Journal of Midwifery & Reproductive Health

JMRH.mums.ac.ir

The Effect of Spiritual Intelligence Training on Job Stress, Self-Efficacy and Spiritual Intelligence of Midwives Working in Hospitals

Sahar Yazdanbakhash (MSc)[1], Shirali kharamin (PhD)[2], Seyed Mahmod Latifi (PhD)[3], Zahra Abbaspoor (PhD)[4*]

[1] MSc in Midwifery, Department of Midwifery, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
[2] Associate Professor, Social Determinants of Health Research Center, Yasuj University of Medical Sciences, Yasuj, Iran
[3] Assistant Professor, Department of Epidemiology and Biostatistics, School of Public Health, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
[4] Professor, Department of Midwifery, Reproductive Health Promotion Research Center, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

ARTICLE INFO

Article type:
Original article

Article History:
Received: 16-Jun-2023
Accepted: 02-Jun-2024

Key words:
Spiritual Intelligence
Job Stress
Self-efficacy
Midwives

ABSTRACT

Background & aim: Self-efficacy is a crucial factor in effective performance under emergency and high-stress conditions common in midwifery. This study aimed to determine the impact of spiritual intelligence training on job stress and self-efficacy of midwives.

Methods: This quasi-experimental study was conducted on 60 midwives from three governmental hospitals in Ahvaz, Iran, who were assigned to intervention and control groups. The intervention group received eight sessions of spiritual intelligence training over eight weeks, while the control group received no training. Data were collected using standardized questionnaires on job stress, self-efficacy, and spiritual intelligence and analyzed using SPSS version 25 with independent t-test, Paired t-test and repeated measures tests.

Results: Before the intervention, no significant differences were observed between the two groups in job stress, self-efficacy or spiritual intelligence. After the intervention and at four-week follow-up, the intervention group showed a significant reduction in job stress (65.3 ± 7.66 vs. 76.4 ± 8.3) and significant increases in self-efficacy (56.2 ± 5.49 vs. 50.35 ± 5.5) and spiritual intelligence (70.36 ± 5.5 vs. 56.8 ± 8.6) compared with the control group ($P < 0.001$).

Conclusion: Considering the findings of this study, which indicate that spiritual intelligence training reduces Job stress and enhances self-efficacy and spiritual intelligence among midwives, hospital managers can effectively alleviate job stress and enhance midwives' self-efficacy through focusing on the development of their spiritual intelligence.

▶ Please cite this paper as:
Yazdanbakhash S, kharamin Sh, Latifi SM, Abbaspoor Z. The Effect of Spiritual Intelligence Training on Job Stress, Self-Efficacy and Spiritual Intelligence of Midwives Working in Hospitals. Journal of Midwifery and Reproductive Health. 2026; 14(1): 5265-5276. DOI: 10.22038/jmrh.2024.73123.2138

Introduction

Midwifery is a profession that is predominantly designated for women due to religious and cultural convictions, encompassing significant physical and psychological demands (1). Nonetheless, women have a vital role to play in matters concerning their families, and the psychological stress they encounter in their professional lives not only endangers their physical and mental well-being but also result in individual, familial, and societal disturbances (2). Work-related stress, as defined by WHO in 2016, is the result of individuals facing work demands and pressures that do not align with their knowledge and abilities, thereby challenging

* *Corresponding Author*: Zahra Abbaspoor, Professor, Department of Midwifery, Reproductive Health Promotion Research Center, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran. Tel: 00989166152841, Email: abbaspoor_z762@yahoo.com

their coping abilities (3). Within the realm of stress, job stress emerges as a distinct type. It encompasses the unfavorable physical and psychological responses that individuals encounter when the demands of their occupation fail to align with their capabilities, resources, or personal needs (4).

According to the World Health Organization, over 50% of employees in industrialized countries complain of work-related stress (5). Knezevic et al. (2011) conducted a study on the work-related stress experienced by midwives working in Greek hospitals. Inadequate staff, unforeseen events, insufficient income, night shifts, and childbirth were all highlighted by 30% of these individuals as the sources of their stress. Additionally, a significant percentage of midwives (43.3%) have highlighted inadequate work organization and their interactions with superiors (supervisors and department managers) as significant stress-inducing factors (6). The study conducted by Hasheminejad et al. (2013) revealed that midwives had an average job stress score of 77.6% (1). Compared to other health professions, midwives working in Swiss maternity hospitals experienced higher levels of work-related stress and a stronger intention to seek alternative employment opportunities (7).

Self-efficacy is a crucial concept that influences an individual's performance in demanding circumstances. It pertains to the extent to which individuals believe in their ability to achieve success and their level of motivation. It influences individuals' thoughts, feelings, and performance and is considered a regulatory factor and performance predictor in difficult situations (8). It was noted by Bandura that self-efficacy is the way in which individuals view their own capabilities and self-assurance when performing tasks in a specific situation (9). The clinical performance self-efficacy of midwives was measured to be 91.9% in study conducted by Rezaei et al. (2016) (10).

Individuals with low self-efficacy have negative thoughts about their abilities, and they tend to avoid situations that exceed their perceived capabilities (11). Therefore, these individuals may avoid situations where they believe the current state is unsolvable, leading to stress, depression, and narrow-mindedness in problem-solving (12). Insufficient self-confidence may result in heightened increased work-family conflicts. Various solutions have been proposed to reduce job stress, including social and managerial support, coping skills training, and the use of experienced counselors to ensure the mental health of staffs (14). In recent times, much attention has been given to identifying the sources of stress and the methods individuals use to cope with it. It has been evidenced that employing effective coping styles plays a pivotal role in mitigating stress levels (15). In the study conducted by Bloom (2017), relaxation exercises were employed during employees' leisure time as a means of alleviating stress (16). By fostering a sense of happiness, motivation, capability, resilience, and embracing the belief in a higher power or "God," individuals were able to effectively modify their attitudes, leading to a reduction in stress levels (17). Makki (2006) also emphasizes the importance of shifting the perspective of nurses on stress and stressors as a tactic for stress management (18). Utilizing the evidence-based teaching method in a study led to a significant improvement in the self-efficacy of nursing students, particularly within the intervention group where self-efficacy scores were notably higher (19). Furthermore, the cognitive-behavioral method of teaching happiness has been employed to enhance self-efficacy beliefs (20). In recent decades, psychologists and mental health experts have shown a growing interest in the concept of spiritual intelligence, which has been developed and emphasized within the realm of religion and spirituality (21). The World Health Organization classifies humans as biological, psychological, social, and spiritual beings, with spirituality being recognized as an essential component. Spiritual intelligence encompasses a range of abilities, capacities, and spiritual resources that, when employed in everyday life, can enhance an individual's adaptability (22). The ruler contemplates the four fundamental aspects of spiritual intelligence, which include: a) critical existential thinking, b) personal meaning production, c) transcendental awareness, and d) conscious state expansion (23). As per McSherry et al. (2002), spiritual intelligence is viewed as the fundamental core of an individual's beliefs, determining the trajectory of their life (24). Individuals possessing high spiritual intelligence

demonstrate enhanced flexibility, self-awareness, and a heightened ability to confront obstacles and challenges (25). In research conducted by Barouj Kiyakala et al. (2021), it was revealed that the package of training programs for spiritual intelligence has proven to be successful in enhancing productivity and promoting organizational commitment (26).

Also, in a study conducted by Iqbal et al. (2022), it was found that spiritual intelligence had a significant impact on the resilience of the nurses. Furthermore, another research study indicated that the joint presence of spiritual intelligence and resilience was a significant factor in predicting the level of self-efficacy among nurses (27). The implementation of spirituality has been identified as a potent resource in assisting individuals to effectively cope and adjust in the face of obstacles. By embracing spiritual values, employees can not only improve their work-life quality but also play a pivotal role in enhancing the overall performance of the organization (28). Current research has shown a clear correlation between spiritual intelligence, job-related stress, and mental health (29). Nevertheless, there is a lack of knowledge regarding the specific influence of spiritual intelligence on midwives' stress levels and self-efficacy. Midwifery is a stressful job and it is necessary to prevent the mental and behavioral effects of stress(7). Also, since the management role is crucial in improving the mental health of midwives, and also based on the researcher's review, the identified studies were descriptive-analytical or correlational in nature, this study conducted to investigate the effect of spiritual intelligence training for midwives on job stress and self-efficacy.

Materials and Methods

A quasi-experimental study was conducted with a pretest-posttest design and a control group to examine the impact of spiritual intelligence enhancement on job stress and self-efficacy of midwives. The study was conducted on 60 employed midwives in the maternity, postpartum, and women and infant wards of three governmental hospitals in Ahvaz, Iran, from Feb. to Oct. 2020. The inclusion criteria include: 1) having a minimum midwifery associate education; 2) having working experience of at least six months and three months at the current workplace; 3) not having a history of taking drugs or being hospitalized due to mental illness; 4) not having major stress (seriousness of oneself, spouse, or children; death of a close relative; immigration; an accident; severe family disputes); and 5) failure to participate in the spiritual intelligence and stress management workshop. And the exclusion criteria included: 1) unwillingness to continue the plan; 2) absence from more than one training session.

The sample volume was measured according to Cochran's formula at a confidence level of 95% as follows: $n=\delta^2*z^2\ 1-\alpha/2\ /D^2$; n = sample size; δ^2 = community variance based on past studies (32), which is equal to 0.78. $Z^2\ 1-\alpha/2$ = confidence level for two-domain hypotheses, which is equal to 1.96 at the 95% level. D^2 = acceptable error which is equal to 0.05. $n=0.78*1.96\ /.025 \cong 60$.

To initiate the study, a call for participation in the spiritual intelligence training program was announced in three hospitals, and 80 midwives voluntarily enrolled in the study and assessed for eligibility. Of these, 15 midwives did not meet the inclusion criteria and 5 declined to participate; ultimately, 60 midwives were allocated to the intervention and control groups, with 30 participants in each group. All participants in both groups proceeded with the study (Figure 1).

For prevention of contamination, by a simple random method (odd number as the interventions, and even number as control) one hospital was selected for the control group and two other hospitals were selected for the intervention group. Also, the three hospitals were situated at a distance from each other, preventing any interaction among participants. However, in each hospital, participants were purposively selected based on the inclusion and exclusion criteria. Blinding of the researcher and participants was not feasible in this study. Nonetheless, the individual responsible for distributing and collecting the questionnaires, as well as the statistical analyst, remained unaware of the allocation to the intervention and control groups. The spiritual intelligence training program (Table 1) was conducted in groups of 4 to 8 midwives, considering their work shifts every week for 8 weeks at Imam Khomeini and Amiralmomenin hospitals in Ahvaz. Following

the intervention, midwives in the experimental group were directed to maintain their practice of training exercises, such as anger management, relaxation methods, self-awareness enhancement, and seeking significance in their professional and personal lives. These activities were distributed through CDs and were to be upheld for a period of 4 weeks. The control group did not receive any training. The training was provided by the first researcher, who was a M.Sc. midwifery student. She participated in a 3-day spiritual intelligence workshop and received a valid certificate. It should be noted that the second author, who was a psychologist and was a project consultant, had full supervision over the implementation of the training sessions.

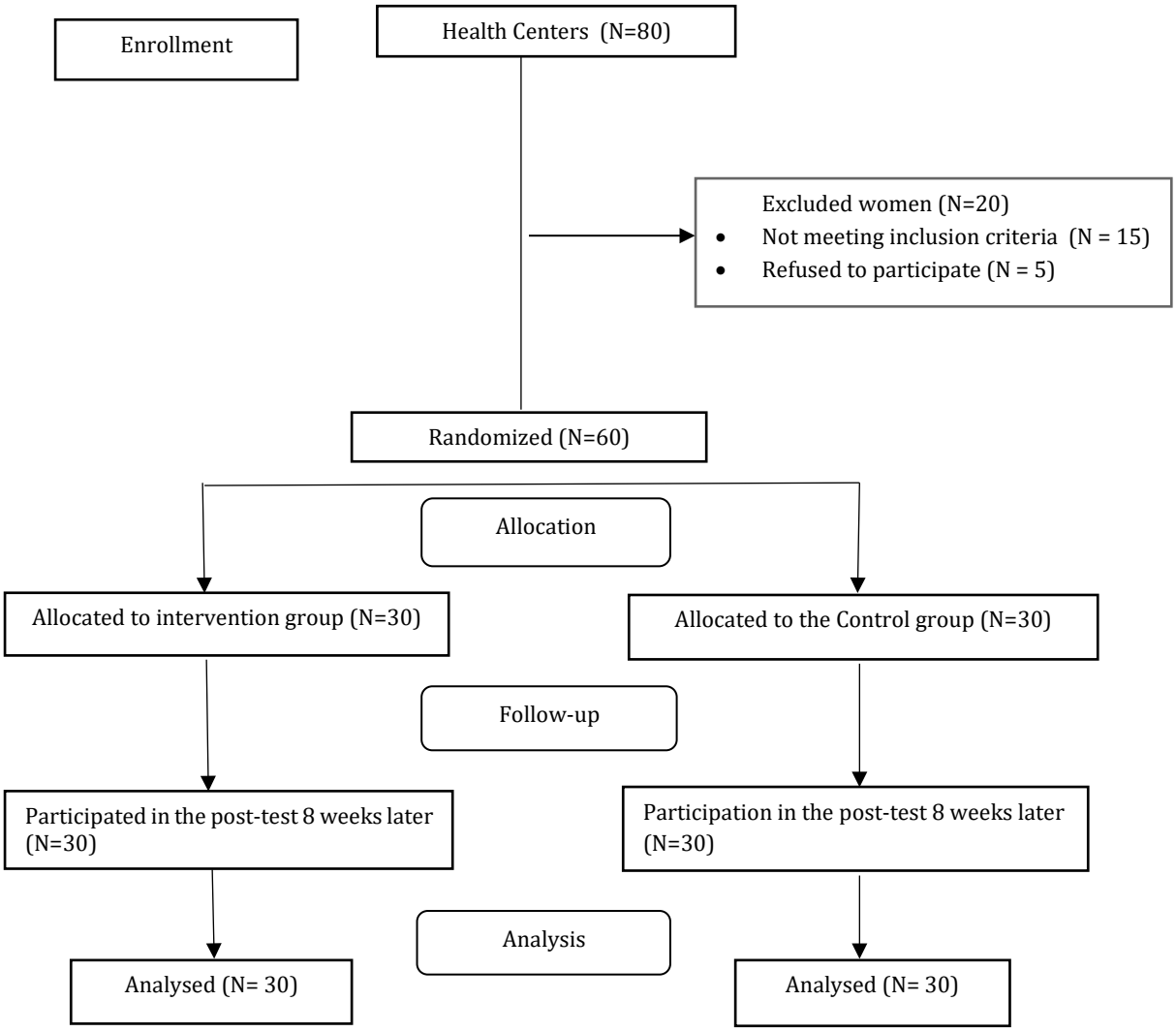

Figure 1. CONSORT Flowchart of the study

The research instruments used in this study included demographic questionnaire, the Ross and Altmaier Job Stress Scale (25), the Sherer General Self-Efficacy Scale (30) and the King's Spiritual Intelligence Scale (23), A demographic questionnaire was completed before intervention, and the job stress, general self-efficacy and spiritual intelligence scales were administered and collected before intervention, immediately after the intervention, and once

more after a period of four weeks following intervention in both groups.

Table 1. Session outlines for the spiritual intelligence training group

First session	Introducing researchers and learners together, familiarization with the topic of spiritual intelligence, establishing a good relationship regarding the research topic and its importance, conducting the pre-test. **Assignment:** Providing an educational pamphlet about the history and generalities of spiritual intelligence and studying it at home.
Second session	Providing the discussion of consciousness and intelligent awareness (giving information about intelligence, values, skills, personality, time perspective, ways of obtaining information and desires). **Assignment:** the participants were asked to write down their individual experiences and share them with others in the next session.
Third session	Receiving the assignments of the previous session, answering the questions of the participants, and dealing with the topic of goodness and sobriety with the aim of living in a way consistent with spirituality, having love and trust in life. **Assignment:** Viewing the designed slides that creatively express the beauty that exists in the daily life of people with allegorical language and asking the learners to think about these questions.
Fourth session	Orientation and internal monitoring with the aim of inner freedom along with reasonable activity, dealing with questions and answers about the results of the exercises of the previous session. **Assignment:** Provide exercises to behave according to who they really are and be independent and act according to values, meditation to increase internal monitoring.
Fifth session	Teaching the meaning and meaning of life, understanding the meaning of daily activities even when facing pain and suffering. **Assignment:** Providing exercises to increase the ability to experience meaning and make connections between activities and life experiences.
Sixth session	The sixth session: Existence and personality. With the aim of increasing insight in Learners, dealing with class assignments, questions and answers about the results of the exercises of the previous session. **Assignment:** Providing exercises to increase awareness of everything that happens in the surrounding.
Seventh session	Truth and honesty. Living with curiosity, acceptance and love for all beings. Questions and answers about the results of the exercises of the previous session. **Assignment:** Providing processes such as meditation in order to control mental processes and focus on the present, mental visualization in order to forgive all turbidity, blackness and evil and to forgive oneself and others according to the provided educational slides.
Eighth session	Completeness and totality. Rising from the small self and reaching a continuous and transcendent whole, as well as cultivating communication and connection along with empathy, compassion and sincere orientation with fellow human beings. **Assignment:** Providing spiritual and meditation exercises that help people in their daily work to be able to control their inner selves so that it does not affect their reactions and relationships with others, and strengthen humility and getting along with others in them.

The demographic questionnaire consisted of data including age, workplace, educational attainment, marital status (single, married), number of children, professional background, type of employment (official, contractual, temporary, other), and job status (permanent, rotating). The Ross and Altmaier job stress scale consisted of 28 items and employs a 4-point Likert scale ranging from 1 to 4 (26). Scores below 28 suggested minimal stress, while scores between 23 and 40 signified mild stress. Moderate stress fell within the range of 80 to 86, whereas severe stress was indicated by scores between 84 and 112. The validity of the questionnaire was confirmed through content validity by Shahraki et al. in 2010. The reliability

was assessed using the test-retest method, and the Pearson correlation test demonstrated a reliability coefficient of 86 % (31).

The Sherer General Self-Efficacy Scale (GSES) was developed by Sherer and colleagues in 1982 (30). It is a 5-point scale with a score range of 17 to 85. Higher scores (closer to 85) indicate higher self-efficacy. Sherer reported the reliability of the scale as 0.76 using Cronbach's alpha. The validity of the scale was obtained through construct validity. The validity and reliability of the Persian version of the Sherer questionnaire have been confirmed in Iran by Asgharanjad et al. (2006) (Cronbach's α = 0.83) (32).

The King's Spiritual Intelligence Scale consists of 24 items and was designed and developed by King in 2008 (24). It has four subscales: critical existential thinking, personal meaning production, transcendental awareness, and conscious state expansion. The total score for spiritual intelligence ranges from 0 to 28, with higher scores indicating a higher level. King's research reported a reliability of 0.97 for the scale, using the alpha coefficient. The validity of the scale was assessed by comparing it with other valid questionnaires, including the Transpersonal Self-Interpretation Scale, the Mystical Experience Scale, and the Inner and Outer Religiosity Scale, with correlation coefficients of 0.67, 0.63, and 0.78, respectively. The validity and reliability of the Persian version of the King questionnaire have been confirmed in Iran (Cronbach's α = 0.87) (33).

Statistical analysis was conducted utilizing SPSS 25 software. An independent t-test was used to assess between-group differences, and a paired t-test was applied to examine within-group changes. Also, repeated measures tests were employed to compare continuous data within the groups. The significance level set at 0.05.

Results

The data presented in Table 2 indicates that there were no statistically significant differences observed among the participating midwives in terms of age (P = 0.306), work experience (P = 0.739), marital status (P = 0.174), education (P = 0.140), shift work (P = 0.456), employment type

Table 2. Socio-demographic and reproductive characteristics of participants in both groups

Characteristics	Intervention group N= 30	Control group N= 30	P-Value
Age (years)	32.80 ± 1.41	31.5 ± 1.29	0.306*
Job duration (year)	09.60 ± 2.20	9.8 ± 1.20	0.739*
Education			
Diploma	3 (10)	7 (23)	0.140**
Bachelor	18(60)	21(70)	
Master	9(30)	2(7)	
Marital status			
Single	12 (40)	10 (33.3)	0.174**
Married	18 (60)	20 (66.7)	
Turn of shift per month			
Single turn	5 (12)	6 (20)	0.456**
Double shift	6 (20)	4 (13)	
Three turns	19 (63)	20 (67)	
Type of employment			
Formal	12 (40)	8 (27)	0.378**
Semi-formal	4 (13)	2 (7)	
Contractual	11 (37)	12 (40)	
Others	3 (10)	8 (26)	
Job location			
Delivery room	16 (53)	17 (57)	0.869**
Gynecological surgery room	8 (27)	5 (16)	
Hospital midwifery office	3 (10)	3 (10)	
Neonatal ward	2 (7)	3 (10)	

* Independent test, ** Chi square test

(P = 0.378), and workplace (P = 0.869) between the intervention and control groups (Table 2). According to the table 3 indicates that there was no substantial distinction in the mean job stress variable between the intervention group (84.5 ± 12.4) and the control group (79.1 ± 10.9) before the training. However, immediately after the training, there was a significant difference in the mean job stress variable between the intervention group (65.3 ± 7.6) and the control group (76.4 ± 8.3) (P < 0.001), with a reduction in mean stress in the intervention group. Additionally, one month after the training, there was a significant difference in the mean job stress variable between the intervention group (66.8 ± 5.5) and the control group (74.9 ± 4.6) (P < 0.001), with a reduction in mean stress in the intervention group. The repeated measures test showed a significant reduction in job stress in the intervention group (Table 3).

Table 3. Comparison of mean Job Stress within and between groups before and after the intervention (immediately and 4 weeks later)

Job stress	Intervention group M ± SD N = 30	Control group M ± SD N = 30	P-Value*	P-Value***
Before training	84.5 ± 12.4	79.1 ± 10.9	0.230	<0.001
After training	65.3 ± 7.6	76.4 ± 8.3		
4 weeks after training	66.8 ± 5.5	74.9 ± 4.6		
P-Value (within group over time) **	(F=22.882, <0.001)	(F=1.295, 0.282)		

* Independent t-test (P-value between groups at each time point)
**Repeated measure (P-value within group over time from baseline to four weeks after training)
*** Repeated measure (P-value between group over time from baseline to four weeks after training)

Moreover, table 4 shows the mean self-efficacy score in the intervention group increased from 50.30 ± 3.4 before the training to 56.20 ± 5.5 immediately after the training and to 59.2 ± 5.9 one month after the training (P < 0.001). The distinction in the control group was not substantial; however, the intervention group exhibited a significant improvement in self-efficacy as indicated by the repeated measures test (Table 4).

Table 4. Comparison of mean self-efficacy and its domains within and between groups before and after the

Self-efficacy	Intervention group M ± SD N = 30	Control group M ± SD N = 30	P-Value*	P-Value***
Desire to initiate				
Before training	22.00 ± 2.1	21.60 ± 1.2	0.254	<0.001
After training	24.70 ± 2.2	22.00 ± 4.1		
4 weeks after training	26.21 ± 2.1	22.50 ± 1.4		
P-Value (within group over time) **	(F=23.374, P<0.001)	(F=.526, P=.520)		
Willingness to expand efforts				
Before training	18.80 ± 2.3	18.50 ± 2.4	0.843	<0.001
After training	21.50 ± 2.2	18.90 ± 1.1		
4 weeks after training	22.30 ± 1.0	19.44 ± 1.5		
P-Value (within group over time) **	(F=10.977, P<0.001)	(F=12.529, P<0.001)		
Resistance to facing obstacles				
Before training	09.40 ± 1.3	09.30 ± 1.3	0.489	<0.001
After training	10.60 ± 2.3	09.50 ± 1.1		
4 weeks after training	11.10 ± 2.3	09.70 ± 1.4		
P-Value (within group over time) **	(F=8.49, P=0.001)	(F=1.528, P=.226)		

Self-efficacy	Intervention group M ± SD N = 30	Control group M ± SD N = 30	P-Value*	P-Value***
Self-efficacy (Total)				
Before training	50.30 ± 3.4	49.50 ± 3.7	0.105	<0.001
After training	56.20 ± 5.5	50.3 ± 5.5		
4 weeks after training	59.2 ± 5.9	51.4 ± 6.2		
P-Value (within group over time) **	(F=17.183, <0.001)	(F=.714, P=0.494)		

Intervention (immediately and 4 weeks later)
Independent t-test (P-value between groups at each time point)*
**Repeated measure (P-value within group over time from baseline to four weeks after training)
*** Repeated measure (P-value between group over time from baseline to four weeks after training)

Also, in the table 5, the results demonstrated that there was no notable disparity in the average spiritual intelligence variable and its components between the intervention group (56.3 ± 0.2) and the control group (57.3 ± 1.6) prior to the training (P>0.05).

Table 5. Comparison of mean spiritual intelligence and its domains within and between groups before and after the intervention (immediately and 4 weeks later)

Self-efficacy	Intervention group M ± SD N = 30	Control group M ± SD N = 30	P-Value*	P-Value***
Critical Existential Thinking				
Before training	16.3 ± 1.2	16.7 ± 1.8	0.168	<0.001
After training	20.6 ± 1.4	16.4 ± 1.3		
4 weeks after training	23.2 ± 1.4	15.8 ± 1.2		
P-Value (within group over time) **	(F=27.125, P<0.001)	(F=1.076, P=0.341)		
Personal Meaning Production				
Before training	11.7 ± 2.3	12.3 ± 1.4	0.816	<0.001
After training	14.7 ± 1.3	12.5 ± 1.6		
4 weeks after training	16.6 ± 1.2	11.8 ± 1.2		
P-Value (within group over time) **	(F=.928, P<0.001)	(F=.496, P=0.612)		
Transcendental Awareness				
Before training	16.6 ± 1.5	17.1 ± 1.4	0.288	<0.001
After training	21.4 ± 1.2	17.3 ± 1.4		
4 weeks after training	24.2 ± 1.8	16.6 ± 1.4		
P-Value (within group over time) **	(F=36.157, P<0.001)	(F=22.642, P<0.001)		
Conscious State Expansion				
Before training	11.9 ± 1.3	11.5 ± 1.4	0.160	<0.001
After training	15.3 ± 1.5	11.2 ± 1.3		
4 weeks after training	17.6 ± 1.4	11.4 ± 1.5		
P-Value (within group over time) **	(F=24.648, P<0.001)	(F=2.039, P=0.140)		
Spiritual intelligence (Total)				
Before training	56.3 ± 0.2	57.3 ± 1.6	0.162	<0.001
After training	70.3 ± 5.5	56.8 ± 8.6		
4 weeks after training	79.2 ± 4.6	49.9 ± 6.2		
P-Value (within group over time) **	(F=34.537, <0.001)	(F=4.290, P=0.019)		

* Independent t-test (P-value between groups at each time point)
**Repeated measure (P-value within groups over time from baseline to four weeks after training)
*** Repeated measure (P-value between groups over time from baseline to four weeks after training)

Upon completion of the training, a significant distinction in the mean spiritual intelligence variable emerged between the intervention group (70.3 ± 5.5) and the control group (56.8 ± 8.6) (P < 0.001), with the intervention group

displaying a higher mean spiritual intelligence. Furthermore, a month following the training, a notable difference in the average spiritual intelligence factor was observed between the intervention group (79.2 ± 4.6) and the control group (49.9 ± 6.2) ($P < 0.001$), indicating a higher average spiritual intelligence within the intervention group. The repeated measures test showed a significant increase in spiritual intelligence scores and its components in the intervention group (Table 5).

Discussion

This study sought to investigate the influence of spiritual intelligence training on the job stress and self-efficacy of midwives. The findings of study indicated that spiritual intelligence training had a notable impact on reducing job stress and enhancing self-efficacy and spiritual intelligence among midwives. These competencies play an important role in improving communication skills in midwifery practice. In this study, factors influencing the job stress, self-efficacy and spiritual intelligence such as marital status, education level, work shifts, employment type, and workplace were considered potential confounding variables and were homogenized between the groups prior to the intervention.

In the present study, spiritual intelligence training led to reduced job stress among midwives.

Zolfaghary et al. (2023) conducted a study on 143 midwives in Babol city, with the aim of exploring whether spiritual intelligence could be beneficial for midwives in coping with stress associated with their profession. The findings indicated that individuals with elevated levels of spiritual intelligence experienced reduced stress levels, thereby aiding midwives in effectively coping with work-related difficulties (34). Furthermore, the study conducted by Ghaleei et al. (2016) revealed that highlighting spiritual intelligence and its components within the hospital, coupled with establishing a psychologically healthy atmosphere, led to a decrease in job stress among nurses (35). These findings are consistent with the results of the present study that spiritual intelligence training was associated with a reduction in workplace stress. Also, in both immediately and one month following the training to enhance spiritual intelligence, the elements of existential critical thinking, personal meaning generation, awareness, and mindfulness advancement exhibited a noteworthy impact in alleviating stress.

Moreover, the components of emotional intelligence—namely self-awareness, self-regulation, self-motivation, empathy, and social skills—play a significant role in influencing job-related stress. Accordingly, it is essential for professional authorities to implement educational interventions and design empowerment programs aimed at strengthening these competencies. Individuals with higher levels of emotional intelligence demonstrate greater resilience in the face of challenges and difficulties. Moreover, they tend to exhibit stronger leadership and guidance abilities and show a greater inclination toward participation in group and collaborative activities (36).

Furthermore, training in spiritual intelligence led to an improvement in midwives' self-efficacy by 5.9 points. Specifically, improvements were noted in initiation, self-efficacy tendency, effortful perseverance, and obstacle resistance among the intervention group compared to the control group. In a study conducted by Rezaee et al. (2016), 59.5% of the midwives working in maternity wards and healthcare centers in Mashhad, exhibited high clinical performance self-efficacy (10). Furthermore, Biranvand et al. (2020), investigated spiritual intelligence and its relationship with nurses' self-efficacy. The study revealed a significant and moderate correlation between spiritual intelligence scores and nurses' self-efficacy, highlighting a positive association. Furthermore, the results indicated that nurses with higher spiritual intelligence demonstrated greater levels of self-efficacy (37). These findings are consistent with the results of the present study that training spiritual intelligence enhanced the midwife's self-efficacy. This relationship can be explained by considering spiritual intelligence as the highest level of an individual's existential intelligence, which fosters the development of a new and positive perspective toward oneself, others, and the surrounding world. Given that self-efficacy refers to an individual's belief in their abilities and skills, it may be argued that a higher level of spiritual intelligence, through the positive self-

perception it cultivates, enables individuals to effectively utilize their skills and competencies during task performance (38).

It is essential for midwives to have a sufficient level of self-efficacy, in addition to their knowledge and skills, in order to effectively provide health services. The presence of self-efficacy and work engagement can significantly enhance the performance of midwives in recognizing neonatal emergencies (39).

The strength of this study is that it is the first experimental study focusing on how spiritual intelligence training impacts the job stress, self-efficacy and spiritual intelligence of midwives in Iran who work in maternity, post-partum, gynecological, and neonatal departments in hospitals. However, there were some limitations, one of which is the inability to evaluate and control other forms of intelligence, such as general intelligence and emotional intelligence. These intelligences can have an effect on the level of spiritual intelligence, but they were not taken into consideration in this study. Mental and psychological characteristics, cultural contexts, and the interest and motivation of the participants have a different effect on education, which was out of the researcher's control.

Conclusion

The research revealed that training spiritual intelligence can decrease job stress among midwives and improve their self-efficacy and spiritual intelligence. Hospital supervisors and authorities need to conduct psychological and educational workshops to aid midwives in improving their capabilities and dealing with stress in a productive manner. It is imperative for midwifery authorities to gain familiarity with job stress, self-efficacy and spiritual intelligence concepts. By implementing positive alterations in the working environment, they can effectively mitigate stress and enhance the self-efficacy and spiritual intelligence of midwives. It is hoped that this study will lead to improved maternal and neonatal care services.

It is recommended that midwifery authorities promote the development of spiritual intelligence in midwives and create a supportive work environment with adequate resources, support, and recognition to improve job satisfaction and retention.

Declarations

Acknowledgements

This article is based on the Master thesis of the Master thesis of Sahar Yazdanbakhash and research project coded U-97117, which was approved by the Research Council of Jundishapur University of Medical Sciences, Ahvaz, Iran. We would like to express our gratitude and appreciation to the research deputy of the university and all the midwife colleagues who supported us in this research.

Conflicts of interest

The authors declared no conflicts of interest.

Ethical approval

This research was conducted with observing confidentiality and obtaining verbal and written permission from participants. Additionally, the first researcher assured participants that their information would remain confidential and that they could withdraw from the study at any time.

Code of Ethics

The ethics committee of Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran has approved this research with the code (IR.AJUMS.REC.1397.417).

Use of Artificial Intelligence (AI)

The authors acknowledge the use of artificial intelligence tools, including GPT-5 (Open AI) and Cloud AI Services, to assist with language editing.

Funding

This study funded by the Research Vice Chancellor of Ahvaz Jundishapur University of Medical Sciences (Code of U-97117).

Authors' contribution

SY participated in data collection and data analysis. ShKh assisted with supervision of educational sessions. SML assisted with data analysis, and ZA participated in data interpretation and also supervision of the study. All authors have read and approved the manuscript.

References

1. Hashemi Nejad N, Rahimi Moghadam S, Mohammadian M, Amiri F. Survey of relationship between mental health and job stress among

midwives who were working in hospitals of Kerman, Iran, 2011. The Iranian Journal of Obstetrics, Gynecology and Infertility. 2013; 16: 1-9.
2. Molaie B, Mohamadi M, Habibi A, Zamanzadeh V, Dadkhah B, Molavi P, et al. A study of job stress and its related causes among employed women in Ardabil City. Journal of Ardabil University of Medical Sciences. 2011; 11(1): 76-85. [Persian]
3. World Health Organization (2016). Stress at the workplace. Available from: https:// www. who.int/news-room/questions-and-answers/ item/ccupational-health-stress-at-the-orkplace.
4. Arjmand N, Kashaninia Z, Hosseini M, Rezasoltani P. Effect of Stress Management on Job Stress and Work-Family Conflict among Nurses. Hayat. 2012; 18(4): 81-91. [Persian]
5. World Health Organization. The burden of occupational illness. Available from: http: // www.WHO. Int. (2006/08/30).
6. Knezevic B, Milosevic M, Golubic R, Belosevic L, Russo A, Mustajbegovic J. Work-related stress and work ability among Croatian university hospital midwives. Midwifery. 2011; 27(2): 146-153.
7. Peter KA, Meier-Kaeppeli B, Pehlke-Milde J, Grylka-Baeschlin S. Work-related stress and intention to leave among midwives working in Swiss maternity hospitals – a cross-sectional Study. BMC Health Services Research. 2021; 21; 671.
8. Matthews PH. Factors influencing self-efficacy judgments of university students in foreign language tutoring. The Modern Language Journal. 2010; 94(4): 618-635.
9. Bandura A. Health promotion by social cognitive means. Health Education & Behavior. 2004; 31: 143-164.
10. Rezaee F, Golmakani N, Mazloom SR. Relationship between Spiritual Intelligence and Self-efficacy of Clinical Performance in midwives working in maternity and health centers of Mashhad in 2015. The Iranian Journal of Obstetrics, Gynecology & Infertility. 2016; 19: 1-10. [Persian]
11. Karademas EC, Kalantzi-Azizi A. The stress process, self-efficacy expectations, and psychological health. Personality and Individual Differences. 2004; 37(5): 1033-1043.
12. Rostami R, Shah Mohammadi KH, Ghaedi GhH, Besharat MA, Akbari S, Nosratabadi M. The relation among self-efficacy, emotional intelligence and perceived social support in university students. Ofoghe Danesh. 2010; 16(3): 46-54.
13. Tavangar H, Alhani F, Vanaki Z. discounting the self: Implications Work –Family Conflict nurses. Journal of Qualitative Research in Health Sciences. 2011; 2: 147-135. [Persian]
14. Yang Z, Lie W, Hui W. Investigation on Occupational Stress of Medical Staff in Fushun City. Occupation and Health. 2010; 7.
15. Zolfaghary F, Osko S, Bakouei F, Pasha H, Adib-Rad H. Spiritual Intelligence as a Coping Strategy to Manage Job Stress for Midwives in Northern Iran: A Cross-Sectional Study. Journal of Religion and Health. 2023; 62(5): 3301-3312.
16. de Bloom J, Sianoja M, Korpela K, Tuomisto M, Lilja A, Geurts S, et al. Effects of park walks and relaxation exercises during lunch breaks on recovery from job stress: Two randomized controlled trials. Journal of Environmental Psychology. 2017; 51: 14-30.
17. Friganović A, Selič P, Ilić B. Stress and burnout syndrome and their associations with coping and job satisfaction in critical care nurses: a literature review. Psychiatria Danubina. 2019; 31(1): 21-31.
18. Makki G. How intelligent are you... really? From IQ to EQ to SQ, with a little intuition along the way. Training & Management Development Methods. 2006; 20(4): 425.
19. Habibzadeh H, Khajeali N, Khalkhali HR, Mohammadpour Y. Effect of Evidence-Based Education on Nursing Students' Self-Efficacy. Strides in Development of Medical Education. 2015; 11(4).
20. Lavasani M, Rastgoo L, Azarniad A. The effect of happiness cognitive-behavioral training on self-efficacy beliefs and academic stress. Journal of Cognitive Strategies in Learning. 2015; 2(3): 1-8.
21. Yaghoobi A. The study of relation between spiritual intelligence and rate of happiness in booali university students. Journal of Research in Educational Systems. 2010; 4(9): 85-95. [Persian]
22. Amram Y. The seven dimensions of spiritual intelligence: An ecumenical, grounded theory. In115th annual conference of the American psychological association, San Francisco, CA 2007 Aug 17 (Vol. 12).
23. King DB. Rethinking claims of spiritual intelligence: A definition, model, and measure. Unpublished Master's Thesis, Trent University, Peterborough, Ontario, Canada. 2009.
24. McSherry W, Draper P, Kendrick D. The construct validity of a rating scale designed to assess spirituality and spiritual care. International Journal of Nursing Studies. 2002; 39(7): 723-734.
25. Ross RR, Altmaier EM, Russell DW. Job stress, social support, and burnout among counseling

center staff. Journal of Counseling Psychology.1989; 36(4): 464.
26. Baroj Kiakla S, Bahrami H, Mohammadi Arya AR, Saatchi M. The effectiveness of spiritual intelligence training (SQ) on organizational commitment, as a component professional ethics and productivity in managers. Quarterly Journal of Ethics in Science and Technology. 2021; 15(4): 39-47.
27. Iqbal A, Mubashar A, Irum Q, Tahmeena B, Iqbal M. Impact of Spiritual Intelligence and Resilience on Self-Efficacy of Nurses in the Pervaiz Ilahi Institute of Cardiology. Journal of Computing & Biomedical Informatics. 2022; 3(01): 289-305.
28.Karimi-Moonaghi H, Gazerani A, Vaghee S, Gholami H, Salehmoghaddam AR, Gharibnavaz R. Relation between spiritual intelligence and clinical competency of nurses in Iran. Iranian Journal of Nursing and Midwifery Research. 2015; 20(6): 665.
29. Mahmoudirad G, Bagherian F. Effects of spirtual inteligence training on nursing job stress. Quarterly Journal of Nursing Manangment. 2015; 4(1): 1-6. [Persian]
30. Sherer M, Maddux JE, Mercandante B, Prentice-Dunn S, Jacobs B, Rogers RW. The self-efficacy scale: Construction and validation. Psychological Reports. 1982; 51(2): 663-671.
31. Shahraki Vahed A, Mardani H, Sanchuli J, Hamedi ShS. Assessment of the relationship between mental health and job stress among nurses. Journal of Jahrom University of Medical Sciences. 2010; 8(3): 34-40.
32. Asgharanjad T, Ahmadi Deh Qutbuddini M, Farzad V, Khodapanahi MK. Study of the psychometric properties of Scherer's general self-efficacy scale. Psychology Journal. 2006; 39: 262-274. [Persian]
33. Sharif Nia H, Haghdoost AA, Ebadi A, Soleimani MA, Yaghoobzadeh A, Abbaszadeh A, et al. Psychometric properties of the king spiritual intelligence questionnaire (KSIQ) in physical veterans of Iran-Iraq warfare. Journal of Military Medicine. 2015; 17(3): 145-153.
34. Zolfaghary F, Osko S, Bakouei F, Pasha H, Adib-Rad H. Spiritual Intelligence as a Coping Strategy to Manage Job Stress for Midwives in Northern Iran: A Cross-Sectional Study. Journal of Religion and Health. 2023; 62(5): 3301-3312.
35. Ghaleei A, Mohajeran B, Mahmoodzadeh M. The relationship among spiritual intelligence, mental health and job stress in nurses in imam khomeini hospital of mahabad. Scientific Journal of Hamadan Nursing & Midwifery Faculty. 2016; 23(4):14-21.
36. Aramesh f, Badee h. investigating the relationship between spiritual and emotional intelligences and Job stress of auditors. Journal of Accounting Knowledge, Accounting and Audit Management. 2017; 6(32): 1–9.
37. Beiranvand S, Safapour F, Zare S. Spiritual Intelligence and its Relationship with Nurses' Self-Efficacy. Journal of Nursing Education. 2020; 8(5): 20-24.
38. Esmaeili PZ, Mashouf S, Safari Z, AbbasI M. Assessment of correlation between self-efficacy and spiritual intelligence of family caregivers of elderly patient with Alzheimer in Tehran 2012. Medical Figh Quarterly. 2012; 4(11-12): 151-166. [Persian]
39. Uktutias S AM, Iswati S, Hadi C, Suhariadi F, Utami S, Suryadi Rahman F. Performance of village midwives in detecting neonatal emergency through self efficacy and work engagement as mediation: Cross-sectional study in Pamekasan Regency, Indonesia Journal of Public Health Research. 2023; 12(1).