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# Effect of positive psychology interventions on psychological well-being of midwives: A randomized clinical trial

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#### **Abstract:**

**BACKGROUND:** The psychological well-being of midwives is very important in the context of providing health services to two vulnerable groups of society, namely, mothers and infants. Therefore, the present study was conducted aiming to investigate the effect of positive psychological interventions on the psychological well-being of midwives.

**MATERIALS AND METHODS:** The present study was a randomized clinical trial with pretest-posttest design along with a control group. The statistical population of the study included all midwives working in community health centers of Mashhad City, Iran, which were first selected through cluster sampling method from five health centers of the city, i.e. centers 1 and 3. Then, all centers and subsidiary bases of these centers were listed, and the centers and bases were divided into two groups of intervention and control by simple random allocation method. Sixty respondents were randomly assigned to two equal intervention and control groups and responded to the Ryff's Psychological Well-being questionnaire in two stages of pretest and posttest. Educational interventions based on interventions, including Seligman's PERMA model, in which psychological well-being is defined in terms of five domains namely positive emotions (P), engagement (E), relationships (R), meaning (M), and accomplishment (A), were conducted in eight sessions of 2 h (two sessions per week). Data were analyzed using independent *t*-test, paired *t*-test, Mann–Whitney test, and Wilcoxon test.

**RESULTS:** There was a significant difference between the posttest scores of the two intervention and control groups in the total psychological well-being variable (P < 0.001).

**CONCLUSION:** Given the findings of the study, it is suggested to use the Seligman's PERMA model to improve the psychological well-being of midwives in health centers.

#### **Keywords:**

Midwife, positive psychological interventions, psychological well-being

# Introduction

ccupational burnout is a well-known psychological reaction with a high prevalence in the midwifery profession, which is created in response to chronic psychological stress and involves three elements of fatigue or emotional analysis, depersonalization, and lack of personal

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success.<sup>[2]</sup> In addition, this problem is one of the most important factors decreasing the productivity of midwifes in the workplace and depleting their ability to effectively carry out their duties and responsibilities.<sup>[3]</sup> Midwives provide care services in areas where threatening or stressful events may occur. They may consider their work as harmful. This has important implications for the well-being of midwives.<sup>[4]</sup> Several studies

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have indicated the high prevalence of occupational burnout among midwives.<sup>[5-8]</sup> Therefore, organizational strategies are required to prepare midwives for such duties, support them to deal with this occupational injury, and provide effective interventions for those with significant symptoms. [4] Fortunately, despite the undeniable role of occupation in the formation and incidence of occupational burnout, the way of responding of the individual to these conditions is important in the final examination of occupational burnout, and this means that individual factors have a significant effect on whether the person suffers from the occupational burnout. In other words, regardless of the conditions, demands, and pressures of work, it depends on the characteristics and abilities of individuals to effectively act against these pressures. Individual factors associated with job burnout have led the burnout in organizations to be considered as a structural phenomenon, and mainly as an unavoidable result of some occupations. However, paying attention to personal factors in burnout and finding probable individual features and circumstances decreasing the underlying causes of suffering of this harm by people protect organizations against the harms, in addition to supporting individuals against the damages in the underlying conditions of burnout. Recently, the relatively new idea of positive psychology has led to new variables to be addressed in this field, which, by better understanding and enhancing the positive resources provided to the individual, can contribute to understanding the process of occupational burnout and providing solutions for exposure and prevention. [9] In recent years, various interventions have been developed in the field of positive psychology with the aim to create positive results of emotions, behaviors, and positive cognition.[10] These interventions are, in fact, a series of voluntary activities that target emotions, cognition, and behavior with the aim of improving well-being.[11] Studies on positivist psychological interventions have been conducted on the well-being of individuals to such extent that several meta-analysis and review investigations have been conducted in this field. For example, Sin and Lyubomirsky showed that positive psychological interventions have been effective in increasing the well-being and reducing the symptoms of depression.<sup>[12]</sup> Similarly, in a meta-analysis in 2013, Bolier et al. showed that positive psychological interventions have been effective in improving the well-being of individuals.<sup>[13]</sup> In addition, in the organizational context, Meyers et al. in a systematic review have shown that there is a relationship between positive organizational interventions and well-being and employees' performance. [14] In a newer examination, Chakhssi et al. also investigated positive psychological interventions. This study also showed that positive psychological interventions can help reduce the stress and physical and mental problems of individuals while increasing their well-being. [15] The PERMA model is

one of the positive psychological interventions, recently developed by Seligman (2011) in order to help enhance well-being among individuals. This model consists of five components including positive emotions (P), attraction (E), positive relationships (R), meaning (M), and achievement (A).[16] Various evidence suggest that this model of well-being is associated with increasing satisfaction with life, creativity, moral development, and civic behaviors. [17] Other studies also show that there is a relationship between well-being and a higher level of job success, better friendly relationships, productivity, customer satisfaction, quality of medical care,[18] and services<sup>[19]</sup> as well as improved physical health through affecting the body's immune system and protection against stress.[17] Job burnout is the second most frequent occupational injury and the inevitable result of midwifery profession; In addition, this profession is considered a significant occupation in the area of community health care to ensure health for the mother and the newborn. Thus, promoting the well-being of people working in this profession has a great impact on maintaining this workforce and on the quantity and quality of their services. Therefore, the present study was conducted with the aim to investigate the effect of positive psychological interventions on the psychological well-being of midwives.

# **Materials and Methods**

The present study was a randomized clinical trial with pretest-posttest design with control group that lasted from September 23, 2015 to March 20, 2016. The statistical population of the study included all midwives working in community health centers of Mashhad City, Iran, which were first selected through cluster sampling method from five health centers of the city, i.e. centers 1 and 3. Then, all centers and subsidiary bases of these centers were listed, and the centers and subsidiary bases were divided into two groups of intervention and control by simple random allocation method. All individuals eligible to enter the study in each center were placed in the same group. In this way, information dissemination between the two groups was prevented. The sample size was obtained using the formula for comparing the means, and based on the results of the pilot study with 95% confidence and 80% power, a total of 17 respondents were obtained in each group, and taking into account the probability of drop of samples, sampling continued until the completion of each group as thirty respondents (a total of sixty respondents). During the study, 13 midwives were excluded from the study in the intervention group due to irregular participation in the sessions. There was no drop of midwives in the control group [Figure 1]. The most important criteria for selection of the respondents were at least a midwifery associate degree and at least 1 year of work experience in community health centers, marriage, nonpregnancy, lack of referring to a psychiatrist during the past 6 months, or admission to a hospital due to mental illness, a history of the use of mentally affecting drugs, the lack of a medical condition leading to a disability in performing occupational duties, and not receiving a severity score from the Anxiety, Stress, and Depression Scale (DASS 21). In addition, the most important exclusion criteria were the absence of more than one session in the training course, the occurrence of major stressful incidents during the study, and failure to do homework for three consecutive sessions.

#### The data collection tool consisted of:

Demographic information form of respondents (including three parts of the individual characteristics, occupational characteristics, and midwives' lifestyle).

• Ryff's Psychological Well-Being questionnaire (84 items): This scale was created by Carrol Ryff in 1980. The questionnaire was designed in a 6-point Likert scale (completely agree to completely disagree) to measures six dimensions of autonomy, environmental mastery, personal growth, positive relationships with others, purposefulness in life, and self-acceptance. The minimum and maximum scores of the respondents in the psychological well-being scale were 84 and 504, respectively. Moreover,

the total of these six factors were calculated as the total score of psychological well-being. Due to the positive correlation of this scale with the Positive Psychotherapeutic Checklist, developed by Rashid and Seligman (2013) to measure the full life (well-being) of individuals using five subscales of positive emotions, engagement, meaning, relationships, and achievement, it can be claimed that this scale is an appropriate tool for examining well-being, [20] with the validity and reliability determined in various studies. [21] In this study, its content validity with an overall reliability of alpha = 0.90 in the environmental mastery (0.68), self-acceptance (0.82), positive relationship with others (0.91), autonomy (0.72), purposeful life (0.76), and personal growth (0.88) was confirmed.

Demographic information form and Ryff's Psychological Well-Being questionnaire were provided to the respondents to be completed by them. Then, two of the researchers with a PhD degree in clinical psychology (teacher of positive psychology workshops) and a master midwifery student who had received the certificate of the Positive Psychology Workshop conducted eight sessions of 2 h (two sessions per week) for the intervention group [Table 1]. The intervention group was divided into two groups of 15, and sessions were held at the Sib Consultation Center. After

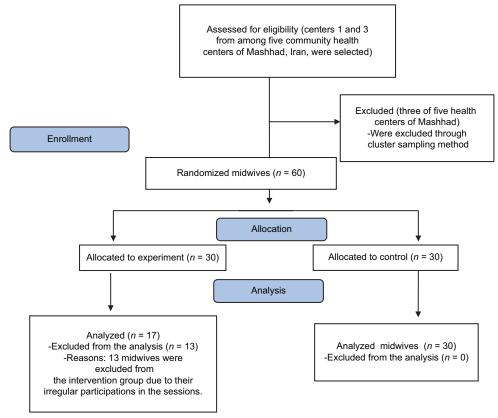


Figure 1: Flow of participants in the study

1st session Briefing: Participants' familiarity with the research team; the introduction of steps and details of the course; the definitive

Table 1: Summary of the content of training sessions and Seligman well-being interventions

	registration for participation in the course; design of issues raised in relation to the shortage or lack of positive resources such as positive emotions, commitment, positive communication, meaning; and the characteristic capabilities in the emergence of depression, anxiety, and absurdity
	Homework: Writing objective stories of one's own positive characteristic capabilities
2 <sup>nd</sup> session	Purpose: Defining happiness, obstacles to lasting happiness, kinds of happy life, satisfaction with the past, the logic of paying attention to appreciation exercises, training appreciation, the logic of learning forgiveness, teaching forgiveness
	Homework: Preparing a booklet and writing three positive life events - Writing a letter of gratitude and appreciation and presenting it to the desired person
	2. Writing a letter of forgiveness
3 <sup>rd</sup> session	Review of homework of the last week, the logic for addressing the pleasures of life, the introduction of all kinds of pleasures in the present, ways to enhance pleasures, ways to avoid the normalization of pleasures
	Homework: During the next week, performing at least one of the exercises of each of the two strategies pleasure enhancement techniques: 1 - avoiding habits; 2 - enhancing the quality of pleasure; and 3 - attention and presence, or planning a pleasant day
4 <sup>th</sup> session	Presentation of the logic of addressing optimism and defining optimism about the future
	Homework: During the next week, whenever you experience a lot of negative emotions in terms of severity, try to discover your negative beliefs, and then question them and discredit them. Then, record ABCDE and complete the ABCDE table for 3 to 5 negative events during the next week
	2. Recall three times you have lost in your life, your plan failed or rejected, and then identify the doors opened as a result of these seemingly negative events
5 <sup>th</sup> session	Presentation of the logic of addressing your own special abilities and virtues, revitalizing capabilities and virtues, implementing the Capabilities and Virtues Questionnaire, practicing discovering five capabilities and virtues of yourself
	Homework: To practice discovering five unique strengths and virtues of yourselves
6 <sup>th</sup> session	Presentation of the logic of using the capabilities in life; encouraging respondents to use their abilities and virtues in the core areas of life, work, and personal satisfaction; redefining occupation, occupation and professions versus mission, capabilities, and virtues in marital life
	Homework: Using one's abilities in a new way, especially in the work environment
7 <sup>th</sup> session	Objective: Finding meaning through the use of outstanding capabilities when serving others, especially your clients in the workplace
	Homework: Designing new ways to apply outstanding capabilities to serve others, especially your clients
8 <sup>th</sup> session	Providing education to people about active-constructive response to the good news they receive from others and training constructive and active response as an approach to enhance positive communication
	Homework: Providing a worksheet for four styles of responding to good events in the lives of others and a "Magic 5 h" for Relationship Enhancement (Gottman and Silver, 1999)

completing the intervention, the Ryff's Psychological Well-Being questionnaire was completed by midwives in the two intervention and control groups. At the end of the study, the presentation slides of the sessions along with the training package were provided to the control group.

In the present study, the statistical methods including independent t-test, paired t-test, Mann-Whitney test, Wilcoxon test, and Chi-square test were used to analyze the data using the SPSS software (version 19.0, SPSS Inc., Chicago, IL, USA). Moreover, P < 0.05 was considered to be statistically significant.

#### **Ethical considerations**

This study was approved by the code IR.MUMS. REC.1394.447 at the Ethics Council of Mashhad University of Medical Sciences and registered with the IRCT2016010225813N1 code at the Iranian Registry of Clinical Trials. All ethical codes established by Mashhad University of Medical Sciences were observed.

#### Results

According to the results, the mean ± standard deviation (SD) of age of the midwives in the intervention and control groups was  $36.89 \pm 9.73$  and  $31.76 \pm 5.12$  years, respectively, which were significantly different based on the independent t-test (P = 0.010). Mean  $\pm$  SD of work experience in the two groups was, respectively,  $165.96 \pm 86.86$  and  $66.97 \pm 43.79$ , which had a significant difference based on the results of the Mann–Whitney test (P < 0.001).

Midwives were not homogeneous in the two groups in terms of age (P = 0.010), employment status (P < 0.001), and work experience (P < 0.001). However, they were homogeneous regarding variables of depression (P = 0.053), stress (P = 0.160), anxiety (P = 0.620), and other variables [Table 2].

Moreover, at the beginning of the study, midwives in the intervention and control groups were compatible in terms of variables of lifestyle such as daily exercising (P = 0.750), having enough sleep Table 2: Comparison of participants' background and demographic characteristics in two groups

Variables	Intervention group	Control group	Statistical results	<b>P</b> *
Depression, mean±SD	19.07±5.59	16.75±4.05	<i>Z</i> =1.93	0.053*
Stress, mean±SD	21.07±5.74	19.24±5.11	<i>Z</i> =1.37	0.16*
Anxiety, mean±SD	17.07±4.47	16.89±3.68	<i>Z</i> =0.48	0.62*
Age (years), mean±SD	36.89±9.73	31.76±5.12	<i>t</i> =2.5	0.01**
Work experience (months), mean±SD	165.96±86.83	66.97±43.79	<i>Z</i> =4.09	<0.001*
Education level (%)				
Associate degree	10 (33.3)	9 (30.0)	<i>Z</i> =2.15	0.18*
Bachelor's degree	20 (66.7)	20 (66.7)		
Master's degree	0 (0.0)	1 (3.3)		
Economic status (%)				
Below sufficient	4 (13.3)	0 (0.0)		0.11***
Sufficient	26 (86.7)	30 (100.0)		
Employment (%)				
Permanent	23 (76.7)	9 (30.0)		<0.001***
Contractual	6 (20.0)	18 (60.0)		
Others	1 (3.3)	3 (10.0)		
Satisfaction from workplace (%)				
Completely satisfied	4 (13.3)	7 (24.1)		0.064***
Satisfied	22 (73.3)	23 (75.9)		
No idea	2 (6.7)	0 (0.0)		
dissatisfied	2 (6.7)	0 (0.0)		
Having job stress (%)				
Yes	27 (90.0)	23 (75.9)		0.144***
No	3 (10.0)	7 (24.1)		
Having a second job (%)				
Yes	2 (6.6)	0 (0.0)		0.22***
No	28 (93.3)	30 (100.0)		

<sup>\*</sup>Mann-Whitney, \*\*Independent t-test, \*\*\*Fisher's exact test

Table 3: Covariance analysis to examine confounding variables on the midwives' psychological well-being score

Parameter	В	SE	t	P	
Intervention group	64.47	17.19	3.750	0.001	
Control group	-	-	-	-	
Employment					
Permanent	-3.39	20.28	-0.160	0.868	
Contractual	19.33	17.06	1.133	0.265	
Others	-	-	-	-	
Age (years)	-1.14	1.22	-0.929	0.359	
Work experience	0.23	0.14	1.658	0.107	
SE_Standard doviation					

SE=Standard deviation

daily (P = 0.21), daily resting (P = 0.13), religious activity, (P = 0.07) and life satisfaction (P = 0.58).

According to the results, the analysis of covariance of none of the variables that were heterogeneous at the beginning of the study was not significant on the psychological well-being of midwives (P > 0.050), and only the effect of intervention was significant [Table 3].

Comparison of the mean of total score and psychological aspects of well-being between the two groups before and after interventions is presented in Table 4. The mean score

of total psychological well-being among midwives before intervention was not significantly different between intervention and control groups based on the Mann–Whitney test (P = 0.520), but the difference was statistically significant after intervention (P < 0.001) [Table 4].

Comparison of the mean score of the dimensions of "positive relationship with others, purposeful life, and individual growth" before and after interventions in the control group did not have a significant difference; however, the mean score of "self-acceptance, autonomy, and environmental mastery" in the control group showed a significant decrease after interventions [Table 4].

Furthermore, based on the paired t-test, the mean total score difference between the psychological well-being of midwives in the intervention group before and after intervention was statistically significant (P = 0.002) [Table 5].

# Discussion

Findings of this study showed that positive psychological interventions can be effective in the psychological well-being of midwives. However, the comparison of the mean changes in the scores of each well-being dimension before and after the intervention in the

Table 4: Comparing the mean item score for each subscale of the midwives' psychological well-being in two phases of the study between experiment and control groups

Phases	Variables	<b>Experimental group</b>	<b>Control group</b>	Statistical results	<b>P</b> *
Before	Overall mean of midwives' psychological well-being	293.26±93.30	310.5±76.86	<i>Z</i> =0.63	0.52*
intervention, mean±SD	Autonomy	49.07±7.60	49.10±7.09	<i>t</i> =0.01	0.98**
	Environmental mastery	53.53±11.69	54.96±10.59	<i>t</i> =0.48	0.63**
	Personal growth	50.10±15.24	51.02±12.39	<i>t</i> =0.25	0.8**
	Positive relation with others	52.62±7.23	53.86±8.57	<i>t</i> =0.57	0.56**
	Purpose in life	54.85±10.14	57.51±11.54	<i>t</i> =0.92	0.36**
	Self-acceptance	50.42±11.14	53±11.22	<i>Z</i> =0.79	0.42*
Immediately	Overall mean of midwives' psychological well-being	383.88±42.82	297.03±3.75	<i>Z</i> =5.65	<0.001*
after	Changes	-13.46±14.11	+86.76±30.70	<i>Z</i> =3.68	<0.001*
intervention,	Autonomy	56.35±6.72	43.90±1.32	<i>Z</i> =5.54	<0.001*
mean±SD	Changes	4.13±9.76	-5.24±7.36	t=3.57	0.001**
	Environmental mastery	70.11±10.62	46.93±1.04	<i>Z</i> =5.71	<0.001*
	Changes	11.53±12.47	-8.0 (10.88)	<i>Z</i> =4.57	0.001*
	Personal growth	64.58±7.72	51.56±1.50	<i>t</i> =6.87	<0.001**
	Changes	12.23±19.50	-0.56±12.11	<i>Z</i> =2.73	<0.006*
	Positive relation with others	62.11±6.17	52.06±2.09	<i>Z</i> =4.78	<0.001*
	Changes	8.46±10.69	-1.82±8.98	<i>Z</i> =3.68	=0.002*
	Purpose in life	66.23±7.66	56.26±2.14	<i>Z</i> =4.13	<0.001*
	Changes	8.06±13.15	-1.27±11.47	<i>Z</i> =2.16	0.03*
	Self-acceptance	64.47±9.77	46.30±2.27	<i>Z</i> =7.93	<0.001*
	Changes	9.60±14.90	-6.75±10.87	<i>Z</i> =3.71	<0.001*

<sup>\*</sup>Mann-Whitney, \*\*Independent t-test. SD=Standard deviation

Table 5: Psychological well-being score and its dimensions before and after intervention

Variables	Intervent	tion group	Control group	
	t	<b>P</b> *	t	<b>P</b> *
Overall mean of psychological well-being	<i>Z</i> =3.14	0.002**	<i>Z</i> =2.16	0.003**
Autonomy	1.63	0.12*	3.83	0.001*
Environmental mastery	<i>Z</i> =3.4	0.001**	3.95	<0.001*
Personal growth	<i>Z</i> =2.79	0.005**	0.25	0.8*
Positive relation with others	<i>Z</i> =2.67	<0.008**	1.09	0.28*
Purpose in life	<i>Z</i> =1.97	0.04**	0.59	0.55**
Self-acceptance	<i>Z</i> =2.33	0.02**	3.34	0.03**

<sup>\*</sup>Paired t-test, \*\*Wilcoxon test

control group showed decrease at the end of the study so that this decrease was significant in three dimensions of "self-acceptance," "environmental mastery," and "autonomy." The probable cause of this decline is that the level of well-being reported by the individuals is itself influenced by the extent of good feeling they have when answering questions. The emotional (moral) state of people when responding is very important in how to report the well-being. The findings of the present study were in line with the findings of the studies conducted by Sin and Lyubomirsky,[12] Bolier et al., Meyers et al.,[14] Ranjbar Noushari et al.,[22] Hasanvandi et al.,[23] Khodayarifard et al.,[24] and Abadi et al.[25] on the effectiveness of positivist psychological interventions in promoting the well-being of individuals. The positivism and interventions through which the well-being of individuals are influenced can be easily explained

through the theory of the creation and spread of Friedrichsen and the five related hypotheses. In this theory, it is stated that positive emotions lead to the expansion of the treasury of thought and action of individuals. Gradually, many personal resources are created in the individual (physical, social, mental, and psychological resources) that can be used by him/her in difficult conditions. Besides, another hypothesis of this theory is neutralization through which the existence of positive emotions causes neutralization of negative emotions. The next hypothesis is associated with the belief that those who experience more positive emotions can better cope with the difficult and unfavorable conditions of life and are more resilient. The last hypothesis of this theory is also the hypothesis of flourishing, which, in fact, includes the ratio of experience of positive emotions to negative ones. If a person experiences three positive emotions for any negative emotion, he/ she flourishes.<sup>[26,27]</sup> In this way, it seems that positivism, through increasing the treasury of thought and behavior, can lead to well-being. Furthermore, positivist-oriented psychological interventions can also affect well-being through creating meaningfulness and the ability to use personal capabilities and talents. In terms of the method of work, which is an experimental and controlled study, the present study is capable of examining the effects of positive psychological interventions on the psychological well-being of midwives instead of merely addressing the correlational relations. Moreover, one of the weaknesses of the study was the lack of follow-up of the effectiveness of positive psychological interventions

on the happiness and well-being of midwives. The researchers encountered some restrictions in this study, including the need for timely and regular presence of the respondents in the sessions, and remaining in the group until the final result was obtained, and 13 respondents were merely excluded for this reason. The individual differences of the midwives in the motivation, the level of learning, and the proper conduct of homework of the sessions affected the study results and could not be controlled by the researchers, therefore, they attempted to partially control them by random allocation.

# Conclusion

According to the study findings, positive psychological interventions were effective in increasing the psychological well-being of midwives. In practical terms, the present study suggests holding a course of positive psychology workshops to relevant authorities to improve the well-being of employees and reduce occupational burnout because individuals with a high standard of well-being can demonstrate flexibility in the face of difficult challenges and demands of the workplace as well as the emotional and psychological needs of the job and adapt to the conditions.

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# **Conflicts of interest**

There are no conflicts of interest.

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