

Assessment of determinants of limited specialization in nursing practice among student nurses at Adeleke University, Ede, Osun State

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Abstract

Nursing specialization is increasingly important for meeting the complex healthcare needs of modern society. This study assessed determinants of limited specialization in nursing practice among student nurses at Adeleke University. The study adopted a cross-sectional design and used Yamane's formula to calculate the sample size. A total of 197 eligible respondents were selected using simple random sampling technique. Data was collected using a self-structured validated questionnaire which was analyzed using statistical package for the social sciences (SPSS). Results revealed that a significant proportion of respondents, 39.59% (78), strongly agreed, and 43.14% (85) agreed that the availability of mentor-ship opportunities influenced their choice of nursing specialization. Similarly, a strong majority (35.53% strongly agreed and 47.69% agreed) indicated that opportunities for professional development were pivotal in their specialization decisions. Financial constraints emerged as a notable barrier, with 40.10% (79) strongly agreeing and 33.51% (66) agreeing that such limitations hindered their decisions to specialization in nursing. Limited access to mentor-ship was reported by 79.19% of respondents, while uncertainty about career prospects in specific specialties concerned 76.13%. Work-life balance was another major factor, with 74.62% expressing concern. A lack of exposure to different specialty areas during clinical placements was noted by 81.22%, and 80.2% were concerned about the challenges of obtaining advanced certifications. Lastly, family or peer pressure influenced 67.52% of students in their specialization choices. Establish robust mentor-ship programs provide students with guidance from experienced nurses, helping them navigate their specialization choices and develop professional networks.

Keywords: Nursing-specialization; Choices; Mentor-ship; Limited- specialization

1. Introduction

Nursing specialization is considered a significant professional requirement to meet the challenges and needs of the health systems under evolving epidemiological patterns and scientific, technological, and social advances [1]. Although nearly 70% of countries worldwide report having continuous professional development programmes for nurses, the definition and educational background of specialist nurses is still somewhat unclear [2]. The specialist nurses (SN) are seen as an umbrella term by the European Society of Specialist Nurses (ESNO) containing other terms such as advanced nurse practitioner (ANP) or nurse practitioner (NP) [3]. At the same time, ANP and NP are more often seen as a link between a nursing domain and a medical domain with advanced nursing skills, higher education and expanded scopes of practice [4]. When comparing SN education in different countries, there is limited information due to lack of coordination of regulations [2]. A variation is also seen in the number of specialization areas and on the educational

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level worldwide. The same specialization area of the nursing field can in different countries, or even within one country, have different academic levels as a requirement for admission to the education. The duration of the education in different countries in the same specialization area of the nursing field can vary from a few days to two years. And more, there is no agreement about the role or level of independence when practicing as SN [2]. The nursing profession is undergoing a paradigm shift, with an increasing emphasis on specialization to meet the evolving healthcare needs of the people.

As academics devoted to educating others about the importance of improving the health of populations, the future for the specialty as a component of the nursing profession appears bleak because of factors that are both self and externally inflicted [5]. The association between shortage of nurses, educational level of nurses and increase in patients' mortality rate are global issues, since most of the regions in the world report shortages of nurses [6]. Therefore, no conclusion can be drawn if a higher level of nursing education decreases mortality and the occurrence of adverse events. However, it has been shown that care given by experienced Registered Nurse anesthetists and anesthesiologists is associated with both lower occurrences of adverse events and patient mortality compared with being cared for by inexperienced nurses [7]. Since the level of experience and a higher proportion of Registered Nurses with a bachelor's degree makes a difference, probably also a higher number of SNs is of importance for the quality of the health care.

Considering the growing significance of specialized knowledge in the field of nursing, this research endeavors to assess the determinants of limited specialization in nursing practice among student nurses at Adeleke University. Recognizing the pivotal role that specialization plays in shaping the future of nursing practice, this involved a comprehensive examination of various factors, including institutional policies, educational resources, factors facilitating support, mentor-ship issues and challenges encountered by student nurses in Adeleke University.

1.1. Goal and Objectives of the study

The main objective of this research is to assess the determinants of limited specialization in nursing practice among student nurses at Adeleke University. Aligned with the overarching aim, the specific objectives are to:

- Assess the level of knowledge on different choices of specialties in nursing practice among student nurses in Adeleke University, Ede, Osun state.
- Identify factors facilitating choice of specialization in nursing practice among student nurses in Adeleke University, Ede, Osun state.
- Identify perceived barriers affecting specialization decision among student nurses in Adeleke University, Ede, Osun state.

1.2. Research Questions

The exploration of determinants of limited specialization in nursing practice among student nurses at Adeleke University is guided by the following research questions:

- What is the level of knowledge on different choices of specialties available in nursing practice among student nurses in Adeleke University, Ede, Osun state?
- What are the factors facilitating choice of specialization in nursing practice among student nurses in Adeleke University, Ede, Osun state?
- What are the perceived barriers affecting specialization decision among student nurses in Adeleke University, Ede, Osun state?

1.3. Research Hypothesis

H₀- There is no significant relationship between the level of knowledge on various specialties and the choice of specialization in nursing practice among Adeleke University student nurses.

2. Literature review

Specialization in nursing involves pursuing advanced education and training in specific areas of healthcare, such as pediatrics, oncology, or critical care. It allows nurses to develop deep expertise and skills tailored to particular patient populations or medical conditions, ultimately enhancing the quality of care provided [8].

Specialization in nursing significantly enhances the quality of patient care by ensuring that patients receive treatment from highly skilled and knowledgeable professionals who are experts in their field [9]. Specialized nurses are equipped

to manage complex cases more effectively, provide tailored interventions, and improve patient outcomes through evidence-based practices specific to their area of expertise [10]. Moreover, specialized nurses can better advocate for their patients, understanding the intricacies of specific conditions and the latest advancements in treatment options, which leads to more informed decision-making and higher levels of patient satisfaction [11].

From a professional development perspective, specialization allows nurses to advance their careers by gaining specialized knowledge and skills that open up opportunities for leadership roles, higher salaries, and greater job satisfaction [12]. It encourages continuous learning and professional growth, as specialized nurses are often required to stay updated with the latest research, technologies, and best practices in their field [13]. This ongoing education fosters a culture of excellence and innovation within the nursing profession, promoting higher standards of care and professional competence [14].

Furthermore, the COVID-19 pandemic has had a profound impact on nursing specialization trends. The pandemic highlighted the critical need for nurses with expertise in public health, infection control, and disaster response [15]. As a result, there has been a surge in demand for nurses specializing in areas such as epidemiology, infection prevention, and telehealth nursing [9]. Additionally, the pandemic has underscored the importance of mental health support for both healthcare workers and patients, leading to increased interest in psychiatric-mental health nursing specialties [16].

2.1. Empirical review

2.1.1. *Level of knowledge on different choices of specialties in nursing practice among student nurses*

In a longitudinal study conducted by Garcia and Martinez (2020), researchers followed a cohort of nursing students over a three-year period to assess their knowledge of different specialty choices in nursing practice. The study found that while students initially had limited exposure to specialized areas during their early years of training, their knowledge and awareness of different specialties significantly improved as they progressed through their nursing education. This improvement was attributed to structured clinical placements, mentor-ship programs, and elective courses focusing on specialized areas. The findings highlight the importance of longitudinal educational interventions in enhancing students' understanding of nursing specialties [17].

2.1.2. *Factors facilitating choice of specialization in nursing practice among student nurses*

Canales and Arnold (2022) conducted a cross-sectional study among student nurses to explore factors influencing their choice of specialization in nursing practice. The study involved surveying 500 nursing students from various educational institutions across the country. Findings revealed that the primary factors influencing specialization choice included personal interest (62%), clinical experiences (56%), role models (45%), and future job prospects (38%). Moreover, respondents expressed a preference for specialties with clear career pathways and opportunities for professional growth. These findings underscore the importance of individual preferences and experiential learning in shaping specialization decisions among student nurses [18].

Another longitudinal study conducted by Saager (2022) to examine the factors facilitating the choice of specialization among nursing students over a three-year period. The study followed 300 nursing students from their first year of training until graduation. Results indicated that exposure to different clinical specialties during training significantly influenced students' specialization preferences. Additionally, mentor-ship and guidance from nursing faculty and preceptors played a crucial role in helping students navigate their career paths. Furthermore, the study identified financial considerations and job market trends as important factors shaping students' decisions regarding specialization.

2.1.3. *Barriers affecting specialization decision among student nurses*

Saager and Arnold (2021) conducted a cross-sectional study among student nurses to investigate the barriers affecting specialization decisions. The study involved a sample of 500 nursing students from various educational institutions across the country. Results showed that the most reported barriers to specialization included financial constraints, lack of mentor-ship opportunities, and limited exposure to different specialty areas during clinical placements. Financial constraints were identified as a significant barrier, with many students expressing concerns about the cost of further education and certification in specialized fields. Additionally, the study found that students who lacked access to mentor-ship programs or guidance from experienced nurses were less likely to pursue specialization. Furthermore, students reported feeling limited by the opportunities available for exposure to different specialty areas during their clinical placements, suggesting that inadequate clinical experiences hindered their ability to make informed specialization decisions [7].

Garcia et al. (2021) conducted a longitudinal study to examine the barriers affecting specialization decisions among nursing students over a three-year period. The study followed a cohort of 300 nursing students from the beginning of their academic program until graduation. Results showed that while initial interest in specialization was high among students, many faced challenges navigating the educational and professional requirements necessary to pursue specialized roles. Over time, the study found that students' enthusiasm for specialization waned as they encountered barriers such as limited access to specialized training programs, financial constraints, and concerns about job market saturation in certain specialties. Moreover, the study identified a lack of support and guidance from academic advisors and faculty members as a significant barrier to specialization decision-making among students [17].

2.2. Theoretical review

2.2.1. *The Social Cognitive Career Theory (SCCT)*

The Social Cognitive Career Theory (SCCT) was propounded in 1994 by Robert W. Lent, Steven D. Brown, and Gail Hackett. This theory builds on Albert Bandura's social cognitive theory, emphasizing the role of self-efficacy, outcome expectations, and personal goals in career development. SCCT posits that individuals' career choices are influenced by their beliefs about their abilities (self-efficacy), the outcomes they expect from their actions (outcome expectations), and their personal goals. These elements interact with environmental factors and learning experiences to shape career interests, choices, and performance. SCCT provides a comprehensive framework for understanding how personal and contextual factors influence career development, making it particularly relevant for exploring the determinants of limited specialization in nursing practice among student nurses. The theory highlights the importance of supporting students' self-efficacy and outcome expectations to encourage specialization in various nursing fields.

2.2.2. *Self-Efficacy*

SCCT emphasizes the role of self-efficacy in career development. In the context of nursing specialization, self-efficacy refers to the students' belief in their ability to successfully perform tasks related to a particular nursing specialty. If student nurses have high self-efficacy regarding a specialty, they are more likely to pursue it. Conversely, low self-efficacy can deter them from specializing.

2.2.3. *Outcome Expectations*

Outcome expectations, another core component of SCCT, involve students' beliefs about the outcomes of specializing in a particular field. These can include expectations about job satisfaction, financial rewards, career advancement opportunities, and work-life balance. If student nurses believe that specializing in a particular area will lead to positive outcomes, they are more likely to pursue it. Conversely, negative outcome expectations can discourage specialization. For example, if students perceive that a career in gerontology is less rewarding or offers fewer advancement opportunities compared to other specialties, they may avoid it.

2.2.4. *Personal Goals*

Personal goals play a significant role in the SCCT framework. These are the aspirations and objectives that individuals set for their careers. In nursing, students with specific goals aligned with a particular specialty are more likely to further education and training in that field. For example, a student nurse with a goal to become a nurse practitioner in oncology is likely to seek out relevant educational and clinical experiences to achieve this.

2.2.5. *Environmental Factors*

SCCT also considers the impact of environmental factors on career decisions. In the context of nursing specialization, these factors include the availability of specialized training programs, institutional support, and market demand for specific specialties. Limited access to specialized programs and resources can be a significant barrier to specialization. For instance, if a nursing school does not offer robust programs in mental health nursing, students interested in this field may be unable to pursue their interest. Healthcare institutions and educational programs should work to create more opportunities for specialization by offering a diverse range of specialty courses and clinical placements, as well as providing financial support and incentives for pursuing further education.

2.2.6. *Learning Experiences*

Learning experiences are crucial in shaping students' interests and self-efficacy. Positive clinical experiences in various specialties can enhance students' confidence and interest in those fields. Conversely, negative experiences can deter students from pursuing certain specialties. For example, a rewarding internship in critical care can inspire a student to specialize in that area, while a lackluster experience in another field might lead to disinterest.

3. Materials and methods

3.1. Research Design

A cross-sectional study research design was conducted using a simple random sampling technique to assess the determinants of limited specialization in nursing practice. This design is adopted as it allows for the description of a population's characteristics without manipulating variables.

3.2. Population

The study population are One hundred and ninety-seven (197) Nursing students randomly selected from 300, 400 and 500 level in Adeleke University, Ede, Osun State, Nigeria.

3.3. Sample Technique

A simple random sampling technique was used to select the 197 respondents as the research participants.

3.4. Instrumentation

For this study, data was collected using an adapted questionnaire that was modified to gather responses from the participants. The instrument that was used in data collection was an electronically distributed questionnaire which consisted of four sections that included social demographic variables, knowledge on different choices of specialties in nursing practice, factors facilitating choice of specialization in nursing practice and barriers affecting specialization decision among student nurses.

After the initial step of general distribution of questionnaires for responses to each variable, the questionnaires were retrieved and checked for completeness. Utilizing percentages, tables, graphs, frequency distribution, and charts unveiled patterns and trends within the collected data. Descriptive statistics, including mean, median, mode, and standard deviation, was computed to succinctly summarize the characteristics and variability of the data. Inferential statistics was employed to evaluate hypotheses and establish relationships between variables. The statistical package for the social sciences (SPSS) version 27 software was utilized. A significance level of 0.05 (5%) was set for the analysis.

3.5. Method of Data Collection

The data collection process was carried out within the period of 1st of October 2024 to January 2025 and continued until the predetermined sample size was achieved, with an estimated time-frame of 16 weeks for the complete administration of the research instrument.

4. Results

Table 1 Demographic Characteristics of respondents

Question	Option	Number of Respondents	Percentage (%)
Gender	Male	12	6.09
	Female	180	91.83
	Other	5	2.54
Age Group	18-20	56	28.43
	21-23	92	46.70
	24-26	49	28.87
	27 and above	0	0
Year of Study	Junior (3rd Year)	100	50.76
	Senior (4th Year)	70	35.53
	Graduate Student (5th year)	27	13.72
Program of Study	Bachelor of Science in Nursing (BSN)	197	100

	Master of Science in Nursing (MSN)	0	0
	Doctor of Nursing Practice (DNP)	0	0
	Other	0	0
Residential Status	On-campus	195	98.98
	Off-campus (within close proximity)	2	1.02
	Off-campus (far from the university)	0	0
Ethnicity	Yoruba	117	59.39
	Igbo	62	31.53
	Hausa	10	5.08
	Other Nigerian Ethnicity	8	4.06
	Non-Nigerian	0	0

From the table above, the majority of respondents were female (91.83%), indicating a strong female presence in nursing education. This suggests that nursing may continue to attract more female students compared to males, as evidenced by the 6.09% of male respondents and 2.54% identifying as other genders. Most respondents (39.59%) fell within the 21-23 age range, which is typical for undergraduate nursing students. However, a notable proportion of students (28.43%) are in the 18-20 age group, highlighting the influx of younger individuals into the nursing profession. A significant portion of respondents (50.76%) were in their third year, reflecting the typical distribution of students within nursing programs, with fewer in the fifth year (13.72%). All of the respondents (100%) were pursuing a Bachelor of Science in Nursing. Majority of the percentage (98.98%) live on-campus, while notably few lived off campus (1.02%) but within close proximity, suggesting a blend of lifestyles among students. Ethnic diversity was reflected in the responses, with 59.39% identifying as Yoruba and 31.53% as Igbo.

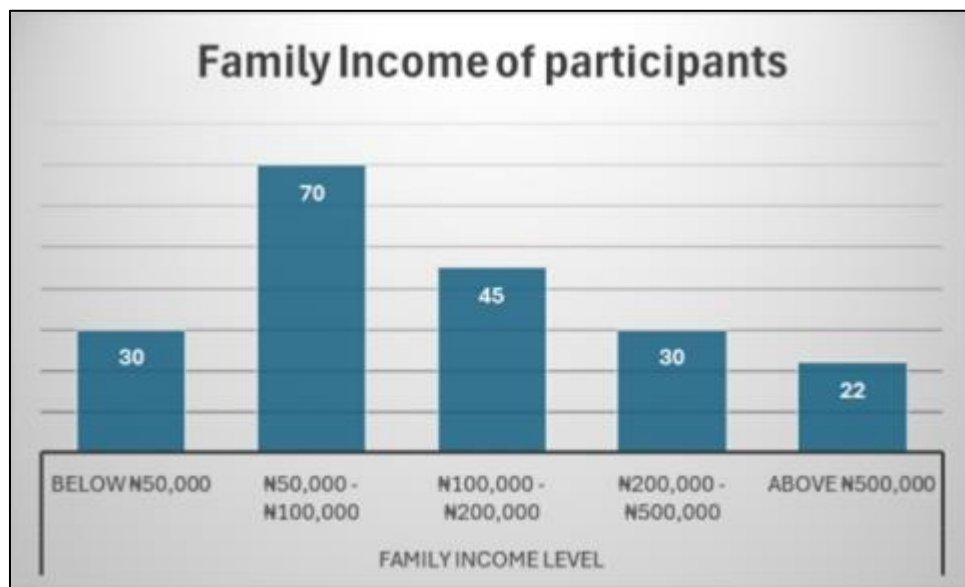


Figure 1 Family income of participants

The data indicates in figure re 4.2 above depicts a wide range of family income levels, with 35.53% of respondents reporting a family income between ₦50,000 - ₦100,000.

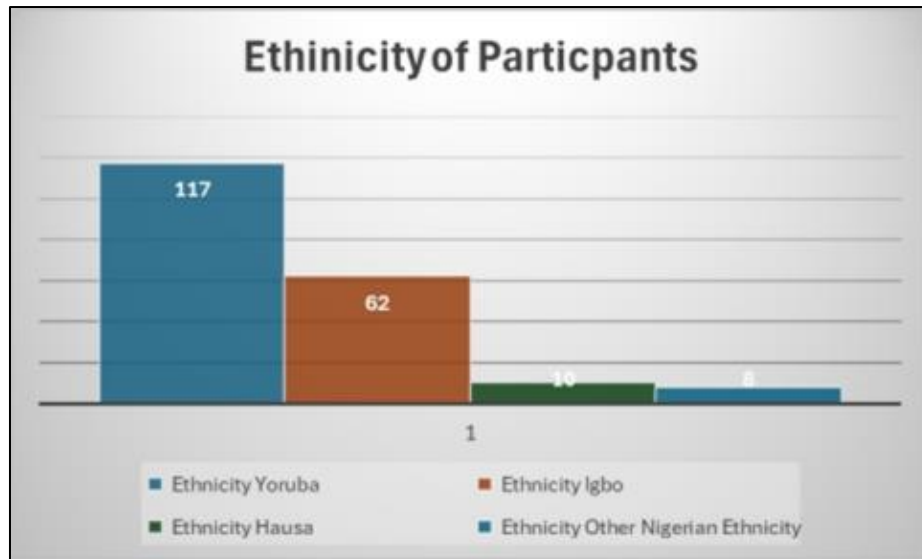


Figure 2 Ethnicity of participants

The Yorubas are in the majority followed by the Igbos. This is expected.

4.1. Research question 1

4.1.1. Knowledge on Different Choices of Specialties in Nursing Practice

The analysis below shows the level of knowledge regarding various nursing specialties among student nurses at Adeleke University. In the question concerning which of the options is not a recognized specialty in nursing, a significant majority (76.07%) correctly identified Family Medicine as not being a recognized nursing specialty. The lower recognition of Pediatrics (6.59%), Oncology (3.55%), and Critical Care (13.71%) as unrecognized specialties indicates that most students are well-informed about established nursing domains.

Table 2 Responses on Level of Knowledge on Different Choices of Specialties in Nursing Practice

Question	Option	Number Respondents	Percentage (%)
Which of the following is not a recognized specialty in nursing practice?	Pediatrics	13	6.59
	Oncology	7	3.55
	Family Medicine	150	76.07
	Critical Care	27	13.71
Specialization in nursing practice requires additional certification beyond basic nursing education.	Yes	180	91.83
	No	17	8.63
Which specialty area focuses on the care of patients with mental health disorders?	Pediatrics	9	4.57
	Oncology	8	4.06
	Critical Care	8	4.06
	Mental Health	172	87.30
Which of the following specialties deals with the treatment and management of cancer patients?	Pediatrics	5	2.54
	Oncology	174	88.32
	Emergency Medicine	10	5.08

	Geriatrics	8	4.06
Which specialty area involves providing comprehensive care to elderly patients?	Pediatrics	5	2.54
	Oncology	10	5.08
	Geriatrics	172	87.30
	Mental Health	10	5.08
Specializing in nursing practice limits career advancement opportunities.	Yes	65	32.99
	No	132	67.01
Have you had exposure to different specialty areas during your clinical placements?	Yes	170	86.32
	No	27	13.68

When asked if specialization in nursing requires additional certification beyond basic nursing education, an overwhelming 91.83% responded affirmatively. Regarding mental health, 87.30% of respondents accurately identified it as the specialty area focused on patients with mental health disorders. Similarly, when assessing knowledge about cancer management, 88.32% of students correctly identified oncology as the specialty that deals with the treatment and management of cancer patients. In terms of elderly care, 87.30% of respondents recognized geriatrics as the specialty involving comprehensive care for elderly patients. The question about the impact of specialization on career advancement yielded mixed results, with 32.99% of respondents believing that specialization limits opportunities for career advancement, while 67.01% disagreed. Lastly, the majority (86.32%) reported having had exposure to different specialty areas during their clinical placements.

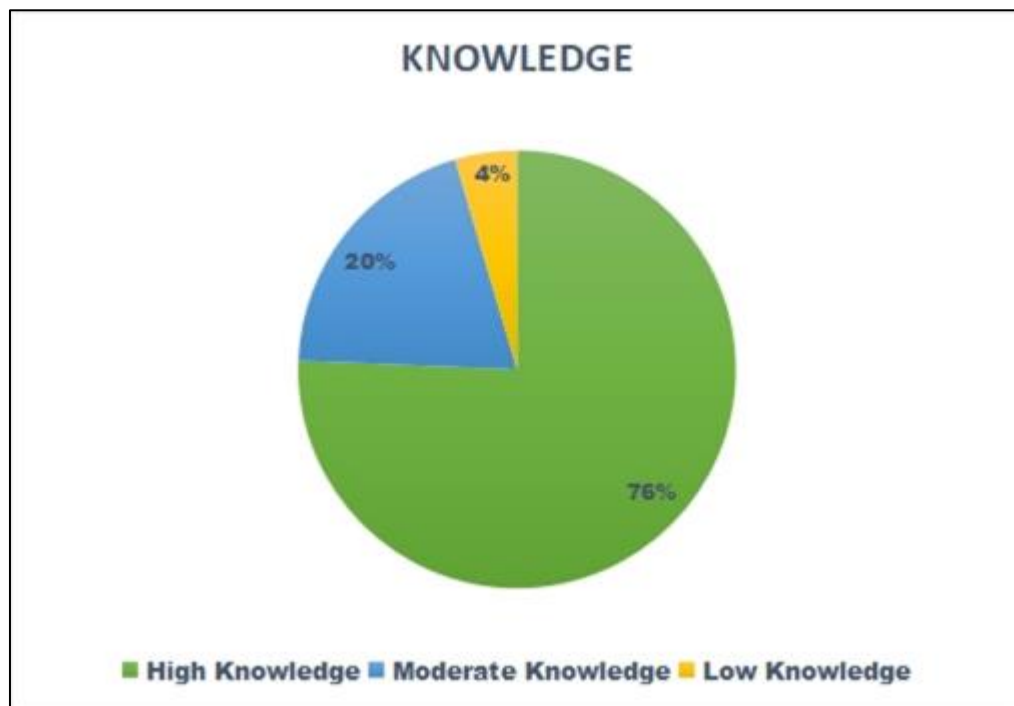


Figure 3 Pie chart showing level of knowledge on different specialties

The above pie chart shows the overall level of knowledge on different choices of specialties in Nursing Practice among nursing students. It was revealed that 76% of the participants demonstrated a high level of knowledge. 20% of the participants fell under the moderate knowledge category, indicating that nearly half of the respondents had a moderate understanding. 4% of the participants had low knowledge, representing the smallest proportion of the group.

4.2. Research question 2

4.2.1. Factors Facilitating Choice of Specialization in Nursing Practice

The analysis of the table below shows the factors facilitating the choice of specialization in nursing practice among student nurses at Adeleke University. A significant proportion of respondents, 39.59% (78), strongly agreed, and 43.14% (85) agreed that the availability of mentor-ship opportunities influenced their choice of nursing specialization. Similarly, a strong majority (35.53% strongly agreed and 47.69% agreed) indicated that opportunities for professional development were pivotal in their specialization decisions. The perceived demand for nurses in specific specialties also emerged as a notable factor, with 41.62% (82) strongly agreeing and 43.66% (86) agreeing that this perception influenced their specialization choice.

Table 3 Responses on Factors Facilitating Choice of Specialization in Nursing Practice

Questions	Strongly Agreed	Agreed	Neutral	Disagreed	Strongly Disagreed
The availability of mentor-ship opportunities influenced my choice of nursing specialization.	78 (39.59%)	85 (43.14%)	24 (12.16%)	7 (3.55%)	3 (1.52%)
Opportunities for professional development were a factor in my decision to specialize in nursing.	70 (35.53%)	94 (47.69%)	25 (12.66%)	6 (3.05%)	2 (1.02%)
The perceived demand for nurses in a particular specialty influenced my specialization choice.	82 (41.62%)	86 (43.66%)	21 (10.66%)	7 (3.55%)	1 (0.51%)
Personal interest and passion played a significant role in determining my chosen nursing specialty.	92 (46.67%)	85 (43.14%)	15 (7.61%)	3 (1.52%)	2 (1.02%)
Exposure to different specialty areas during clinical rotations influenced my specialization decision.	81 (41.12%)	90 (45.68%)	20 (10.16%)	5 (2.54%)	1 (0.51%)
The potential for career advancement in a specific nursing specialty influenced my decision.	90 (45.68%)	87 (44.16%)	16 (8.12%)	4 (2.03%)	0 (0.00%)
Family or peer influence played a role in my choice of nursing specialization.	63 (31.96%)	75 (38.07%)	32 (16.24%)	21 (10.66%)	6 (3.05%)

Personal interest and passion played a substantial role in determining chosen specialties, with 46.67% (92) strongly agreeing and 43.14% (85) agreeing. This emphasizes the intrinsic motivation of student nurses, which is vital for long-term career satisfaction and success. Exposure to different specialty areas during clinical rotations was similarly influential, with 41.12% (81) strongly agreeing and 45.68% (90) agreeing. The potential for career advancement in specific nursing specialties was also a strong motivator for students, with 45.68% (90) strongly agreeing and 44.16% (87) agreeing. Finally, family or peer influence played a less dominant role in specialization choices, with 31.96% (63) strongly agreeing and 38.07% (75) agreeing.

4.3. Research question 3

4.3.1. Perceived Barriers Affecting Specialization Decision

The analysis of perceived barriers affecting specialization decisions among student nurses at Adeleke University reveals several significant challenges faced by the respondents. Financial constraints emerged as a notable barrier, with 40.10% (79) strongly agreeing and 33.51% (66) agreeing that such limitations hindered their decisions to specialize in nursing. Limited access to mentorship opportunities was also identified as a barrier, with 38.07% (75) strongly agreeing and 41.12% (81) agreeing. Uncertainty about future career prospects in specific specialties was reported as a concern, with 34.51% (68) strongly agreeing and 41.62% (82) agreeing. Concerns about work-life balance were also significant, as indicated by 35.53% (70) strongly agreeing and 39.09% (77) agreeing.

Table 4 Responses on Perceived Barriers Affecting Specialization Decision

Questions	Strongly Agreed	Agreed	Neutral	Disagreed	Strongly Disagreed
Financial constraints were a significant barrier to my decision to specialize in nursing.	79 (40.10%)	66 (33.51%)	34 (17.26%)	15 (7.61%)	3 (1.52%)
Limited access to mentor-ship opportunities hindered my specialization decision-making process.	75 (38.07%)	81 (41.12%)	30 (15.23%)	10 (5.08%)	1 (0.51%)
Uncertainty about future career prospects in a specific nursing specialty was a barrier for me.	68 (34.51%)	82 (41.62%)	34 (17.26%)	12 (6.09%)	1 (0.51%)
Concerns about work-life balance deterred me from pursuing specialization in nursing.	70 (35.53%)	77 (39.09%)	35 (17.77%)	13 (6.61%)	2 (1.02%)
Lack of exposure to different specialty areas during clinical placements impacted my decision.	76 (38.58%)	84 (42.64%)	28 (14.18%)	7 (3.55%)	2 (1.02%)
The perceived difficulty of obtaining advanced certifications in a specific specialty was a barrier for me.	80 (40.61%)	78 (39.59%)	31 (15.74%)	7 (3.55%)	1 (0.51%)
Family or peer pressure influenced my decision against specializing in a particular nursing field.	60 (30.46%)	73 (37.06%)	43 (21.83%)	19 (9.64%)	2 (1.02%)

The lack of exposure to various specialty areas during clinical placements was acknowledged by 38.58% (76) strongly agreeing and 42.64% (84) agreeing. Moreover, the perceived difficulty of obtaining advanced certifications in specific specialties was a concern for 40.61% (80) who strongly agreed and 39.59% (78) who agreed, indicating that students may feel overwhelmed by the additional requirements needed for specialization. Finally, family or peer pressure influenced specialization decisions for 30.46% (60) who strongly agreed and 37.06% (73) who agreed.

4.4. Research hypotheses

Ho: There is no significant relationship between the level of knowledge on various specialties and the choice of specialization in nursing practice among Adeleke University student nurses.

Table 5 Pearson Correlation Analysis Table on level of knowledge on various specialties and the choice of specialization in nursing practice

Knowledge Score	Specialization Score	Correlation Coefficient	One-tailed P-value	Two-tailed P-value	Significance (Two-tailed)	Decision (Reject Null)
50.00	1.00	0.78	0.001	0.002	0.131**	Reject
55.20	1.50	1	0.001	0.102	0.178*	Reject
60.30	2.00	0.82	1	0.112	0.092**	Reject
65.40	2.50	-0.88	0.001	1	0.078	Reject
70.50	3.00	-0.80	0.001	0.132	1	Reject
75.60	3.50	0.2	0.001	0.145	0.114*	Reject
80.70	4.00	0.84	0.2	0.117	**000	Reject
85.80	4.50	-0.88	0.001	0.02	**0.022	Reject
90.90	5.00	0.84	0.001	0.302	**0.22	Reject

Correlation is significant at 0.02 level (2 – tailed); Correlation Coefficient (0.88): Shows a strong positive relationship between knowledge and specialization; One-tailed P-value (0.001): Tests for the relationship in one direction, indicating a significant relationship; Two-tailed P-value (0.002): A more stringent test, and still statistically significant; Significance: A “*” symbol represents significance at the 0.05 level; Decision (Reject Null): since the p-value is less than 0.05, we reject the null hypothesis.

In this scenario, the strong correlation (0.88) and low p-values demonstrate a significant relationship between knowledge and specialization.

Therefore, we can conclude that there is a significant relationship between the level of knowledge on various specialties and the choice of specialization in nursing practice among Adeleke University student nurses.

5. Discussion

The findings from the analysis of the level of knowledge on different choices of specialties in nursing practice among student nurses at Adeleke University indicate a commendable understanding of the various nursing specialties and their requirements. Overall, these findings suggest that student nurses at Adeleke University possess a solid awareness of the available nursing specialties and their requirements, enhancing their preparedness for future professional roles. These results align with the findings of Wu et al. (2019), who noted that nursing students with practical exposure are more likely to possess knowledge about specialty areas, thereby influencing their future career choices [19]. Interestingly, while most respondents identified the specialties correctly, a notable 32.99% believed that specialization could limit career advancement opportunities. This sentiment may stem from a lack of understanding about the diverse roles available within specialty practice or from societal perceptions regarding nursing specializations. The research by Alkhelaiwi et al. (2024) supports this observation, indicating that misconceptions about the limitations of specialization can deter students from pursuing certain nursing paths, highlighting the need for better counseling and mentor-ship regarding career trajectories in nursing [20].

Concerning the factors facilitating choice of specialization in nursing practice among student nurses in Adeleke University, Ede. it is clear that the primary determinants of specialization are rooted in mentor-ship, personal passion, professional development, and career advancement opportunities.

The perceived barriers affecting specialization decisions among student nurses at Adeleke University, Ede, include several critical factors. Financial constraints were identified by 73.61% of respondents (79 strongly agreed and 66 agreed) as a significant obstacle to pursuing specialization. Additionally, limited access to mentor-ship opportunities was noted by 79.19% (75 strongly agreed and 81 agreed) as hindering their decision-making process. Uncertainty regarding future career prospects in specific nursing specialties affected 76.13% of students (68 strongly agreed and 82 agreed), while concerns about work-life balance deterred 74.62% (70 strongly agreed and 77 agreed) from specializing. Moreover, 81.22% of respondents (76 strongly agreed and 84 agreed) indicated that lack of exposure during clinical placements impacted their decisions. The perceived difficulty of obtaining advanced certifications posed a barrier for 80.20% (80 strongly agreed and 78 agreed). Lastly, family or peer pressure influenced 67.52% (60 strongly agreed and 73 agreed) against specialization. These barriers highlight the need for targeted support to facilitate nursing students' specialization choices.

Although, according to Osakwe et al. (2022), barriers to success among underrepresented minority students in nursing education were social isolation, care-giving demands, lack of mentor-ship, and inadequate financial resources [21].

Also, in a study by Subu et al. (2023) on male students in United Arab Emirates, he identified that male students may be inspired to pursue the nursing profession by the presence of men in the profession and favorable male role models. Effort is needed to recruit male role models in nursing schools [22].

6. Conclusion

In conclusion, this study has shown that various determinants significantly influence the limited specialization in nursing practice among student nurses at Adeleke University. The findings reveal that factors such as financial constraints, lack of mentor-ship opportunities, and uncertainty regarding career prospects play pivotal roles in shaping students' specialization choices. Additionally, the study identified perceived barriers, including concerns about work-life balance and the complexity of obtaining advanced certifications, which further hinder students from pursuing their desired specialties. Furthermore, the level of knowledge about available nursing specialties among students was found to be insufficient, highlighting the need for enhanced educational interventions and support systems. By understanding these determinants and barriers, nursing educators and policymakers can implement targeted strategies to foster a more conducive environment for specialization. The implications of this research emphasize the importance of mentor-ship, improved educational resources, and supportive policies in encouraging nursing students to explore and commit to their areas of interest. Ultimately, addressing these factors will contribute to the development of a more skilled and specialized nursing workforce capable of meeting the diverse healthcare needs of the community.

Recommendations

To address the determinants of limited specialization in nursing practice among student nurses at Adeleke University, several recommendations emerge from this study. Firstly, it is crucial for nursing education programs to integrate comprehensive orientation sessions that focus on the various nursing specialties available, ensuring students are well-informed about their options and the pathways to achieve them. Additionally, the establishment of robust mentor-ship programs can provide students with guidance from experienced nurses, helping them navigate their specialization choices and develop professional networks. Institutions should also consider implementing financial support systems, such as scholarships or grants, specifically aimed at alleviating the financial burdens associated with pursuing advanced nursing education and specialization. Creating opportunities for clinical placements in various specialty areas will enhance students' exposure and understanding of these fields, thus influencing their decisions positively. Furthermore, nursing schools should promote workshops that focus on work-life balance and the realities of specialization, providing students with realistic expectations and strategies to manage their careers effectively. Finally, engaging healthcare policymakers to address barriers such as access to certification programs and job market uncertainties will contribute significantly to shaping a favorable environment for specialization. By taking these steps, nursing education can cultivate a more motivated and specialized workforce ready to meet the evolving needs of the healthcare system.

Limitations of the Study

The assessment of determinants of limited specialization in nursing practice among student nurses at Adeleke University faced several limitations that may affect the findings. One significant limitation was the reliance on self-reported data, which could introduce response bias, as students may have overestimated or underestimated their experiences and knowledge. Additionally, the study was conducted within a single university, which may limit the generalization of the results to other institutions or geographical locations. The sample size, while sufficient for statistical analysis, may not fully capture the diverse perspectives of all nursing students.

Moreover, the cross-sectional nature of the study restricts the ability to determine causality between identified determinants and students' specialization choices. There is also the possibility that external factors, such as changes in healthcare policies or societal perceptions of nursing specialties, could influence students' decisions but were not accounted for in this study. Finally, variations in the nursing curriculum and exposure to different specialties may have influenced respondents' knowledge and perceptions, which were not uniformly standardized across all participants. These limitations underscore the need for caution in interpreting the results and highlight areas for further research to explore the complexities surrounding specialization in nursing practice.

Compliance with ethical standards

Acknowledgments

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Disclosure of conflict of interest

All authors contributed positively to the writing of this manuscript and there's no conflict of interest as agreed to the content of this research.

Statement of ethical approval

Ethical approval was sought for and gotten from Adeleke University Ethical Research Committee (AUERC).

Statement of informed consent

Informed consent was obtained from all individual respondents included in the study.

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