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Correlation between Academic achievement, Clinical Performance and Clinical Competency in Midwifery

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Abstract

Background: Academic achievement represents an individual's theoretical or cognitive understanding. The practical examination is a systematic method of evaluating clinical performance in the clinical area. However, it has been the last two decades that there has been a shift towards Competency-based education practices. Competencies are now defined as the ability of an individual to execute a task, which can be both cognitive and practical,among the other traits.

Methodology: A correlational study was undertaken among nursing students in a selected Institute. There were 45 nursing students chosen using the purposive sampling method for the study. Researchers used a clinical competency-based evaluation tool for midwives, combined with previously obtained theory and practical University marks, to collect data. Karl Pearson's product-moment correlation was used to compute the relationship between three variables. Tables and figures were then used to arrange and display the resulting data.

Results: The findings revealed a moderate positive correlation between academic achievement and clinical performance, a weak positive Correlation between academic achievement and Competency scores, and a weak positive correlation between Clinical Performance and Competency scores. With the routine assessment of theory and practical assessment, opportunities are to be created for competency assessment, for the world needs competent midwives rather than just qualified midwives.

Keywords: Correlation, academic achievement, clinical performance, Competency, Midwives

Introduction

The nursing and Midwifery workforce occupy the most considerable portion of the health sector. Appropriate education is the key to bringing in the quality workforce into practice. It is not just the number that matters, but what matters most is the practicing member. Is the member trained enough? Does the member know? Can the member do the skills expected? Is the member competent? If the answer to these questions is "yes," we know education serves the demand.

There is a shortage of Nursing and Midwifery workforce throughout the globe. The world will have six million nursing, and midwifery vacancies by 2030.[1] The pandemic has further made the situation even more challenging far beyond expectations[1]So there is a serious problem soon. The emerging challenges in the health sector require well-prepared Nurses and Midwives. While collaboration is warranted from the highest councils to the local associations to work towards the mission of clinical education, efforts can be taken at individual institution levels too .[2]

Moreover, new graduates find it very challenging to practice in the new environment.[3]Here, we need to think about what makes the recent graduates fail when posted at work post-registration and course completion?

Education for a time long centered around the "Cognitive domain."Nurse-Midwifery is a skill-based entity where skills are as essential as the knowledge gained. Knowledge and skill are not independent; the underlying ability allows an individual to perform a skill. They go hand in hand. Now it is not just enough to "know something" or "do something."It is significant for nurse-midwives to complete a task ensuring safe practice, which is competence—being competent houses both being knowledgeable and being skillful.

Our assessment patterns about the "Cognitive domain" are usually paper and pen-based University-based question paper examinations. For the "psychomotor domain," the assessments on a more extensive run are through two evaluator-based practical exams. A candidate clearing these assessments completes a series of years of study and the course. A "pass" in the final years theory and practical test declares the candidate" Qualified Nurse Midwife," which gives wings to practice. However, the question is, are these Nurse-Midwives ready for safe practice? Is there something beyond theory and practicals which should be looked upon? This study strives to determine the relationship between academic achievement, clinical performance, and clinical competence.

Statement of the Problem

"A study to assess the correlation between academic achievement, clinical performance and clinical competency scores in Midwifery among final year undergraduate Nurse-Midwifery students in a selected institution, Bengaluru."

Objectives

- To assess academic achievement, clinical performance, and clinical competency scores in Midwifery among final year undergraduate Nurse-Midwifery students.
- To assess the correlation between academic achievement, clinical performance, and clinical competency scores in Midwifery among final-year undergraduate nurse-midwifery students.

Hypotheses

At 0.05 level of significance:

- **H_1:** there is a statistically significant correlation between academic achievement and clinical performance among final-year undergraduate nurse-midwifery students.
- **H_2:** there is a statistically significant correlation between academic achievement and clinical competency scores among final-year undergraduate nurse-midwifery students.
- **H_3:** there is a statistically significant correlation between clinical performance and clinical competency scores among final-year undergraduate nurse-midwifery students.

Operational Definitions

- **Academic achievement**: In this study, it refers to the knowledge gained by final-year undergraduate nurse-midwifery students as assessed using existing Theory University marks in Midwifery
- **Clinical Performance**: In this study, it refers to the practical skills gained by final-year undergraduate nurse-midwifery students as assessed using existing Practical University marks in Midwifery
- **Clinical Competency**: In this study, it refers to attributes in terms of cognitive or physical capability to perform tasks expected from an undergraduate nurse-midwife student at the point of course completion as listed and tested using a researcher prepared Midwifery Clinical Competency Based Assessment Tool.
- **Nurse-Midwifery Students**: In this study, it refers to pupils studying final year Basic BSc Nursing in a selected institution.

Methodology

A correlational study was conducted in a Nursing Institution. A sample of 45 Nurse-Midwifery students was selected using the purposive sampling technique. Data were collected using retrieved University mark sheets, and the researcher prepared Midwifery Clinical Competency-Based Assessment Tool. The retrieved university marks were the basis of academic achievement and clinical performance. The Midwifery Clinical Competency-based assessment tool was administered to the students to self-rate their competency at the point of final examination. The

collected data was analyzed using descriptive and inferential statistics. After that, the analyzed data was organized and presented in the form of tables and figures.

Ethical Considerations

- Ethical approval was obtained from the Institutional Ethical Committee of the institution
- Permissions were sought from the concerned authority of the Institution
- The participants were kept informed before consent was taken after assuring confidentiality and anonymity.

Result and Interpretation

- **Section 1: Sample characteristics of Nursing students.**

The mean age of the participants was 21.67, and all of them were females. The majority (80%) were Christians and interested in Midwifery(88.89%). A vast majority (93.33%) were satisfied with the supervision they received.

- **Section 2: Description of academic achievement, clinical performance, and clinical competency scores in Midwifery**

Table 1: Mean, Mean Percentage, Median, Mode, Range, and Interquartile range of academic achievement, clinical performance, and clinical competency scores in Midwifery. n=45

Variables	Max Score	Mean	Mean %	Median	Mode	Range	Interquartile range
Academic achievement	100	67.29	67.29%	67	69,63	54-85(31)	11.5
Clinical Performance	100	86.87	86.87%	86	85	94-82(12)	4
Competency Scores	405	298.44	73.68%	291	291	201-405(204)	63.5

Table 1 shows that the mean percentage was least for academic achievement (67.29%). The practical scores gained by students were highest (86.87%), constituting their clinical performance. The competency scores were in between the theory and functional scores.

- **Section 3:** Correlation between academic achievement, clinical performance, and clinical competency scores in Midwifery.

Table 2: Correlation between academic achievement, clinical performance, and clinical competency scores in Midwifery n=45

Correlation	Variables	Pearson Correlation Coefficient (r)	P-Value	Inference
Correlation between academic achievement and clinical performance	Academic Achievement Clinical Performance	0.716.	p<0.001	Moderate Positive Correlation (S*)
Correlation between academic achievement and Competency scores	Academic Achievement Competency scores	0.0556	0.7169	Weak positive Correlation (NS)
Correlation between Clinical Performance and Competency scores	Clinical Performance Competency scores	0.1748.	0.251	Weak Positive Correlation (NS)

The Karl Pearson correlation formula computed a moderate positive correlation between academic achievement and clinical performance (0.716). This translates that when academic achievement scores increase, the clinical performance scores also increase and vice versa. The same is demonstrated in the scatter plot in **Fig 1.** Hence the research hypothesis H1 is accepted, stating a statistically significant correlation between **academic achievement and clinical performance** among Nurse-Midwifery students.

A small positive correlation (0.0556) was found between **academic achievement and Competency scores** using the Karl Pearson correlation formula. The scatter plot in fig 2 mimics the same. The research hypothesis H2 was accepted, stating a statistically significant correlation between **academic achievement and Competency scores** among Nurse-Midwifery students.

The Karl Pearson correlation formula computed a weak positive correlation (0.1748) between **Clinical Performance and Competency scores**. Fig 3 represents the scatter plot demonstrating a correlation between **Clinical Performance and Competency scores**. Hence the research hypothesis H3 is accepted, stating a statistically significant correlation between **Clinical Performance and Competency scores** among Nurse-Midwifery students.

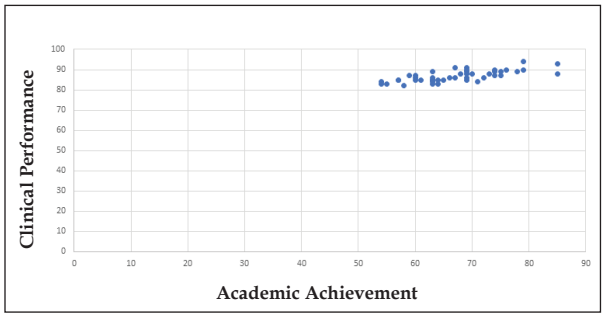

Fig 1: Scatter plot between Academic Achievement and Clinical Performance

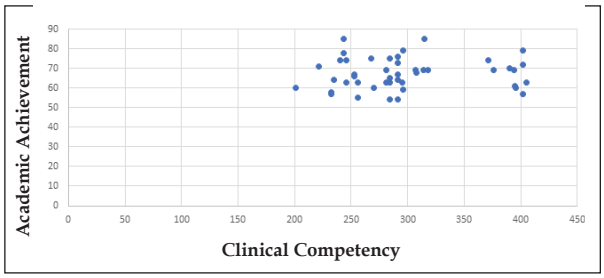

Fig 2: Scatter plot between Academic Achievement and Clinical Competency

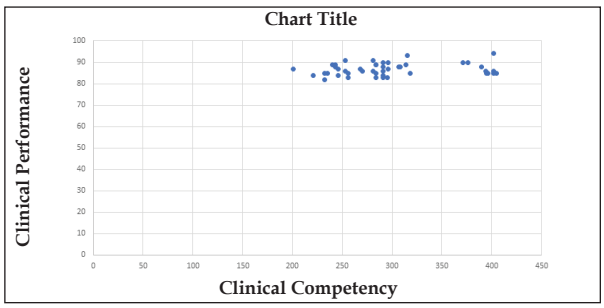

Fig 3: Scatter plot between Clinical Performance and Clinical Competency

Discussion

The study results depicted a statistically significant correlation between academic achievement and clinical performance. The same has been shown by a study conducted earlier[4]. Generally, it is assumed that students who perform well in class perform well in the clinical area. The underlying theory is what they bring out during practice. To do something, they should know something. The 'knowing' is enabled in classrooms and the 'doing' happens in the ward, aided with lab practice or simulated situations.

When analyzing the means of academic achievement and clinical performance, the academic achievement was lesser than the clinical performance. This shows that the participants were more clinically sound than their academic caliber. This finding contrasts with another study where academic performance dominates the clinical performance of candidates.[5]

From Time extended Nursing education stresses Clinical performance than classroom learning.[6]The fact can be thoroughly agreed that the cognitive domain cannot be neglected. After all, what the student learns in the classroom becomes the foundation for clinical practice.

A statistically non-significant weak positive correlation was computed between clinical competency, academic achievement, and clinical performance. The clinical performance of the participants was good, and the academic achievement was acceptable. The participants had comparatively less clinical competency than their clinical performance scores but higher than their academic achievement. The finding can be compared to the results of a Korean study which indicated that "students with high academic achievement have better clinical performance, but confidence in clinical performance is not related to academic achievement." [7]

The study was conducted during the pandemic, which greatly impacted the results. The low academic scores may be probably due to the students' online theory classes. The high clinical exposure in the Covid wards would have resulted in appreciatable clinical behavior, which also may be the reason for mediocre clinical competency in Midwifery.

Being good in the psychomotor domain did not ensure clinical competency, and being mediocre in academics does not provide clinical competency. Although it includes knowledge and skill, it is much

more complex than it seems. The scores in the study and the differences it possesses may also be due to factors like rater bias and differences, data collected using university retrieved scores, etc. Having a high clinical performance score does not ensure guaranteed clinical competency. When attempts made to answer why that happens? Studies have shown that clinical instructors report that only superficial surface learning occurs mainly in natural settings. Students study only for exams, and actual learning does not happen. [3]

A pass in theory and practical exams with/without decent scores does not ensure clinical competency. Clinical competency may be woven with the theory and practice but still a distinct entity. The profession does not just anticipate qualified Midwives but strives for competent midwives. This revolution should start with framing objectives ,the first component of education. An appropriate evaluation tool is just another cherry on the top.

Implications

Nurse-Midwifery is between a piece of knowledge and a skill-woven entity, every opportunity should be utilised to integrate theory into practice. The educators play a pivotal role in delivering the hospital in the classroom and vice versa. There is a tremendous responsibility on the educators' heads, hearts, and hands to mold the budding students into competent Nurse-midwives at least ready enough to practice safely. The education should be abreast with the current trends. Currently, it seems to be an era of competency education. The stakeholders governing Nurse-Midwifery education should work and support competency-based education at various levels. The Indian Nursing Council already sets the foundation in India; the rest lies in the hands of everyone who is a Nurse Midwife in practice, Research, Administration or education, or a combination.

Limitations

The study was limited to:

- Student nurse-midwives studying in a selected institution only.
- The small purposive sample
- The data collected from University records
- Clinical performance scores marked by the researcher as one of the practical exam evaluators.
- Midwifery Clinical competency scores as self rated by the participants themselves.

Recommendations

- A similar study with a larger sample can be conducted for generalization.
- Appropriate interventions can be devised, and their effects on academic achievement, clinical performance, and clinical competency can be evaluated.
- Comparative studies involving Nurse-Midwives across various levels like pre-registration, post-registration, post-one-year work practice, and so forth can be studied.
- Methodological studies involving tool development and psychometric testing can be devised to assess data regarding academic achievement, clinical performance, and clinical competency.

Conclusion

The study was conducted to assess the correlation between Midwifery related academic achievement, clinical performance, and clinical competency among Nurse-Midwifery students in a selected institution, Bengaluru. Though the study demonstrates a correlation between all the three variables, the intensity with which they are related differs. This warrants further intensive research and reckons the stakeholders to revisit components of Nurse-Midwifery education.

Ethical clearance - Taken

Source of funding - Self

Conflict of Interest - nil

References

1. World Health Organization (2020)State of the world's nursing 2020:investing in education ,jobs and leadership. Available at: https://www.who.int/publications-detail/nursing-report-2020.(Accessed 14 May 2020)
2. Lazenby M, Chambers S, Chyun D, Davidson P, Dithole K, Norman I, Tlou S. Clinical nursing and midwifery

education in the pandemic age. International Nursing Review. 2020 Sep;67(3):323-5.

3. Liou, S., Chang, C., Tsai, H.,& Cheng, C. The effects of a deliberate practice program on nursing students' perception of clinical competence: Nurse Education Today. 2013; 33: 358-363. PMid:22858306 http://dx.doi.org/10.1016/j.nedt.2012.07.007

4. Rheault W, Shafernich-Coulson E. Relationship between academic achievement and clinical performance in a physical therapy education program. Physical therapy. 1988 Mar 1;68(3):378-80.

5. Buhat-Mendoza DG, Mendoza JN, Tianela CT, Fabella EL. Correlation of the academic and clinical performance of Libyan nursing students. Journal of Nursing Education and Practice. 2014 Nov 1;4(11):82.

6. Gough HG, Hall WB. The prediction of academic and clinical performance in medical school. Research in Higher Education. 1975 Dec;3(4):301-14.

7. Kim HW, Kim MG. The relationship among academic achievement, clinical competence, and confidence in nursing students' clinical performance. The Journal of Korean Academic Society of Nursing Education. 2021;27(1):49-58.