ORIGINAL ARTICLE

A Quantitative Study on Clinical Performance Factors Among Nursing Students in A Malaysian Teaching Hospital

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ABSTRACT

Introduction: Nursing students frequently struggle with insufficient faculty support, inadequate clinical environments, and personal challenges, which significantly hinder their clinical performance. Addressing these barriers through improved communication, enhanced support structures, and better clinical settings is essential to optimize their learning and professional growth. **Method:** This cross-sectional study used a questionnaire to assess socio-demographic data and performance-influencing factors such as student traits, Clinical Nursing Instructor (CNIs) influence, and clinical ward ambiance through convenience sampling. Data was analyzed using SPSS version 20. **Results**: Chi-square analysis showed that significant barriers to effective clinical performance include students' lack of confidence, practice, communication with staff nurses, anxiety, and exhaustion. Inadequate clinical environments, such as a shortage of CNIs and their negative attitudes, also impeded performance. Younger students and those in earlier years reported more anxiety due to inexperience and fear of errors. Additionally, students felt exhausted from balancing clinical placements with theory classes. **Conclusion**: Addressing these challenges necessitates concerted efforts to enhance collaboration and communication between nursing educators and ward staff, thus optimizing students' clinical performance.

Malaysian Journal of Medicine and Health Sciences (2025) 21(SUPP6):170-174. doi:10.47836/mjmhs.21.s6.29

Keywords: clinical nursing instructor, clinical performance, clinical experience, nursing students, clinical environment

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INTRODUCTION

Although Malaysian nursing education implements several evaluation methods to evaluate student learning and instructional effectiveness, it is necessary to assess the efficacy of these approaches in measuring students' clinical competence and reasoning abilities. More precisely, the difficulty is in guaranteeing that the feedback and evaluation procedures are constructive and actively contribute to significant enhancement in the clinical performance and professional growth of students. The present assessment methods lack a comprehensive understanding of their impact on developing the necessary skills and improving the overall quality of nursing education. Clinical training determines the students' level of competency and apply clinical reasoning in order to become a professional nurse (1). The evaluation of competence can be used to examine the clinical performance of students and determine their capacity to effectively display their professional learning and abilities (2). Constructive feedback and evaluation are crucial in promoting ongoing improvement during the learning process(3). In Malaysia, nursing education employs various assessment

methods to gauge student learning and teaching effectiveness (4). Formative assessments, such as simulations, case studies, and quizzes, serve to evaluate students' clinical performance and provide them with valuable feedback for improvement (5). Conversely, summative assessments, including written tests and objective structured clinical examinations (OSCEs) or practical examinations (OSPEs), assess students' overall knowledge and skills at the conclusion of a semester(6). Formative assessment that applies to students' clinical performance during clinical practice can be assessed through skill based, case study, portfolio, clinical examination and supervisor's evaluation (7). Challenges in clinical postings extend beyond individual stressors and include broader issues such as communication breakdowns, inadequate readiness, and emotional reactions (7–9). These challenges may impede students' abilities to receive adequate guidance and constructive feedback from clinical instructors, ultimately affecting their overall learning experience (10–13). Thus, it is crucial to identify both facilitators and barriers in clinical practice to enhance students' performance.

METHODS

A cross-sectional study was conducted among nursing students who were taking part in clinical placement at Hospital Tengku Ampuan Afzan, Sultan Alam Shah Medical Centre (SASMEC) and community health clinic using a convenience sample. The study was conducted in accordance with the STrengthening the Reporting of OBservational studies in Epidemiology (STROBE) checklist and the Declaration of Helsinki. Prior to participation, all subjects and/or their legal guardians provided informed consent. The survey data was treated confidentially, and the anonymity of respondents was maintained throughout the study. At IIUM, nursing students are divided into four years, from Year 1 to Year 4. To be included in the study, students must have been enrolled in clinical practicum for at least four weeks during their study period and have voluntarily agreed to participate in the survey. Hence, students from all years of study were included in the study, except for those in Year 1. The collected data was then analyzed using the Statistical Package for the Social Sciences (SPSS) Version 20. The questionnaire was adapted from The Nursing Clinical Teacher Effectiveness Inventory (NCTEI) developed by Knox and Morgan (1987). Pilot study was conducted among 30 nursing students who are not involved in this present study. A Cronbach's alpha value ranging between 0.75 and 0.95 for each section indicates strong internal consistency. The questionnaire was sent to two experts for their review to ensure the content is valid and correction was done accordingly. Data was analyzed using SPSS 20.0. Demographic data were examined using frequencies and percentages. Factors related to effective clinical practice, cause and measure to reduce anxiety, and clinical nurse instructors' and ward related factors were analyzed and presented using frequency and percentage. The association between demographic characteristics, clinical placement experience, and mean scores was assessed using appropriate statistical tests, such Chi-square test. This study was approved by the Kulliyyah of Nursing Post Graduate Research Committee (IIUM/313/14/3/1) and IIUM Research Ethics Committee (IREC 2021-KON/54).

RESULTS

Sociodemographic characteristics of participants

A total of 178 undergraduate nursing students participated in this study, yielding a response rate of 100%. Table I illustrates that the participants' ages ranged between 21 and 25 years, with a mean age of 22.54±1.036.

Table I: Socio demography of the participants (n=178)

	Variables	Frequency (n)	Percentage (%)
Age	20-21	36	20.2
	22-23	109	61.3
	24-25	33	18.5
Gender	Male	35	19.7
	Female	143	80.3
Year of study	Year 2	37	20.8
	Year 3	53	29.8
	Year 4 Semester 1	18	10.1
	Year 4 Semester 2	70	39.3
Cumulative Grade Point Average (CGPA)	2.1--3.0	10	5.6
	3.1-4.0	168	94.4

Clinical Wards' Related Factors

The percentage of students who agreed ranged from 87 (41%) to 113 (64%) regarding factors identified as affecting their performance. These factors included a shortage of clinical staff, staff permitting students to perform tasks during clinical practice, receiving positive encouragement from staff nurses for performing procedures, a limited number of teaching staff assigned by the faculty for preceptorship, and a lack of equipment for performing procedures. The students found themselves in challenging situations where they had to balance their clinical objectives while navigating staff expectations (refer Table II).

Type of barriers

A significant association was found between the type of barriers and the year of study (p=0.025) as shown in Table III. The primary barriers affecting their performance were a lack of communication and supervision, particularly among students in earlier years, compared to third-year students.

Table II: Clinical nurse instructors' and ward related factors (n=178)

Clinical nurse instructors' factors	Agree		Neutral		Disagree	
	n	%	n	%	n	%
1. Oriented to objectives of clinical practice	112	62.9	33	18.5	33	18.6
2. Spent enough time at clinical	96	53.9	46	25.8	36	20.2
3. Planning bedside teaching	111	62.3	31	17.4	36	20.2
4. Demonstrate skills or procedure during clinical practice	111	62.4	35	19.7	32	17.9
5. Integrate theory in treatment plan	112	62.9	36	20.2	30	16.9
6. Maintain professional relationship with students	113	63.5	31	17.4	34	19.1
7. Provides frequent feedback on students' performance	110	61.7	31	17.4	37	20.8
8. Concern on students learning and competency	118	66.2	23	12.9	37	20.8
9. Approachable and friendly	124	69.7	16	9	38	21.3
Clinical ward related factors						
1. Shortage of staff	105	59	52	28.7	22	12.4
2. Lack of equipment for performing procedures	87	40.9	40	22.5	51	28.6
3. Lack of teaching from staff nurse	99	55.7	42	23.6	37	20.8
4. Inadequate number of patients	84	47.2	44	24.7	50	28.1
5. Positive encouragement from staff nurse in performing procedure	99	55.6	44	24.7	35	19.7
6. Staff allow students to perform task during clinical practice	113	63.5	32	18	33	18.6
7. Staff monitor students throughout the clinical placement	90	50.5	39	21.9	49	27.5
8. Take advantage on students present	99	55.6	36	20.2	43	24.2

Students' perception of factors inhibits effective clinical practice performance.

The findings of this study unveiled significant associations between age (p=0.005) and year of study (p=0.001) with students' perceptions of factors hindering effective clinical practice performance. Specifically, respondents aged 20-23, representing second and third-year students, reported exhaustion due to simultaneous classes and clinical postings on the same day as the primary factors inhibiting effective clinical practice performance as in Table IV.

Causes of Anxiety During Clinical Practice

This study revealed that age (p=0.001) and year of study (p=0.000) are significantly correlated with anxiety triggers, as shown in Table V.

Table III: Association between socio-demographic characteristics and the barriers of good

Variables	Types of Barriers of good performance				p values*
	Lack of communication	Lack of supervision	CNIs not prepared	Difficult to adapt	
Age					
20-21	29 (87.9)	19 (57.6)	5(15.2)	17 (51.5)	
22-23	93(87.7)	74 (69.8)	22 (20.8)	63 (59.4)	0.543
24-25	31 (93.9)	23 (69.7)	8 (24.2)	24 (72.7)	
Gender					
Female	125 (89.9)	91 (65.5)	24 (17.3)	87 (62.6)	0.107
Male	28 (84.8)	25 (75.8)	11(33.3)	17 (51.5)	
Year of study					
Year 2	30 (88.2)	19 (55.9)	5 (14.7)	17 (50.0)	0.025
Year 3	39 (78.0)	29 (58.0)	12 (24.0)	32 (64.0)	
Year 4, Sem 1	17 (94.4)	13 (72.2)	2 (11.1)	13 (72.2)	
Year 4, Sem 2	67 (95.7)	55 (78.6)	16 (22.9)	42 (60.0)	
CGPA					
2.1-3. 0	9 (100.0)	4 (44.4)	1 (11.1)	5 (55.6)	0.398
3.1-4. 0	144 (88.3)	112 (68.7)	34 (20.9)	99 (60.7)	

Chi-square p- value of ≤0.050

Table IV: Association between socio-demographic characteristics and students' factors

Variables	Students' factors				p values*
	Having classes and clinical same day	Perform certain procedure	Lack of interest	Lack of practice	
Age					
20-21	31 (86.1)	15 (41.7)	12 (33.3)	25 (69.4)	0.005
22-23	97 (89.0)	71 (65.1)	63 (57.8)	85 (78. 0)	
24-25	31 (93.9)	27(81.8)	20 (60.6)	25 (75.8)	
Gender					
Female	130 (90.0)	93 (65.0)	76 (53.1)	107 (74.8)	0.542
Male	29 (82.9)	76 (53.1)	19 (54.3)	28 (80.0)	
Year of study					
Year 2	31 (83.8)	15 (40.5)	12 (32.4)	26 (70.3)	0.001
Year 3	49 (92.5)	30 (56.6)	27 (50.9)	42 (79.2)	
Year 4, Sem 1	17 (94.4)	11 (61.1)	9 (50.0)	14 (77.8)	
Year 4, Sem 2	62 (88.6)	57 (81.4)	47 (67.1)	53 (75.7)	
CGPA					
2.1-3. 0	7 (70.0)	5 (50.0)	6 (60.0)	10 (100.0)	0. 074
3.1-4.0	152 (90.5)	108 (64.3)	89 (53. 0)	125 (74.4)	

Chi-square p- value of ≤0.050

DISCUSSION

Student-related factors including lack of confidence, absenteeism, dangerous practices, and overconfidence, impeded successful practice. The most frequently mentioned obstacle, indicated by 97.8% of participants, was a notable lack of self-assurance, which aligns with prior studies (11, 12, 13). In addition, a large number of students (n=153) reported feeling exhausted from balancing multiple classes and clinical placements

Table V: Association between socio-demographic characteristics and causes of anxiety in clinical practice

Variables	Causes of anxiety				p values*
	Fear making mistakes	Lack of competency	Lack of clinical experience	Fear of clinical environment	
Age					
20-21	35 (97.2)	15 (41.7)	22 (61.1)	11 (30.6)	0.001
22-23	103 (94.5)	79 (72.5)	70 (64.2)	58 (53.2)	
24-25	28 (84.8)	26 (78.8)	22 (66.7)	19 (57.6)	
Gender					
Female	133 (93.0)	93 (65.0)	89 (62.2)	68 (47.6)	0.404
Male	33 (94.3)	27 (77.1)	25 (71.4)	20 (57.1)	
Year of study					
Year 2	35 (94.6)	16 (43.2)	22 (59.5)	11 (29.7)	0
Year 3	50 (94.3)	31 (58.5)	33 (63.3)	32 (60.4)	
Year 4, Sem 1	18 (100.0)	16 (88.9)	14 (77.8)	13 (72.2)	
Year 4, Sem 2	63 (90.0)	57 (81.4)	45 (64.3)	32 (45.7)	
CGPA					
2.1-3. 0	9 (90.0)	6 (60.0)	5 (50.0)	5 (50.0)	0.852
3.1-4.0	157 (93.5)	114 (67.9)	109 (64.9)	83 (49.4)	

Chi-square p- value of ≤0.050

simultaneously. Furthermore, a significant obstacle identified by students (n=135) was the inadequate preparation before entering the clinical setting, which might hinder their learning processes and heighten anxiety (15). The most reported barriers were poor communication between students and staff and difficulty adapting to different wards setting, as reported by 58.4% of participants. Similarly, a study (16) in Turkey, found that 68% of nursing students experienced communication difficulties with staff nurses. Students are often assigned tasks unrelated to their studies, such as running errands or escorting patients to various facilities. Many nursing students reported that communication challenges during clinical practice decreased their self-confidence and make it harder to adapt to the clinical setting(16).

Research has indicated that students who receive sufficient supervision demonstrate significantly improved proficiency, with roughly twice the likelihood of success compared to those without support (AOR=2.064, 95% CI 1.042, 3.694) (17). Insufficient dedication from clinical nursing instructors (CNIs) can impede students' ability to practise independently and intensify anxiety. Several studies have highlighted clinical instructors exert a significant influence on the clinical practice competency of students (18). More than half of the respondents, specifically 96 students (53.9%), agreed that CNIs should dedicate more time to the clinical area to ensure effective student training. A previous study found that (19) both students and instructors view bedside teaching as an effective method for enhancing students' clinical competence and communication skills. In addition, CNIs observed that bedside teaching allows them to serve as role models for students, while patient also benefit by gaining knowledge about their condition. Clinical nurse instructors who show a lack of concern may cause students to hesitate in asking questions, and causing them to feel isolated and disengaged from the learning session (20). A supportive educational atmosphere has a substantial impact on the student academic achievements. Factors in the clinical ward that were reported to affect performance included staff shortage, unfavourable staff attitudes towards students, and a lack of teaching opportunities, which aligns with a prior study (21). The most commonly cited issues affecting nursing students' clinical performance in this study were negative staff attitude, such as withholding teaching opportunities and not permitting students to perform certain procedures. A majority students (63.5%, n=13)) agreed that providing them with opportunities to execute tasks during clinical practice can be a facilitating element for their success. Supportive relationship with students has been used to enhance student confidence in clinical wards, especially among first- and second-year students(20). A study by (22) noted that incorporating students in ward activities can effectively prepare them for their future nursing careers. Effective collaboration between nursing educators and staff nurses is crucial for addressing these challenges(23). The study was conducted amidst the COVID-19 pandemic, utilising an online questionnaire, which may have influenced the data collection process. Thus, may not be generalizable to all nursing students nationwide. Additionally, limitations in methodology or sample size could have affected the study's results, and further research with larger samples and more comprehensive assessments may be necessary to understand the relationship fully.

CONCLUSION

In conclusion, various factors influence nursing students' clinical practice, including issues related to CNI, clinical ward conditions, and student-related challenges. To address these issues, it is essential to improved supervision, enhance collaboration between educators and staff nurses, and develop effective clinical protocols. Strengthening support structures and refining educational practices are imperative for cultivating an environment that supports performance during clinical placement.

ACKNOWLEDGEMENT

Special thanks to the participants for providing the necessary data for this research.

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