The relationship between spiritual intelligence and self-management in patients with diabetes

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Abstract

Original Article

BACKGROUND: Type 1 diabetes is one of the most common chronic diseases in children. Metabolic control and following diet therapy in teenagers with type 1 diabetes are weaker than children before the adolescence stage. One of the most important factors influencing self-management seems to be spiritual intelligence. The aim of this study was to investigate the relationship between spiritual intelligence and self-management in patients with diabetes.

METHODS: The population of this descriptive cross-sectional study consisted of all adolescents with type 1 diabetes referring to the clinic of Tohid Hospital in Sanandaj, Iran, which were 194 people. Data were collected by interview and using a questionnaire. Sampling method was available or simple sampling. The collected data were analyzed using descriptive statistics and SPSS software.

RESULTS: The majority of people were in the middle period of adolescence. More than half (88.5%) of them had a moderate and good economic situation and the majority of them (62.5%) had a history of diabetes in the family. Most of the people (56.5%) had an average duration of diabetes. More than half of the subjects were the first and second children of the family.

CONCLUSION: The results showed that self-management increased with increasing spiritual intelligence of individuals, and with decreasing spiritual intelligence, self-management decreased; in other words, there was a positive and significant correlation between spiritual intelligence and self-management.

KEYWORDS: Diabetes Mellitus; Self-Management; Spiritual Intelligence

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Introduction

Diabetes is one of the most important health problems in the 21st century. It is a chronic, metabolic, and progressive disease that is generally characterized by increased blood glucose due to impaired secretion of insulin or insulin function.[1] Type 1 diabetes is one of the most important chronic diseases of childhood after asthma and mental retardation. It affects young people.[2] The disease affects one in every

300-500 children.[3] The World Health Organization (WHO), in 2000, reported a global outbreak of 171 million people. By 2030, this number will reach to 438 million. Most of this increase occurs in developing countries; according to estimates by the year 2025, 75.0% of people with diabetes are living in these countries. The highest prevalence of diabetes is in the Eastern Mediterranean and the Middle East.[4-6] According to the WHO, the prevalence of this disease in Iran is more than 8.0%. Iran is also one of the countries where more than 20.0% of deaths occur due to diabetes.[7]

The cause of this disease is due to its complications, including short-term

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complications such as diabetic hypoglycemia and diabetic ketoacidosis (DKA), and long-term complications like cardiovascular, renal, and ocular complications; overall, self-management impairment can be the cause of a high mortality rate.[8] Therefore, diabetes is mainly a disease of self-management and illness.[9] Self-management is an active, daily, and flexible process that depends on all aspects of the person's physical and emotional needs. In self-management, people must make decisions about both life and disease that reduce both quality of life (QOL) and the risk of problems and complications.[10] In managing diabetes, children and their parents share responsibility and make decisions about disease control and well-being through a range of disease-related activities. Complex diabetes management requires the collaboration of both adolescent and family members in control of blood glucose, diet, exercise, and control of the amount of insulin.[11] Self-management is the main objective of nursing in children with type 1 diabetes and a nurse as a member of the care team plays an active role in the self-management of children with type 1 diabetes.[12] Achieving a balanced level of insulin, diet, and energy consumption is the key to managing this disease.[13-15]

Spirituality is a set of abilities that individuals are called to apply and shape them, and incorporate spiritual resources into values and qualities in a way that achieve good daily and psychological well-being.[16] In sum, coping strategies and problem-solving techniques using spirituality are an adaptive application of spiritual intelligence. This relationship is indirect and spiritual intelligence plays a role as a mediator.[17] Considering the results of research in chronic diseases, and the implication of the majority of them on the positive impact of spirituality on physical and psychological reasons, the decisive reasons for the commitment of health professionals to investigate spirituality is

especially present in people with severe and chronic conditions. Nursing science is considered as one of the health professions by considering human as a physical, psychological, and spiritual aspect with a comprehensive view of humans. Therefore, considering the importance of the sensitive period of adolescence, the evolutionary characteristics of adolescents, the formation of identity in adolescence, and the initiation of spirituality in this period, as well as the challenges of diabetes management and the religious and spiritual context of our country, this study aimed to investigate the relationship between spiritual intelligence and self-management in adolescents with type 1 diabetes.

Materials and Methods

In this descriptive cross-sectional study, spiritual intelligence and self-management variables were measured in a group of adolescents with type 1 diabetes. Variables were first described and then their relationship with each other was investigated.

Sampling was done at Tohid Hospital in Sanandaj, Iran. The study population consisted of a group of adolescents with type 1 diabetes referring to the diabetes clinic of Tohid Hospital. The inclusion criteria were: age of at least 14 years, at least one-year duration since diabetes diagnosis, being aware of their illness, lack of other physical illnesses, not using narcotic drugs, ability to read, write, and complete a questionnaire or interview, and going to the diabetes clinic of Tohid Hospital to receive services. In this study, the research sample was the same as the research community and all of the people who had the status of a research community and were able to access the research environment were selected. The sample size was determined to cover the descriptive objectives of 194 samples.

The data collection was done in an easy or affordable way. The data-gathering tools in this research included personal and social

information form, King's Spiritual Intelligence Self-Report Inventory (SISRI), and the Self-Management of Type 1 Diabetes in Adolescence (SMOD-A) questionnaire. The scientific credibility of the data-gathering tool was determined by the content and form validity method. The total validity of the tool was 0.98.

Cronbach's alpha method was used to determine the scientific reliability of the data collection tool. Alpha level in the spiritual intelligence and self-management scales of diabetes was determined as r = 0.903 and r = 0.820, respectively. The collected data were analyzed using descriptive and analytical statistics via SPSS software (version 16, SPSS Inc., Chicago, IL, USA).

Results

More than half of the study subjects were girls (58.0%) and 66.0% were in the middle period of adolescence. More than half of them had a moderate and good economic situation; 56.5% had a history of diabetes in the family, and 36.0% had a mean duration.

The results showed that none of the girls and boys had low spiritual intelligence and more than half of them had good spiritual intelligence (67.4%). There was no significant difference between the mean spiritual intelligence of girls and boys (t = 0.30). Besides, more than half of the subjects (60.8%) studied had good spiritual intelligence in all three groups. No significant difference was observed between the mean spiritual intelligence of different educational groups (F = 0.19).

55.0% of the subjects had good and excellent spiritual intelligence in all four groups. In addition, no significant difference was observed between the mean spiritual intelligence of different economic groups (F = 3.37).

More than half of the two groups (77.0%) with no other disease had good spiritual intelligence. The results of independent t-test showed that there was no significant difference between the mean spiritual intelligence and

history of infection (t = 0.37).

Moreover, more than half of the subjects studied had good spiritual intelligence in all three groups. The result of the analysis of variance (ANOVA) test showed that there was no significant difference between the mean spiritual intelligence of the different groups in duration of the disease in terms of years (F = 0.64).

None of the girls and boys studied had low self-management and most of them had good management. The results of independent t-test showed that there was no statistically significant difference between the mean self-management of both genders (t = 1.52).

The distribution of self-management in different age groups was normal. The result of the ANOVA test showed that there was a significant difference between the self-management mean of the different educational groups (F = 2.64).

More than half of the studied subjects in each of the four groups had a moderate and good economic management status.

The result of the ANOVA test showed that there was no statistically significant difference between the mean self-management of different economic groups (F = 0.52).

None of the two groups had a history of self-management experience with the history of the disease, and most of them had good self-management. The result of independent t-test showed that there was no significant difference between the mean self-management of two groups with disease history (t = 1.60).

More than half of the subjects studied had good management time in all three groups. The result of the ANOVA test showed that there was no statistically significant difference between the self-management mean of different periods (F = 3.59).

Distribution of spiritual intelligence and self-management was almost normal. The table shows that more than half of the subjects studied had good spiritual intelligence in all

three groups of self-management. The results of Pearson correlation test showed that there was a direct relationship between spiritual intelligence and self-management. Regarding the relationship between self-management and blood glucose control, diet, insulin dose control, and physical activity in adolescents with type 1 diabetes, the results of this study showed that adolescents with type 1 diabetes who had participated in this study had difficulty controlling their blood sugar. The levels of glycated hemoglobin (HbA1C) were higher in comparison with adults, despite the same treatment.

The results of the study showed that following was poorer in adolescents with type 1 diabetes, which related to their physical, mental, and social changes during the course of the disease.

It was revealed that insulin dose was not adequately controlled in these patients due to factors such as increased insulin resistance during adolescence and lack of follow-up.

In addition, 14.47% of adolescents with diabetes had hypoglycemia. According to results, the physical activity of adolescents was not suitable, and this affects the general health of these patients, the QOL, and ultimately the cost of treatment of diabetes in adolescents. The occurrence and prognosis of vascular and neurological complications ranged from 27 to 76 percent.

Discussion

The results of this study indicate that over 65.0% of adolescents achieved a good score in spiritual intelligence tests, and only 27.0% of subjects had excellent spiritual intelligence. However, none of the adolescents had low spiritual intelligence and at least, they had an average level of spiritual intelligence. In addition, because the mean spiritual intelligence was 62.82 ± 11.67 in the adolescents, which is higher than the mean score of the instrument which is 46.0%, it can

be said that adolescents with type 1 diabetes had a desirable level of spiritual intelligence. In the subscales of spiritual intelligence questionnaire, the results also showed that the mean scores of subjects in critical thinking were the highest scores. Then, transcendental consciousness, producing the personal meaning, and eventually, the lowest level of consciousness development was achieved.

The results of this study are consistent with the results of previous studies (AMRAM et al. 2008). In this study, 50.32% of students had a moderate level of spiritual intelligence. Therefore, the average total spiritual intelligence score was calculated as average,[4] or in the study of the light that was performed in 2014, the mean spiritual intelligence was 156.37, and the mean spiritual intelligence in patients with cancer was 140.21. The spirituality of individuals was assessed in a moderate or upward study.[5]

Other results of this study showed that there was no significant relationship between any of the underlying variables with spiritual intelligence variable. The relationship between age, gender, educational level, economic status, history of diabetes, and its duration with spiritual intelligence was not statistically significant.

In general, the absence of a meaningful relationship between demographic variables and the spiritual intelligence variable in the current study can be attributed to the type of instrument used and the cultural and social differences of the studied population with other studies. On the other hand, the discrepancy between the above results can indicate equal opportunities for boys and girls in the present study, which enables them to achieve an almost identical level of spiritual intelligence.[6] In other words, the religious attitude of the community gives everyone the opportunity to be sensitive to material and spiritual realities and to place spirituality at the center of their lives.[7]

The results of the present study show that over 64.0% of adolescents achieved a good score in diabetes self-management test, and only 7 cases involving 4.5% of the subjects enjoyed high diabetes self-management. However, none of the adolescents had low levels of diabetes self-management and at least, they had an average self-management level. It can be said that adolescents with type 1 diabetes have a favorable level of diabetes self-management. In the subscales of self-management questionnaire for diabetes, the results also show that the mean scores of subjects in the self-care dimension had the highest score, followed by communicating with others, collaborating with parents, solving the problem, and eventually, achieving the lowest goals in diabetes. The result of this study is consistent with the results of previous studies.[8-10]

Another result of this research was the existence of a significant relationship between some of the underlying variables with self-management. There was a significant relationship between age and education with self-management variable. The mean score of self-management in those who were in the middle period of adolescence was significantly higher than the self-management score of individuals in the adolescence period. Besides, people with first-year high school education had significantly higher self-management scores than those with secondary and university education. However, the relationship between gender, economic status, history of diabetes, and its duration with self-management was not statistically significant.

In the study, there was a significant relationship between the history of diabetes and self-care, so that the level of self-care increased with increasing number of years of diabetes. However, there was no significant relationship between self-care level with age and education level.[11] Generally speaking, diabetic knowledge has a direct impact on diabetes self-management,[12] and higher

education will affect its relevance to better job positions and better income.

Conclusion

The results showed that since spiritual intelligence, like other dimensions of intelligence, is influenced by environmental and cultural factors, an environment that strengthens religious culture and attitude can provide the basis for mental well-being and life satisfaction. In a society, where people have strong beliefs, religion and spirituality seem to be one of the easiest and most comfortable factors in personal care. Considering that the results of this study show that there is a significant correlation between self-management skills and spiritual intelligence and religious beliefs as a factor in overcoming the physical and psychological problems of the disease, therefore, planning for the implementation of the educational programs to strengthen religious attitudes and self-management behaviors should be addressed much more than ever before, and health professionals should look at all aspects of the caregiving person with a holistic perspective.

Conflict of Interests

Authors have no conflict of interests.

Acknowledgments

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