

THE ASSOCIATION BETWEEN AGE, ACADEMIC PERFORMANCE AND ENGLISH PROFICIENCY WITH EVIDENCE-BASED PRACTICE KNOWLEDGE

Hubungan Antara Usia, Kemampuan Akademik dan Bahasa Inggris dengan Pengetahuan Terkait Evidence-Based Practice

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ABSTRAK

Evidence-based practice (EBP) merupakan salah satu kompetensi yang diperlukan oleh perawat dalam menerapkan asuhan keperawatan. Meskipun demikian, suatu studi menemukan bahwa perawat memiliki tingkat pengetahuan dan praktik EBP yang rendah. Oleh karena itu, pemahaman faktor-faktor yang mempengaruhi pengetahuan EBP mahasiswa keperawatan dapat menjadi salah satu strategi untuk meningkatkan kompetensi EBP mahasiswa keperawatan. Penelitian ini bertujuan untuk mengidentifikasi hubungan antara usia, kemampuan akademik dan bahasa Inggris dengan pengetahuan terkait evidence-based practice pada mahasiswa program profesi ners. Penelitian kuantitatif korelasional ini dilakukan di salah satu universitas di Jawa Barat dengan menggunakan total sampling sebanyak 106 partisipan. Responden diberikan kuesioner EBPQ untuk mengukur tingkat pengetahuan EBP. Data dianalisis secara univariat menggunakan distribusi frekuensi dan analisis bivariat menggunakan uji Chi-square dengan nilai $\alpha = 0,05$. Hasil penelitian menunjukkan bahwa sebagian besar mahasiswa program profesi ners memiliki pengetahuan EBP yang baik. Usia, IPK sarjana, IPK program profesi ners, dan kemampuan bahasa Inggris tidak memiliki hubungan dengan pengetahuan EBP, sedangkan nilai pada mata kuliah keperawatan medikal bedah memiliki hubungan yang signifikan dengan pengetahuan EBP pada program profesi ners dengan nilai $p (0,024) > 0,05$. Dari penelitian ini, kami menemukan bahwa partisipan dalam penelitian ini masih memiliki pemahaman yang kurang terkait konsep evidence-based practice. Dengan demikian, fakultas keperawatan dapat menyelenggarakan program pelatihan EBP komprehensif bagi mahasiswa keperawatan dalam mata kuliah keperawatan medikal bedah.

Kata kunci: *evidence-based practice, kemampuan akademik, kemampuan bahasa Inggris, pengetahuan*

ABSTRACT

Evidence-based practice (EBP) is an important competency of nursing that needs to be implemented in nursing care. However, a study reported a low level of EBP knowledge and practice in nurses. Therefore, understanding the factors that influence nursing students' EBP knowledge can be a strategy to improve nursing students' EBP competence. This study aimed to identify the association between age, academic performance and English proficiency with evidence-based practice knowledge among students in the nursing professional program. This correlational quantitative study was conducted at one of the universities in West Java using total sampling with 106 students. The respondents were given the EBPQ questionnaire to measure their level of EBP knowledge. Data were analyzed univariately using the frequency distribution and bivariate analysis using the Chi-square test with value for $\alpha = 0.05$. The results showed

that most of the Nursing Professional Program Students had good EBP knowledge. Age, undergraduate GPA, nursing professional program GPA, and English proficiency does not have association with EBP knowledge, while grade in medical-surgical nursing subject has a significant association with EBP knowledge in nursing professional program with p-value (0.024) > 0.05. From the study, we found that participants in this study still have a lack of understanding regarding the concept of evidence-based practice. Thus, nursing faculties could conduct a comprehensive EBP training program skills for nursing students in medical-surgical nursing course.

Keywords: academic performance, english proficiency, evidence-based practice, knowledge

INTRODUCTION

Evidence-Based Practice (EBP) is an approach that aims to improve the process by which high-quality scientific research evidence can be obtained and used to make the best practical decisions to improve health. Evidence or research findings that support practice can be obtained from systematic data collection through observation and experimentation, formulating questions and testing hypotheses. EBP also involves the use of careful and explicit decision making that integrates consideration of research evidence, client characteristics (including preferences), and resources. Best research is defined as research that is contextually relevant and of the highest quality, based on contextually accepted scientific standards for various types of questions.¹

Nursing faculty are strategically positioned to model and advance EBP among nursing students by facilitating an evidence-based nursing approach to ensure that future nurses are competent and well prepared to meet the challenges of an increasingly complex, EBP-driven health care environment.² One of the main competencies that must be mastered by undergraduate students of the Nursing Professional Program at one of the universities in West Java is the ability to utilize research results in an effort to improve the quality of nursing care.

Understanding research methodology is important in medical-surgical nursing because nurses must respond quickly to changes in patient

conditions.³ In medical-surgical nursing, EBP involves combining the best available research evidence with clinical expertise and patient values to guide decisions and improve patient care. This approach ensures that nurses are equipped with the most effective and efficient methods to manage patient care, which is important in medical-surgical nursing because patients often have complex and diverse needs.⁴ However, teaching research and EBP to undergraduate nursing students is a challenging task.

Several studies report that undergraduate students have negative attitudes/beliefs towards research and EBP, especially towards the statistical components of research courses and the complex terminology.⁵ Additionally, students may not understand the importance of the association between research and clinical practice.⁶ In fact, a lack of research knowledge is commonly reported by nurses and nursing students as a barrier to EBP. It is critical to equip future nurses with EBP research and skills to overcome barriers to EBP use in clinical settings.

A study conducted at Universitas Padjadjaran in 2019 evaluated the knowledge of EBP on nursing professional program showed that 68% of students had good EBP knowledge and 32% of the participants had poor EBP knowledge.⁷ However, there has been no evaluation related to the factors that affect EBP knowledge.

Research in Thailand has identified several factors that can increase EBP knowledge, namely understanding research methods, confidence in clinical

decision making, readiness in practice, and access to journals.⁸ Another study in Tunish revealed that factors that were significantly related to EBP knowledge were academic level, English reading skills, difficulty in obtaining full-text papers, and methodological training.⁹

English as an international language has an important role in education which is marked by the need for an English language proficiency test as a prerequisite for graduation. Knowledge of a foreign language, especially English, is an important component in disseminating material, considering that health literature is mostly found in English.¹⁰ Thus, English proficiency could affect understanding in assessing a research.

Another factor that influences EBP knowledge is the Grade Point Average (GPA). GPA is the accumulation of student grades from the first semester to the last and determine a students' performance in a semester. Students with a high GPA show that students have no problems to follow the learning process.¹¹ Not only that, high GPAs may have necessary scientific competence in their professional performance, which may result in higher professional grades as a significant index of professional competence.

Age is also found to be one of the factors of EBP knowledge. Age can influence a person's thinking patterns and comprehension ability. The older you get, the more your thinking patterns and understanding will develop so that the knowledge you gain will be better.¹² As individuals age, they tend to experience increases in cognitive maturity and critical thinking skills. This might influence how they understand and apply EBP concepts in clinical practice. Tumala and Alshehri (2019) stated that older people have higher experience and training. Meanwhile, another study conducted by Labrague et al (2019) on nursing students found that there were no significant differences in

EBP knowledge, skills and practices based on age.

However, similar research showing the factors above has not been found in Indonesia. Identifying factors that influence nursing students' knowledge regarding EBP will provide insights that can become strategies for improving EBP competency and implementation. Based on this, this research was conducted to look at the association between age, academic performance and English proficiency with evidence-based practice knowledge among nursing professional program students.

METHODS

The design of this study used correlational quantitative research methods using secondary data. The population of this study were all students of the nursing professional program at one of the universities in West Java who were carrying out clinical practice at one of the hospitals in Sumedang using total sampling with 106 students. This research was conducted from August 2023 to September 2024. Age, academic performance, and English proficiency are independent variables in this study, while EBP knowledge is the dependent variable in this study. The instruments in this study include questions regarding respondents' demographic data, academic performance (based on undergraduate GPA, nursing professional program GPA, and grade in medical-surgical nursing subject), English proficiency test score using English proficiency test that had been taken by participants in the university language center, and knowledge related to EBP using the Evidence-Based Practice Questionnaire (EBPQ) developed by Upton & Upton (2006).¹³ The EBPQ that we used in this study only focused on the knowledge domain and had proven to be a valid (the correlation coefficient was found to be in the range of 0.3–0.4, indicating a positive but moderate association) and reliable measurement tool (Cronbach α for knowledge was 0.91)¹⁴. The

components of this questionnaire contain 8 questions that include: the definition of evidence-based practice, the purpose of evidence-based practice, types of evidence-based practice, skills needed in evidence-based practice, and electronic sources used in finding evidence-based practice. The evidence-based practice knowledge in this study is categorized into two levels of knowledge, good (with score 8-10) and insufficient (with score < 8). This study used secondary data that had previously obtained ethical approval with number 985/UN6.KEP/EC/2023. Data were collected from the academic subsection at one of the universities in West Java after obtaining a permit letter from the university. Furthermore, the data were analyzed univariately using the frequency distribution method and bivariate analysis using the Chi-square test with value for $\alpha = 0.05$.

RESULT

Table 1. Characteristics of Respondents (n = 106)

Characteristics	n	Percentage (%)
Age of Respondent		
22 years old	21	19.8
23 years old	64	60.4
24 years old	10	9.4
25 years old	7	6.6
26 years old	4	3.8
Sex		
Male	16	15.1
Female	90	84.9
Undergraduate GPA		
Satisfactory	1	0.9
Very Satisfactory	89	84
Cum Laude	16	15.1
Nursing Professional Program GPA		

Table 3. The Association between Age and Knowledge of Nursing Professional Program Students Regarding Evidence-Based Practice (n = 106)

Age	EBP Knowledge				Mean	Total		p-value
	Good		Insufficient			n	%	
	n	%	n	%				
22	15	14.2	6	5.7	7.71	21	19.8	0.075
23	43	40.6	21	19.8	7.70	64	60.4	
24	3	2.8	7	6.6	6.90	10	9.4	
25	5	4.7	2	1.9	7.57	7	6.6	
26	1	0.9	3	2.8	6.50	4	3.8	
Total	67	63.2	39	36.8	7.58	106	100	

Characteristics	n	Percentage (%)
Satisfactory	0	0
Very Satisfactory	56	52.8
Cum Laude	50	47.2
Grade in Medical-Surgical Nursing Subject		
Adequate	0	0
Good	61	57.5
Excellent	45	42.5
English Proficiency Test Score		
Elementary	13	12.3
Low Intermediate	51	48.1
High Intermediate	25	23.6
Advanced	17	16

Table 1 described that 60.4% of respondents were 23 years old and 84.9% of respondents were female. The majority of respondents had a very satisfying undergraduate GPA (84%) and a very satisfying nursing professional program GPA (52.8%). Most respondents (57.5%) were good in the medical-surgical nursing subject followed by 48.1% of respondents' English proficiency were at the low intermediate level.

Table 2. Knowledge of Nursing Professional Program Students Regarding Evidence-Based Practice (n = 106)

Variables	n	Percentage (%)
EBP Knowledge		
Good	67	63.2
Insufficient	39	36.8
Total	106	100

Table 2 described that 63.2% of nursing professional program Students had good EBP knowledge followed by 36.8% of nursing professional program Students had insufficient knowledge related to EBP.

Table 3 showed that most of the 23 years old nursing professional program students have good EBP knowledge (40.6%). The nursing professional program students who are in age of 26 years old got the lowest score of EBP knowledge (mean = 6.50). Based on the

Chi-square test analysis, the p-value was 0.075 so that means p value > 0.05. These results indicate that age does not have a significant association with the knowledge of nursing professional program students related to evidence-based practice.

Table 4. The Association between Academic Performance and Knowledge of Nursing Professional Program Students Regarding Evidence-Based Practice (n = 106)

Academic Performance	EBP Knowledge				Mean	Total		p-value
	Good		Insufficient			n	%	
	n	%	n	%				
Undergraduate GPA								
Satisfactory	1	0.9	0	0	9.00	1	0.9	0.410
Very Satisfactory	54	50.9	35	33	7.51	89	84	
Cum Laude	12	11.3	4	3.8	7.88	16	15.1	
Total	67	63.2	39	36.8	7.58	106	100	
Nursing Professional Program GPA								
Very Satisfactory	32	30.2	24	22.6	7.34	56	52.8	0.171
Cum Laude	35	33	15	14.2	7.84	50	47.2	
Total	67	63.2	39	36.8	7.58	106	100	
Grade in Medical-Surgical Nursing Subject								
Good	33	31.1	28	26.4	7.36	61	57.5	0.024
Excellent	34	32.1	11	10.4	7.87	45	42.5	
Total	67	63.2	39	36.8	7.58	106	100	

Based on table 4, it was found that 50.9% of nursing professional program students with a very satisfactory undergraduate GPA had good EBP knowledge. Based on the Chi-square test analysis, the p-value was 0.410 so that the p value > 0.05. These results indicate that undergraduate GPA does not have a significant association with the knowledge of nursing professional program students related to evidence-based practice.

The table above also showed that the majority of nursing professional program students had a cum laude nursing professional program GPA had good EBP knowledge (33%). Based on the Chi-square test analysis, the p-value was 0.171 so that the p value > 0.05.

These results indicate that nursing professional program GPA also does not have a significant association with the knowledge of nursing professional program students related to evidence-based practice. Meanwhile, most of the nursing professional program students were excellent in medical-surgical nursing subject, 32.1% of the nursing professional program students had good EBP knowledge. Based on the Chi-square test analysis, the p-value was 0.024 so that the p-value < 0.05. These results indicate that the Grade in Medical-Surgical Nursing Subject has a significant association with the knowledge of nursing professional program students related to evidence-based practice.

Table 5. The Association between English Proficiency and Knowledge of Nursing Professional Program Students Regarding Evidence-Based Practice (n = 106)

English Proficiency	EBP Knowledge				Mean	Total n	%	<i>p-value</i>
	Good		Insufficient					
	n	%	n	%				
Elementary	9	8.5	4	3.8	7.54	13	12.3	0.747
Low	32	30.2	19	17.9	7.63	51	48.1	
Intermediate								
High	17	16	8	7.5	7.88	25	23.6	
Intermediate								
Advanced	9	8.5	8	7.5	7.00	17	16	
Total	67	63.2	39	36.8	7.58	106	100	

Based on table 5, most students with low intermediate level had good EBP knowledge (30.2%). Surprisingly, students with the highest English proficiency showed lower score on EBP knowledge (mean = 7.00). Based on the Chi-square test analysis, the p-value is 0.747 so that the p value > 0.05, which means that English Proficiency is not associated with knowledge of nursing professional program students related to evidence-based practice.

DISCUSSION

Evidence-Based Practice is defined as a problem-solving approach to clinical decision-making that combines the best available scientific evidence, clinician expertise, and patient preferences and values.¹⁵ Given the complexity of connecting research and clinical practice, EBP provides the most useful framework for applying evidence to practice.¹⁶ In addition, EBP considers risks, benefits, and costs against the backdrop of patient preferences. This evidence-based decision-making encourages healthcare providers to question practices and determine which interventions are ready to be implemented in clinical practice.¹⁷ The results of this study indicate that most of the nursing professional program students had good EBP knowledge. Based on the answers of students who had filled out the EBPQ, it is known that most students are still got the wrong answer in answering the types of evidence-based practice. Meanwhile,

almost all students can answer questions about credible sources of EBP research reports. This shows that the nursing professional program students in this study were accustomed to looking for research results to create EBP during their studies.

Association between Age and Knowledge of Evidence-Based Practice

Based on the results obtained regarding the association between age and knowledge of nursing professional program students related to EBP, it is known that the number of students with the most age is at the age of 23 years. The result showed that age is not associated with knowledge of evidence-based practice in nurse professional program students. The results of this study are supported by Labrague et al in 2019 with nursing students from four different countries (Oman, India, Saudi Arabia, Nigeria) as participants states that there is no association between age and EBP knowledge which is one of the components of EBP competence.¹⁸

Meanwhile, Tumala and Alshehri (2019) with participants of undergraduate students in Riyadh, Saudi Arabia stated that age had association with EBP knowledge. This could be explained by the fact that in the study, older participants had more clinical experience and more training on EBP, which could positively influence their attitude towards EBP. Participants in this study strongly agreed that EBP

can help in clinical decision-making and they also looked forward to using EBP in practice. They also agreed that the EBP process improves healthcare outcomes. In addition, the majority felt confident that they could critique scientific articles, and they wanted the nursing contract to include time to evaluate the research.¹⁹

Another study that discussed nurses' knowledge and implementation of EBP in Oman supported that there was an association between age and EBP knowledge as evidenced by the better attitude of older nurses and the experience possessed by older nurses in the study.²⁰ However, the difference could be influenced by the type of participants including students or professional nurses and the experience that had been gained. The participants of the current study were mostly the same age and in a range of ages that were not much different so their knowledge might be the same. Furthermore, the status of the participants who were currently still in nursing professional program showed that participants do not have much experience because they have just graduated from a nursing degree.

Association between Academic Performance and Knowledge of Evidence-Based Practice

The results showed that the undergraduate GPA and nursing professional program GPA of the students in this study had no association with evidence-based practice knowledge considering that GPA only assesses students' general academic achievement and ability to apply their knowledge in an academic setting, so it does not necessarily reflect good EBP knowledge. While EBP is more related to professional skills and application in nursing practice.

Even though academic performance specifically measure educational achievement and EBP focuses on the application of research to improve health care outcomes. Both are equally important for nursing students, but

improving EBP knowledge requires targeted training in academic learning. Integrating EBP education into the nursing curriculum could foster better clinical competency for students, ultimately benefiting patient care.

Tumala dan Alshehri (2019) revealed that academic GPA scores had association with knowledge and skills related to EBP. In that study, participants with low GPA scores showed better EBP knowledge and skills than participants with high GPA scores. This might be due to the fact that most of the respondents in this study were unfamiliar with EBP and had not received formal education on research and EBP during their undergraduate program.¹⁹

Meanwhile, the students grade in Medical-Surgical Nursing Subject had a significant association with the knowledge of EBP in nursing professional program students. This might be due to the nurse professional program students who were the participant in this study had gone through courses that studied evidence-based practice as part of the undergraduate curriculum. Integration of Evidence-Based Practice (EBP) into medical-surgical nursing education is essential for nursing students to provide high-quality patient care.

Medical-Surgical Nursing is one of the nursing professional clinical education programs that focuses on developing students' abilities in clinical studies by integrating understanding of various basic concepts of nursing care for patients with various disorders.⁷ In medical-surgical nursing, EBP involves the best available research evidence with clinical expertise and patient values to guide decisions and improve patient outcomes. This approach ensures that nurses are equipped with the most effective and efficient methods for managing patient care, which is important in medical-surgical nursing where patients often have complex and diverse needs.⁴ However, there haven't been found many studies that discuss

about the association between grade in medical-surgical nursing Subject and EBP knowledge.

Association between English Proficiency and Knowledge of Evidence-Based Practice

Results show that language ability does not have a significant relationship with EBP knowledge. This might be because EBP knowledge is not only related to language, but also understanding the concept of EBP, understanding the EBP process, understanding research methods and study design, understanding sources and tools for EBP, and understanding barriers and facilitators of EBP. This is in accordance with the results of the study which showed that participants in this study still did not understand the concept of evidence-based practice so that participants who had good language skills did not necessarily have good EBP knowledge as well.

The previous study showed that language ability can be one of the barriers to understanding evidence-based practice and students with better English reading skills showed superior in EBP competence.⁹ These findings are consistent with previous studies conducted among undergraduate health students in Italy and Taiwan, which suggest that English reading ability is indeed a barrier and creates a challenge for non-English speakers to utilize research evidence as English is generally considered the universal language of the scientific community.²¹

Previous research has suggested that a lack of understanding of English is a barrier to implementing EBP for non-native English speakers. This may be due to the fact that most current medical resources are in English. A number of EBP studies have reported that inadequate understanding of statistical terms and difficulty in understanding statistical analysis are the two most prominent barriers to adopting EBP. Therefore, well- designed education and training courses focusing on English

language, database search skills and statistical methods are potential approaches to improve knowledge and facilitate the adoption of EBP.²²

CONCLUSION

It can be concluded that the Grade in Medical-Surgical Nursing Subject has a significant association with the knowledge of evidence-based practice in nursing professional students. Meanwhile, age, undergraduate GPA, Nursing Professional Program GPA, and English proficiency do not have a significant relationship with nursing profession students' knowledge regarding evidence-based practice. We recommend that nursing faculties could conduct a comprehensive EBP training program that covers the basic principles of EBP with a focus on improving critical thinking and problem-solving skills for nursing students in medical-surgical nursing courses and conducts regular evaluations to identify areas for improvement and encourage further learning. Nursing services can increase the knowledge of evidence-based practice in providing nursing care to clients in accordance with the latest research evidence and can regulate regulations related to the implementation of EBP. Future researchers are expected to be able to conduct more in-depth research regarding the influence of not only GPA, but spesific courses that could have association with Evidence-Based Practice knowledge.

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