

## Spiritual Intelligence and its Relationship with Midwives' Clinical Performance and Dimensions

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Received 11 November 2022, Accepted for publication 07 March 2023

### Abstract

**Background & Aims:** The job performance of midwives largely determines the quality of healthcare services. Spiritual intelligence refers to a set of capabilities encompassing effective compatibility and problem-solving behaviors. Accordingly, the present study aimed to investigate the relationship between midwives' spiritual intelligence and their clinical performance.

**Materials & Methods:** This correlation study included 232 midwives working in the maternity wards of the hospitals and healthcare centers affiliated with the Mashhad University of Medical Sciences. The random sampling and stratified cluster sampling methods were adopted in the maternity wards and healthcare centers, respectively. The required data were collected using personal information forms, Badi's Spiritual Intelligence Questionnaire, and Hadizadeh's Justified Performance scale for the direct observation of the midwives' clinical performance. The data analysis was performed using SPSS software version 16.  $P < 0.05$  was set as the significance level.

**Results:** According to the results, the mean scores of the participants' spiritual intelligence and clinical performance were  $188.6 \pm 19.7$  and  $1.5 \pm 0.4$ , respectively. The Spearman correlation tests indicated no significant correlation between spiritual intelligence and the total clinical performance or its dimensions (namely communication, education, and caregiving) ( $P > 0.05$ ).

**Conclusion:** Important variables other than spiritual intelligence influence clinical performance. It appears that in the case of clinical performance of those dealing with human lives, the staff strive to improve the patients' conditions under all circumstances and would never compromise their great responsibilities under any conditions.

**Keywords:** Clinical Performance, Iran, Midwives, Spiritual Intelligence

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### Introduction

Midwifery and nursing are known as performance-based professions (1). Clinical performance is defined by the assessment of competence and ability to

demonstrate behavioral performance or specialized skills (2). Clinical competence is a form of ethics and values, and its reflection on knowledge and skills and honesty, care, communication skills, and adaptation are

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known as signs of individual competence (3). Providing effective and appropriate care to patients requires clinical competence. One of the important components in clinical competency is spiritual intelligence (4). Recently, several studies have examined the impact of spirituality on performance improvement in various organizations. Spirituality is a powerful force that not only improves people's adaptability and flexibility, but may also improve their performance. Combining spirituality, as a new approach, can constructively affect job performance and organizational skills (5). Spiritual intelligence (SQ) is considered as the capacity of the mind to address the basic and spiritual aspects of personal and professional life. Spiritual intelligence is a factor in maintaining meaning, purpose, potential, philosophy, and honesty, and is a phenomenon eager for human personal, social and educational life (6, 7). This intelligence spreads holistic holism among individuals, increases productivity, academic performance, and discovers continuous learning, transformational change, and improvement for the organization (8). Spiritual intelligence (SQ) is considered as the capacity of the mind to address the basic and spiritual aspects of personal and professional life. Nobel considers spiritual intelligence to be a reflection of a set of human experiences that all individuals have it in various degrees (9). Spiritual intelligence can be helpful in reducing the consequences of burnout. Spiritual intelligence, as one of the types of intelligence, helps people to have more mental health and improve their performance (10). Spiritual intelligence enables people to control their clinical performance more effectively (11).

Spiritual intelligence is not related just to slavery and divinity, but also includes other domains such as meaning and goal in life, forgiveness, self-cognition, patience, internal peace, and spiritual experience. However, some people are not religious at all and have a high level of spiritual intelligence. Therefore, because

spirituality can affect all activities and behaviors, it is considered valuable (12). One of the most important applications of spiritual intelligence in the workplace is to create peace, mutual understanding, understanding between colleagues, job satisfaction, and reduction in job stress (13) Kaur et al. (2013) in their study showed that spiritual intelligence of nurses plays an important role in influencing nurse behavior. So, health care providers should consider this relationship in curriculum development and medical education (14). Numerous studies have examined the impact of psychological factors on clinical performance, a majority of which have reported significant and positive relationships between the variables: "midwives' happiness and clinical performance", "self-efficacy and spiritual intelligence" (15, 16), "clinical performance and self-efficacy" and "resilience and spiritual intelligence" (17). According to the study of Imani et al. in Iran (2021), there is a direct and positive correlation between spiritual intelligence and clinical competence in midwifery and other medical sciences students (4). Moreover, Khandan et al. (2017) reported a positive significant correlation between nurses' spiritual intelligence and their job performance (18). However, other studies have revealed no positive and significant relationships between spiritual intelligence and nurses' caregiving behavior (14) and even reported a weak correlation between midwives' clinical performance and happiness (19). However, health caregivers receive sufficient training on spiritual caregiving neither during their education nor later (20).

Accordingly, the present study aimed to examine the relationship between midwives' clinical performance and their spiritual intelligence, regarding the vital role of midwives' clinical performance in ensuring mothers and infants' health, maintaining and improving public health, and considering the inconsistent findings of the previous studies in this regard.

## Materials and Methods

The present research was a single-group cross-sectional study. The statistical population of the study encompassed midwives working in healthcare centers and maternity wards of the academic hospitals, affiliated to Mashhad University of Medical Sciences, Mashhad, Iran. The random sampling and stratified cluster sampling methods were adopted in the maternity wards and healthcare centers, respectively.

To determine the sample size, the results of the pilot study on 30 people as well as the correlation coefficient formula with 95% confidence interval and 80% test power were used. The final sample size was considered by adding 10% to predict the sample drop. The lowest relationship between spiritual intelligence and the total score of clinical performance with a correlation coefficient of 0.216, which is used in the formula.

$$N = \frac{(z_{(1-\alpha/2)} + z_{(1-\beta)})^2}{c_{(r)}^2} = 867$$

$$\frac{n}{1 + \frac{n}{N}} = 232 = \text{Modified sample size}$$

Inclusion criteria were: having an (at least) associate's degree in midwifery, at least six months of working experience, at least three months of working experience in the current ward, no history of visiting a psychologist or psychiatrist, no history of hospitalization due to psychological diseases over the last year, and no history of severe stress over the past six months. Exclusion criteria were no having any of the mentioned criteria and incomplete questionnaire. Each midwife's performance in managing two patients in healthcare centers and two patients giving birth in the maternity wards were observed when they were delivering clinical care services, and their performance was recorded in the checklist by the researcher. Given the significance of awareness of the performance, evaluation could influence the quality of the delivered care as such the participants were unaware that their performance was being observed. All forms were filled

out anonymously to observe the ethical considerations. Moreover, the researcher emphasized the anonymity of the questionnaires, information confidentiality, and the fact that the evaluation results were not to be reported in organizational evaluations.

The data collection tools were individual information forms, Badi's Spiritual Intelligence Questionnaire, and adjusted checklist proposed by Hadizadeh et al. and Badi et al. (2009) for the direct observation of clinical performance. They were developed and validated in Iran (19). This questionnaire comprises 49 items addressing four dimensions, which were scored based on a five-point Likert scale ranging from completely agree to completely disagree (5: completely agree, 4: agree, 3: somehow agree, 2: disagree, and 1: completely disagree). Given the concept of the questions and their negative nature, scoring was reversed in the second section of the questionnaire. The four sections of the questionnaire included the general thinking and belief dimension (19 items), the ability to deal with and fight against problems (15 items), addressing moral principles (8 items), and self-awareness and love (7 items), respectively. The total score was considered the sum of the four sub-scale scores, and final scores were categorized into three categories: poor (49-114), average (115-180), and high (181-246) (19). The spiritual intelligence questionnaire developers used both Cronbach's alpha and the bisection method to examine the reliability of this questionnaire, and obtained the coefficients of 0.85 and 0.78, respectively (19). This questionnaire's reliability was calculated using Cronbach's alpha as 0.88.

The adjusted clinical performance checklist included two forms to evaluate the midwives' performance in maternal wards and healthcare centers, with each form including three dimensions (namely education, communication, and caregiving). This checklist was modified and revised based on the latest health booklets

and instructions, regarding midwives' tasks published by the Ministry of Health and Hygiene. Minimum and maximum scores were zero and two. After classification, the scores were classified into three groups: poor performance (0-0.67), average performance (0.68-1.3), and acceptable performance (1.4-2). In the present study, the reliability of midwives' performance was confirmed with an  $r_p = 0.95$  in the healthcare centers and an  $r_p = 0.99$  in the maternity wards.

All statistical analyses were performed with SPSS software V.16. Analysis was performed using the Spearman test, Mann-Whitney test, Chi-Square exact test, and multiple regression model.  $p < 0.05$  was considered as statistically significant.

## Results

The participants' mean age was  $35.0 \pm 8.9$ . Most of the test subjects were married (75%), had a bachelor's degree (91.8%), were permanently employed (40.5%), and were quite interested in the midwifery profession (44.8%).

Table 1. illustrates the general levels of the study variables. Moreover, Table 2. indicates test participants' mean scores of clinical performance, spiritual intelligence, and the respective dimensions.

Regarding the relationship between spiritual intelligence with clinical performance and its dimensions in midwives, Spearman correlation results indicated no statistically significant relationship between the aforementioned ( $P > 0.05$ ) (Table 1).

**Table 1.** Correlation coefficient between spiritual intelligence and clinical performance and its dimensions among the study participants

	variable	Speraman	p-value
<b>Clinical Performance and its dimensions</b>	communication	0.09	0.143
	education	0.02	0.764
	caregiving	0.05	0.461
	Total score	0.05	0.435

The results of the Mann-Whitney test showed that the mean scores of clinical performance were not significantly different in terms of spiritual intelligence dimensions ( $P = 0.1$ ,  $Z = -1.5$ ). Among the clinical dimensions, communicational performance scores were

higher among the participants with higher spiritual intelligence than those with average spiritual intelligence. The Mann-Whitney test results revealed that the mean scores of communicational performance differed significantly across different spiritual intelligence levels (Table 2).

**Table 2.** Mean and standard deviation of Clinical Performance according to the levels of spiritual intelligence

		Level of Spiritual Intelligence			test result	
		Average	High	Total		
Clinical Performance	communication	1.5±0.5	1.7±0.5	1.6±0.5	Z=-2.4 P=0.01	
	education	1.1±0.5	1.2±0.5	1.2±0.5	Z=-4.9 P=0.80	
	And	caregiving	1.6±0.4	1.7±0.4	1.7±0.4	Z=-1.4 P=0.15
Its Dimensions		Total Score	1.4±0.4	1.5±0.4	1.5±0.4	Z=-1.5 P=0.13

Among the participants with average spiritual intelligence, 57.5% had an acceptable clinical performance, while the corresponding value in the group with high spiritual performance was 71.5%. The results

of the Chi-square exact-test indicated no significant difference in the distribution of clinical performance across the groups with various spiritual intelligence ( $P=0.09$ ) (Table 3).

**Table 3.** Frequency distribution of midwives in terms of variables of spiritual intelligence and Clinical Performance

Variable	levels of spiritual intelligence			
	Average	High	Total	
Clinical Performance	poor	3(4.1)	2(1.3)	5(2.2)
	Average	28(38.4)	45(27.2)	73(30.8)
	high	46(57.5)	108(71.5)	154(67.0)
	Total	77(100.0)	155(100.0)	232(100.0)
Kruskal-Wallis test Result	X <sup>2</sup> =5.2	Chi <sup>2</sup> =5.2	Df=2	P=0.09

Multiple regression was used to investigate the simultaneous relationship between spiritual intelligence and background and intervening variables on clinical performance.

The results showed that the variables of workplace (health center), being married, morning shifts, and interest in the midwifery profession had no significant

relationship with clinical performance in the presence of other variables, and were eliminated from the regression model ( $R^2=0.194$ , Adj.  $R^2=0.150$ ,  $F=3.1$ ,  $p=0.037$ ). Among the other remaining variables in the equation, spiritual intelligence ( $p=0.004$ ) and job satisfaction ( $p=0.013$ ) variable had significant linear relationships with clinical performance (Table 4).

**Table 4.** The effect of spiritual intelligence on clinical performance by controlled interventive variables in midwives according to multiple regression results

Variables	$\beta$	Std. Error	CI 95%	Exp. $\beta$	t	p
Constant	12.3	2.4	9.3-15.6	.9	9.8	<.001
Job Satisfaction	-0.029	.02	.01-.04	-0.887	4.7	0.013
Exercise:						
Yes (reference)	0.831	.24	.1-1.3	0.306	.7	0.295
Job interest	0.162	.11	.06-.9	0.312	.8	0.251
Personality stress	0.098	.04	.01-1.1	0.439	.6	0.201
Job Experience	0.052	.01	.01-.9	1.216	.4	0.081
Spiritual Intelligence	0.030	.01	.01-.8	1.453	3.3	0.004
Religious Activities	-0.004	.01	-.008-.09	-0.006	.1	0.982
Happiness	-0.010	.01	-.009-.07	-0.452	.7	0.304
Job Stress	-0.030	.02	-.02-.08	-0.189	.8	0.606

age	-0.072	.04	-.13-.12	-1.725	1.2	0.073
income level	-0.102	.09	-.21-.5	-0.141	.7	0.548
degree of education	-1.163	.8	-2.5-2.1	-0.726	1.4	0.067
R2=0.194	Adj. R2=0.150	F= 3.1	p= 0.037			

**Discussion**

The present study revealed that spiritual intelligence had no statistically significant relationship with clinical performance and its dimensions (namely educational performance, communicational performance, and caregiving performance).

Ahmadi et al. (2021) conducted a cross-sectional and correlational study to identify the relationship between perceived competence in spiritual care and spiritual intelligence, that included 510 undergraduate nursing students in two public faculties of nursing in Iran in the 2018-2019 academic year. The samples were selected using a census method. A demographic information questionnaire, the valid and reliable Iranian questionnaire of nurses' competencies in spiritual care, and the spiritual intelligence self-report inventory (SISRI) were used to collect data. They found that there was a significant positive correlation between nursing students' competence in spiritual care and spiritual intelligence ( $p < 0.001$ ,  $r = 0.26$ ) (21). Imani et al. (2021) also conducted a cross-sectional study on 145 students of medical, nursing, midwifery, and paramedical schools. The results demonstrated a direct, positive, and significant linear relationship between spiritual intelligence and clinical competency in all departments groups (4). In another study, Hatami et al. (2019) conducted a cross-sectional analytical study on 92 nurses, selected by the census sampling method working in Shoushtar educational hospitals. The data collection tools included a demographic information form, spiritual intelligence self-report inventory (SISRI), Conner-Davidson resilience scale (CD-RIS), and the self-efficacy of clinical performance. Data were analyzed using descriptive statistics (mean and standard

deviation), linear regression, and Spearman correlation coefficient in SPSS software ver. 16. The results show that there was a significant relationship between spiritual intelligence ( $p < 0.001$ ) with self-efficacy of clinical function (22). Safarpour et al. (2018) reported no significant relationship between nurses' job performance and job satisfaction in their study (23). Javanmardnejad et al. (2021) in their study reported that happiness significantly correlated with quality of working life (24). Moreover, another study in Iran showed a weak correlation between happiness and clinical performance –particularly in midwives working in maternity wards (19). The present findings are inconsistent with the findings in some studies (4, 21, 22); however, they are somehow in line with others (14, 19, 25). It must be mentioned that other studies have also investigated clinical performance using self-report tools, while the clinical performance reported in the present study was observed and examined by the researcher. Considering the critical nature of work in the healthcare systems and although the staff might not be pleased with their performance, they would never let their dissatisfaction result in inefficiency or not delivering valuable and effective services to a suffering patient or a mother giving birth (25). Moreover, inefficiency and half-hearted work might be rarely noticed in the clinical performance of the staff dealing with the human life, suggesting that they do their best to treat their patients (19). On the other hand, caregiving staff are constantly and directly monitored by supervisors, matrons, and the ward authorities, which also results in their improved performance (25).

Among the clinical performance dimensions, the mean scores of the participants' communicational

performance were higher among those with higher spiritual intelligence, and the Mann-Whitney test revealed a statistically significant difference between the mean scores of communicational performance across different groups of spiritual intelligence. The study findings cannot be discussed and explained based on the dimensions of the variables; however, Shami et al. (2017) conducted a study to determine the correlation between spiritual intelligence and communication skills among nursing students. In this study, 282 nursing students were selected by stratified sampling method, and data were collected using the King Spiritual Intelligence and Barton Communication Skills Questionnaires. The results showed that the degree of correlation between communication skills and spiritual intelligence and its domains were positive (0.149) and significant ( $P < 0.05$ ). The study is in line with our study (26). The study of Miri et al. (2015) on the relationship between various aspects of nursing care quality and spiritual intelligence indicated that the communicational dimension of nursing care had a significant relationship with the dimension of moral principles and self-awareness and love in spiritual intelligence (27). Further, Arnout et al. (2019) reported that higher spiritual intelligence increase their communication skills (28). This finding is consistent with that of the present study. Employees with a spiritual point of view are more flexible, trust more easily, adapt to their colleagues and teammates more easily, and have an overall better communicational performance (29). Since intelligence influences many factors directly and indirectly, spiritual intelligence could be recommended to be used as a factor influencing performance.

### Limitations

One of the limitations of the present study was that the impacts of other forms of intelligence such as general intelligence and especially emotional

intelligence which affect the level of spiritual intelligence and it was not possible to evaluate and control these intelligences in this study. Moreover, the researcher's presence in the research environment might have influenced the performance of studied midwives, which had to be resolved by making two sets of observations for each participant. On the other hand, adherence to religion is considered a value in our community, so some participants might have answered the spiritual intelligence questionnaires based on the community's values (and not their personal beliefs). The items were relatively controlled by ensuring anonymity due to the fact that the duties of midwives in maternity hospitals and health centers are extensive. In this study, part of the performance of midwives, the performance of first stage delivery care in maternity hospitals and prenatal care in health centers were evaluated.

### Conclusions

Although a significant relationship has been reported between spiritual intelligence and clinical practice in most of previous studies, in occupations that involve human lives, this relationship is weak as everyone strives to improve the condition of patients. In addition, the work of the care staff is supervised directly and continuously by the department officials, supervisors and metrons, and if someone is negligent in performing his duties, he will be followed up and punished by legal authorities, including the medical system organization and relevant courts. And this practically makes this group perform well.

### Acknowledgments

This study is the result of a research project at Mashhad University of Medical Sciences (Ethics Committee code IR.MUMS.REC.1394.332). Mashhad Research Deputy and all the midwives who played a role in conducting the research are highly appreciated.

**Consent for publication:** Not applicable.

**Availability of data and materials**

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

**Conflicts of interest:** The authors declare no conflicts of interest

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