Zeynep Kamil Med J 2021;52(1):38–45
DOI: 10.14744/zkmj.2021.47855

ORIGINAL ARTICLE

Turkish adaptation of the postpartum hemorrhage-specific self-efficacy scale: Validity and reliability

[1]Dilek COŞKUNER POTUR
[1]Gülten KARAHAN OKUROĞLU
[2]Yeliz DOĞAN MERİH

[1]Department of Nursing, Marmara University Faculty of Health Sciences, İstanbul, Turkey

[2]Health Sciences University Hamidiye Faculty of Nursing, İstanbul, Turkey

ORCID ID
DCP : 0000-0002-2186-4663
GKO : 0000-0003-2231-3924
YDM : 0000-0002-6112-0642

ABSTRACT

Objective: The aim of the study is to define the validity and reliability of the Turkish version of postpartum hemorrhage-specific self-efficacy scale.

Material and Methods: The study was conducted in methodological type. The sample of the study consisted of 238 physicians, nurses, and midwives, working in the delivery room, postnatal, and birth emergency areas for at least 2 years. The data were collected by introductory information form, generalized self-efficacy scale, and postpartum hemorrhage-specific self-efficacy scale in February-December 2018. The structural validity of the scale was evaluated by exploratory factor analysis. In the context of reliability analyses, Cronbach's alpha, the item-total score correlation and the parallel test methods were used.

Results: According to the factor analysis results, it was found that the two-factor structure explained 69.38% of total variance and that item loads ranged between 0.31 and 0.88. Item total score correlations were found to be between 0.42 and 0.77. Cronbach's alpha value was 0.92 for the whole scale. Positive and middle level correlation was found between both scales as a result of parallel testing (r=0.301; p=0.000). It was determined that the self-efficacy sub-dimension of the scale consisted of eight items and the collective efficacy sub-dimension of 13 items, and a total of 21 items. Fit indices were found to be at an acceptable level as a result of the confirmatory factor analysis (χ^2/df=3.08, RMSEA=0.09, GFI=0.91, AGFI=0.77, IFI=0.92, CFI=0.92, NFI=0.89, RFI=0.87).

Conclusion: The Turkish version of the Postpartum Hemorrhage-Specific Self-Efficacy Scale was found valid and reliable. The scale can be used to evaluate physicians, nurses, and midwives' self-efficacy perception specific to postpartum hemorrhage.

Keywords: Bleeding, postpartum hemorrhage, reliability, self-efficacy, validity.

Cite this article as: Coşkuner Potur D, Karahan Okuroğlu G, Doğan Merih Y. Turkish adaptation of the postpartum hemorrhage-specific self-efficacy scale: Validity and reliability. Zeynep Kamil Med J 2021;52(1):38–45.

Received: September 11, 2020 **Accepted:** January 20, 2021 **Online:** April 01, 2021
Correspondence: Dilek COŞKUNER POTUR, PhD. Marmara Üniversitesi Sağlık Bilimleri Fakültesi, Hemşirelik Bölümü, İstanbul, Turkey.
Tel: +90 216 777 57 76 **e-mail:** dilekcp@yahoo.com

INTRODUCTION

Maternal deaths, which are important criteria in determining countries' development level, are a universal health problem affecting developing countries the most.[1] The World Health Organization (WHO) and the United Nations (UN) tried to reduce maternal mortality by making various decisions in their health policies and set various goals.[2] The WHO and UN many international non-governmental organizations strive to achieve these goals by organizing joint studies and programs.[1,3] While maternal mortality was ranked fifth in the UN's Sustainable Development Goals (SDG) between 1990 and 2015, it rose to the third place in the SDGs determined for 2016–2030, and globally it is aimed to reduce the maternal mortality rate to below 70 per hundred thousand live births.[2–4] In 2017 reports of the WHO, it was stated that maternal deaths occurred during pregnancy, birth, or post-birth in 295,000 cases. The number of deaths out of 100,000 live births was 415 in underdeveloped countries, 543 in sub-Saharan African countries, 10 in European countries, 18 in North American countries, 211 globally, and 17 in Turkey.[3] In light of this data, it can be said that maternal mortality is globally decreasing. However, it is still quite far from the objective to decrease it below 70 out of 100,000 live births specified by the UN within the scope of SDG for 2016–2030, and the problem remains severe to this day.

Hemorrhage comes first in maternal mortality reasons globally and Turkey. One out of four maternal deaths (27.1%) in the world and one out of five maternal deaths (19.2%) in Turkey result from postpartum hemorrhage (PPH).[5,6] PPH is the most important obstetrical state of emergency that can develop following vaginal or cesarean birth.[7] Occupying an important place in maternal mortality, PPH is one of the preventable reasons for maternal mortality.[7] While PPH does not have a universally accepted definition, which refers to PPH as a type of hemorrhage that is more than 500 ml and occurs within 24 h of birth, and obstetrical bleedings causing a hemodynamic disturbance and threatening the mother's life.[8] Prevention of PPH and the awareness of health personnel (doctors, nurses, and midwives) about current implementations of its treatment and their active usage play a crucial role in preventing maternal deaths caused by hemorrhage.[9] Therefore, courses with various qualities have been being organized for 15–20 years to update health personnel's (doctors, nurses, and midwives) knowledge, remind them of the importance and sensitivity of the issue, and prepare them for obstetrical emergencies such as PPH.[10] In Turkey, Emergency Obstetric Care courses have been organized by the Turkish Ministry of Health General Directorate of Public Health, Department of Women's Health and Reproduction since 2009. The ministry has also published Emergency Obstetric Care Guide for health personnel to give a qualified, standard, and trustworthy service and provide unity in implementation in emergency obstetric situations.[11] Midwives/nurses are the health personnel that can specify abnormalities as fast as possible by monitoring the bleeding and involution of the mother during the postpartum period.[8] Today, postpartum bleedings are generally evaluated subjectively, as in visual guesses such as "very little," "little," "moderate," and "severe" bleeding in many clinics.[9–11] However, conducted studies put forward that visual guesses are not absolute. They tend to underestimate bleedings.[12,13] Only one out of nine women with PPH is diagnosed correctly, and even sometimes experienced gynecologists can be wrong.[14] Therefore, even the bleeding evaluation requires a certain professional experience, and wrong evaluations can lead to undesired results such as hemorrhagic shocks and mortality by delaying the PPH diagnosis.[13]

In this respect, health professionals (doctors, nurses, and midwives) monitoring the new mother during the postpartum period must have a high level of self-efficacy and self-sufficiency perception that can enable them to correctly implement the decisions they make in the face of an important obstetrical emergency, which could result in maternal death, such as PPH, besides having professional skills and experience that will help them be aware of abnormalities. The perception of self-efficacy and self-sufficiency demonstrates an individual's belief in his/her ability to determine and implement the required path to succeed in certain situations.[15]

Individuals with high self-efficacy and self-sufficiency perception choose to do harder work and direct themselves to achieve their goals. The higher the perceived self-efficacy and self-sufficiency is, the more efficient their efforts are.[16] Therefore, self-efficacy and self-sufficiency are important for health professionals (doctors and midwives/nurses) who can intervene in such a challenging obstetrical emergency as PPH.

Midwives/nurses must be aware that they cannot fight with a state of emergency such as PPH by themselves and take emergency action only after they call for help[8] because such a challenging obstetrical state of emergency as PPH requires fine teamwork.[17] In short, in PPH management, besides the self-efficacy of midwives/nurses and doctors, team efficacy is important. Team efficacy is defined as the shared belief in a team's ability to organize and manage the action phases required to produce certain skills.[18]

It is important to determine the health personnel's self-efficacy and team efficacy levels (doctors and midwives/nurses) who specialize in a vital field such as PPH. Therefore, Egenberg et al.[7] realized that there was no scale tool to determine the self-efficacy and team efficacy levels of health personnel. They developed a scale evaluating self-efficacy perception specific to PPH. In Turkey, it has been observed that there is no scale evaluating self-efficacy perception specific to PPH. This study is thought to contribute to the literature related to the field in question and provides researchers studying in this field with a scale tool that they can use. In this respect, this study has been designed to evaluate the validity and reliability of the scale for perceived PPH-specific self-efficacy for Turkish. In this study, answers will be sought for the questions of;

1. Is the Scale for Perceived PPH-Specific Self-Efficacy valid for Turkish doctors, nurses, and midwives?
2. Is the Scale for Perceived PPH-Specific Self-Efficacy reliable for Turkish doctors, nurses, and midwives?

MATERIAL AND METHODS

Type of Study

This study has been conducted as methodological.

The Sample and Population of the Study

Midwives, nurses, and gynecologists working in birthing, birthing emergency, and postpartum clinics at a private hospital specializing in gynecology located in the Anatolian side of Istanbul province be-

tween February and December 2018 have composed the population of this study. Midwives, nurses, and doctors who accepted to participate in the study and had at least 2 years of experience in birthing, birthing emergency, and postpartum clinics constituted its sample. In scale development studies, it is stated that data points must be 5–10 times more than the number of questions.[19] Within the scope of this study, considering that the Scale for Perceived PPH-Specific Self-Efficacy, projected to be adapted into Turkish, is composed of 21 items, the sample number was planned to be composed of at least 210 individuals, and the study was completed with 238 participants.

Data Collection Tools

Introductory Information Form, General Self-Efficacy/Sufficiency Scale, and the Scale for Perceived PPH-Specific Self-Efficacy Scale were used in data collection. These tools were handed to the individuals meeting the criteria to be included in the sample, and they were collected back 1 week later.

Introductory Information Form

This form, prepared by researchers following the literature, is composed of six questions evaluating the socio-demographical features of the participants (age, gender, education, profession, experience, and experience in the birthing field).

General Self-Efficacy Scale

This scale, whose validity and reliability check for Turkish was carried out by Gözüm and Aksayan (1999), was developed by Sherer and Maddux in 1982. Not belonging to any subjective field, it measures general self-efficacy perception. It is created as a 5-Likert type scale composed of 23 items. It generates at least 23 and at most 115 points. Participants are asked to choose one of the choices "1 – Does not define me; 2 – Somewhat defines me; 3 – Indecisive; 4 – Defines me well; 5 – Defines me extremely well" from every item, and points assigned to each item are taken as a basis. The scale has four subscales. The items 2, 4, 5, 6, 7, 10, 11, 12, 14, 16, 17, 18, 20, and 22 are reverse-scored. High points reflect a high general self-efficacy perception. Gözüm and Aksayan stated the Cronbach alpha internal consistency coefficient of the scale as 0.81.[20] The Cronbach alpha coefficient of the General Self-Efficacy Scale, used as a parallel scale in the study, was found to be 0.82.

The Scale for Perceived PPH-Specific Self-Efficacy

The scale for perceived PPH-specific self-efficacy was developed by Eggenberg et al.,[7] who was inspired by Bandura's self-efficacy concept, in 2017. It is a scale developed to evaluate health personnel's individual and collective efficacy levels when facing PPH. Self-efficacy and collective efficacy items were focused on the individual discipline and team sufficiency perceptions, respectively, in the face of PPH. While the first eight items in the scale measure PPH-specific individual self-efficacy, the items 9–21 measure collective efficacy. All the items except for the second one are reverse-scored. The total item points evaluate the scale. The points to be possibly earned from the scale range from one to eight, and while points close to eight reflect an increased self-efficacy, points close to one reflect a decreased self-efficacy in the two sub-scales and the whole scale.

Egenberg et al.[7] found the Cronbach alpha coefficient of the PPH-Specific self-efficacy sub-scale and collective efficacy subscale to be 0.95 and 0.96, respectively.

Evaluation of the Data

In evaluating the data, besides descriptive statistics such as percentage, frequency, mean, and standard deviation, the scale's language and construct validity were tested for its validity analysis. Construct validity test was carried out with exploratory and confirmatory factor analysis. Varimax rotation method was used in exploratory factor analysis. The data were deemed interpretable after the analysis of KMO and Bartlett's test results. Internal consistency analysis, item-rest and item-total correlations, and the parallel test method were used for reliability analysis.

Ethical Aspect of the Study

For the study to be carried out, ethical approval was obtained from the Clinical Research Ethics Committee of the hospital where the study was conducted (Approval Date: 22.12.2017; Decree No: 168), and institutional permission was attained from the institutions where the study was carried out. Before starting to collect data, the objective of the study was explained to participants, who then obtained general information about the study. The individuals who accepted to participate voluntarily in the study gave their written and verbal consent. Permission was obtained from Egenberg et al.,[7] the developer of the scale, for the Turkish adaptation of the scale.

RESULTS

The mean age of the participants was 38.35±8.38, and 83.12% of them were female, while 16.9% were male, and 36.9% were nurses, and their mean experience in years in the field of obstetrics and gynecology was 8.60±7.06. The socio-demographic data of the sample group are given in Table 1.

Validity Analysis

Language Validity

For the language validity of the scale, five translators having full knowledge of both English and Turkish languages first translated the original scale into Turkish. Then, the researchers selected the best statements among all the translations. After that, three translators re-translated into English with full command of both languages and different from the first group. The original scale and the English translations were compared. After necessary corrections, the Turkish form was created, and to evaluate its suitability in terms of meaning and clarity, the items in the scale were presented to Women's Health Nursing faculty members (n: 10) to obtain an expert opinion.

Content Validity

To assess the content validity, the opinions obtained from ten experts were analyzed with the Davis technique. In this technique, experts assess the scale items with a four-point rating system. The content validity rate (CVR) is calculated for each item and is obtained by dividing the number of the items with 3 or 4 points on the expert forms

Table 1: Socio-demographic data of the participants

Characteristics	n	%
Age (year), Mean±SD	38.35±8.38	
Experience (year), Mean±SD	9.53±8.58	
Experience in obstetrics (year), Mean±SD	8.60±7.06	
Gender		
Female	198	83.1
Male	40	16.9
Educational level		
High school	7.1	17
Associate degree graduate	4.6	11
Undergraduate	51.3	122
Faculty of medicine	15.9	38
Postgraduate	7.6	18
Doctorate/expertise in medicine	13.4	32
Profession		
Doctor	29.4	70
Midwife	34.5	82
Nurse	36.1	86

SD: Standard deviation.

by the total number of experts. The content validity index (CVI) is obtained by calculating the mean CVRs. It is recommended that the CVI be above 0.80 and the items with a CVR below 0.80 be eliminated (Şencan, 2005). In the analysis results, the items' CVRs were found to range from 0.90 to 1, and the CVI was observed to be 0.97.

Pilot Study

The final form of the scale in which its items were arranged was assessed in a ten-person group outside of the sample with the aim of the pilot study. During this pilot study, the researchers met face-to-face with the participants and assessed whether any items could not be understood on first reading. As a result of the researchers' pilot study, it was concluded that the items were understandable and clear.

Construct Validity

The factor analysis of the scale was carried out with exploratory and confirmatory factor analyses. Varimax rotation technique was used in exploratory factor analysis. The factor analysis was deemed interpretable after the analysis of KMO and Bartlett's test results. The KMO and Bartlett's test values were found to be 0.93 and 0.000, respectively.

On looking at the distributions of items to factors using the Varimax rotation technique, the scale was seen to accumulate in two factors. The two-factor construct was observed to explain 69% of the variance (Table 2). The scree plot graphic also confirmed the two-factor construct of the scale (Fig. 1). As it fits the original construct of the scale, the first factor comprises eight items, while the second is composed of 13 (Table 2). As shown in Table 2, the item factor loading

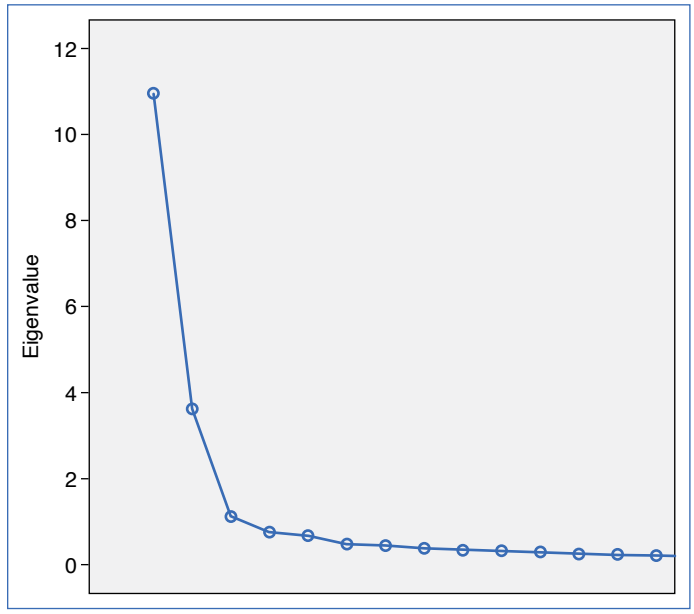

Figure 1: Scree plot graphic.

values were observed to range between 0.31 and 0.88. Item number 2 was found to have reverse loading just as in the original scale and receive loading from both factors.

Based on the confirmatory factor analysis, the scale's structural equation modeling result was significant with a value of P = 0.000, and the 21 items and the two sub-scales of the scale were determined to be related to the construct of the scale. Improvements were implemented on the modeling. During these improvements, the variables decreasing the fit level were specified, and among the remaining values, new covariances were created for the ones with a high covariance. The accepted values for the fit index were then met in fit index calculations, as shown in Table 3. The ratio of the Chi-square value to the degree of freedom (536.487/174) was determined to be 3.083. On reviewing the other fit indexes, the determined values were as follows; RMSEA=0.09, NFI=0.89, GFI=0.91, CFI=0.92, and AGFI=0.77. The model where the standardized parameter estimations related to the factors and the scale items are given is presented in Figure 2.

Reliability Analysis

In the item-total item-test analysis conducted for the reliability analysis of the scale, all the items' correlations were found to range between 0.42 and 0.77 (Table 2).

For internal consistency, the Cronbach alpha coefficient was calculated for the scale and its sub-scales. Item number 2 was re-coded for pre-analysis. The Cronbach alpha value was calculated to be 0.92 for the whole scale. The Cronbach alpha values for the Self-Efficacy and Collective efficacy sub-scales were 0.91 and 0.97, respectively (Table 4).

The parallel test method was implemented to determine the consistency coefficients within the scope of the reliability analysis of the scale. As shown in Table 4, a positive significant correlation between both scales was detected as a result of Spearman's correlation analysis (r=0.301; p=0.000).

Table 2: Factor analysis results of the scale for perceived postpartum hemorrhage-specific self-efficacy

Items	Factor load		Item total correlations
	1	2	
Item 14 As a team we help each other to prevent excessive PPH	0.88		0.76
Item 16 As team we can cope with PPH	0.87		0.77
Item 21 When PPH arises, our team is able to take action	0.87		0.68
Item 20 The team can handle PPH	0.86		0.69
Item 18 The team has usually a clear leadership in emergency situations like PPH	0.85		0.73
Item 17 As a team we are able to carry out the necessary actions to treat PPH	0.85		0.73
Item 15 I think that every member of the team will express clear messages during PPH	0.84		0.73
Item 19 As a team we communicate clearly and efficiently whenever PPH arises	0.83		0.68
Item 13 Everyone knows what to do during an ongoing PPH	0.83		0.75
Item 9 We are supportive towards each other when we are in demanding situations	0.79		0.72
Item 12 We are able to identify PPH in an early stage	0.77		0.72
Item 11 I think the team will share tasks in an appropriate way during PPH	0.74		0.73
Item 10 We as a team remain calm during situations with PPH	0.72		0.70
Item 2 PPH will make me paralyzed/unable to act. (reverse item)	-0.53	-0.31	0.57
Item 3 I can handle PPH whenever it happens		0.88	0.61
Item 7 I am confident in how to treat PPH		0.87	0.67
Item 6 I am able to identify PPH in an early stage		0.85	0.62
Item 4 I remain calm when handling PPH		0.85	0.62
Item 5 I have experienced that I am able to act in situations with PPH		0.85	0.56
Item 8 I can carry out the necessary actions to handle PPH		0.82	0.61
Item 1 I am able to stay calm in emergency situations		0.56	0.42
Variance It explains			
Factor 1	52.15%		
Factor 2	17.22%		
Total	69.38%		

PPH: Postpartum hemorrhage.

DISCUSSION

To test whether the sample magnitude was sufficient for exploratory factor analysis, the KMO and Bartlett's test values were taken as a basis. The KMO produces a value ranging from 0 and 1, and the closer to 1 a value is, the more sufficient the sample magnitude is reflected to be.[21,22] In this study, the KMO value was found to be 0.93. This value reflects that the sample magnitude is sufficient for factor analysis. Furthermore, a significant Bartlett's test value ($p<0.05$) demonstrates that the data set has multivariate normality.[21,22] The Bartlett's value was found to be 0.000 for this study, which shows that the factor analysis is interpretable.

After factor analysis, the scale was seen to display a two-factor construct. In the analysis of the scree plot graphic, it can be seen that the line between two points is a factor, and the distance between the points after the second factor is small and similar. This graphic confirms the two-factor construct of the scale.[21] The two-factor construct was seen to explain 69% of the variance (Table 2). The amount of total explained variance is expected to be above 30% in multifactor scales,[23] and each sub-scale is supposed to have at least 10% variance.[22] Egenberg et al.[7] stated the variance value of the two-factor construct of the original scale to be 43.8%. In this respect, the explained variance value obtained for this scale in the study is regarded as fit.

It was observed that the item factor loading values ranged from 0.31 to 0.88, and the item total correlations calculated for the reliability analysis of the scale were aligned between 0.42 and 0.77. The item factor loading value is supposed to be at least 0.32 or above during the scale development and adaptation process.[21,22] Furthermore, the item-total correlation value being 0.30 or above is stated to reflect that the items are sufficient in distinguishing the feature to be measured and fitted with the scale total.[21] The items with an item

Table 3: Fit index results from confirmatory factor analysis

	Fit indices	Recommended values
χ^2/df	3.08	≤5
RMSEA	0.09	≤0.08
GFI	0.91	≥0.85
AGFI	0.77	≥0.85
IFI	0.92	≥0.90
CFI	0.92	≥0.90
NFI	0.89	≥0.90
RFI	0.87	≥0.90
	χ^2: 536,487, df: 174, P: 0.000	

RMSEA: Root Mean Square Error of Approximation; GFI: Goodness of Fit Index; AGFI: Adjusted Goodness of Fit Index; IFI: Incremental Fit Index; CFI: Comperative Fit Index; NFI: Normed Fit Index; RFI: Relative Fit Index.

Table 4: Reliability analysis results of the scale for perceived postpartum hemorrhage-specific self-efficacy

	C. Alpha	Mean±SD	Parallel test	
		Min–Max	r*	p
General self-efficacy scale		141.09 (19.66)	301	0.000
		79.00–168.00		
Postpartum hemorrhage self-efficacy scale	0.92	6.71 (0.93)		
		3.76–8.00		
Self-efficacy	0.91			
Collective efficacy	0.97			

*: Spearman's correlation test used. P<0.001.

factor loading value below 0.32 are recommended to be excluded from the scale. However, some views defend that no item should be discarded to remain faithful to the original scale in scale adaptation studies. In this study, item number 2 is a reverse item and receives -0.31 load from the first factor and -0.53 load from the second factor. Even though the load amount that item number 2 receives from the second factor, it was deemed fit that this item would be included under the first factor to remain faithful to the original construct of the scale. The item factor loading values of the original scale was seen to range from 0.62 to 0.91. In scale adaptation studies, item clarity is affected by cultural and linguistic differences. Such differences were thought to cause lower item loading values to be obtained in the Turkish version of this scale.

After evaluating the fit statistics obtained from CFA, it was concluded that the GFI and AGFI indexes being above 0.85 and the IFI, RFI, NFI, and CFI indexes being above 0.90 reflect an acceptable

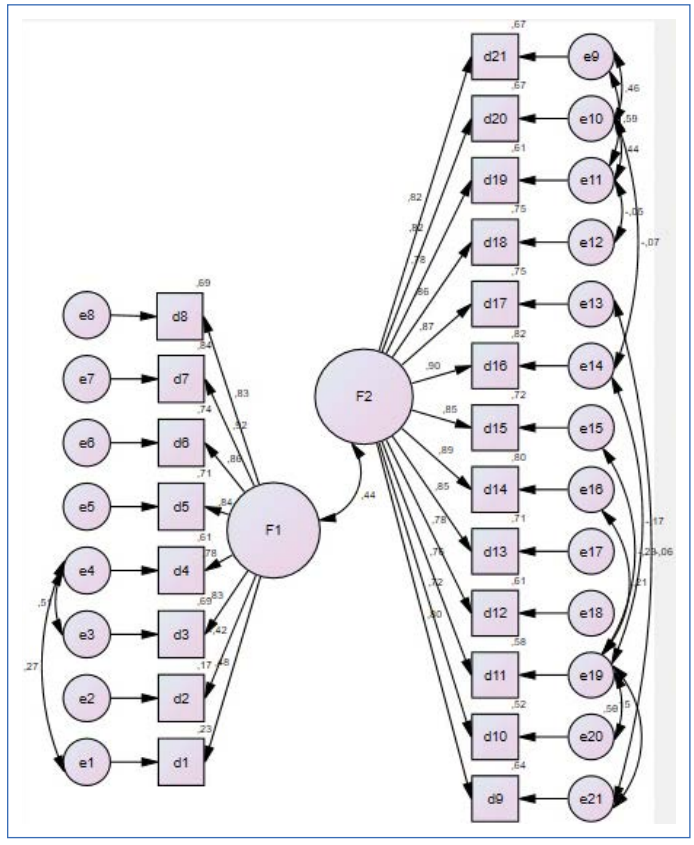

Figure 2: CFA results of the perceived postpartum hemorrhage-specific self-efficacy scale.

fitness.[23–25] The NFI and RFI indexes for this scale were seen to be extremely close to acceptable values. The CFI and IFI indexes being above 0.90 show that they have good fit values. It is also stated that an RMSEA value below 0.08 reflects the goodness of fit, while below 0.10 demonstrates an acceptable fit level, while the ratio of the chi-square value to the degree of freedom being below 5 indicates a good fit level.[23–25] For this scale, the RMSEA index was seen to be 0.09, extremely close to the acceptable fit criterion. After analyzing the CFA results, the ratio of the Chi-square value to the degree of freedom was seen to be 3.083 (p=0.000). This value being below 5 reflects a good fit level.[23–25] After reviewing the goodness of fit indexes obtained from the confirmatory factor analysis, the model is regarded as fit.

The Cronbach alpha value, calculated to determine the scale's internal consistency reliability, was found to be 0.92 for the whole scale, 0.91 for the self-efficacy sub-scale, and 0.97 for the collective efficacy sub-scale. In the original scale, Egenberg et al.[7] calculated the internal consistency coefficients to be 0.95 for the self-efficacy sub-scale and 0.96 for the collective efficacy sub-scale. These coefficients are seen to be close to the Turkish version. Scales with a reliability coefficient of 0.70 or above during scale development and adaptation processes are stated to be reliable.[22,23] In this respect, the Cronbach alpha values were high for the whole scale and its sub-scales.

In determining the parallel form reliability, the correlation between the points obtained from two-scale tools is looked at by implementing a

different scale tool that has the same qualities to the same individuals at the same time. The general self-efficacy/sufficiency scale, whose validity and reliability have been proven in the Turkish language, was referred for the parallel form reliability. A positive significant correlation was found between the general self-efficacy/sufficiency scale and the scale for perceived PPH-specific self-efficacy (r=0.301; p=0.000). A correlation value between 0.70 and 1.00 reflects a high-level correlation, while a value between 0.30 and 0.70 demonstrates a mid-level correlation.[23] A mid-level positive significant correlation was found between the general self-efficacy/sufficiency scale and the scale for perceived PPH-specific self-efficacy used in this study. This result is important in terms of the reliability of the scale.

CONCLUSION

The results obtained from the study have shown that the exploratory factor analysis and confirmatory factor analysis results of the Turkish version of the scale for perceived PPH-specific self-efficacy are acceptable, and its reliability indexes are high. In this respect, the two-factor and 21-item form of the scale has been regarded as a valid and reliable tool that could be used to measure the perceived PPH-specific self-efficacy/sufficiency levels Turkish doctors, nurses, and midwives working in the field of gynecology.

Study Limitations

The results of this study are limited to the health professionals of the hospital where it was carried out. Therefore, the inability to generalize the results of this study to every health personnel working in gynecology is one of the limitations of the study. The small number of doctors and male health professionals participating in the study constitutes another limitation.

Statement

Ethics Committee Approval: The Zeynep Kamil Women and Children Diseases Training and Research Hospital Clinical Research Ethics Committee granted approval for this study (date: 22.12.2017, number: 168).

Informed Consent: Written informed consent was obtained from participants who participated in this study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept – DCP, GKO, YDM; Design – DCP, GKO, YDM; Supervision – DCP, GKO; Resource – DCP, GKO; Materials – DCP,GKO, YDM; Data Collection and/or Processing – DCP, YDM; Analysis and/or Interpretation – GKO; Literature Search – DCP, YDM; Writing – DCP, GKO; Critical Reviews – DCP, GKO.

Conflict of Interest: The authors have no conflict of interest to declare.

Financial Disclosure: The authors declared that this study has received no financial support.

REFERENCES

1. Aygar H, Metintaş S. Bir kalkınma göstergesi olarak anne ölümleri. Estüdam Halk Sağlığı Derg 2018;3(3):63–70.
2. Öztek Z. Temel Sağlık Hizmetleri 1978-2018. Ankara: Turkish Society of Public Health Specialists; 2018.
3. World Health Organization. Trends in Maternal Mortality 2000 to 2017: Estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division: Executive Summary. Geneva: World Health Organization; 2019. Avaılable from: https://www.who.int/en/news-room/fact-sheets/detail/maternal-mortality. [Last accessed on 2020 May 23].
4. United Nations Sustainable Development Goals. 17 Goals to Transform Our World. Goal 3: Good Health and Well-Being 2017. Washington, DC: World Bank; 2016. Avaılable from: http://www.un.org/sustainabledevelopment/health. [Last accessed on 2020 May 30].
5. Fillippi V, Chou D, Ronsmans C. Levels and causes of maternal mortality and morbidity. In: Black RE, Laxminarayan R, Temmerman M, Walker N, editors. Reproductive, Maternal, Newborn, and Child Health: Disease Control Priorities. 3rd ed., Vol. 2, Ch. 3. Washington, DC: The International Bank for Reconstruction and Development, The World Bank; 2016.
6. Şencan İ, Engin-Üstün Y, Sanisoğlu S, Özcan A, Karaahmetoğlu S, Keskin HL, et al. 2014 yılı Türkiye ulusal anne ölümlerinin demografik verilere göre değerlendirilmesi. Jinekoloji-Obstetrik ve Neonataloji Tıp Dergisi 2016;13(2):45–7.
7. Egenberg S, Øian P, Eggebø TM, Arsenovic MG, Bru LE. Changes in self-efficacy, collective efficacy and patient outcome following interprofessional simulation training on postpartum haemorrhage. J Clin Nurs 2017;26(19–20):3174–87.
8. Canbay FC, Şeker S, Çitil E. Doğum sonrası kanamanın önlenmesi ve yönetiminde ebelerin sorumlulukları. Balıkesir Sağlık Bilimleri Derg 2019;8(2):91–8.
9. Küçükoğlu S. Postpartum İlk 24 Saatte Kan Kaybının Değerlendirilmesinde; Görsel Tahmin, Kan Miktarının Tartılması, Klinik Belirti ve Bulgularının Kullanımı. (Yayınlanmamış Yüksek Lisans Tezi). İstanbul: Marmara Üniversitesi Sağlık Bilimleri Enstitüsü; 2019.
10. Bergh AM, Baloyi S, Pattinson RC. What is the impact of multi-professional emergency obstetric and neonatal care training? Best Pract Res Clin Obstet Gynaecol 2015;29(8):1028–43.
11. T.C. Sağlık Bakanlığı. Türkiye Halk Sağlığı Kurumu, Acil Obstetrik Bakım Yönetim Rehberi. Ankara: Sistem Ofset Yayıncılık; 2018.
12. Al Kadri HM, Al Anazi BK, Tamim HM. Visual estimation versus gravimetric measurement of postpartum blood loss: A prospective cohort study. Arch Gynecol Obstet 2011;283(6):1207–13.
13. Yoong W, Karavolos S, Damodaram M, Madgwick K, Milestone N, Al-Habib, et al. Observer accuracy and reproducibility of visual estimation of blood loss in obstetrics: How accurate and consistent are health-care professionals? Arch Gynecol Obstet 2010;281(2):207–13.
14. Razvi K, Chua S, Arulkumaran S, Ratnam SS. A comparison between visual estimation and laboratory determination of blood loss during the third stage of labour. Aust N Z J Obstet Gynaecol 1996;36(2):152–4.
15. Uğur E. Yönetici Hemşirelerin Koçluk Becerileri ve öz-Etkililik-Yeterlilik Algılamaları. (Yayınlanmamış Doktora Tezi). İstanbul: Marmara Üniversitesi Sağlık Bilimleri Enstitüsü; 2010.
16. Koçak MY, Büyükyılmaz F. Hemşirelerin öz-yeterlilik algıları ile problem çözme becerilerinin incelenmesi. J Acad Res Nurs 2019;5(3):169–77.
17. Siassakos D, Bristowe K, Draycott TJ, Angouri J, Hambly H, Winter C, et al. Clinical efficiency in a simulated emergency and relationship to team behaviours: A multisite cross-sectional study. BJOG 2011;118(5):596–607.
18. Bandura A. Self Efficacy: The Exercise of Control. New York: Freeman, Barbuto; 1997.
19. Tavşancıl E. Tutumlarin Ölçülmesi ve SPSS Ile Veri Analizi. Ankara: Nobel Yayınevi; 2006.

20. Gözüm S, Aksayan S. Öz-etkililik-yeterlik ölçeği'nin Türkçe formunun güvenilirlik ve geçerliliği. Anadolu Hemşirelik Sağlık Bilimleri Derg 1999;2(1):21–34.
21. Seçer İ. Psikolojik Test Geliştirme ve Uyarlama Süreci; SPSS Ve LİSREL Uygulamaları. Ankara: Anı Yayıncılık; 2018.
22. Şencan H. Sosyal ve Davranışsal Ölçümlerde Güvenilirlik ve Geçerlilik. Ankara: Seçkin Yayınevi; 2005.
23. Büyüköztürk Ş. Sosyal Bilimler İçin Veri Analizi el Kitabı. Ankara: Pegem; 2009.
24. Çokluk Ö, Şekercioğlu G, Büyüköztürk Ş. Sosyal Bilimler İçin Çok Değişkenli SPSS ve LİSREL Uygulamaları. Ankara: Pegem Yayıncılık; 2012.
25. Şimşek ÖF. Yapısal eşitlik Modellemesine Giriş; Temel İlkeler ve LİSREL Uygulamaları. Ankara: Ekinoks Yayıncılık; 2007.