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Evidence-Based Practice: Knowledge and Attitudes of Psychiatric Nurses

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Abstract

Background: *Evidence-based practice (EBP) is an approach to clinical care that involves solving problems through the conscious use of the best available scientific evidence combined with nurses' knowledge and patients' values and preferences.*

Objectives: *The aim of this study was to assess the knowledge and attitudes of psychiatric nurses regarding EBP.*

Material and methods: *The study was conducted using a self-designed survey and the Evidence-Based Practice Profile (EBP2) questionnaire. The study included 53 nurses from one psychiatric ward.*

Results: *The highest mean values were observed in Subdomain I (55.0±7.9 points), Subdomain III (48.8±11.7 points), and Subdomain VI (54.8±7.3 points). The highest mean value was recorded in Subdomain I, with an average of 55.0±7.9 points. Among 25% of the participants, no more than 48 points were observed, while among 75% of the participants, no more than 63 points were observed. The minimum value in Subdomain I was 41, and the maximum value was 68 points. The lowest values were observed in Subdomain II (22.5±4.2 points) and Subdomain IV (21.2±7.1 points). In Subdomain II, no more than 25% of the participants scored 20 points, and no more than 75% scored 25.0 points. The score values in this subdomain ranged from 14.0 to 33.0 points. In Subdomain IV, no more than 25% of the participants scored 16.0 points, and no more than 75% scored 26.0 points.*

Conclusions: *In the examined group, the participants attributed the highest validity to statements related to the significance of Evidence-Based Practice (EBP) in expanding their own competencies (I) and other aspects related to EBP (VI).*

The lowest validity of statements in the examined group was observed in relation to attitudes towards selected aspects of EBP in the nursing profession (II) and the frequency of utilizing EBP in the daily clinical practice of nurses (IV).

Key words: *knowledge, psychiatric nurses, Evidence-Based Practice*

Background

The concept of Evidence-Based Practice (EBP) in nursing is derived from the concept of Evidence-Based Medicine (EBM) described by Gordon Guyatt in 1991 [1]. EBP is an approach to clinical care that involves solving problems through the conscious use of the best available scientific evidence, combined with nurses' knowledge and patients' values and preferences [2]. It enables the resolution of nursing problems by integrating the latest research findings and evidence with clinical knowledge to improve patient treatment outcomes. It is important to provide nurses with tools that enable the use of EBP [3]. EBP can be seen as a strategy or a way of thinking aimed at achieving optimal care outcomes in every patient situation. It is an approach that considers organisational actions, which involve integrating scientific evidence to develop evidence-based recommendations [1]. The World Health Organization emphasises that scientific evidence should form the basis of nursing practice, health and social services, clinical decision-making and health policy formulation. Therefore, the International Council of Nurses emphasises the development of research-based professional knowledge [4]. Such practice leads to providing safe patient care, achieving positive treatment outcomes and reducing time and costs of care through standardising nursing practice. Additionally, it positively influences professional autonomy and job satisfaction of clinical nurses, ultimately bringing potential benefits to patients, nurses and the healthcare system [2]. Introducing EBP through updating the knowledge, skills and attitudes of nurses and midwives enhances advanced nursing practice by role modelling, training, problem-solving and supporting change implementation [5]. For this reason, EBP has become a central concept in planning and implementing healthcare systems worldwide. As EBP increasingly replaces the traditional decision-making paradigm in healthcare, healthcare workers have a duty to access knowledge, apply it in practice and encourage others to make proper use of it [2]. Evidence-based practice (EBP) is crucial for ensuring high-quality healthcare, enabling patients, healthcare workers, researchers and/or decision-makers to make informed health decisions in a specific context.

It is based on integrating the best available evidence with clinical knowledge, as well as patient values and preferences. This process often involves five steps: ask, acquire, appraise, apply and assess. Many accrediting bodies require competence in EBP, which means healthcare workers must possess skills in five areas, such as formulating specific questions, conducting literature searches, critically appraising, implementing evidence into clinical practice and reflecting on their own actions. These areas align with key EBP competencies, which include knowledge, skills, attitudes and behaviours, each of which is essential for effectively implementing the five steps in clinical practice. However, there is still a gap between expected and actual practice [6]. Currently, it is necessary to utilise the latest scientific advancements to ensure an effective, safe and highest standard of patient care [7]. For nurses, acquiring a solid foundation in Evidence-Based Practice (EBP) is becoming increasingly important due to its proven associations with improving outcomes for both patients and medical facilities [8]. It enhances nurses' sense of self-efficacy, which is crucial for minimising burnout. Although EBP is a required competency that allows nurses to take responsibility for their practice, many nurses are not sufficiently informed about current evidence. Uncertainty about what EBP is leads some nurses to believe that engaging in EBP is not within their scope of duties [9].

Material and methods

Study design and population

The study included a group of 53 nurses from one psychiatric ward. All nurses working in the psychiatric ward where the study was conducted correctly completed the questionnaire. The response rate was 100%. The participants were informed about the purpose of the study, and its ethical aspects were approved. The research was conducted using a self-constructed survey and the Evidence-Based Practice Profile (EBP2) questionnaire was utilised. The Polish language version of the questionnaire was used. The authors of the study obtained permission for its use. This is the first standardised questionnaire in Poland that allows for the assessment of knowledge, attitudes

and behaviours of students and healthcare professionals (including nurses and midwives) regarding Evidence-Based Practice. The Polish version of the questionnaire consists of 74 questions. The EBP2 questionnaire evaluates six subscales that characterise various aspects of evidence-based medical practice. Subscale I presents the attitude towards expanding one's own competencies related to Evidence-Based Practice. Subscale II presents the attitude towards selected aspects of Evidence-Based Practice in professional work. Subscale III assesses knowledge of terminology related to scientific research. Subscale IV evaluates the frequency of using specific elements of Evidence-Based Practice in daily clinical work. Subscale V presents skills related to Evidence-Based Practice. Subscale VI assesses other aspects related to Evidence-Based Practice [10].

Study group

The study was conducted in a group of 53 nurses (n=44) and male nurses (n=9) from one psychiatric ward (Table 1). The largest age group consisted of respondents aged 22 to 31 years (45.3%). Among the total, 20.8% were respondents aged 42–51 years, and 9% were respondents in the age groups of 32–41 and 56–61 years. The majority of the respondents were residents of the city (66.0%). The remaining percentage of respondents were residents of rural areas (34.0%).

Table 1. General characteristics of the study group. Categorized variables and continuous variables

Variable	n	%
Gender (n – 53) female / male	44 / 9	83.0 / 17.0
Age (n – 53) 22–31 / 32–41 / 42–51 / 56–61	24 / 9 / 11 / 9	45.3 / 17.0 / 20.8 / 17.0
Place of residence (n – 53) rural / urban	18 / 35	34.0 / 66.0
Education (n – 53) Nursing diploma / Bachelor of Nursing / Master of Nursing	11 / 21 / 21	20.7 / 39.6 / 39.6
Marital status (n – 53) single / married / divorced / cohabiting	30 / 15 / 4 / 4	56.6 / 28.3 / 7.5 / 7.5
Work experience (n – 53) 2–5 / 6–15 / 16–25 / 26–35 / 36–45	15 / 11 / 5 / 7 / 5	28.3 / 20.8 / 9.4 / 13.2 / 9.4
Workplace (n – 53) ward / admission room	45 / 8	84.9 / 15.1
* Additional qualifications (n – 53) specialization / qualification course / specialist course / other	21 / 20 / 14 / 5	39.6 / 37.7 / 26.4 / 9.4

* – multiple choice question, $\sum \neq 100\%$; n – number of observations; % – percentage

Source: own elaboration.

Among the total number of respondents, two equal groups consisted of individuals with a master's degree (39.6%) and a bachelor's degree (39.6%). 20.7% of the surveyed nurses and male nurses declared having a nursing education. The largest group of respondents were unmarried individuals (single). The percentage of this group of respondents was 56.6% of the total. 28.3% of the respondents were married, while a small percentage consisted of respondents who were divorced (7.5%) or living in cohabitation (7.5%).

Analysing the length of work experience, the largest group consisted of individuals who have been working in the profession for the shortest period – from 2 to 5 years (28.3%), followed by those with 6 to 15 years of experience (20.8%), 26 to 35 years (13.2%) and two equal groups of nurses and male nurses working in the profession for 16 to 25 years and 36 to 45 years (9.4% each).

The majority of the surveyed individuals worked in the ward (84.9%), while the remaining 15.1% worked in the hospital admitting department.

Among the total number of respondents, 39.6% had specializations, 37.7% completed a qualification course, 26.4% completed a specialist course, while 5 individuals indicated other types of additional qualifications.

Statistical analysis

Qualitative data were presented using numbers (n) and percentages (%). Measurable data were presented using mean (M), standard deviation (SD), median (Me), lower quartile (Q1), upper quartile (Q3), minimum value (Min) and maximum value (Max). The assumptions of normal distribution were tested using the Shapiro-Wilk test, and the equality of variances was tested using Levene's test. Depending on the fulfilment or non-fulfilment of these assumptions, parametric or non-parametric analysis was applied. The relationship between two independent variables was analysed using the Student's t-test or the Mann-Whitney U test. For the analysis of multiple groups, either ANOVA or Welch's ANOVA with unequal variances correction, or Kruskal-Wallis ANOVA test, was used. A significance level of 5% was adopted for inference.

Results

The individual sub-domains of the EBP scale were characterised, indicating the mean values in each of them, standard deviation, median values, upper and lower quartiles as well as the range of values indicated by the minimum and maximum values (Table 2). The highest mean values were observed in Sub-domain I (55.0±7.9 points), Sub-domain III (48.8±11.7 points) and Sub-domain VI (54.8±7.3 points). The highest mean value was recorded in Sub-domain I, with an average of 55.0±7.9 points. Among 25% of the participants, no more than 48 points were observed, while among 75% of the participants, no more than 63 points were observed. The minimum value in Sub-domain I was 41, and the maximum value was 68 points. The lowest values were observed in Sub-domain II (22.5±4.2 points) and Sub-domain IV (21.2±7.1 points). In Sub-domain II,

no more than 25% of the participants scored 20 points, and no more than 75% scored 25.0 points. The point range in this sub-domain ranged from 14.0 to 33.0 points. In Sub-domain IV, no more than 25% of the participants scored 16.0 points, and no more than 75% scored 26.0 points. The distribution of scores in this sub-domain ranged from 9.0 to 37.0 points.

Table 2. General characteristics of the EBP scale results

Variable. EBP [in points]	M	SD	Me	Q1	Q3	Min	Max
Sub-domain I	55.0	7.9	54.0	48.0	63.0	41.0	68.0
Sub-domain II	22.5	4.2	22.0	20.0	25.0	14.0	33.0
Sub-domain III	48.8	11.7	50.0	41.0	58.0	20.0	69.0
Sub-domain IV	21.2	7.1	22.0	16.0	26.0	9.0	37.0
Sub-domain V	39.8	6.0	41.0	35.0	44.0	29.0	52.0
Sub-domain VI	54.8	7.3	54.0	50.0	58.0	40.0	77.0

M – mean; SD – standard deviation; Me – median; Q1 – lower quartile; Q3 – upper quartile; Min – minimum value; Max – maximum value

Source: own elaboration.

The mean values obtained in each subscale of EBP were analysed, taking into account gender and level of education (Table 3). A significant relationship between gender and EBP mean values was observed only in subscale I. In the group of women, a significantly higher mean value of 56.0±7.4 points was recorded in subscale I of the EBP scale compared to men, where the mean was 50.1±8.7 points. No significant relationships were found in the other analysed variable pairs.

Table 3. Relationship between the EBP scale and the gender and education level of the respondents

Variable. EBP [in points]	Gender				p****	Inter-mediate		Level of education				p
	Women		Men					Bachelor's degree		Master's degree		
	M	SD	M	SD		M	SD	M	SD	M	SD	
Sub-domain I	56.0	7.4	50.1	8.7	0.040	56.2	8.3	53.0	8.7	56.4	6.8	0.407*
Sub-domain II	22.8	4.5	20.6	1.7	0.138	21.7	4.5	21.7	3.9	23.6	4.3	0.266**
Sub-domain III	49.8	10.8	44.3	15.5	0.208	45.7	12.6	47.3	12.7	52.0	10.0	0.262**
Sub-domain IV	21.6	7.5	19.0	4.8	0.318	19.4	5.5	21.1	5.9	22.2	8.9	0.528***
Sub-domain V	40.2	6.2	38.0	4.9	0.329	39.3	5.5	40.2	5.7	39.6	6.7	0.704*
Sub-domain VI	55.1	7.1	53.2	8.3	0.483	53.8	5.8	55.8	9.1	54.3	6.0	0.833*

M – mean; SD – standard deviation; p**** – value of the t-test statistic; * – value of the Kruskal-Wallis ANOVA statistic; ** – value of the ANOVA test statistic; *** – value of the ANOVA statistic with Welch's test correction

Source: own elaboration.

Significant associations were observed between age groups and sub-domain I ($p=0.004$) and sub-domain V ($p<0.001$) (Table 4). The highest mean value in sub-domain I was recorded in the group of nurses aged 52–61 years, amounting to 59.8±5.5 points. The lowest value was observed in the group of individuals aged 42–51 years (48.2±7.8 points). In sub-domain V, the highest mean value was recorded in the youngest group (43.0±4.6 points), while the lowest was observed in the group of nurses aged 32–41 years (33.3±4.6 points). Age did not significantly affect the mean values obtained in the EBP scale in the remaining sub-domains.

Table 4. Relationship between EBP scale and age

Variable. EBP [in points]	Age [in years]								p
	22–31		32–41		42–51		52–61		
	M	SD	M	SD	M	SD	M	SD	
Sub-domain I	57.1	7.3	53.1	6.2	48.2	7.8	59.8	5.5	0.004*
Sub-domain II	24.0	4.6	20.4	2.5	20.6	3.2	22.6	4.2	0.056
Sub-domain III	51.2	9.5	42.8	15.2	46.9	14.1	51.0	9.3	0.267
Sub-domain IV	23.0	6.0	20.8	10.5	16.6	5.9	22.2	6.1	0.078*
Sub-domain V	43.0	4.6	33.3	4.6	37.5	6.0	40.6	4.7	<0.001*
Sub-domain VI	55.8	7.9	56.4	7.7	51.3	7.1	54.8	4.7	0.485*

M – mean; SD – standard deviation; p – value of the ANOVA t-test statistic; * – value of the Kruskal-Wallis ANOVA statistic

Source: own elaboration.

The relationship between the EBP scale and the length of employment was analysed. Significant relationships were noted in sub-domains I (p=0.011), IV (0.024), V (p=0.009) and VI (p=0.046) (Table 5). In sub-domain I, the lowest mean values were recorded among nurses working in the profession for 16 to 25 years. This value was 44.8±3.5 points. The highest mean values were indicated among people with the longest work experience (58.8±4.8 points). The mean values of the two remaining groups oscillated around 56.9±8.1 for the youngest group and 57.7±8.9 points for people working for 26 to 35 years. In sub-domains II and III, no significant differences were noted between the compared groups. The mean values in sub-domain II did not exceed 25.2 points, and in sub-domain III – 51.6 points. The lowest mean values in sub-domain IV were recorded among people working for 16 to 25 years (11.6±2.6 points), and the highest in the group of people with the shortest experience (23.0±6.0 points). The same dependencies were noted in the case of sub-domains V and VI.

Table 5. Dependency between the EBP scale and work experience

Variable. EBP [in points]	Work experience										p
	2–5		6–15		16–25		26–35		36–45		
	M	SD	M	SD	M	SD	M	SD	M	SD	
Sub-domain I	56.9	8.1	51.9	4.6	44.8	3.5	57.7	8.9	58.8	4.8	0.011*
Sub-domain II	23.0	4.8	21.5	4.1	20.8	1.3	21.1	3.1	25.2	3.8	0.203*
Sub-domain III	49.6	11.9	50.0	11.7	36.6	13.2	51.6	8.0	50.8	10.6	0.184
Sub-domain IV	23.0	6.0	21.5	9.0	11.6	2.6	21.0	7.9	21.4	3.2	0.024
Sub-domain V	42.5	5.7	37.2	5.6	33.0	2.4	38.7	4.5	40.4	5.6	0.009*
Sub-domain VI	56.5	8.2	54.9	4.2	45.4	5.1	55.7	5.9	54.0	5.3	0.046*

M – mean; SD – standard deviation; p – value of the ANOVA test statistic; * – value of the ANOVA Kruskal-Wallis statistic

Source: own elaboration.

An analysis was conducted to examine the relationship between the scale of Evidence-Based Practice (EBP) (Table 6) and additional professional qualifications (Table 7). Only in the case of specialization was a significant relationship observed (p=0.001). In the group of individuals with specialization, the mean values on the EBP scale in Sub-domain V were significantly lower (36.4±5.0 points) compared to those who reported no specialization (42.0±5.6 points). No other significant relationships were found.

Table 6. Relationship between the EBP scale and additional professional qualifications

Variable. EBP [in points]	Specialization				p	Qualification course				p
	Not		NO			Not		NO		
	M	SD	M	SD		M	SD	M	SD	
Sub-domain I	55.1	7.5	54.9	8.2	0.913*	57.2	6.8	53.7	8.3	0.913*
Sub-domain II	21.8	3.5	22.9	4.6	0.337	23.2	4.7	22.0	3.9	0.352
Sub-domain III	48.0	11.9	49.4	11.8	0.691	47.9	11.4	49.4	12.1	0.651
Sub-domain IV	20.0	8.5	21.9	6.1	0.202*	20.3	6.5	21.8	7.6	0.462
Sub-domain V	36.4	5.0	42.0	5.6	0.001	38.8	5.8	40.4	6.1	0.328*
Sub-domain VI	53.7	6.2	55.5	7.9	0.855*	57.2	5.7	53.4	7.9	0.855*

M – mean; SD – standard deviation; p – value of the student's t-test statistic; * – value of the Mann-Whitney U statistic

Source: own elaboration.

Table 7. Relationship between the EBP scale and additional professional qualifications continued

Variable. EBP [in points]	Specialized course				p
	Not		NO		
	M	SD	M	SD	
Sub-domain I	57.1	7.2	54.3	8.1	0.245*
Sub-domain II	21.2	2.8	22.9	4.5	0.109*
Sub-domain III	50.7	15.1	48.2	10.4	0.493
Sub-domain IV	22.7	9.1	20.6	6.4	0.357
Sub-domain V	38.2	5.8	40.4	6.0	0.254
Sub-domain VI	56.2	4.6	54.3	8.0	0.108*

M – mean; SD – standard deviation; p – value of the student's t-test statistic; * – value of the Mann-Whitney U statistic

Source: own elaboration.

Discussion

The study found that gender and level of education did not significantly influence the knowledge, behaviours and attitudes of the nurses towards evidence-based professional practice.

The statistical analysis revealed that nurses up to the age of 31 more frequently emphasised the importance of implementing EBP in daily clinical practice, while individuals aged 52–61 declared understanding the need to expand knowledge based on EBP and the necessity of developing their own skills to enhance the quality of nursing services provided. Nurses with up to 5 years of professional experience more often focused on the application of EBP in practice, the utilisation of EBP elements in professional work, and other aspects of EBP. Those with advanced work experience more frequently emphasised the need for education and expanding knowledge based on scientific evidence, as well as its implementation in daily clinical practice. Additional professional qualifications did not significantly influence the knowledge, behaviours and attitudes of the nurses towards evidence-based professional practice.

In a study conducted by Heydari et al., slightly different results were obtained. It was indicated that nurses and midwives with a master's degree demonstrated greater knowledge, skills and practice in EBP and had a more positive attitude compared to nurses with a bachelor's degree [11]. Ramos-Morcillo et al. also noted that higher postgraduate education was associated with higher levels of knowledge, skills and utilisation of EBP. However, no differences were observed in the average scores of certain aspects related to the use of dimensions, regardless of the nurses' educational level. These aspects pertained to the practice of implementing EBP in the context of care provided [12].

On the other hand, Belowska et al. emphasise the importance of continuous knowledge expansion regarding Evidence-Based Practice (EBP). Furthermore, regularly updating knowledge in the field of EBP through participation in various forms of postgraduate education can contribute to improving nurses' knowledge, behaviours and attitudes, which in turn can contribute to building a positive image of Evidence-Based Practice (EBP) [13].

Researchers Mazurek-Melnyk et al. demonstrated that younger nurses and those with a higher level of education exhibited higher competence in Evidence-Based Practice (EBP). Strong positive associations were also observed between EBP competencies and EBP beliefs, as well as moderate positive associations between EBP competencies and knowledge about Evidence-Based Practice (EBP) [14].

In studies conducted by Rudman et al., it was noted that respondents considered critical appraisal of research reports to be the least frequently used practice within Evidence-Based Practice (EBP). This is a stage of the EBP process that requires significant skills in research methodology. It was also indicated that the most common practice within EBP was using sources of information other than databases [15].

In a study conducted by Hailu Dagne et al., it was found that a smaller group of participants decided to implement evidence-based practice in a moderate or desirable manner. Statistically significant factors associated

with the implementation of evidence-based practice included age, barriers to implementing evidence-based practice, participants' attitudes, nurse/midwife workload indicators, self-efficacy in implementing evidence-based practices and participants' level of knowledge [16].

In another study also conducted by Hailu Dagne et al., it was demonstrated that nurses and midwives identified lack of knowledge and skills in using scientific evidence, such as research findings, as one of the barriers to implementing evidence-based practice. Additionally, poor time management, lack of motivation, insufficient resources and lack of appropriate training were also recognised as significant obstacles to full implementation of evidence-based practice [17].

Młynarska et al. presented completely different research findings. Their findings indicated that older nurses encounter difficulties in applying Evidence-Based Nursing Practice (EBNP), with their level of knowledge and skills in this area being lower. On the other hand, individuals with higher education demonstrate the best skills related to EBNP and are usually willing to develop and utilise them in their professional practice. Professional variables influencing nurses' knowledge, attitudes and skills related to EBNP include professional experience, which negatively affects the use of EBNP and associated skills. Furthermore, the type of nursing school completed, and the completion of a nursing specialization also have a significant impact on expanding nurses' competencies in the field of EBNP [18].

Verloo et al. demonstrated that study participants exhibited a positive attitude towards Evidence-Based Practice (EBP) and were willing to expand their knowledge in order to guide their professional practice based on the latest scientific evidence. However, they acknowledged that the implementation of EBP in daily practice is insufficient. Individuals who received formal training in this area and those in higher professional positions reported significantly higher levels of EBP implementation [19].

Hagedorn Wonder et al. found that the average scores of practical assessment in evidence-based nursing increased with higher levels of nursing

education. Additionally, a weak but positive correlation was observed between objective and subjective measures of knowledge regarding evidence-based practice (EBP) [20].

Significant improvement in nurses' skills in Evidence-Based Practice (EBP) is necessary to ensure the highest quality of care and achieve optimal health outcomes for the population.

Conclusion

The surveyed nurses assigned the highest importance to statements regarding the expansion of their own competencies (I) and other aspects related to EBP (VI).

The least important statements for the surveyed group concerned attitudes toward selected aspects of EBP in the nursing profession (II) and the frequency of using EBP in daily clinical nursing practice (IV).

Work experience significantly determined the importance of expanding one's competencies related to EBP (I). Nurses with the longest professional experience more frequently indicated the significance of this aspect compared to the younger group (16–25 years).

The youngest group of respondents significantly more often emphasised the importance and validity of domains related to the frequency of using specific elements of EBP in daily clinical practice (IV), skills related to EBP (V) and other aspects related to EBP (VI).

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