Study Psychometric Features of Quality of Life Questionnaire for Patients with MS and Its Relation with Social Support

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ABSTRACT

Purpose: the present research studies psychometric features of quality of life questionnaire (sf36) for patients with MS and its relation with social support in Tehran city. For this purpose, 375 patients (99 women, 276 men) were selected by sampling (available) and demographic-social, quality of life questionnaires and social support questionnaire were filled and analyzed for MS patients. The findings show that final ratio by internal coordination is 0.804. Amount of Cronbach's alpha ratio of questionnaires is 0.934 and shows that scale of quality of life of patients with MS has an acceptable justifiability. In this research, confirmatory factor analysis has been used and indicators represent fit of the model. Also, there is direct and significant relation between quality of life and social support of these patients. As a result, this tool is short, simple and effective with suitable justifiability and stability for MS patients.

KEYWORDS: Quality of Life, MS, Social Support

1. INTRODUCTION

Global health organization has defined health not only as a lack of disease but complete social, mental and physical welfare in 1948 and during recent years, this statement has been enforced in order to place ability of having social and economical dynamic life in itself. Concept of quality of life imply on social, mental and physical health, in other words, it specifies the issues which are affected by feeling of patient about his/her health situation or believes and expectations for his/her disease.

MS (Multiple Sclerosis) is one of cerebral disorders and very expensive one and its treatment is to supportive care and management of diagnostic. In fact, MS is a chronic and disabled maker along with social and economical results [1].

Nowadays, it is estimated that MS disease has affected on more than 1 million people around the world [2]. For example, about 600 thousands American and 120 Germans (Johnson) and about 400 thousands European suffer from MS disease [2].

According to statistics of MS statistic society of Iran which is member of MS international federation, there are about 40 thousands patients with MS in Iran of which 17 thousands patients are member of this center.

Quality of life is used as a scale for studying consequences of treatment and situation of patients with mental and physical disorder [3].

Testa and Simonson [1] define effective dimensions of quality of life as: mental, physical and social scopes of health which are affected by experiences, believes, expectations and conceptions of a person. Social support is kindness, consideration and help of family members and friends and others [4]. Social support can be instrumental, information and sentimental support. Sentimental support includes liking and loving, accept and respect to the patient. Concrete financial help or services are also called as instrumental support. In formation support is to give information at the time of mental and physical stresses [5]. Social support of people can decrease cardiac disease, blood pressure, nervous headaches, digestive disorders, etc. Also, it can result in increase of self-confidence and self-esteem. Social support can decrease bad effects of a chronic disease and help to patients to have more compatibility with their disease. Social support can encourage the patient and increase his/her self-esteem make him/her to confront mental and physical problems. Social support can be effective on some dimensions of quality of life [5].

This research is going to know whether there is relation between psychometric features of quality of life questionnaire for patients with MS and social support.

2. MATERIAL AND METHODS

Statistical Society:

Statistical Society of the research was the patients with MS who were member of the MS society of Iran in 2013. Volume of sample and sampling method: sample of present research includes 375 MS patients who were members of the MS society of Iran in 2012-13 and were elected by available sampling method. Execution: after approval of research council of Islamic Azad University, Tehran central branch, and primary cooperation, the

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information was collected and social support and quality of life questionnaires were filed out. The questionnaires were filled by the patients and then studied and analyzed. The questionnaires were given to the patients to collect information necessary for the research. Before answering, the researcher assured them for secrecy of information and explained way of answering the questions.

Research tools:

History of quality of life questionnaire: SF-36 questionnaire was used for measuring quality of life related to health of people which has been translated to Persian by Dr. Ali Montazeri and it measures quality of life with validity of 0.7 to 0.9 and four physical health components including: physical operation, physical problems, physical pain, general health and four mental health components including: liveliness, social operation, mental problems. This questionnaire is grading from 0 to 100. Zero score shows the worst quality of life at that component and 100 score shows the best quality of life related to health.

This questionnaire includes two total scales of mental and physical health that both include eight sub-scales of 1- physical operation, 2- limit of duty operation affected by physical problems, 3- physical pain, 4- general health, 5- liveliness, 6- social operation, 7- limit of duty operation affected by sentimental problems, 8- mental health. SF36 questionnaire can be filled both by the patient him/herself and interview. Validity of this questionnaire has been frequently evaluated within publics and patients with different diseases. Content and structural justifiability of this questionnaire is reliable.

This questionnaire has been translated and used in more than 40 countries (Nejat, Montazeri, Holakoei, Mohammad, Majdzadeh), stability of this questionnaire has been reported as more than 0.7 at all areas and 0.55 for Cronbach alpha at area of social relations.

MOS questionnaire:

This scale is a self-report tool and the tested person determined his/her agreement or disagreement with expressions at 5 degrees Likert scale (never=1, rarely=2, sometimes=3, often=4, always=5). The lowest point of this test is 19 and the highest one is 95. For gaining the point related to each sub-scale, it is enough to add scores of each sub-scale. For gaining total point, all points should be added. High score of tested person shows suitable social support. Sub-scales are sentimental support, value support, practical and financial support, information and network support. Stability of sub-scales is from 0.74 to 0.93 using Cronbach alpha ratio (Sherborn & Stewart, 1991). Scale of social support and its content justifiability was confirmed by three psychometric specialists and its stability was gained 0.95 by Cronbach alpha ratio.

1- Statistical features of scale materials that are gained by common methods of descriptive statistics.
2- Reliability ratio of test expressions is gained by formula of Cronbach alpha ratio.
3- Correlation ratio was used for evaluating the correlation between quality of life (SF36) and support.
4- Principal components analysis was used for studying justifiability of test and determining that content of scale is saturated of how many factors.

3. RESULTS

Validity of quality of life questionnaire (SF-36)

As questions related to each factor have been placed at different distances, the questions related to each factor is shown by final numbering along with validity of each factor. As seen in Table 1, sub-scale of physical operation with alpha ratio of 0.809 and 10 questions has the most reliability within factors of quality of life questionnaire (SF-36). Also, sub-scale of social operation with alpha ratio of 0.232 and 2 questions has the lowest reliability within factors of quality of life questionnaire (SF-36). Total reliability ratio of quality of life questionnaire (SF-36) is 0.934 which is a high reliability. Other sub-scales except sub-scale of social operation have high reliability.

Table 1. Factors of quality of life questionnaire (SF-36) along with validity ratio and number of questions

Factors	Number of Questions	Quantity of Questions	Cronbach Alpha Ratio
Physical operation	3, 4, 5, 6, 7, 8, 9, 10, 11, 12	10	0.809
Limits of operation caused by physical health	13, 14, 15, 16	4	0.693
Limits of operation caused by emotional problems	17, 18, 19	3	0.700
Tiredness or liveliness	23, 27, 29, 31	4	0.698
Sentimental health	24, 25, 26, 28, 30	5	0.805
Social operation	20, 32	2	0.232
Pain	21, 22	2	0.795
General health	1, 33, 34, 35, 36	5	0.380
Total	--	36	0.934

The relation between quality of life questionnaire (SF-36) and score of social support has been calculated by Pierson correlation ratio and presented at Table 2.

As seen at Table 2, there is direct significant relation between Physical operation, liveliness, Sentimental health, Social operation, General health and all factors of social support (sentimental, financial, operational, structural) namely more social support, more the abovementioned factors of quality of life. Also there is reverse and significant relation between limits of operation caused by physical problems, Limits of operation caused by emotional problems and pain and factors of social support (sentimental, financial, operational, structural) namely more social support, less the abovementioned factors of quality of life. Synchronic justifiability of quality of life questionnaire (SF-36): the test was applied for 45 patients and 44 days and then Pierson correlation ratio was calculated for two performance of quality of life which was 0.844 for physical operation and 0.901 for limits of operation caused by physical problems, 0.489 for Limits of operation caused by emotional problems, 0.714 for Tiredness or liveliness, 0.872 for Sentimental health, 0.647 for Social operation, 0.705 for pain and 0.581 for General health and are 0.01 significant. Also total was 0.953 which was0.01 significant. These findings show that test of quality of life has necessary stability.

As SF-36 is constituted from two sub-scales of physical and mental health at foreign sample, therefore, these two structures have been considered in performing internal confirmatory factor analysis and each has 21 and 15 questions respectively. And question number 2 was not loaded on none of factors. Indicators of model fitting have been shown at the following table. Also, standard factor loads and related t scores have been presented at two separate tables.

Table 2. Relation between factors of quality of life questionnaire (SF-36) and social support

Quality of life		Sentimental SO	Financial SO	Operational SO	Structural SO
Physical operation	Correlation ratio	0.048**	0.077**	0.316**	0.463**
	Significance	0.000	0.000	0.000	0.000
Limits of operation caused by physical problems	Correlation ratio	-0.572**	-0.750**	-0.407**	-0.556**
	Significance	0.000	0.000	0.000	0/000
Limits of operation caused by emotional problems	Correlation ratio	-0.498**	-0.697**	-0.392**	-0.564**
	Significance	0.000	0.000	0.000	0.000
Tiredness or liveliness	Correlation ratio	0.889**	0.899**	0.751**	0.715**
	Significance	0.000	0.000	0.000	0.000
Sentimental health	Correlation ratio	0.774**	0.670**	0.795**	0.768**
	Significance	0.000	0.000	0.000	0.000
Social operation	Correlation ratio	0.642**	0.602**	0.491**	0.454**
	Significance	0.000	0.000	0.000	0.000
Pain	Correlation ratio	-0.812**	-0.826**	-0.465**	-0.387**
	Significance	0.000	0.000	0.000	0.000
General health	Correlation ratio	0.835**	0.852**	0.691**	0.584**
	Significance	0.000	0.000	0.000	0.000
Total	Correlation ratio	0.804**	0.913**	0.424**	0.681**
	Significance	0.000	0.000	0.000	0.000

SO= Social support; * Significant at 0.05; ** Significant at 0.01.

Beneficiary indicators of model fitting

Beneficiary indicators of model fitting all show 6 factors model fitting with data. Khido ratio to freedom degree at efficient models is less than 2 and it will be better when it is closer to zero. This amount is less than 2 here.

RMSEA and SRMR at good models are less than 0.05 which here show model fitting. When NFI and CFI and AGFI are closer to 1, they will be better and are more than 0.90 at good models.

As seen at the table, all of these indicators indicate model fitting.

4. DISCUSSION AND CONCLUSION

1- Has quality of life questionnaire suitable stability for patients with MS? the test was applied for 45 patients and 44 days and then Pierson correlation ratio was calculated for two performance of quality of life which was 0.844 for physical operation and 0.901 for limits of operation caused by physical problems, 0.489 for Limits of operation caused by emotional problems, 0.714 for Tiredness or liveliness, 0.872 for Sentimental health, 0.647 for Social operation, 0.705 for pain and 0.581 for General health and are 0.01 significant. Also total was 0.953 which was0.01 significant. These findings show that test of quality of life has necessary stability. At main version, justifiability was 0.70 by Spigel et al. [6] that is similar to results of this research.

2- Is there suitable correlation between questions of quality of life questionnaire? Cronbach Alpha ratio for validity ratio of the questionnaire is 0.934, and the results show that Alpha ratio is suitable.

3- How many factors have saturated questions of quality of life questionnaire? Efficiency indicators of model fitting (table 4-8) show 6 factors model fitting with data. Khido ratio to freedom degree at efficient models is less than 2 and it will be better when it is closer to zero. This amount is less than 2 here. RMSEA and SRMR at good models are less than 0.05 which here show model fitting. When NFI and CFI and AGFI are closer to 1, they

will be better and are more than 0.90 at good models. As seen at the table, all of these indicators indicate model fitting.

4- Has quality of life questionnaire suitable justifiability? The methods related to structure have been used for collecting documents related quality of life questionnaire (SF-36). For this purpose, quality of life questionnaire was performed for 45 patients within 44 days. Quality of life questionnaire (SF-36) has constituted 8 sub-scales. If these 8 sub-scales show almost quality of life, they should be correlated to further performance with interval of 44 days. Justifiability of quality of life more relies on content justifiability and method of its providing.

5- Is there any significant relation between quality of life of MS patients and social support? The relation between quality of life questionnaire and score of social support has been calculated by Pierson correlation ratio and presented at table 4-5. As seen at table 4-5, there is direct significant relation between Physical operation, liveliness, Sentimental health, Social operation, General health and all factors of social support (sentimental, financial, operational, structural) namely more social support, more the abovementioned factors of quality of life. Also there is reverse and significant relation between limits of operation caused by physical problems, Limits of operation caused by emotional problems and pain and factors of social support (sentimental, financial, operational, structural) namely more social support, less the abovementioned factors of quality of life. Heidarzadeh et al. [5], Eshvandi et al. [6], Mazaheri [7], Hooman [8], Yousefi [9] and Alavian et al. [10] confirmed these results and it shows that it is similar to results of this research. Research limits: the findings may be possibly affected by the disease of tested patients. As the test has been performed on MS patients, it is not possible to generalize it to other chronic diseases such as epilepsy. In the research, flow of disease and treatment is different at different patients, therefore, results of research may be affected. Proposals: quality of life questionnaire can gives valuable information to therapists as a tool for evaluation of quality of life of MS patients in order to gain new treatment methods and improvement of quality of life. It is proposed that other tests such as scale of general health, etc. are used for justifiability of the test. The research has been performed for patients with 30 to 65 years old. Therefore, it is proposed that psychometric features of quality of life scale are studied at lower and higher ages.

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