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ORIGINAL ARTICLE

The Evaluation of Migraine Patients Living in the Provincial Center of Bingöl in Terms of Quality of Life

Bingöl İl Merkezinde Yaşayan Migren Hastalarının Yaşam Kalitesi Yönünden Değerlendirilmesi

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ABSTRACT

Objective: The present study was planned to evaluate the quality of life of migraine patients living in the city center of Bingöl.
Method: The population of the study consisted of people over the age of 18 living in the city center of Bingöl and diagnosed with migraine. Data was collected from 102 individuals who were reached between the dates of December 14, 2019 and March 12, 2020, who volunteered to participate in the study. The Personal Information Form and the MOS 36-Item Short-Form Health Survey (SF-36) were used as data collection tools.
Results: The participants in our study showed that the SF-36 sub-dimension mean scores were high in PHS (Physical Health Status), PF (Physical Functioning), SF (Social Functioning), MF (Mental Functioning), and the mean scores were low in PR (Physical Role), MR (Mental Role) dimensions, and the mean scores were moderate in P (Pain), GH (General Health), MHS (Mental Health Status), V (Vitality) dimensions.
Conclusion: In our study, it was observed that the quality of life of patients diagnosed with migraine decreased, and it was concluded that this situation affects the daily lives of patients.

Keywords: Migraine, Quality of life, Pain of migraine

ÖZ

Amaç: Bu araştırma; Bingöl İl merkezinde yaşayan migren hastalarının yaşam kalitesi yönünden değerlendirilmesi amacıyla planlandı.
Yöntem: Araştırmanın evrenini Bingöl İl merkezinde yaşayan, migren tanısı almış 18 yaş üstü kişiler oluşturmuştur. 14 Aralık 2019 ile 12 Mart 2020 tarihleri arasında ulaşılan ve çalışmaya katılmaya gönüllü olan 102 kişiden veriler toplanmıştır. Veri toplama araçları olarak; Bireysel Bilgi Formu, Yaşam Kalitesi (SF 36) Formu kullanılmıştır.
Bulgular: Araştırmamızdaki katılımcıların, SF 36 alt boyut puan ortalamalarının FSD(Fiziksel Sağlık Durumu), FI(Fiziksel İşlev), Sİ(Sosyal İşlev), Mİ(Mental İşlev) boyutlarında yüksek olduğu; FR(Fiziksel Rol), MR(Mental Rol), boyutlarında düşük olduğu, A(Ağrı), GS(Genel Sağlık), MSD(Mental Sağlık Durumu), Y(Yaşamsallık) boyutlarında ise orta düzeyde olduğu belirlenmiştir.
Sonuç: Çalışmamızda migren tanısı almış olan hastaların yaşam kalitesinin azaldığı görülmüştür ve bu kişilerin günlük hayatlarını etkilediği sonucuna ulaşılmıştır

Anahtar Kelimeler: Migren, Yaşam kalitesi, Migren ağrısı

Introduction

Migraine is a common, genetically inherited, primary, episodic headache characterized by unilateral and throbbing headache, accompanied by different symptoms such as nausea and vomiting, and is a complex type of disease (1).

Episodic migraine manifests itself with less than fifteen days of headache in a month. It is defined as the continuation of chronic migraine attacks for at least three months, the occurrence of headache more than fifteen days a month, and the presence of at least 8 migraine attacks. Migraine can start episodic and turn into chronic migraine over years (2, 3).

Causes of migraine include insomnia, excessive sleep, neck pain, seasonal changes, stress, different types of food (chocolate, cheese, alcoholic beverages, citrus fruits, etc.), fatigue, menstruation in women, changes in weather, very bright light, loud sounds, pressure and altitude changes, various perfumes and some types of drugs (4).

The prevalence and socioeconomic effects of migraine have been revealed by epidemiological studies (5). Migraine affects 10-15% of the adult population, approximately 600 million people. In some epidemiological studies conducted in developed countries, the frequency of migraine is 12-24% in women, 5-12% in men (6).

Chronic and episodic migraine affects the social life and quality of life of people very badly. It is an important public health problem because it both negatively affects the lives of individuals and causes loss of workforce (7).

The present study was planned to evaluate the quality of life of migraine patients living in the city center of Bingöl.

Materials and methods

Research Type

The research is in quantitative design, general survey model and cross-sectional type.

Population and Sample of the Research

The population of the study consisted of people over the age of 18 living in the city center of Bingöl and diagnosed with migraine. Data was collected from 102 individuals who were reached between the dates of December 14, 2019 and March 12, 2020, and volunteered to participate in the study. Face-to-face data collection could not be continued due to the isolation restrictions of the global Coronavirus pandemic. However, after the data collection process was completed, a post hoc test was carried out through the G*Power 3.1 program for the adequacy of the sample size, and in the one-way calculation for the number of participants in the research the effect size was 0.5, type 1 error was 0.05, the number of people in the 1st group was 59, the number of people in the second group was 43, it was found that Power was adequate (1-β):0.79 (good) (8-10). Simple random method was preferred for data collection. The participants were informed with the information text included in the data collection form within the criteria of the Declaration of Helsinki, and the data were collected from "voluntary participants who were diagnosed by a physician with migraine, but who reported that they did not have any psychiatric disease".

Data Collection Tools

The Personal Information Form and the MOS 36-Item Short-Form Health Survey (SF-36) were used as data collection tools.

The Personal Information Form (includes independent variables): This form is intended to determine some characteristics of the participants. It includes questions about age, gender, educational level, habits and migraine disease.

The MOS 36-Item Short-Form Health Survey (SF-36): It was developed by Rand Corporation to assess the quality of life (11). It was translated into Turkish, and its validity and reliability study was performed by Koçyiğit et al. (12) it is a self-evaluation scale with a generic criterion feature. The scale consists of 36 items and provides the measurement of eight dimensions. The SF-36 assesses the quality of life under eight health-related dimensions in 35 questions. In addition, a question evaluates how health has changed compared to the previous year (13). Except for the aforementioned item, the scale evaluates the last 4 weeks (14). The eight dimensions of the scale are Physical Functioning (PF), Social Functioning (SF), Physical Role (PR), Mental Role (MR), Mental Functioning (MF), Vitality (V), Pain (P), and General Health (GH). In addition, two summary values are calculated for SF-36: Physical Health Status (PHS) and Mental Health Status (MHS) (15, 16). In this study, the PHS and MHS summary values calculated based on eight sub-components were used as indicators of the quality of life. The MOS 36-Item Short-Form Health Survey (SF-36) does not only give a single total score. It gives a total score for each dimension separately. In addition, the negative as well as the positive aspects of the health status are evaluated with the survey. The fourth and fifth questions of the survey are arranged as yes/no, and the other questions are in the likert type (17). Sub-dimensions evaluate the health status between 0-100 points, and the higher the score, the better the quality of life. It is reported that it can be used in the evaluation of the quality of life in the patients with physical diseases.

Ethical permission

The participants, whose written consent was obtained from the Scientific Research Ethics Committee of Bingöl University (12/09/2019-E.25012) before the study, were informed with the informed consent form attached to the questionnaire within the scope of Helsinki criteria. To reduce the possibility of bias, data collection, data entry and data analysis were done by different people in the research.

Evaluation of the Data

The data obtained as a result of the research was evaluated with the SPSS-22 program, error controls, tables and statistical analyzes were made. In statistical evaluations, numbers and percentages were given. Histograms were drawn, skewness and kurtosis values were checked, and Kolmogorov - Smirnov analyzes were made to conform to the normal distribution. Mann Whitney U test and Krusskal Wallis tests were performed between PHS and MHS, which were summary values of the SF-36 with some conditions and properties. Mann Whitney U and Duncan tests were performed to find the groups where the difference originated, and $p < 0.05$ was accepted as statistical significance level.

Results

In the study, 12.7% of the participants were 20 years old or younger. The rate of those who stated that they used alcohol was 2.9% (3 participants), and the rest stated that they did not use it. 53 participants (52.0%) reported that they used to smoke, and the rest did not. The sociodemographic characteristics of the participants are shown in Table 1.

The migraine characteristics of the participants in the study are shown in Table 2. In our study, only 3.9% of the participants (4 participants) stated that they did not feel precursory symptoms before the pain, and 33% of them preferred to take medication in the first half hour when they experienced pain.

The descriptive statistics of the summary values of the SF-36 survey used in the study and the sub-dimensions of these values are shown in Table 3.

Table 1. Sociodemographic Characteristics of the Participants (N = 102)

Characteristics		Number	Percentage
Age range	20 years and under	13	12.7
	21-27 years old	42	41.2
	28-36 years old	15	14.7
	47-45 years old	13	12.7
	46 years and older	19	18.7
Gender	Female	59	57.8
	Male	43	42.2
The place where most of the life has passed	Province	51	50.0
	District	26	25.5
	Village	25	24.5
Marital status	Married	35	34.3
	Single	64	62.8
	Other (living apart, concubinage, etc.)	3	2.9
Last school grade completed	Illiterate	10	9.8
	Primary school graduate	3	2.9
	Middle school graduate	20	19.6
	High school graduate	24	23.5
	Graduated from a University	45	44.2
Perception of the income level	Income is equal to expenses	62	60.8
	Income is more than expenses	12	11.7
	Expenses are more than income	28	27.5
Family type	Lives alone	7	60.8
	Nuclear family	12	11.8
	Extended family	28	27.4
Diet	1-2 meals a day	43	42.1
	3-4 meals a day	57	55.9
	5-6 meals a day	2	2.0
How many hours of sleep per day	3-5 hours	22	21.6
	6-8 hours	65	63.7
	9 or more hours	15	14.7
The status of doing sports	Often	6	5.9
	Sometimes	38	37.3
	Never	58	56.8

Table 4 shows the PHS summary values of the participants and the sub-dimensions of these values that make a difference in terms of the sociodemographic and migraine characteristics ($p < 0.05$). It was observed that there was no difference ($p > 0.05$) between the variables of age range, gender, the place where most of the life has passed, marital status, last school grade completed, family type, diet, how many hours of sleep per day, alcohol use, smoking status, family history of migraine, how many years they have been experiencing migraine, whether they had precursory symptoms before the migraine attacks, in terms of the same dependent variables. The variables that make a difference are shown in Table 4.

Table 5 shows the difference between the participants' MHS summary values and the sub-dimensions of these values in terms of the sociodemographic and migraine characteristics ($p < 0.05$). In terms of MSD summary value and its sub-dimension scores, age range, gender, the place where most of the life has passed, marital status, last school completed, family type, diet, alcohol use, smoking status, family history of migraine, how many years they have been experiencing migraine, the region where they felt migraine pain, and whether they had precursory symptoms before the migraine attacks, It was observed that these variables of the patients did not make a difference ($p > 0.05$). The variables that make a difference are shown in Table 5.

Table 2. Migraine Characteristics of the Participants (N = 102)

Characteristics of the Migraine		Number	Percentage
Family history of migraine	No	52	51.0
	Yes	50	49.0
How long they have been experiencing pain	Less than 1 year	28	27.5
	2-5 years	47	46.1
	6-9 years	22	21.5
	More than 10 years	5	4.9
The area where the migraine pain was felt	One side of the head	30	29.4
	Two sides of the head	41	40.2
	Front part of the head	31	30.4
Frequency of the migraine pain	Several times a week	35	34.1
	Several times a month	45	44.1
	Several times a year	12	11.8
Characteristic of the last migraine	Painless	2	2.0
	Mildly painful	51	50.0
	Severely painful	49	48.0

Table 3. The SF-36 Summary Values and Sub-Dimensions of These Values

	Mean ± SD	Median	Min	Max	%95 CI
PHS	480.85 ± 175.50	473.28	126.64	830.21	446.38 – 515. 32
PF	68.33 ± 21.02	70.00	15.00	100.00	64.20 – 72.46
PR	39.46 ± 37.13	25.00	0.00	100.00	32.16 – 46.75
P	54.15 ± 17.32	52.00	0.00	100.00	50.75 – 57.56
GH	52.60 ± 16.62	52.00	0.00	92.00	49.34 – 55.87
MHS	561.32 ± 183.04	553.16	167.69	983.37	525.37 – 597.28
V	52.84 ± 16.86	52.50	0.00	100.00	49.53 – 56.15
SF	59.19 ± 18.93	62.50	0.00	100.00	55.47 – 62.91
MR	36.27 ± 35.44	33.33	0.00	100.00	29.31 – 43.23
MF	59.56 ± 15.79	58.00	0.00	96.00	56.46 – 62.67

PHS: Physical Health Status, PF: Physical Functioning, PR: Physical Role, P: Pain (A), GH: General Health, MHS: Mental Health Status,V: Vitality, SF: Social Functioning, MR: Mental Role, MF: Mental Functioning

Table 4. Distribution of Participants' PHS Summary Values and Their Sub-Dimension Score Rankings (N = 102)

Characteristics		PHS Mean Rank	Test Value	PF Mean Rank	Test Value	PR Mean Rank	Test Value	P Mean Rank	Test Value	GH Mean Rank	Test Value
Perception of the income level [1]	Income is equal to expenses	49.84		55.56[a]		52.85		54.40		54.10	
	Income is more than expenses	72.17[a]	**p = 0.032**	28.29[a,b]	**p = 0.013**	47.79	p = 0.817	39.46	p = 0.259	44.67	p = 0.032
	Expenses are more than income	46.32[a]		52.46[b]		50.11		50.25		48.68	
The status of doing sports [1]	Often	76.50		15.17[a,b]		49.42		41.42		38.33	
	Sometimes	53.53	p = 0.065	50.99[a]	**p = 0.006**	54.96	p = 0.642	54.29	p = 0.576	52.30	p = 0.531
	Never	47.59		55.59[b]		49.45		50.72		52.34	
Family history of migraine [2]	No	54.77	p = 0.255	53.12	p = 0.573	57.87	**p = 0.022**	51.89	p = 0.889	56.87	p = 0.061
	Yes	48.10		49.82		44.88		51.09		45.92	
The area where the migraine pain was felt [1]	One side of the head	54.50		37.80[a,b]		52.83		45.12[a]		48.92	
	Two sides of the head	55.68	p = 0.161	60.35[b]	**p = 0.006**	56.65	p = 0.144	61.04[b]	**p = 0.026**	54.48	p = 0.698
	Front part of the head	43.06		53.05[a]		43.40		45.06[a,b]		50.06	
Frequency of the migraine pain [1]	Several times a week	49.62		35.81[a,b]		49.27		44.17		44.90	
	Several times a month	54.92	p = 0.465	60.14[a]	**p = 0.001**	55.24	p = 0.389	54.61	p = 0.105	55.79	p = 0.205
	Several times a year	44.79		64.96[a]		44.61		61.04		54.89	
Last migraine attack [1]	A few days ago	42.34[a]		41.67		45.54		45.13		47.41	
	A few weeks ago	54.20	**p = 0.010**	58.43	p = 0.076	49.95	p = 0.106	55.83	p = 0.328	49.68	p = 0.246
	A few months ago	65.45[a]		55.59		62.91		53.07		62.61	
	Few years ago	18.00		54.75		70.25		68.75		43.50	

1: Kruskall Wallis Test, 2: Mann Whitney U Test, a, b, c: Post Hoc Test / Groups from which the Difference Originates, PHS: Physical Health Status, PF: Physical Functioning, PR: Physical Role, P: Pain, GH: General Health

Table 5. Distribution of Participants' MHS Summary Values and Their Sub-Dimension Score Rankings (N =102)

Characteristics		MHS Mean Rank	Test Value	V Mean Rank	Test Value	SF Mean Rank	Test Value	MR Mean Rank	Test Value	MF Mean Rank	Test Value
Perception of the income level*	Income is equal to expenses	56.26[a]		52.06		51.78		49.32		55.29	
	Income is more than expenses	25.08[a,b]	**p = 0.004**	50.46	p = 0.971	51.21	p = 0.992	64.50	p = 0.229	50.96	p = 0.204
	Expenses are more than income	52.29[b]		50.70		51.00		50.75		43.34	
How many hours of sleep per day*	3-5 hours	51.77		65.00[a,b]		63.07		49.09		45.09[a]	
	6-8 hours	51.60	p = 0.993	50.42[b]	**p = 0.013**	48.68	p = 0.104	51.18	p = 0.730	57.96[a,b]	**p = 0.006**
	9 or more hours	50.67		36.40[a]		46.77		56.43		32.90[b]	
The status of doing sports*	Often	16.17[a,b]		66.58		49.33		67.17		34.33	
	Sometimes	52.95[a]	**p = 0.010**	54.57	p = 0.241	50.39	p = 0.927	51.24	p = 0.365	58.25	p = 0.106
	Never	54.21[b]		47.93		52.45		50.05		48.85	
Frequency of the migraine pain*	Several times a week	39.56[a,b]		45.10		46.04		49.83		42.73[a]	
	Several times a month	58.96[b]	**p = 0.006**	57.38	p = 0.141	53.24	p = 0.229	56.28	p = 0.127	55.11	**p = 0.040**
	Several times a year	58.64[a]		48.75		60.61		39.43		63.29[a]	
Duration of the pain*	1-4 hours	58.23		54.66[a]		49.83		57.94		54.47	
	5-8 hours	48.13	p = 0.065	55.49[b]	**p = 0.002**	54.57	p = 0.314	52.11	p = 0.077	48.59	p = 0.067
	9-24 hours	59.83		56.13[c]		56.96		33.71		67.17	
	Several days	33.10		16.95[a,b,c]		37.00		47.55		35.40	
Last migraine attack*	A few days ago	42.71		43.12		41.62		44.79[b]		44.96	
	a few weeks ago	54.75	p = 0.093	54.63	p = 0.148	57.40	p = 0.061	53.33	**p = 0.045**	53.21	p = 0.263
	A few months ago	58.59		59.43		58.30		62.55[a,b]		60.18	
	Few years ago	75.50		61.00		46.50		21.00[a]		46.00	
Characteristic of the last migraine*	Painless	12.00[a]		49.50		66.25		65.25		25.50	
	Mildly painful	57.75[a]	**p = 0.028**	56.50	p = 0.227	52.38	p = 0.704	53.66	p = 0.532	50.63	p = 0.403
	Severely painful	46.61		46.38		49.98		48.69		53.47	

*: Kruskall Wallis Test, a, b, c: Post Hoc Test / *Groups from which the Difference Originates*, MHS: Mental Health Status, V: Vitality, SF: Social Functioning, MR: Mental Role, MF: Mental Functioning

Discussion

Migraine is a type of headache with variable severity, frequency and localization, periodic, usually localized to one side of the head, often accompanied by anorexia, nausea, vomiting, sensitivity to light and sound (18,19). Migraine is an important disease because of its high prevalence, socioeconomic burden and effects on the quality of life. Neurological diseases are responsible for 3% of the years spent with disability all over the world, and migraine is responsible for 1/3 of this (20). The fact that migraine seriously affects the quality of life and causes loss of work force increases the importance of the diagnosis and treatment, and the factors that cause migraine attacks (21). With this study, we aimed to evaluate the quality of life of migraine patients living in the city center of Bingöl.

In the study, 57.8% of the participants were women. Similarly, in migraine prevalence studies conducted in the world and in Turkey, the majority of patients were women (22, 23).

The highest prevalence for both sexes in migraine disease is between 35-45 years of age. The frequency and severity of attacks decrease with age. In both sexes, migraine typically tends to improve after the age of 55 (24). In a study, Pelzer et al. conducted on 2829 migraine patients in the Netherlands, the mean age of the participants was 41.9 (25). In our study, 41.2% of the migraine patients were between the ages of 21 and 27, and they had a younger age group compared to the other studies.

Aura accompanies 15-20% of migraine attacks (26). In a study, Pelzer et al. conducted in the Netherlands in 2018 on 2829 migraine patients, they found that 37% of the participants had aura accompanying their attacks (25). In our study, only 3.9% (4 individuals) of the participants stated that they did not feel precursory symptoms before the pain.

Compared to the general population, the patients with migraine have lower mental, physical and social well-being than those without migraine (27, 28). The participants in our study showed that the SF-36 sub-dimension mean scores were high in PHS (Physical Health Status), PF (Physical Functioning), SF (Social Functioning), MF (Mental Functioning), and the mean scores were low in PR (Physical Role), MR (Mental Role) dimensions, and the mean scores were moderate in P (Pain), GH (General Health), MHS (Mental Health Status), V (Vitality) dimensions.

When the PHS (Physical Health Status) and MHS (Mental Health Status) summary values of the participants and those that made a difference on the sub-dimensions of these values in terms of sociodemographic and migraine characteristics were calculated, it was observed in terms of the same dependent variables, that there was no difference between the variables of age range, gender, the place where most of the living has passed, marital status, last school completed, family type, diet, how many hours of sleep per day, alcohol use, smoking status, family history of the migraine disease, how many years they have been experiencing migraine and whether they had precursory symptoms before the migraine attacks. Sharma et al. (29) reported that there was a significant decrease in 8 sub-dimensions and physical and mental component scores in their study evaluating the quality of life with SF-36 among a healthy control group and the migraine patients. In the article published by Fuh and Wang (30), they stated that disability assessed by MIDAS was associated with the sub-dimensions of SF-36, especially physical functioning, bodily pain, and social functioning.

Conclusion

Migraine is a health problem that affects all areas of life. Pain affects the quality of life, especially emotional reaction, social isolation and sleep parameters. In our study, it was observed that the quality of life of patients diagnosed with migraine decreased, and it was concluded that this situation affects the daily lives of patients.

In recent years, the importance of disease burden has increased the awareness towards the impact of treatment options on the patients' health. Data on the quality of life in people with migraine may be useful in developing better treatment approaches and coping methods by providing treatment satisfaction and determining the individual needs.

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