

Comparison of the Quality of Life among Patients with Idiopathic Thrombocytopenic Purpura and Healthy People in Isfahan, Iran

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Abstract

Background: Quality of life has been used as an important tool to understand illnesses impact in recent decades. Idiopathic thrombocytopenic purpura is a chronic disease which affects the individuals' quality of life. The present study was conducted to compare the quality of life among idiopathic thrombocytopenic purpura patients' with healthy people.

Patients and Methods: This was a descriptive-comparative study with case and control groups. In this study, 64 randomly selected idiopathic thrombocytopenic purpura patients referred to Seyed Al-Shohada Hospital, Isfahan, Iran, and the same number of healthy people from the patients' neighborhood as the control group, were compared considering their quality of life. The data collection tool used was the World Health Organization Quality of Life- BREF questionnaire.

Results: Our study results showed that 64.1% of studied cases were older than 35 years of age, 59.4% were women, and most of them had primary educational level (53.1%). The mean scores of physical, mental, and environmental dimensions of quality of life and the total mean score of quality of life were significantly lower among idiopathic thrombocytopenic purpura patients ($P < 0.001$). However, there was no significant difference between the two groups in terms of the mean score of the social dimension of quality of life ($P = 0.2$).

Conclusion: Since quality of life among idiopathic thrombocytopenic purpura patients is lower than that of healthy people, interventional therapeutic and care measures to promote quality of life among these patients seem necessary.

Keywords: Quality of life, idiopathic thrombocytopenic purpura, Iran.

Introduction

Quality of life (QOL) is defined as mental assessment of negative and positive aspects of life. Although health is an important dimension of the quality of life, some other factors such as culture, values, and spirituality are also considered as QOL dimensions. World Health Organization (WHO) defines quality of life as people's perception of their own situation in their culture, community value system, goals, expectations, and criteria¹. Quality of life is, in fact, a personal understanding of satisfaction of life, physical health, social and familial health, hopefulness, etiquette, and mental health. Its main dimensions comprise of physical,

emotional, social, and mental welfare. These dimensions can be discussed independently, but they have reciprocal relationships with each other. Physical disorders and physical signs can directly affect all QOL dimensions².

Since chronic diseases are prevalent, quality of life has been used in recent decades as an important method to understand their influence. Physical disorders and symptoms have direct significant effects on all dimensions of QOL. Physical concerns, such as unresolved symptoms, threaten individuals' mental health, and cause severe anxiety, depression and emotional deprivation³.

Idiopathic thrombocytopenic purpura (ITP) is a chronic disease which affects QOL. ITP is an autoimmune disease accompanied by bleeding and platelet number drop due to an increase in their destruction process. It can be seen both in acute and chronic forms. In its acute form, the number of platelets is higher than 150,000 per mm³ of blood 6 months after the start of the disease and there is no recurrence. In contrast, in the chronic form, the number of platelets remains at a low level for more than six months⁴. Previous studies have indicated that chronic ITP patients are older and the onset of the disease has no signs or symptoms^{1,3}. The prevalence of this disease is 2-5 people per 100000 in children and 5-6 people per 100000 in adults. Moreover, 61% and 38% of cases are female and male, respectively⁵. Four to seven million people have chronic ITP around the world and this disease is more prevalent in Australia and Canada^{5,6}. The most common cause of ITP is reduction of platelet number due to an increase in immune system function. This results in bleeding which can mostly be seen in skin and mucosa⁷. According to a study by Claire et al.⁸, petechiae, anemia, and vast bleeding are the most common complications of ITP.

Although there is a low rate of mortality caused by this disease, the patients and their family experience a great deal of fear and anxiety. Therefore, limitation in daily life routines, fear of bleeding, financial limitations, and recurrent hospitalizations affect the patients' mood and emotional responses and thus different dimensions of their QOL⁸⁻¹⁰. Platelet number drop, long-term use of medicine, and appearance changes in patients can influence their self-esteem¹¹. Fear of vast bleeding, especially in the neck and head, is the cause of anxiety for most patients and their families¹². Gastrointestinal bleeding and vast ecchymosis on face and neck also have severe effects on patients' life¹³. Mental disorders such as anxiety, depression, and decreased interpersonal relations, and daily activity restrictions due to fatigue result in decreased functioning of patients. Feeling shame due to the symptoms of this illness causes the patients to restrict their relations with other people and is one of the important factors affecting the mental state of these patients¹⁴.

These impacts on patients' quality of life occur in the cultural context of the society. Naturally, the QOL in ITP patients is affected by different factors,

which vary in countries with different cultures. These factors should be recognized in order to improve patients' QOL. The present study was conducted to compare the quality of life among idiopathic thrombocytopenic purpura patients' with healthy people in Isfahan, Iran.

Patients and Methods

The present study was a case-control study in which 128 people, in two individual groups, participated. The approval of the deputy of research of Isfahan University of Medical Sciences, Iran was obtained before the start of the study. Patients were randomly selected from ITP cases referred to Seyed Al-Shohada hospital, Isfahan, Iran. The inclusion criteria consisted of being 20-70 years old, Isfahan city resident, diagnosed with ITP through laboratory tests and medical exams 6 months prior to the start of the study (according to chronic illnesses definition, 3 months must have passed since their definite diagnosis in order for them to have had an effect on daily routines and QOL), lack of cognitive and mental disorders, and lack of any stressful occurrences such as death of a close relative, in the past month. The exclusion criterion comprised unwillingness to participate in the study. After describing the study's goals to participants and receiving written consent, the QOL questionnaires were filled. There were 64 randomly selected control cases. Since the people living in the patients' neighborhood had similar economic and social conditions, they were selected as controls.

The data collection instrument was the World Health Organization Quality of Life-BREF (WHOQOL-BREF) questionnaire, which is a shortened form of a comprehensive 100-question scale of QOL made by 15 international centers. This questionnaire has been designed in order to be used in different cultures. Moreover, its validity has been studied in Iran^{15,16}. It consists of 26 questions based on a 5-option Likert scale which assesses various aspects of a persons' QOL. Of these questions, two are concerned with the patients' general feelings about their QOL. Other questions are related to the physical dimensions of life (physical activities, drug dependency, supportive medicines, mobility, pain, feeling of discomfort, sleep and rest, and ability to perform activities), mental dimensions (patients' feeling about body posture and appearance, positive and negative feelings, learning, thoughts,

memory and concentration, self-confidence, and personality traits), social dimensions (personal relations, social support), and environmental dimensions (financial sources, physical freedom and security, accessibility of social and health care, house conditions, available chances, accessibility of new data and various skills, opportunity to take part in social activities, physical environment such as pollution, noise, traffic, transportation)³.

In addition, one question is related to sexual dimension of life. Every question has a score range from 0 to 4 with 0 representing the worst and 4 representing the best condition. Achieved scores are converted to 100 in every dimension so the lowest and highest scores in every dimension would be 0 and 100, respectively. We analyzed the data using SPSS software (version 15; SPSS Inc., Chicago, IL,

USA). Student's independent t-test, chi-square, and Mann-Whitney tests were applied to compare the two groups in respect to age, sex, and educational level, respectively. Furthermore, average score of different QOL dimensions in two groups were compared using Student's independent t-test.

Results

The results of the present study showed that 64.1% and 56.3% of cases were older than 35 years of age in the case and control groups, respectively. There was no significant difference between the two groups of participants considering their mean age ($P > 0.05$). Most of the studied cases in both groups were female (59.4 and 70.3% in case and control groups, respectively) and there was no significant difference between the two groups in respect to

Table 1: The relationship between QOL and gender among ITP patients and controls.

Gender Group	Men		Women		Student's independent t-test results
	Mean	SD	Mean	SD	
ITP patients	55.1	15.8	58.6	15.1	$P > 0.17$
Controls	49.6	15.3	67.1	11.02	$P < 0.03$

Table 2: Comparison of the quality of life dimensions in two groups of ITP patients and controls.

Group Quality of life dimensions	ITP patients		Controls		Student's independent t-test results
	Mean	SD	Mean	SD	
Mental	55.01	17.2	63.9	15.8	$P < 0.001$
Physical	46.7	14.5	55.2	14.3	$P < 0.001$
Social	55.5	29.6	61.3	21.3	$P = 0.2$
Environmental	51.6	19.3	62.5	17.9	$P < 0.001$
Quality of life total	51.8	15.6	61.1	14.5	$P < 0.001$

gender ($P = 0.19$). Most patients in the case group (53.1%) studied up to elementary education level and there was no significant difference between the two groups in respect to educational level ($P = 0.43$). Seventy percent of patients in the present study had ITP for two years or more. Moreover, there was no significant relationship between gender and QOL in the case group ($P > 0.17$). However, this relationship was significant in the control group ($P < 0.03$) (Table 1).

The average of scores in physical, mental, and environmental dimensions of QOL and the total QOL score were significantly different between the two groups ($P < 0.001$). However, the social dimension of the QOL did not show any significant difference between the two groups ($P = 0.2$) (Table 2).

Discussion

The quality of life in patients with ITP is affected due to various reasons. Previous studies have showed that the most important cause of decrease in QOL, in its mental dimension, among patients with ITP is Cushing's syndrome and changes in patients' appearance due to long term use of corticosteroids¹¹. Another important factor influencing the QOL among ITP patients and their family is the treatment expenses¹².

In the present study, the majority of studied cases were older than 35 years and female, which is in agreement with a study by Susan et al.¹², who found that 77% of their patients were female and their average age was 45 years and higher.

We found that the relationship between sex and QOL in the case group was not significant; however, this relationship was significant in the control group. This may show the effect of the illness on both sexes in the patient group; the chronicity of the illness, high costs of treatment, and recurrent hospitalizations affect the QOL in both sexes.

In the present study, the physical dimension of QOL among patients was lower than the healthy participants. A study by von Mackensen et al.¹⁴, has showed that disease signs such as bleeding, weakness, fatigue, pain, and low energy are the main causes of decrease in the physical dimension of QOL¹⁴. Platelet number drop causes low energy and activity, and thus, low functioning which affects the physical dimension of QOL.

We found that the mental dimension of QOL

among our patients was lower than the healthy participants. McMillan et al.¹¹, reported that the main reason of decrease in the mental dimension of their patients' QOL was Cushing's syndrome and changing in patients' appearance after long-term use of cortisone medicines. In a study by von Mackensen et al.¹⁴, according to patients and their families' reports, fear, anger, depression, and stress induced by recurrent bleeding were important factors affecting the mental dimension of QOL. Sarpatwari et al.¹⁷, found that complications and treatment of disease are the major reasons of reduction in the mental dimension of patients' QOL. In another study by McMillan et al.¹¹, fear of bleeding and infection after splenectomy, low self-esteem due to long-term use of cortisone medicine, and changes in patients' appearance were found to be the cause of reduction in mental dimension of patients' QOL¹¹.

We also found that the environmental dimension of QOL among our patients was lower than the healthy participants. A reduction in the environmental dimension of patient's QOL is the result of reduction in their economic power, and lack of financial support, pastime activities, and transportation. Susan et al.¹², stated that high expense of treatment and purchasing medicines, such as corticosteroids, places huge pressure on families and affect their environmental dimension of QOL.

Our study results did not find any significant difference in QOL's social dimension between the two groups. However, the opposite result was seen in a study by McMillan et al.¹¹, which they indicated might be related to intravascular treatments, recurrent visits by the medical team, and long-term hospitalizations. Lack of a significant difference in the present study between the two groups, considering the social dimension of QOL, may be due to the supportiveness of the patients' relatives and friends in Iran. This support can make satisfying relations among patients and others and improve this dimension of their QOL.

Chronic diseases and their impact on patients and their families' health are of great importance, and collecting data about QOL has a crucial role in patients' health promotion. Furthermore, one of the most important responsibilities of the treatment team members is considering patients' QOL and its improvement. Thus, applying high

quality care and highly qualified supportive systems might have significant impact on patients' QOL.

A limitation of the present study was its small study population. Therefore, conducting similar studies with higher number of cases and comparing their results with the present study is suggested.

Conclusion

Since quality of life among idiopathic thrombocytopenic purpura patients was lower than that of healthy people, interventional therapeutic and care measures to promote quality of life in these patients seem necessary.

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References

1. Moradian Sorkhkolae M, Esmaeili Shahmirzadi S, Sadeghi R, Nikooseresht Z, Fard F. The relationship between quality of life and social capital among health workers in medical and health network of Rey city in 2012. *Razi Journal of Medical Sciences*. 2013;20(114):69-77.
2. Zeraati AA, Naghibi M, Ojahedi MJ, Ahmad Zadeh Sh, Zamani BH. Comparison of Quality of Life between Hemodialysis and Peritoneal Dialysis Patients in Imam Reza and Ghaem Hospital Dialysis Centers in Mashhad. *Medical Journal of Mashhad University of Medical Sciences*. 2010;53(3):169-75.
3. Hemate Z, Alidosti M, Golchin M. A comparative different aspects quality of life in health adolescents with hemophilia adolescents referred to Seyed Al-Shohada hospital in Isfahan 2011. *Scientific Journal of Iranian Blood Transfusion Organization*. 2012;9(3): 331-6.
4. Kalpatthi R, Bussel JB. Diagnosis, pathophysiology and management of children with refractory immune thrombocytopenic purpura. *Curr Opin Pediatr*. 2008;20(1): 8-16.
5. Klaassen RJ, Blanchette VS, Barnard D, Wakefield CD, Curtis C, Bradley CS, et al. Validity, Reliability, and Responsiveness of a New Measure of Health-Related Quality of Life in Children with Immune Thrombocytopenic Purpura: The Kids' ITP Tools. *J Pediatr*. 2007;150(5):510-5, 515.e1.
6. Pratt EL, Tarantino MD, Wagner D, Hirsch Pescovitz O, Bowyer S, Shapiro AD. Prevalence of elevated Anti thyroid antibodies and antinuclear antibodies in children with ITP. *Am J Hematol*. 2005;79(3): 175-9.
7. Nathan D, Ginsburg D, Orkin S, Look A. *Hematology of Infancy and childhood*. 6th Edition Philadelphia: W.B.Saunders Company. 2005:325-45.
8. Snyder CF, Mathias SD, Cella D, Isitt JJ, Wu AW, Young J. Health-related quality of life of immune thrombocytopenic purpura patients: results from a web-based survey. *Curr Med Res Opin*. 2008;24(10):2767-76.
9. Yacovich J, Revel-Vilk S, Tamary H. Childhood immune thrombocytopenia who will spontaneously recover? *Semin Hematol*. 2013;50 Suppl 1:S71-4.
10. Zilber R, Bortz AP, Yacovich J, Yaniv I, Tamary H. Analysis of health-related quality of life in children with immune thrombocytopenia and their parents using the kids' ITP tools. *J Pediatr Hematol Oncol*. 2012;34:2-5.
11. McMillan R, Bussel JB, George JN, Lalla D, Nichol JL. Self-reported health-related quality of life in adults with chronic immune thrombocytopenic purpura. *Am J Hematol*. 2008;83(2):150-4.
12. Mathias SD, Bussel JB, George JN, McMillan R, Okano GJ, Nichol JL. A disease-specific measure of health-related quality of life in adults with chronic immunethrombocytopenic purpura: psychometric testing in an open-label clinical trial. *Clin Ther*. 2007;29(5):950-62.
13. Zhou Z, Yang L, Chen Z, Chen X, Guo Y, Wang X, et al. Health-related quality of life measure by the short form 36 in immune thrombocytopenic purpura. *Eur J Haematol* 2007;78(6):518-23.
14. von Mackensen S, Nilsson C, Jankovic M, Mirra N, D'Angelo E, Borkhardt A, et al. Development of a disease-specific quality of life questionnaire for children & adolescents with idiopathic thrombocytopenic purpura (ITP-QoL). *Pediatr Blood Cancer*. 2006;47(5 Suppl):688-91.
15. Nedjat S, Montazeri A, Holakouie K, Mohammad K. Quality of Life of Tehran's Population by WHOQOL-BREF questionnaire. *J Hakim Research*. 2007;10(3): 1-8.
16. Jahanlou ASH, Ghofranipour F, Sobhani A, Kimmiagar M, Vafaei M. Evaluating curvilinear hypothesis in quality of life and glycemic control in diabetic

- patients. J Arak Univ Med Sci. 2008;11(2):27-34.
17. Sarpatwari A, Watson S, Anderson H, Provan D, Newland A. Health-related lifestyle among adult and pediatric patients with idiopathic thrombocytopenic purpura in the United Kingdom. 50th American Society of Hematology Annual Meeting. 2008;112(11):3435.