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The relationship between spiritual intelligence with self-efficacy in adolescents suffering type 1 diabetes

Mojdeh Rahmanian, Mohsen Hojat, Mojtaba Zeini Jahromi, Abdolahad Nabiolahi

Abstract:

INTRODUCTION: An important construct to consider within diabetes management and the changing landscape of diabetes therapies is self-efficacy. Self-efficacy research holds the potential to inform and assist the diabetes team as well as patients with type 1 diabetes.

METHODS: In this descriptive-correlation study, 200 adolescents with type 1 diabetes were enrolled. To measure spiritual intelligence, the 24-question Spiritual Intelligence Self-Report Inventory questionnaire and to measure self-efficacy of diabetes, the Self-efficacy Questionnaire (8 questions) were used. Data collection was conducted by simple sampling. Data were analyzed using Pearson analysis, mean, and standard deviation analysis tests.

RESULTS: Nearly 66% of the participants were female, the mean age of the samples was 17.10 ± 1.85 years, the mean duration of diabetes was 5.98 ± 3.79 years, and 62.5% had a history of diabetes in first-degree relatives. Almost 42% of the participants were the first children of the family and 29.5% were studying at the university. The mean score of spiritual intelligence was 60.42 ± 12.9 . The mean self-efficacy score was 5.41 ± 1.87 . The mean scores in the critical thinking, personal meaning production, transcendental awareness, conscious state expansion were 18.31 ± 4.33 , 13.17 ± 3.36 , 11.26 ± 3.36 , 46.14 ± 1.04 , 11.33 ± 1.04 , and 11.89 ± 3.9 , respectively. Cronbach's alpha level on the level of spiritual intelligence and self-efficacy was 0.903 and 0.082, respectively, at 95% confidence level. There was a significant relationship between spiritual intelligence and self-efficacy ($P = 0.026$). There was no significant relationship between self-efficacy with spiritual intelligence subscales.

CONCLUSION: This study showed that spiritual intelligence correlates with self-efficacy and has a decisive role in improving the health of adolescents with diabetes.

Keywords:

Diabetes mellitus, self-efficacy and adolescent, spiritual intelligence

Introduction

While type 1 diabetes is less common, 3% is added annually to the number of people affected. Around 86,000 children under the age of 18 are diagnosed with type 1 diabetes.^[1,2] There is no definitive treatment for type 1 diabetes,^[3] but several studies are underway to control blood sugar using a variety of factors. The study of psychosocial factors such as self-efficacy and its impact on the intensity of blood

glucose control is important for nursing education for patients and their families and their comprehensive support.^[4] Bandura defines self-efficacy as the belief that one carry out specific behaviors at specified situations. It has been consistently shown to be an important factor for both short- and long-term changes in the health behaviors of children and adolescents.^[5] Although several studies have been conducted in the field of self-efficacy in type 1 diabetes and in controlling blood glucose, the importance of this factor has been addressed in promoting the health of adolescents affected, but there

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Department of Nursing,
Research Center for Non
Communicable Diseases,
Jahrom University of
Medical Sciences, Jahrom,
Iran

Address for correspondence:

Miss. Mojdeh Rahmanian,
Jahrom University of
Medical Sciences, Jahrom,
Iran.
E-mail:
[mojdeh93rahmanian@
gmail.com](mailto:mojdeh93rahmanian@gmail.com)

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is a deep gap in relation to effective factors related to self-efficacy. Studies have explored the relationship of self-efficacy with various variables related to youth with type 1 diabetes.^[4] One of them is spiritual intelligence. Wigglesworth has defined spiritual intelligence as the ability to behave with compassion and wisdom while being calm internally and externally neglecting the accidents and events. Neglecting accidents means by peaceful spiritual intelligence, we can persist even under the biggest pressures. This characteristic is seen in spiritual leaders. This definition also indicates that people with spiritual intelligence are able to behave with justice and compassion when judging.^[6] According to King, "Spiritual intelligence denotes a set of adaptive mental capacities which are based on nonmaterial and transcendent aspects of reality, specifically those which are related to the nature of one's existence, personal meaning, transcendence, and expanded states of consciousness."^[7] A true self-recognition leads to self-efficacy. The major mechanism in human recognition is the self-efficacy beliefs. People with high efficacy expect to achieve success through their attempts and do not easily give up despite negative consequences. Therefore, the self-efficacy theory says that an individual's belief in his/her own abilities creates the needed behavior to gain the expected possible results and causes him/her to make extra efforts to apply his/her behavior.^[8] Self-efficacy has been widely studied and utilized as a foundational construct in health. Subsequently, health behavior change interventions can focus on any factors influencing self-efficacy to create or bolster change.^[4] Since nursing is a functional discipline that deals with people, undoubtedly, the inclusion of spirituality in care is essential. Conducting such studies, focusing on the challenges of controlling blood glucose in adolescents with diabetes, helps to control the disease and reduce complications. Spirituality affects health habits and behaviors. Although spirituality is one of the demographic and psychosocial characteristics of people, it has found a special position among chronic patients and is considered as an important aspect of health in people with chronic conditions. Previous studies have shown that spirituality can positively affect many aspects of life and disease in people living with chronic conditions. Therefore, this study was conducted aiming to fill this gap and investigate the correlation between spiritual intelligence and self-efficacy.

Methods

In this descriptive-correlation study, 200 adolescents with type 1 diabetes who referred to the Iranian Diabetes Association in 2017 were admitted. The researcher explained the research objectives to the participants after attending the Iranian diabetes association. The written consent form was provided to adolescents and parents,

and they were assured that all confidential information would remain. Inclusion criteria were age range from 15 to 21 years, diagnosis of diabetes for more than a year, complete knowledge of the patient regarding his/her disease, not having other physical-psychological illnesses, and not taking psychiatric or narcotic drugs. Data collection was conducted by simple sampling. To measure spiritual intelligence, the 24-item Spiritual Intelligence Self-report Inventory questionnaire was used. The content and form validity of the questionnaire was obtained with the help of five professors and its reliability was calculated as 0.903 with the help of ten adolescents using Cronbach's alpha method. Data were analyzed using SPSS-IBM software version 18 (which was made at the University of Chicago, IL, USA) with Pearson's analysis, mean, and standard deviation tests.

The Self-Efficacy questionnaire includes 8 items that are measured by 1–10 Likert scale. This tool was developed by Lorig at Stanford University in 2005 and reported by Cronbach's alpha (0.82). How to grading these phrases is such that I am not sure of the word number 1 and until the word is absolutely sure the number 10 is assigned. If there are two numbers for each item, then the smaller number is acceptable and, if the 8 items were not answered with two questions, this tool would be repeated again. The higher the score is, the higher the self-efficacy. The reliability of the questionnaire was calculated with the help of 30 adolescents in the Iranian diabetes center with Cronbach's alpha method (0.89).

Results

Nearly 66% of the participants were female, the mean age of the samples was 17.10 ± 1.85 years, the mean duration of diabetes was 5.98 ± 3.79 years, and 62.5% had a history of diabetes in first-degree relatives. Nearly 42% were the first children of the family and 29.5% were studying at the university [Table 1]. The mean score of spiritual intelligence was 60.42 ± 12.9 and the mean self-efficacy score was 5.41 ± 1.87 . The mean scores in the critical thinking, personal meaning production, transcendental awareness, conscious state expansion were 18.31 ± 4.33 , 13.17 ± 3.36 , 11.26 ± 3.36 , 46.14 ± 1.04 , 11.33 ± 1.04 , and 11.89 ± 3.9 , respectively [Table 2]. There was a significant relationship between spiritual intelligence and self-efficacy ($P = 0.026$) [Table 3]. There was no significant relationship between self-efficacy with spiritual intelligence subscale.

Discussion

The results of this study were consistent with a study performed by Merati on patients with hemodialysis in educational hospitals of Kermanshah, which indicates a meaningful relationship between spiritual intelligence

and self-care that the results of his study showed that the majority of patients (32%) had moderate spiritual intelligence status and that the mean score of spiritual intelligence was not different between men and women. He points out that people with higher spiritual intelligence are more resistant to stress in chronic diseases, do self-care activities better, do better self-care activities, and are more effective in controlling their illness.^[9]

In addition, a descriptive cross-sectional study by Sahebalzamani *et al.* entitled “The Relationship between Spiritual Intelligence with Good Mental Sense and Purpose in Life” showed a significant relationship between spiritual intelligence and good psychological sense. They point out that people with a high average score of spiritual intelligence can tolerate more problems. They also point out that spiritual intelligence is the ultimate intelligence which reflects the values and meanings that cover psychological concepts and adaptive capacities, leading to immaterial, noncompulsory aspects. This mental-spiritual concept increases the daily performance and health of individuals.^[10]

In the study of Zamani and Hajializadeh, entitled “The effect of teaching spiritual intelligence on quality of life and good psychological well-being” conducted on patients with multiple sclerosis, the patients were divided into two groups of 27, and the study was in the form of pre- and posttest. There were 15 spiritual intelligence training sessions each of 60-min duration. The used questionnaires were Quality of Life and Good Mental Health. In the control and intervention groups, the questionnaires were provided to the participants before

the intervention, immediately after the intervention, and 2 months after the intervention. Data analysis was done using descriptive statistics and analysis of variance. In both groups, there was a statistically significant difference in the two criteria of quality of life and good mental health over the course of time. However, the level of change and improvement in spiritual intelligence in the case group was more than that of the interventional group ($P = 0.018$). Training spiritual intelligence skills can help patients in all dimensions, especially those with chronic diseases, to adapt to the illness and attain life satisfaction.^[11] The results of this study were not consistent with the following studies. Smart’s study entitled “The Relationship of Spiritual Intelligence to Achievement of Secondary Students,” which was conducted on 76 high school students aged 12–19 years in Virginia using the Academic Achievement Questionnaire. Data analysis showed that there was an inverse correlation between academic achievement and total spiritual intelligence score of students ($r = -0.33, P = 0.39$). The result of this study can be justified in the following way: evolution is in spirituality and consequently, in spiritual intelligence during adolescence. Therefore, since this concept may not be well developed in adolescents, adolescents are uncertain in understanding abstract concepts and in their relationship with their everyday issues.^[12]

In addition, in the study of Rippentrop, 2005, entitled “Relationship between Spirituality/Religion and Physical Health and Mental Health” conducted on patients with musculoskeletal pain and chronic illnesses, religious/spiritual beliefs were reported with physical-psychological health behaviors. The reciprocal inverse correlation of mentioned variables in the study was justified by Ellison–Levin stress-response pattern. According to the pattern of response-stress, those with more physical and psychological problems and disabilities are less likely to seek spirituality and religious beliefs, and therefore their levels of spiritual intelligence are less developed.^[13]

Table 1: Mean score of self-efficacy

	<i>n</i>	Minimum	Maximum	Mean	Std. deviation
Eficatot	200	2.12	9.50	5.4119	1.87204
Valid <i>n</i> (listwise)	200				

Table 2: Mean score of all domains of spiritual intelligence

	<i>n</i>	Minimum	Maximum	Mean	Std. deviation
Critical Thinking	200	2.00	28.00	18.3150	4.53748
Personal Meaning Production	200	3.00	20.00	13.1700	3.36567
Transcendental Awareness	200	6.00	28.00	17.0300	4.10161
Conscious State Expansion	200	2.00	20.00	11.9050	3.58051
Total score of spiritual Intelligence	200	25.00	92.00	60.4200	12.97751
Valid <i>n</i> (listwise)	200				

Table 3: Correlations

	Eficatot	Critical thinking	Personal meaning	Transcendental awareness	Conscious State expansion
Eficatot					
Pearson correlation	1	-0.127	-0.123	-0.131	-0.143*
Sig. (2-tailed)		0.074	0.082	0.064	0.043
<i>n</i>	200	200	200	200	200

*Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed)

Spiritual beliefs have led to the emergence of a semantic framework in religious people, in which individuals face crises and problems. Life becomes stronger. As a result, adolescents with spiritual beliefs are more adaptable in accepting their illness and less tolerant of depression and anxiety. In other words, in the case of strengthening spiritual intelligence in adolescents, it can be used as a means of compromising disease, managing blood glucose and controlling complications, and reducing hospitalization and mortality.

Ethical considerations

This article is the result of the research project of Jahrom University of Medical Sciences with the following code: IR. JUMS. REC. 1396. 120. The researcher explained the research objectives to the participants after attending the Iranian diabetes association. The written consent form was provided to adolescents and parents, and they were assured that all confidential information would remain. Resources are effectively utilized by following the principles of ethics and trust so as to ensure accurate publication of results in this research.

Conclusion

Teenagers with chronic illnesses experience more emotional and behavioral changes than others at their age. These teenagers experience a lower level of quality of life, disease progression, and more death. Spiritual beliefs play a crucial role in adaptive strategies. Spiritual intelligence allows an individual to use interpersonal and intrapersonal feelings to fill the gap between him/her and others. Skills and attributes that are related to the spiritual intelligence of individuals vary from person to person and on the basis of personality traits, spiritual orientations, spiritual contexts, and activities that they follow. Living with no pressure, concern, fear, and anxiety, as well as increase of spiritual growth makes individuals stronger and brings about opportunities to take part in innovative activities and self-efficacy more clearly meaningfully and purposefully in patients with chronic disease.

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Conflicts of interest

There are no conflicts of interest.

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