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Research Article

The Effect of Self-Awareness and Problem-Solving Skills Training Based on Edugames on Burnout in Midwives

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Abstract

Aims: This study aimed to determine the effect of edugame-based self-awareness and problem-solving skill training on burnout in midwives.
Methods: The study used a repeated measurement-quasi-experiment design in a hospital in Bekasi, West Java, with 120 midwives in both groups.
Results: Emotional exhaustion (Eta = 0.05, p = 0.443), depersonalization, (Eta = 0.03, p = 0.718) and personal accomplishment scores (Eta = 0.08, p = 0.694) did not change significantly in the control group. At the same time, interventions reduced the total score of emotional exhaustion (Eta = 0.26, p = 0.001), depersonalization (Eta = 0.20, p = 0.010), and personal accomplishment (Eta = 0.35, p = 0.001).
Conclusions: Midwives were more likely to accept their emotional exhaustion after intervention, were able handle depersonalization and performed personal accomplishment. The study underscores the significance of midwives' self-awareness and problem-solving skills in identifying burnout symptoms, advocating for change, and providing necessary support services.

Keywords:
Burnout, Edugame, Midwives, Problem-Solving Skills, Self-Awareness

INTRODUCTION

Midwives play a vital role in lowering maternal mortality rates (1-3) by providing continuous health services such as prenatal, delivery, and postpartum care, as well as initiatives for developing, improving, and protecting mother and child health. In Indonesia, the population-to-midwife ratio remains quite high, with one midwife serving every 850 people in 2021 (4). With such a high ratio, midwives' workload is significantly increased, which is contrary to WHO standards of 1: 345 (5). Furthermore, past research has shown that many midwives face stress and mental health difficulties while working under high expectations and playing a significant role in aiding pregnant women throughout delivery (6,7). Whereas delivery is a vital time in the mother's and her baby's battle for life or death. Furthermore, work satisfaction among midwives remains poor, leading to high rates of exhaustion, burnout, and turnover (8,9).

Burnout is caused by extended professional stress, which involves emotional weariness, depersonalization, and a lack of personal success (10). A comprehensive analysis

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found that the frequency of burnout among midwives ranged from 34 to 50% and increased with age (7, 11, 12). Burnout among midwives may have an influence on the services provided to pregnant mothers and their newborns (6,11). Furthermore, burnout contributes to a high turnover rate among midwives, which has an influence on the system and administration of services in hospitals and clinics (13). So an early, imaginative, and productive effort is required to combat midwife burnout and turnover.

Self-awareness and problem-solving abilities are critical for personal and professional growth, allowing people to deal with daily challenges autonomously (14). The ability to be self-aware is critical for maintaining healthy interpersonal and social connections because it fosters greater comprehension, lessens the likelihood of conflict, and eliminates feelings of inadequacy or worry (15). Those who work in the medical field possess essential qualities that strengthen their sensitivity to the needs of others, as well as their capacity for caring and problem-solving, which allows them to thrive even in challenging circumstances (16). As a result, the objective of this research is to investigate the impact that training in self-awareness and problem-solving abilities based on edugame on burnout among midwives.

METHODS

Study design

This study used a repeated measurement-quasi-experiment two group PreTest – PostTest Design in the working area of health centers in West Java. In this study there was a comparison group (control) and an intervention group. The intervention was given for 2 months, then data collection is carried out twice, namely after the intervention and one month after the intervention.

Sample

The sample for this research consisted of midwives who fulfilled the following criteria: (1) having worked for a minimum of one year, (2) being at least 25 years old, and (3) being willing to participate as respondents. The exclusion criteria were as follows: (1) midwives who were on maternity leave. The following formula for each group is used to determine the number of samples necessary at a 95% confidence level with a test power of 80%:

$$n = \frac{\left(z_{1-\frac{\alpha}{2}}+z_{1-\beta}\right)^2\left(SD_1^2+SD_2^2\right)}{(\mu_1-\mu_2)^2} = \frac{(1.96+.84)^2(22.14^2+26.44^2)}{(121.6-140.73)^2} = 25$$

The final sample size for each group is 35 subjects, as the number of groups exceeds two, as determined by the following formula:

$$n^* = n\sqrt{g\text{-}1} = 25\sqrt{3\text{-}1} = 35$$

Assuming a 50% attrition rate, the total number of samples is 120, with 60 samples in each category. The allocation of participants to each category was determined by the permissible block randomization. Double-block randomization involves the matching of the intervention and control groups. Subsequently, 60 random numbers between 1 and 6 were generated in R Software, as each group comprises 60 samples. Subsequently, participants who satisfied the inclusion criteria were assigned to one of the groups using double block randomization and the random numbers generated by the R Software device.

Instrument

Burnout was assessed using the Maslach Burnout Inventory Human Service Survey (MBI) (10), a 22-item, 22-part survey that assessed subscales across three distinct dimensions: emotional depletion (10 items), depersonalization (5 items), and personal accomplishment (7 items). Respondents evaluate the frequency with which they encounter a variety of work-related emotions on a ten-point scale, which spans from never to every day. Low scores on the personal accomplishment scale and

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high scores on emotional exhaustion and depersonalization are considered indicative of fatigue.

Procedure

Pre-test assessment was conducted 2 weeks before the intervention and was conducted. Before and after measurements were conducted on approximately the same day for each participant. The intervention period lasted for 8 weeks. Participants in the intervention group will use the edugame application where participants practice twice a week for 15 to 20 minutes for 2 months resulting in a total of 12 training sessions. Training is conducted in the STIKes Abdi Nusantara training room or the Hospital where the research is conducted offline to explain the use of the edugame application, usage techniques, and evaluation systems. Furthermore, participants can do it themselves in their respective places, according to the schedule and frequency that has been determined. To ensure that participants use the edugame application, the log in/log out system, reminders and notifications, and log books will be used in this study. In addition, each participant will get a star according to the level of achievement in the training so that there is competence between participants in the training. Every month, a face-to-face meeting will be held to update training materials and follow-up from the training. Participants from the control group will not be given any intervention, but after the research is completed, participants from the control group will receive the same training with the same duration and frequency.

Data analysis

Statistical analysis was carried out using SPSS 23.0 for Windows. Significance was defined as $p < 0.05$. Participants had a 70% training adherence requirement for analysis. All data were descriptively provided (frequency, median, interquartile range). ANCOVA was used to compare pre- and post-intervention scores in both groups.

RESULTS

In the intervention group, the mean age of midwife was 36.98 (SD=9.52), 66.7% had diploma III, 75% married, 55% worked at gynaecology ward, and 61.7% governmental employee, and had working experience about 13.76 ± 4.09 year. While in the control group, the mean age of midwives was 35.62±8.66, 61.7% had diploma III degree, 78.3% married, 40% worked at gynaecology ward, 53.3% governmental employee, and had working experience about 13.08±5.73 year.

There was no statistically significant change in the control group's emotional exhaustion (Eta=0.05, p=0.443), depersonalization (Eta=0.03, p=0.718), or personal achievement ratings (Eta=0.08, p=0.694). Simultaneously, treatments mitigated emotional tiredness (Eta = 0.26, p = 0.001), depersonalization (Eta = 0.20, p = 0.010), and personal achievement (Eta = 0.35, p = 0.001). After the intervention, midwives were better able to cope with depersonalization, attain personal goals, and accept their emotional weariness (Table 1).

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Table 1.
Dependent variables change during three phases of study in the control and intervention groups

Group	Variables	Mean ± SD			F	p-value	Eta
		Pre-test	Post-test	Follow Up			
Intervention group	Emotional exhaustion	23.22±7.43	20.09 ±9.33	18.12±9.52	8.33	0.001	0.26
	Depersonalization	14.22±5.25	12.67 ±5.11	11.18±5.57	3.45	0.010	0.20
	Personal accomplishment	35.13±11.2	38.15 ±13.7	41.32±10.3	7.32	0.001	0.35
Control group	Emotional exhaustion	23.5±1.25	22.0 ±1.27	24.8±1.21	1.33	0.443	0.05
	Depersonalization	13.09±4.25	13.10 ±3.56	12.94±6.42	0.65	0.718	0.03
	Personal accomplishment	37.13±15.6	38.15 ±11.8	37.8±14.3	0.79	0.694	0.08

There was no significant difference in personal achievement scores between the control group and the treatments group at the post-test phase, although the interventions group reported lower scores on emotional weariness and depersonalization ($p < 0.05$). During the follow-up phase, the intervention group showed considerably less emotional tiredness and depersonalization compared to the control group ($p < 0.05$). By the time the treatments reached the follow-up phases, the control group had achieved considerably lower personal achievement scores ($p = 0.001$). When comparing the two groups at the follow-up phase, we found that emotional weariness, depersonalization, and personal achievement were significantly different (Table 2).

Table 2.
Dependent variables differences between the control and intervention groups adjusted for baseline variables

Phase	Variables	Modified mean ± SE		F	p-value	Eta
		Intervention	Control			
Post-test	Emotional exhaustion	16.33 ± 7.52	19.12 ± 9.52	3.45	0.001	0.15
	Depersonalization	14.21 ± 4.50	14.18 ± 5.57	0.38	0.012	0.538
	Personal accomplishment	40.44 ±11.32	40.21±14.3	0.016	0.167	0.012
Follow-up	Emotional exhaustion	17.52 ± 6.14	19.8 ± 1.21	3.112	0.012	0.24
	Depersonalization	12.09 ± 5.57	14.33 ± 5.14	4.921	0.001	0.26
	Personal accomplishment	41.11 ± 12.7	39.2 ± 14.0	5.391	0.001	0.34

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DISCUSSION

This study reported that self-awareness and problem-solving skills training based on edugames could decreased burnout syndrome among midwives. Self-awareness is one of the abilities that is necessary for interpersonal and social connections. This is due to the fact that when individuals acquire a profound understanding of themselves, they are better able to comprehend others, they have less conflicts, and they do not experience feelings of inferiority or anxiety (17). The cognitive-behavioral process of problem resolution entails the identification of solutions that are both adaptable and practical to challenges that are encountered in daily life (18). When people acquire this talent, they are better able to recognize issues and find suitable solutions via the process of negotiation (19). According to the findings of a number of studies, self-awareness and problem-solving abilities are categories of self-control that enable people to deal with the obstacles that are inevitably going to be encountered in their lives on their own (20). The ability to empathize with other people, to settle conflicts in a calm manner, and to cope with social pressures without needing to avoid or retreat from them is enhanced in those who have a high sense of self-awareness (15). There have been a number of studies that have found that training in problem-solving skills and self-awareness have been demonstrated to be useful in enhancing employment satisfaction (21). In addition, additional research has shown that training in self-awareness might have an effect on burnout on its own (22). The aforementioned study, on the other hand, makes use of traditional training techniques such as lectures, questions and answers, and interfaces, which often result in participants becoming bored throughout the training. In the present day, as a result of the ongoing development and advancement of technology, mobile phones that were before used only for the purpose of transmitting voice and text messages are now transforming into smart phones or smartphones.

The use of games as a tool has a significant impact on both the development of current technologies and the way people live their lives. Games are something that cannot be separated from life, particularly for youngsters, since those who play them might get addicted to them. Games can also be a source of enjoyment or a revitalizing tool to alleviate boredom from all of the everyday routines that have been left behind (23). The development of more sophisticated technology in this world is another factor that has contributed to the formation of a wide variety of games, including instructional games. Despite the fact that this would be an innovative approach to increasing self-awareness and problem skills of midwives with interactive learning and the ability to stimulate self-awareness and problem skills of midwives, the use of edugames as a medium for training self-awareness and problem skills has not been used or developed in Indonesia or anywhere else in the world.

CONCLUSION

This study found that the use of games as a tool in self-awareness and problems solving training has a significant impact on reducing burnout among midwives. The study emphasizes the importance of monitoring and addressing burnout, as well as enhancing self-awareness and problem-solving skills among midwives. It is imperative that midwives have the right training to enable them to identify the signs and symptoms of burnout in a timely manner, advocate for changes in work practices, and ensure that support services are made available.

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