Research Article

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Evaluation of the clinical self-efficacy of postgraduate midwifery students who took courses related to biochemistry: a cross-sectional study

[Biyokimya ile ilgili dersleri alan lisansüstü ebelik öğrencilerinin klinik öz-yeterliliklerinin değerlendirilmesi: kesitsel bir çalışma]

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Abstract

Objectives: Postgraduate midwifery students learn the science and art of midwifery in clinical settings through the integration of evidence-based knowledge, practical skills, quality of care, and personal attitudes. These personal attitudes are confidence, intuition, problem solving, critical thinking, and self-efficacy. This study's goal was to evaluate the clinical self-efficacy of midwifery students

who took courses related to biochemistry in the postgraduate education program.

Methods: A cross-sectional design was used in the study. In the study, data collection was performed using surveys from students in the postgraduate midwifery education program. The study data were collected by employing the “Introductory Information Form” and the “Self-efficacy for Clinical Evaluation Scale.” Data evaluation was performed by number, percentage, mean, and correlation test.

Results: It was revealed that 67.7% of midwifery students who took the courses were postgraduate students in the thesis stage, 41% of them worked in secondary health services, and 51.6% of them had a clinical experience of 5 years and more. The total score of the self-efficacy perception subscale was 4.22 ± 0.49 (1–5), whereas the total score of the perceived confidence subscale was 4.57 ± 0.45 (1–5). There was a statistically significant correlation between the self-efficacy subscale and the importance subscale.

Conclusions: The results indicated that postgraduate midwifery students had high clinical self-efficacy scores. We think that the elective courses related to biochemistry in the postgraduate midwifery education program may have positively affected their clinical skills. We anticipate that it will be appropriate to conduct research with a larger sample size to examine the effect of postgraduate midwifery education on students' clinical self-efficacy.

Keywords: biochemistry; midwifery; postgraduate; self-efficacy.

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Öz

Amaç: Lisansüstü ebelik öğrencileri, kanıta dayalı bilgi, pratik beceriler, bakım kalitesi ve kişisel tutumların entegrasyonu ile klinik ortamdaki ebelik bilim ve sanatını öğrenirler. Bu kişisel tutumlar güven, sezgi, problem çözme, eleştirel düşünme ve öz-yeterliliklerdir. Çalışmanın amacı, lisansüstü eğitim programında biyokimya ile ilgili dersleri alan ebelik öğrencilerinin klinik öz-yeterliliklerini belirlemektir.

Materyal ve Metod: Araştırma, kesitseldir. Araştırma verileri, üniversitenin lisansüstü ebelik eğitim programındaki öğrencilerden anketlerle toplanmıştır. Araştırmanın verileri “Tanıtıcı Bilgi Formu” ve “Klinik Değerlendirme Öz-yeterlilik Ölçeği” kullanılarak toplanmıştır. Veriler sayı, yüzde, ortalama ve korelasyon testi ile değerlendirilmiştir.

Bulgular: Dersleri alan ebelik yüksek lisans öğrencilerinin %67.7’sinin tezli yüksek lisans öğrencisi olduğu, %41.9’unun ikinci basamak sağlık hizmetlerinde çalıştığı, %51.6’sının beş yıl ve üzerinde klinik deneyimi olduğu saptanmıştır. Öğrencilerin tamamı, derslerin gerekli olduğunu ve mesleki olarak katkı sağladığını belirtmişlerdir. Ölçeğin öz-yeterlilik algısı alt boyutundan alınan toplam puan 4.22 ± 0.49 iken, algılanan güven alt boyutundan alınan toplam puan 4.57 ± 0.45 ’tir. Öz-yeterlilik alt boyutu ile önem alt boyutu arasında istatistiksel olarak anlamlı bir ilişki vardır.

Sonuç: Sonuçlar lisansüstü ebelik öğrencilerinin klinik öz-yeterlilik puanlarının yüksek olduğunu göstermiştir. Lisansüstü ebelik eğitim programında biyokimya ile ilgili seçmeli dersler, öğrencilerin klinik becerilerini olumlu yönde etkilemiş olabileceğini düşünmekteyiz. Lisansüstü ebelik eğitiminin, öğrencilerin klinik öz-yeterlilikleri üzerindeki etkisini incelemek için daha büyük örneklem büyüklüğü ile yapmanın uygun olacağını öngörmekteyiz.

Anahtar Kelimeler: biyokimya; Ebelik; lisansüstü; öz-yeterlilik.

Introduction

Midwifery has advanced into a professionalized and specialized field in the world [1, 2]. Midwives who have successfully completed a midwifery bachelor education program are registered to postgraduate education programs as specialists in midwifery [2]. Postgraduate programs enable students to learn the basics of midwifery philosophy and acquire clinical and academic thinking. The clinical setting can make students’ ability to integrate theory and practice more comprehensible. Midwifery students learn the science and art of midwifery in clinical

settings through the integration of evidence-based knowledge, practical skills, quality of care, and personal attitudes. These personal attitudes are confidence, intuition, problem solving, critical thinking, and self-efficacy [1, 3–6]. The self-efficacy theory of Bandura is described as the personal belief about the capability to cope with a specific situation [7]. Self-efficacy consists of two parts: outcome expectation and efficacy expectation. Outcome expectation is the belief that a particular behavior will generate the desired result. Efficacy expectation represents the personal belief that an individual can successfully implement these behaviors to achieve the desired outcome [8].

Biochemistry is an important area of knowledge in the basics of health courses [9]. Postgraduate courses related to biochemistry incorporate in-depth knowledge about the core topics in each specialty along with skills for the clinical laboratory. It is very important for midwifery students to associate laboratory findings with clinical presentation [10] because midwifery has an independent and articulated philosophical doctrine and hallmarks of care, including autonomy, therapeutic presence, competency, confidence, and critical thinking in performing midwifery care in clinical settings and urgent situations. Thus, there is a need for professionalized, competent, and confident midwives, and midwifery postgraduate students require a lot of support to acquire these. The importance of being a competent midwife with the confidence to practice, including the ability to take critical decisions in urgent situations, thus, professional autonomy is essential [5, 8].

Nevertheless, studies focusing on enhancing clinical competence among self-efficacy and related to biochemistry courses are lacking. This study aimed to assess the clinical self-efficacy of midwifery students who took courses related to biochemistry in the postgraduate education program.

Methods

Study design

A cross-sectional design was employed in the study. The aim of the study is descriptive, often in the form of a survey. Usually, a hypothesis as such is absent. However, the aim is to describe a population or a subgroup within the population concerning an outcome.

Participants

The research was conducted in a postgraduate midwifery education program in the Department of Midwifery, Institute of Health Sciences, Manisa Celal Bayar University. This Institute of Health Sciences

has Master of Sciences (M.Sc.) and Doctor of Philosophy (Ph.D.) degrees in postgraduate midwifery education. The participants were postgraduate midwifery students registered for the Vitamins in Pregnancy, Woman and Hormone, and Pregnant Biochemistry courses, respectively, during the 2015–2018 academic year. The courses were elective for students registered for all postgraduate programs in the Department of Midwifery. All students completed these courses of 24 h in a 14 week period during 2015–2018. Topics were presented to students so that they could explain them by the PowerPoint method. These courses are taught weekly to postgraduate midwifery students using the face-to-face method of delivery.

Data collection

Data were collected using two questionnaires.

Introductory information form: It was prepared by the researcher and included 11 questions in two main categories (I) background information (four items) and (II) questions related to biochemistry courses (seven items).

Self-efficacy for Clinical Evaluation Scale: It was developed by Clark et al. [10] and adapted to Turkish by Zengin et al. [11, 12]. The SECS is a five-point Likert-type scale, consisting of 30 items, with scores ranging from “1 to 5.” The scale includes two subscales of perceived self-efficacy and perceived importance. The first subscale measures students’ self-efficacy perceptions related to care skills for patients with chronic diseases in clinical settings, and the second subscale evaluates the importance attached to the mentioned skills by students. A low score indicates that a student is not confident in providing care to patients and also does not attach adequate importance to providing care. Clark et al. [10] revealed that Cronbach’s alpha reliability value was 0.98 for the self-efficacy subscale and 0.95 for the perceived importance subscale. In this study, Cronbach’s alpha value was found to be 0.94 for the self-efficacy subscale and 0.92 for the perceived importance subscale.

Analysis

All data were analyzed by utilizing the SPSS version with descriptive statistics such as mean, standard deviation, frequency, percentage, and correlation. Statistical significance was set at a p-value below 0.05.

Ethical considerations

Ethics approval for the study was obtained from the University Human Research and Ethics Committee. All students were informed that participation was voluntary and provided written consent to participate.

Results

There were 59 students enrolled in the postgraduate midwifery education program, and 31 students completed the questionnaires. The background information of the

students is shown in Table 1. The mean age of the students at post-graduation was 29.83 ± 6.78 years.

As shown in Table 2, postgraduate midwifery students had high perceived self-efficacy and perceived importance scores. This study showed that postgraduate midwifery students had quite high clinical self-efficacy.

Table 3 shows the correlation between age, work experience, perceived self-efficacy, and perceived importance. There is a statically significant correlation between the perceived self-efficacy subscale scores and perceived importance subscale scores ($p < 0.05$), which is a low positive correlation. This study showed that no statistically significant difference was present between self-efficacy and age, nor with work experience ($p > 0.05$).

Discussion

Postgraduate midwifery education provides the knowledge and practice of midwifery and advances the profession [13]. This study’s goal was to assess the clinical self-efficacy of midwifery students who took courses related to

Table 1: Descriptive characteristics of postgraduate midwifery students.

Characteristics	n	Percentage, %
Age in years		
Under 30 years	19	61.3
30 years and over	12	38.7
Postgraduate education		
Thesis master’s program	21	67.7
Non-thesis master’s program	10	32.3
Perception of income		
Low income	3	9.7
Medium income	21	67.7
High income	7	22.6
Present workplace		
Primary health care	12	38.7
Secondary health care	13	41.9
Other	6	19.4
Years of work experience		
Under 5 years	15	48.4
5 years and over	16	51.6
Courses are necessary		
Yes	31	100.0
No	0	
Content of the courses is sufficient		
Yes	30	96.8
No	1	3.2
Courses have increased professional competence		
Yes	31	100.0
No	0	
Total	31	100.0

Table 2: Distribution of the self-efficacy for clinical evaluation scale scores of postgraduate midwifery students.

Characteristics	Min-max	Mean $\pm$ SD
Scale		
Perceived self-efficacy	1–5	4.22 $\pm$ 0.49
Perceived importance	1–5	4.57 $\pm$ 0.45

Table 3: Correlation between the self-efficacy for clinical evaluation scale and other variables.

	Age	Work experience, years	Self-efficacy	Importance
Age	1			
Work experience, years	0.000	1		
Perceived self-efficacy	0.060	0.260	1	
Perceived importance	–0.197	0.164	0.029	1

biochemistry in the postgraduate education program. Midwives complete their bachelor education and then may receive academic degrees in other disciplines such as medicine and nursing [13].

Gijbels et al. showed that postgraduate midwifery and nursing education had an impact on changing students' attitudes and perceptions and acquiring academic knowledge and skills [13]. Nicolson et al. found that postgraduate course experience increased confidence and assertiveness in practice [14]. Hardwick and Jordan reported that postgraduate midwifery and nursing students' practice had changed as a result of the skills and knowledge acquired in their courses. Most of the students used their graduate skills in practice [15]. Spencer reported that postgraduate education had a positive effect on practice [16]. Goswami et al. conducted a study showing that postgraduate medical biochemistry students had an improvement in biochemical concepts and solving of a similar clinical problem [10]. In the present research, we determined a statistically significant difference between the self-efficacy subscale and the importance subscale. Professional confidence is among the most important factors because midwives are typically autonomous practitioners.

Bäck et al. found that it was not necessary for midwives to have worked for 20 years to gain competence [8]. In another study performed by Back et al., it was shown that external and internal factors such as clinical environment, self-efficacy, and confidence contributed to work

experience [5]. Yucel et al. showed that postgraduate education had a positive impact on the working life of most midwives [1]. The present study showed that the work experience of postgraduate midwifery students had a statistically significant difference compared to age. However, professional experience is a process.

Larsson et al. reported that professional identity consisted of thinking, reflection, and art of midwifery, and it took many years to acquire these [17]. Mollart et al. found that midwives who had spent 21 years or more in the profession experienced the most exhilaration compared to other professional groups [18]. We showed that no statistically significant difference was present between self-efficacy and age, nor with work experience. However, work experience was statistically significant when age did not display a significant difference compared to perceived importance. Since midwives have more years of work experience and have a more realistic perspective, they may not be as prone to burnout.

Conclusions

We have concluded that the courses related to biochemistry may positively affect the clinical skills of graduate midwifery students. More research is needed to examine the impact of the postgraduate training program on students' clinical self-efficacy. However, we recommend conducting research with a larger sample size to examine the effect of postgraduate midwifery education on clinical practice. We think that our study will benefit researchers working on this subject.

Study limitations

This study has some limitations. This study was carried out at a single state university. Given that the sample size was only 31 respondents, the results cannot be generalized to other groups. Because of variation in postgraduate midwifery programs worldwide, it is very difficult to comment on this subject.

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