HISTOGRAM AND Q-Q PLOT OF NEGATIVE ATITTUDE






## APPENDIX K: TUNITITIN SIMILIARITY INDEX REPORT



Turnitin 2

ORIGINALITY REPORT

| 12% | 9% | 6% | 4% |
|---|---|---|---|
| SIMILARITY INDEX | INTERNET SOURCES | PUBLICATIONS | STUDENT PAPERS |

PRIMARY SOURCES

| | | |
|---|---|---|
| 1 | Javelona, Edgardo D.. "Perceptions and Attitudes of ICU Nurses toward Family Participation in Patient Care: A Descriptive Correlational Study", University of Phoenix, 2021<br>Publication | 1% |
| 2 | pure.rug.nl<br>Internet Source | 1% |
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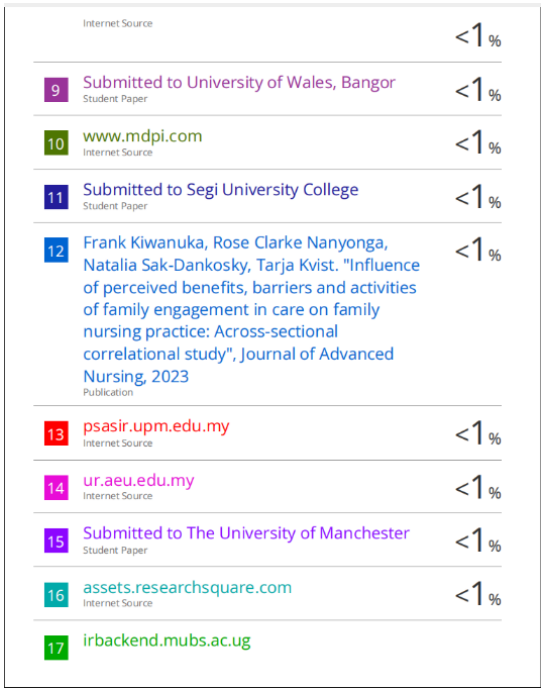

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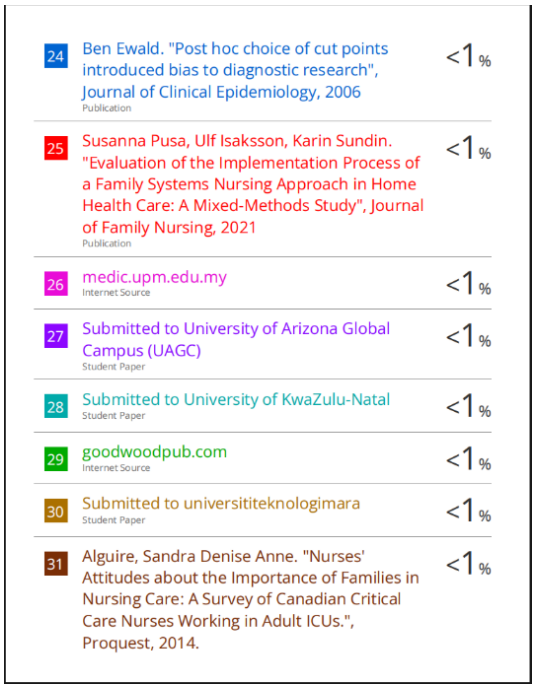

24 Ben Ewald. "Post hoc choice of cut points introduced bias to diagnostic research", Journal of Clinical Epidemiology, 2006 <1%
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25 Susanna Pusa, Ulf Isaksson, Karin Sundin. "Evaluation of the Implementation Process of a Family Systems Nursing Approach in Home Health Care: A Mixed-Methods Study", Journal of Family Nursing, 2021 <1%
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34 Isha Verkaik, Nini H. Jonkman, Fredrike Blokzijl, Anja H. Brunsveld-Reinders et al. "Intensive care nurses' attitudes about the importance of family involvement in adult intensive care: A multicentre cross-sectional study", Intensive and Critical Care Nursing, 2025 <1%
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36 Rahel Naef, Marianne Kläusler-Troxler, Jutta Ernst, Selina Huber, Barbara Dinten-Schmid, Tanja Karen, Heidi Petry. "Translating family systems care into neonatology practice: A mixed method study of practitioners' attitudes, practice skills and implementation experience", International Journal of Nursing Studies, 2020 <1%
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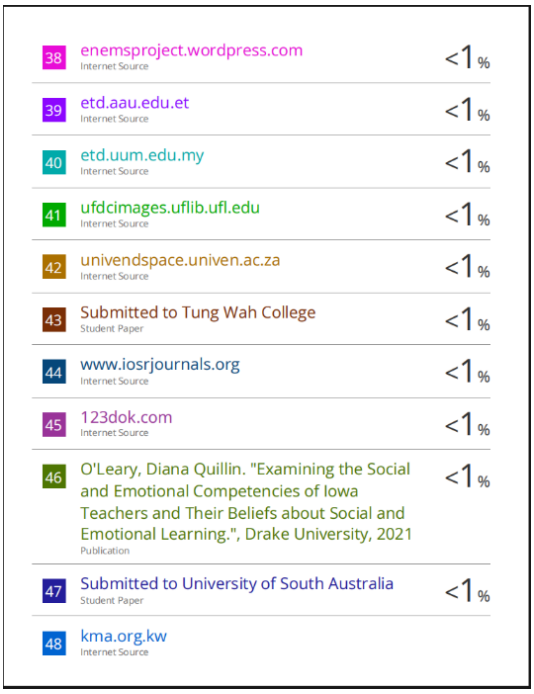

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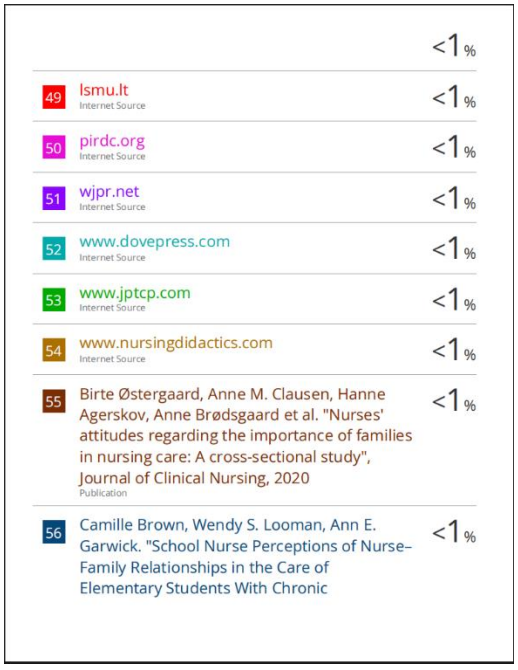

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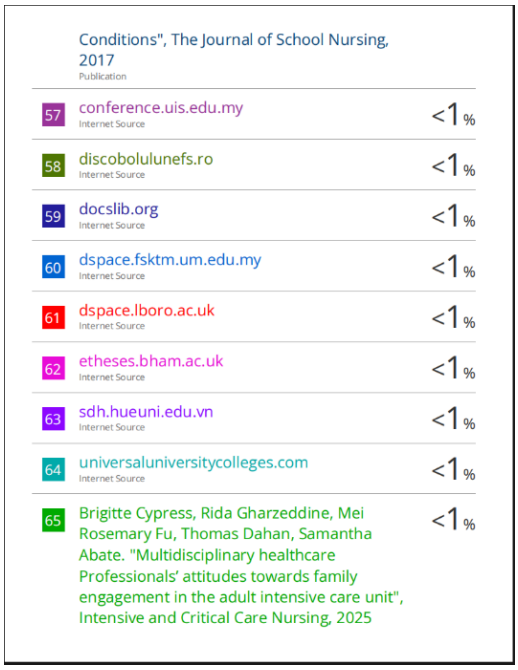

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