Original Article

Quality of life of migraine patients followed in neurology clinics in Riyadh, Saudi Arabia

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Abstract:

BACKGROUND: Migraine is a chronic disorder that negatively affects a patient's quality of life (QOL). As little is known about the QOL of migraine sufferers in Saudi Arabia, our aim was to investigate the QOL and the level of migraine-associated disability of migraine patients.

MATERIALS AND METHODS: This cross-sectional study was conducted in neurology clinics at King Abdulaziz Medical City for National Guard and Prince Sultan Military Medical City in Riyadh, Saudi Arabia, from August to December 2018. The migraine-specific QOL questionnaire (MSQ), version 2.1, was used to measure restrictive, preventive, and emotional domains. The sum of the item responses ranged between 0 and 100, with higher scores indicating better QOL. A descriptive analysis of numerical variables was reported in terms of means and standard deviation, while categorical variables were described using frequencies and percentages.

RESULTS: A total of 300 migraine patients completed the questionnaire; 67% were females. Age of participants ranged from 20 to 53 years, with mean age of 34.21 (SD=7.26). The mean score in the QOL restrictive domain was 51.8 ± 19, whereas the mean scores for preventive and emotional domains were 54 ± 18 and 46.3 ± 23.4, respectively. Low QOL scores were associated with young ages, long disease duration, frequent migraine attacks, and presence of chronic diseases.

CONCLUSION: Chronic migraine has a negative impact on QOL, predominantly in young patients, patients with frequent attacks, those not using preventive medications, and those suffering from chronic diseases.

Keywords:

Chronic disease, disability, headache

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Introduction

Migraine is a neurological disease that causes moderate-to-severe localized unilateral or bilateral headaches, throbbing in nature, and usually associated with nausea, vomiting, and/or photophobia. These headaches usually start in an individual at a young age (<35 years) and worsen during their productive life years, between 25 and 55 years.[1] Chronic migraine is a form of migraine in which the patient has more frequent headache episodes, >15 days/month.[2]

The global prevalence of migraine is reported to be between 2.6% and 21.7%.[3-5] More than four million adults, 85% of whom are women, worldwide experience chronic daily headaches.[1] Lipton *et al*. reported that two methodologically identical national surveys in the United States (US) conducted 10 years apart showed that the distribution and prevalence of migraine have remained stable over this 10-year period. Migraine‑related disability remains substantial and prevalent. The number of people suffering

from migraine increased from 23.6 million in 1989 to 27.9 million in 1999. The authors' conclusion was that migraine was a fundamental target for public health interventions because it was highly prevalent and very disabling.[6]

In 2015, migraine was ranked the seventh leading cause of years lived with disability (YLD) in general and the first leading cause of YLD in people <50 years of age according to the report from the Global Burden of Disease.[7] This finding appears to be true because migraine affects the physical, emotional, and social lives of patients. Between 50% and 73% of migraine patients report that migraine (even moderate attacks) has a negative effect on their family relationships even during the periods between attacks when a patient has fear and worry about the next attack.[8] In addition, marked functional impairment is associated with migraine and can affect academic, occupational, and social performance. More than 90% of people either cannot go to work or cannot work properly during the migraine attack.[1] Limitations with respect to educational opportunities and daily activities and poor sleep all have been reported by migraine sufferers.[9]

The quality of life (QOL) was defined by the World Health Organization as "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns."[10]

People who suffer from migraines usually report poor QOL during attack-free periods more frequently than healthy people.[2] Around 25 million days lost at work or school every year in the United Kingdom are caused by migraine, and in the USA, the estimated loss caused by migraines in health care and productivity is around $36 billion annually.[1]

Migraine patients, in contrast to healthy people, commonly have other medical comorbidities, such as chronic pain, gastrointestinal and cardiovascular diseases, and stroke.[11] Migraine is also associated with increased rates of psychiatric disorders. In particular, existing studies have found that migraine sufferers are at 2- to 5-times higher risk of suffering from a depressive or anxiety disorder than individuals without migraines.[12,13] Recently, Minen et al. reported that people with migraine feel that migraine diminishes their perceived credibility and value in the workplace as well as their parenting abilities.[14]

QOL measurements in migraine patients are essential in their migraine management. This is an effective way of measuring the burden of migraine by focusing on the limitations to activity or temporary disability.[15,16] Unfortunately, and despite the availability of those

measurements, the vast majority of clinicians usually use close-ended questions in migraine assessment, focusing on symptoms, such as frequency of attack, severity, and associated symptoms. These clinicians do not explore the patient's QOL and the level of functional and social impairment.[17,18] even though one-third of patients disclose disability as a result of the migraine and its impact even without the physicians' inquiry.[17]

In Saudi Arabia, the prevalence of migraine is 26.97%, with female predominance (ratio of 1:2.9) according to a study done by Muayqil et al.[13] In a study by Almalki et al. on migraine in Taif city (2018), migraine was found to be more common among females, and in urban areas, it was related to high unemployment rates.[19]

A few studies have been conducted on the impact of migraine on QOL in Saudi Arabia. One study by Ibrahim et al.[20] on medical students and interns reported a reduction of educational performance and ability to attend classes during migraine attacks in 83.9% and 78.2% of participants, respectively.

In this study, we aimed to measure QOL in migraine patients in Saudi Arabia, describe the possible disabilities associated with migraine attacks, and correlate the data with a participant's demographic data.

Materials and Methods

The study was a descriptive, analytic, and questionnaire-based study conducted on migraine patients followed in the neurology clinics at two tertiary hospitals in Riyadh, Saudi Arabia: King Abdulaziz Medical City for National Guard and Prince Sultan Military Medical City from August to December 2018. The clinics cover general neurology cases with no specific clinic for migraine and are run by teams of consultants, fellows, and residents.

The inclusion criteria were male and female adult patients, >18 years, of any nationality, who had been diagnosed with migraine by a neurologist for more than 1 year. We included patients who were diagnosed with migraine for 1 year and more to ensure confirmed diagnosis and the patient's experience of the effect of migraine on their QOL. We excluded any patient with disabling chronic disease or psychiatric illness.

The total number of enrolled patients was 300. The sample size calculated was based on the prevalence of migraine in Saudi Arabia according to the study done by Rajeh et al., which showed a prevalence of 5%.[21] The sample size was found to be 288 and then was adjusted to 300 to compensate for any missing data. Convenient nonrandom sampling was done.

The three-part questionnaire consisted of 26 questions. The first part was on demographic data (age, gender, job, educational level, and history of chronic illness), the second part on migraine (duration, frequency of attacks, and medications used for abortive and preventive therapy), and the third assessed QOL. For QOL, we used the validated Arabic version of Migraine-Specific QOL Questionnaire, version 2.1 (MSQ 2.1). MSQ 2.1 was obtained from the Mapi Research Trust website, which had permission from the developer for the translation and use of the questionnaire.[22] The validity and reliability of the English version had been tested in many studies, including a study by Bagley et al.[15]

The MSQ 2.1 consists of 14 questions assessing the way in which migraine affects or limits daily functions across three domains: (1) restrictive role (seven items on how migraine limits one's daily social and work-related activity); (2) preventive role (four items on how migraine prevents these activities); and (3) emotional function (three items on migraine-associated emotions). Participants responded to the items using a 6-point scale: "none of the time," "a little bit of the time," "some of the time," "a good bit of the time," "most of the time," and "all of the time," which are assigned scores of 1–6, respectively. Raw dimension scores were computed as a sum of item responses and rescaled from a 0–100 scale. There were no cutoff points for different scoring levels. Higher scores indicate better QOL.

For statistical analysis, we used IBM Statistical Package for Social Studies, version 25. 0 (IBM Corp., Armonk, NY, USA). A descriptive analysis of numerical variables was reported in terms of means and standard deviation, while categorical variables were described using frequencies and percentages. In the process of examining the relationship between variables, t-test or analysis of variance was used to compare the means of two groups for the dependent variables.

Ethical approval was obtained from the Institutional Review Board of King Abdullah International Medical Research Center, and informed written consent was taken from all participants. The participants were guaranteed privacy, confidentiality, and anonymity. Participation in the study was voluntary. Data collection sheets were coded using 3-digit serial numbers and were maintained by the co-investigator. Participants could not be traced after the collection of the data sheets. The study was carried out according to the principles of the Helsinki Declaration.

Results

Table 1 summarizes the characteristics of the participants. The mean age was 34.21 ± 7.26. Sixty-seven percent of the participants were females, and almost half of the participants (49%) reported having one or more chronic diseases.

Sixty-seven percent of the participants reported being diagnosed with migraine >5 years ago, and 48% reported migraine attacks ranging from 1 to 4 times/month. The most common drug used for pain during migraine attack was paracetamol (acetaminophen) (61.3%), whereas the most used preventive medication was amitriptyline (39.3%). Only 15% of the participants were not currently using preventive therapy for migraine [Table 2].

Table 3 presents the mean Mental Status Questionnaire (MSQ) scores for the three domains. The highest score was found in the preventive domain with a mean of 54.3 ± 18.067, whereas emotional domain was the lowest of the three with a mean score of 46.46 ± 23.43.

Table 1: Demographic characteristics of the participants (n=300)

Characteristic	N (%)
Age (years)	
20-<30	90 (30.0)
30-<40	136 (45.3)
40-<50	68 (22.7)
≥50	6 (2.0)
Mean±SD	34.21±7.26
Gender	
Male	99 (33.0)
Female	201 (67.0)
Education	
Less than primary	3 (1.0)
Primary	31 (10.3)
Secondary	121 (40.3)
University	130 (43.3)
Master or above	15 (5.0)
Job	
Yes	173 (57.7)
No	127 (42.3)
Chronic disease	
Yes	147 (49.0)
No	153 (51.0)
What disease you have (you can choose more than one disease)?	
Diabetes	25 (8.3)
Hypertension	19 (6.3)
Dyslipidemia	47 (15.7)
Thyroid disorders	38 (12.7)
Depression	67 (22.3)
Anxiety	30 (10.0)
Others	238 (79.3)
Epilepsy	9 (3.0)
Irritable bowel syndrome	28 (9.3)
Bronchial asthma	25 (8.3)

SD=Standard deviation

Table 4 represents the detailed responses of the participants to all the 14 questions of the restrictive, preventive, and emotional domains of MSQ. For almost all of the listed questions, the most reported answer was that migraine negatively impacted on different activities or feelings "some of the time," whereas the least reported responses almost equally were "never" and "all of the time." When combining "most of the time" and "all of the time," the highest score on the 14 items was for "been afraid of letting others down because of my migraines" (31.6%) followed by "frustrated because of my migraines" (26.3%).

In combining "never" with "rarely" answers, the highest score was for "had to cancel work or daily activities because of my migraines" (33%), followed by "migraine limited the number of days I felt energetic" (32%). "How often do you feel fed up or frustrated because of your migraines?" was the item that had the highest score with the response "all of the time" (11.1%). The item with the highest score of the response "never" was "how often have you been afraid of letting others down because of your migraines?" (6.7%).

The associations between mean scores in each domain and participants' characteristics are shown in Table 5. The scores in all the three domains were found to be statistically significantly correlated with age ($P = 0.0001$), with higher scores recorded for older individuals. Both restrictive and preventive domains were statistically significantly affected by educational level ($P = 0.01$ and 0.03, respectively), whereas education had no significant effect on the emotional domain. The duration of the disease and the frequency of headache attacks statistically significantly affected all domains ($P = 0.0001$).

Use of variable preventive therapy for migraine was found to be associated with better scores in the three domains of MSQ ($P = 0.0001$), with the least in the emotional domain in the case of no preventive therapy. Having a chronic disease, either medical or psychiatric, was also found to be associated with lower scores in the three domains ($P = 0.0001$). The correlation was found to be more significant with psychiatric illness, namely depression and anxiety.

Discussion

The studies done locally in SA in order to estimate the prevalence of migraine reported variable figures. The latest study published in 2018 by Muayqil *et al.* reported a prevalence of 27% based on the self-report of >5000 participants.[13] A similar prevalence was also reported in two other local studies.[23-25]

In another community-based study published earlier in 1997 by Rajeh *et al.*, with >220,000 participants, a 5% prevalence was reported.[21] Another study done on secondary school students in 2009 found a prevalence of 9.3% in females and 6.3% in males.[26] A study by Al Jumah *et al.* (2002) found 6.2% prevalence for migraine in children aged between 6 and 15.[27] This variation in prevalence may be attributed to the differences in the study population and investigative tools.

We targeted patients being followed at neurology clinics to ensure that the diagnosis of migraine had been made by a neurologist to obtain a suitable

Table 2: Characteristics of migraine headache among the participants (*n*=300)

Migraine characteristics	N (%)
When were you diagnosed with migraine?	
<12 months	2 (0.7)
1-2 years	22 (7.3)
3-5 years	75 (25.0)
>5 years	201 (67.0)
How often you have migraine attacks?	
Daily or semi-daily	17 (5.7)
1-3 episodes per week	37 (12.3)
1-4 per month	144 (48.0)
<12 times per year	102 (34.0)
What kind of medications do you use when you have migraine headache? More than one answer can be selected	
Paracetamol (Panadol or Fevadol)	184 (61.3)
Strong analgesics	162 (54.0)
Tryptan derivatives	66 (22.0)
Specific medications such as Plasil	16 (5.3)
Others	2 (0.7)
Which preventive medications you use currently for migraine?	
Propranolol (Inderal)	36 (12.0)
Amitraphylline (Tryptizole)	118 (39.3)
Topiramate (Topamax)	81 (27.0)
Carbamazepine (Tegretol)	6 (2.0)
Others	6 (2.0)
I do not use preventive drugs	45 (15.0)
I use preventive drugs, but I do not know name or do not remember	8 (2.7)

Table 3: Participants' mean score in each domain of the Migraine-Specific Quality of Life questionnaire (*n*=300)

	Restrictive	Preventive	Emotional
Mean±SD	51.8095±19.04173	54.3000±18.06741	46.4667±23.43498
Minimum	5.71	0.00	0.00
Maximum	100.00	100.00	100.00

SD=Standard deviation

study population compared to the community-based approach. It may be assumed that migraine patients who are followed in neurology clinics would have more difficult forms of migraine compared to patients followed in other clinics, such as internal medicine or family medicine clinics.

In this study, most of the participants were females (67%). This agrees with what the literature indicates that migraine is more common among females both locally and globally.[1-4,13,19,28]

The majority of participants fall within the age group from 20 to 40 years. Again, this is similar to what is known about the age predominance of migraine.[1,2,4,19,28]

Most of the participants reported being diagnosed with migraine over 5 or more years previously. When we matched this finding with age-related characteristics in which 30% of the participants were <30 years, the finding was expected, knowing that most patients with migraine were diagnosed before the age of 20.[28-30]

The majority of participants reported having migraine attacks at least once per month, with a good number of them having more than one attack per week. This finding may explain the high number of patients using preventive therapy (85%), which is indicated for cases with frequent or disabling attacks. The most commonly used drug for migraine prophylaxis reported in this study was amitriptyline (39%) followed by topiramate and propranolol. This finding is similar to the trend of migraine prophylaxis reported in other studies.[31-33]

The most commonly used medicine for managing migraine attack reported in this study was paracetamol, which was also reported in another local study.[24]

With respect to QOL, participants reported low scores, especially in the emotional domain.

The 14 questions in the MSQ 2.1 explore the negative effects or interference of migraine with respect to several aspects over the preceding 4 weeks. These aspects consisted of dealing with family and friends, leisure time activities, performing and concentrating on daily activities at home or at work, socialization, feeling energetic, feelings of frustration, feelings of being a burden to others, and feelings of letting others down. For

Table 4: Detailed responses of participants to questions in different domains of the Migraine-Specific Quality of Life questionnaire (*n*=300)

In the past 4 weeks	Never N (%)	Rarely N (%)	Some of the time N (%)	A good bit of the time N (%)	Most of the time N (%)	All of the time N (%)
1. How often have migraines interfered with how well you dealt with family, friends, and others who are close to you?	4 (1.3)	30 (10)	148 (49.3)	85 (28.3)	27 (9.0)	6 (2.0)
2. How often have migraines interfered with your leisure time activities such as reading or exercising?	4 (1.3)	58 (19.3)	145 (48.3)	63 (21.0)	25 (8.3)	5 (1.7)
3. How often have you had difficulty in performing work or daily activities because of migraine symptoms?	1 (0.3)	32 (10.7)	117 (39.0)	85 (28.3)	49 (16.3)	16 (5.3)
4. How often have migraines kept you from getting as much done at work or at home?	3 (1.0)	51 (17.0)	113 (37.7)	70 (23.3)	51 (17.0)	12 (4.0)
5. How often have migraines left you too tired to do work or daily activities?	13 (4.3)	73 (24.3)	104 (34.7)	59 (19.7)	44 (14.7)	7 (2.3)
6. How often have migraines limited your ability to concentrate on work or daily activities?	2 (0.7)	34 (11.3)	113 (37.7)	82 (27.3)	49 (16.3)	20 (6.7)
7. How often have migraines limited the number of days you have felt energetic?	10 (3.3)	86 (28.7)	88 (29.3)	72 (24.0)	38 (12.7)	6 (2.0)
8. How often have you had to cancel work or daily activities because of your migraines?	11 (3.7)	88 (29.3)	112 (37.3)	68 (22.7)	20 (6.7)	1 (0.3)
9. How often did you need help in handling routine tasks such as everyday household chores, doing necessary business, shopping, or caring for others, because of your migraines?	3 (1.0)	24 (8.0)	120 (40.0)	108 (36.0)	39 (13.0)	6 (2.0)
10. How often did you have to stop work or daily activities to deal with migraine symptoms?	6 (2.0)	55 (18.3)	128 (42.7)	72 (24.0)	34 (11.3)	5 (1.7)
11. How often have you felt fed up or frustrated because of your migraines?	5 (1.7)	38 (12.7)	101 (33.7)	77 (25.7)	45 (15.0)	34 (11.3)
12. How often have you felt like you were a burden on others because of your migraines?	5 (1.7)	42 (14.0)	105 (35.0)	76 (25.3)	59 (19.7)	13 (4.3)
13. How often have you been afraid of letting others down because of your migraines?	20 (6.7)	47 (15.7)	62 (20.7)	76 (25.3)	67 (22.3)	28 (9.3)
14. How often were you not able to go to social activities such as parties, dinner with friends, because of your migraines?	17 (5.7)	59 (19.7)	114 (38.0)	58 (19.3)	42 (14.0)	10 (3.3)

Table 5: Correlations between participants' characteristics and mean score in the three domains of the Migraine-Specific Quality of Life questionnaire (n=300)

Variables	Domain score		
	Restrictive Mean±SD	Preventive Mean±SD	Emotional Mean±SD
Age			
20-<30	41.42±18.48	45.66±17.54	33.55±20.97
30-<40	52.03±18.17	54.3±17.17	45.73±20.95
40-<50	62.98±13.12	63.6±14.29	62.15±20.13
≥50	75.71±6.7	78.33±11.25	78.88±9.8
P-Value	0.0001	0.0001	0.0001
Gender			
Male	50.33±18.66	52.67±17.05	45.92±23.44
Female	52.53±19.22	55.09±18.53	46.73±23.48
P-Value	0.6	0.2	0.5
Educational level			
Up to school	54.47±18.08	56.45±17.16	48.6±23.49
University and above	48.96±19.68	52±18.77	44.18±23.23
P-Value	0.012	0.033	0.1
Job status			
Yes	52.09±18.03	54.82±17.2	47.4±22.63
No	51.42±20.38	53.59±19.21	45.2±24.5
P-Value	0.7	0.5	0.4
Duration of migraine (years)			
≤5	42.33±20.74	46.31±19.35	35.62±23.17
>5	56.47±16.27	58.23±16.03	51.8±21.7
P-Value	0.0001	0.0001	0.0001
Headache attacks' frequency			
Most of week days	31.11±17.57	34.9±15.49	26.41±18.26
1-4 attacks/month	50.99±15.07	53.4±13.96	43.19±19.72
<12 attacks/year	63.92±14.54	65.83±15.09	61.69±20.86
P-Value	0.0001	0.0001	0.0001
Migraine abortive medication			
Panadol	53.44±19.25	55.54±18.89	48.47±23.41
P-Value	0.06	0.1	0.06
Brufen	51.42±18.72	53.73±18.37	47.24±23.46
P-Value	0.7	0.5	0.5
Sumatriptan	56.4±14.54	58.25±15.32	50.1±19.68
P-Value	0.02	0.04	0.1
Plasil	39.04±18.88	41.33±17.05	31.55±18.59
P-Value	0.008	0.004	0.01
Migraine preventive medications			
Propranolol (Inderal)	42.22±19.12	46.25±17.37	35.18±21.82
Amitraphylline (Tryptizole)	60±15.02	61.99±15.08	55.98±21.49
Topiramate (Topamax)	51.74±18.88	54.19±15.58	45.34±21.81
Others	46.28±15.36	47.75±13.42	38±19.71
Not using	40.57±20.6	43.66±22.52	36.29±24.55
P-Value	0.0001	0.0001	0.0001
Having chronic disease			
No	55.27±17.88	57.18±16.66	51.24±21.36
Yes	48.2±19.59	51.29±19.01	41.49±24.51
P-Value	0.001	0.005	0.0001
Type of chronic disease			
Diabetes	44.22±14.44	45.8±18.6	35.2±21.9
P-Value	0.03	0.01	0.01
Hypertension	49.77±18.07	53.68±18.54	47.01±25.76
P-Value	0.6	0.8	0.9

Contd...

Table 5: Contd...

Variables	Domain score		
	Restrictive Mean±SD	Preventive Mean±SD	Emotional Mean±SD
Dyslipidemia	55.62±17.55	56.27±17.52	50.07±22.4
P-Value	0.1	0.4	0.2
Thyroid diseases	51.5±18.53	51.8419.57	44.56±24.9
P-Value	0.9	0.3	0.5
Depression	44.69±18.79	48.5±18.44	35.02±20.67
P-Value	0.0001	0.003	0.0001
Anxiety	35.33±17.41	39.83±16.1	23.11±16.39
P-Value	0.0001	0.0001	0.0001

SD=Standard deviation

almost all of the aspects, the majority reported affected by migraine reported negatively "most of the time."

For comparison, in a similar study done in Canada and published in 2014, almost one-quarter of the participants reported that pain prevented them from activities and made them feel left out of activities. More than half reported that migraine prevented them from driving; three quarters reported poor sleep because of migraine, and one-third reported missing 1 day of work due to migraine.[9]

Even more severe functional impairment and disability were reported in an American study of migraine patients.[6]

A similar study in Malaysia using a different tool found that most migraine patients had severe migraine-related disabilities. All patients in that study were females, and the Migraine Disability Assessment Tool (MIDAS), a possible equivalent to the restriction domain of the MQS, was used.[2] The MIDAS measures the level of disability due to migraine headaches with respect to three domains of activity (work, household work, and nonwork activities) over the preceding 3 months.[34] In another study done on students at Mississippi University in the USA in 2011, students with episodic migraines reported reduced QOL, impaired functioning at home, and higher frequency of missed school days.[12]

For comparison with a local study, Ibrahim *et al.* did a study to explore the prevalence, predictors, and triggers of migraine headache among medical students and interns at King Abdulaziz University in Jeddah, Saudi Arabia, and found that during migraine attacks, the majority of participants reported diminished educational performance and frequent absence from classes.[20]

In 2008, another local study done on female university students in Riyadh, Saudi Arabia, reported that almost half of the migraine patients had moderate-to-severe migraine-related disabilities.[23]

In a study by Al Jumah *et al.* published in 2016, an estimated average of 4% of all working days lost was due to primary headaches of the Saudi population.[35]

Younger age in the present study was found to be significantly associated with lower QOL scores. This finding can be explained by the nature of younger people being more active and involved in many social and work-related activities. In addition, this finding may also be related to the gradual acceptance and adaption that increases over time as the patient gets older. No differences were found between males and females in this regard, and this finding is consistent with what has been reported in other studies.[6]

In addition, in the present study, longer disease duration and more frequent migraine attacks were found to be significantly associated with lower QOL scores. Having a comorbid physical or mental illness with migraine increases the burden on patients and lowers the QOL as this study clearly indicates.

It is worth noting that the negative effects of migraine on QOL are not limited to the migraine headache attacks only but also extend to the inter-ictal phases, the periods in-between attacks.[7] This should be recognized during a patient's clinical assessment, and follow-ups of patients should be done by the treating physicians.[36] Unfortunately, and as reported, for instance, by Holmes *et al.*, many physicians fail to address issues related to the effect of migraine on a patient's QOL.[17,18]

Migraine is a chronic disease, the attacks of which are unpredictable, making patients feel rather restricted. To prevent attacks, patients try to limit their normal daily activities., which ultimately reduces their QOL. This finding also reveals the self-perception of migraine sufferers with regard to their parenting abilities and future financial security.[37]

Another important negative impact of migraine on patient's daily life is the possibility of not being believed with respect to having a migraine and its effects on

daily life. As pointed out in a Swedish study by Rutberg and Öhrling, women with migraine complained that their suffering was underestimated, and they were not believed when a migraine attack was presented as an excuse, by their family, relatives, co-workers, or even health-care providers.[38]

Evidence has shown that medical care given to migraine patients is suboptimal. Even in wealthy, developed countries, such as in Europe, the majority of patients are pharmacologically undertreated and not seen regularly by a specialist.[39] The problem is even more prevalent in the Eastern Mediterranean Region as reported by Vosoughi *et al.*[40]

The current study adds substance to what is well known, both locally and globally, about the negative impact of migraine on a patient's QOL.

Conclusion

The present study documents the low QOL associated with chronic migraine in patients with respect to their emotional, physical, and social life. The time is ripe for the inclusion of QOL assessment as support in providing care for migraine sufferers in clinical settings.

Limitation
This study was done on patients followed in the Neurology clinic, which may make them a subcategory of difficult migraine cases.

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Conflicts of interest
There are no conflicts of interest.

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