

## Quality of Life in Patients with Tension-type Headache, Migraine without Aura and Mixed type Headache

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### Abstract

**Introduction:** In India there are lack of studies on the impact of Tension-type Headache, Migraine without Aura and Mixed type Headache on quality of life (HRQoL).

**Objective:** The objectives of the study were to measure the quality of life in patients with migraine without aura, tension type headache and mixed type headache and to compare them with matched healthy controls.

**Materials and Methods:** 25 patients each with tension-type Headache, Migraine without Aura and Mixed type diagnosed using Headache international headache society (IHS) diagnostic criteria were interviewed in a tertiary level hospital. 25 healthy subjects (n = 71) were used as controls. WHO-Quality of life BREF was applied to measure the quality of life in these subjects.

**Results:** Patients suffering from headache have poorer quality of life in all the four domains (physical, psychological, social and environmental domain) of WHO-QOL compared to healthy controls.

**Conclusion:** Quality of life is significantly reduced in Indian patients with Tension-type headache, Migraine without Aura and Mixed type headache compared to healthy controls.

**Keywords:** Quality of life, migraine, mixed type headache, tension type headache.

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### Introduction

Headache is one of the most common presenting complaints in people attending primary care centers and majority of them have primary headache syndromes. Migraine and tension-type headache (TTH) are the most common primary headache disorders affecting up to 80% of the general population[1].

The international headache society (IHS) began developing a classification system for headaches in 1985 and finalized in 1988.[2]. This system includes a tension type headache category, further defined as either episodic or chronic.

A number of studies have reported that headache sufferers claim factors precipitating or triggering their headache and list is not a short one (stress, emotion,

flickering light, noise, fatigue, food, season etc.).[3,4]

Over the past two decades, health related quality of life (HRQoL) measures have been widely accepted as indices of disease impact on an individual. These measures use subjective ratings of the individual in a variety of areas to assess the overall impact of illness and therapy on a patient[5]. The Short Form-36 (SF-36) questionnaire is one such measure of HRQoL that has been extensively used in migraine patients.[6-9]

Headache patients with psychiatric disorders report greater headache frequency, increased physical disability and poorer quality of life compared to patients without psychiatric disorders. The identification of factors contributing to quality of life of patients with tension type headache and migraine has major implications for prognosis and treatment strategies.[10]

Very limited studies are available in Indian context on quality of life in headache subjects. Hence present study was planned to measure the quality of life in patients with migraine without aura, tension type headache and mixed type headache and to compare them with matched healthy controls.

## **Subjects and Methods:**

### **Study design, settings and participants:**

It was a hospital based non-randomized comparative observational study conducted over a period of 12 months from January 2020 to December 2021 in department of Psychiatry and Neurology of a tertiary care teaching hospital in Rajasthan, India. Patient attending the OPD of Psychiatry and Neurology department between 18-65 years of age group during the duration of study and fulfilling the inclusion criteria constituted the study population. The control group was non-related attendants of the patients

or other age and sex matched individuals with no psychiatric or medical illness and volunteering to be a part of the study.

### **Inclusion criteria:**

Patient aged 18-65 years, diagnosed as having migraine without aura or tension type headache or having characteristics of both type of headache according to international headache society (IHS) diagnostic criteria were included in the study. Non-related attendants of the patients of similar age group and no previous history of any headache or psychiatric disorder or no chronic medical or surgical illness were selected as controls.

### **Exclusion criteria:**

Patient having any other chronic primary headache or evidence of secondary headache or with previous known psychiatric disorder were excluded from the study

### **Data collection:**

Patient attending the OPD of Psychiatry and Neurology department between 18-65 years of age group and diagnosed as having migraine without aura or tension type headache or having characteristics of both type of headache according to international headache society (IHS) diagnostic criteria were included in the study. 25 subjects in each group were selected for the study. After taking informed consent, subjects were interviewed in 2 sessions. Each session took around 1 hour.

In the 1<sup>st</sup> session, patients diagnosed of having migraine without aura, tension type headache or mixed type of headache was evaluated in detail, in terms of clinical history, socio-demographic profile and complete general and systemic examination.

- Neurological examination (To rule out any organic cause for headache)

- Ophthalmological examination for fundus and (to rule out refractory errors to rule out ophthalmological causes of headache)
- ENT examination (to rule out sinusitis, etc.)
- NCCT –SCAN was advised if required at any stage.

In 2<sup>nd</sup> session, WHO-Quality of life BREF was applied to measure the quality of life in these subjects.

#### WHO Quality of Life (WHOQOL BREF) tool:

The WHOQOL-BREF (field trial version) produces a quality-of-life profile. It is possible to derive four domain scores. There are also two items that were examined separately: question 1 ask about an individual's overall perception of quality of life and question 2 asks about an individual's overall perception of their health. The four domain scores denote an individual's perception of quality of life in each particular domain. Domain scores were scaled in a positive direction (i.e. higher scores denote higher quality of life).

#### Statistical analysis:

The collected data were transformed into variables, coded and entered in Microsoft Excel. Data were analyzed and statistically evaluated using SPSS-PC-20 version. Quantitative data was expressed in mean, standard deviation and difference between more than two groups was compared by

ANNOVA test while qualitative data were expressed in percentage and difference between proportions was tested by chi square test. 'P' value less than 0.05 was considered statistically significant.

#### Ethical issues:

All participants were explained about the purpose of the study. Confidentiality was assured to them along with informed written consent. The study was approved by the Institutional Ethical Committee.

#### Observations & Results:

Out of 100 patients 79% patients were in the age group of 20-40 yrs. Sixteen patients (16%) patients were above 40 years of age and only five (5%) of the patients were below 20 years of the age. Majority of the study subjects were males (54.0%) and married (72%). Majority of the study subjects 25% were housewives, whereas 22% of the study subjects reported to be unemployed. Eighteen (18%) of the study subjects were students whereas 16% of the study subjects were having business. Only 9% of the study subjects were professional while one patient was retired. Majority of the study subjects 50 (50%) belonged to the lower socio-economic status whereas 34% belonged to middle class socio-economic status. Sixteen (16%) study subjects belonged to lower middle socioeconomic status. Socio-demographic of individual groups in all subjects was given in table 1.

**Table 1: Sociodemographic profile of study subjects**

Demographic data	Controls	Migraine	Mixed type	Tension type headache	P value
Age in years	32.40±9.65	28.36±5.31	32.32±11.95	31.52±9.27	0.12
Male/Female	15/10	12/13	12/13	15/10	0.69
Married/Unmarried	19/6	16/9	18/7	19/6	0.75
<b>Socio-economic status</b>					
Middle	8 (32.0%)	10 (40.0%)	9 (36.0%)	7 (28.0%)	0.96
Lower middle	5 (20.0%)	4 (16.0%)	3 (12.0%)	4 (16.0%)	
Lower	12 (48.0%)	11 (44.0%)	13 (52.0%)	14 (56.0%)	

Score of all the domains of quality of life were significantly higher in control group

then other group with headaches. (Table 2).

**Table 2: QOL scores of different domains in study subjects**

QOL Domain	Controls	Migraine	Mixed type	Tension type headache	P value
Physical domain score	28.24±2.08	20.36±2.09	19.08±3.02	18.64±2.14	<0.001
Psychological domain	22.64±1.99	17.88±2.07	15.84±2.36	17.72±2.30	<0.001
Social domain	13.44±1.44	9.76±1.87	9.32±1.67	9.48±1.73	<0.001
Environmental domain	36.0±2.38	24.32±1.99	24.44±3.01	23.96±2.28	<0.001

### Discussion:

Present study was hospital-based case control comparison observation study to measure the quality of life in patients with migraine without aura, tension type headache and mixed type headache and to compare them with matched healthy controls.

Results of our study showed that the patients suffering from headache have poorer quality of life in all the four domains (physical, psychological, social and environmental domain) of WHO-QOL compared to healthy controls. Finding of our study was similar to study done by Lpiton RB et al<sup>11</sup> who concluded that individuals with migraine headache have lower HRQoL scores compared with controls. Moreover, among individuals with migraine headache, work-related disability is associated with lower HRQoL scores. Specifically, individuals classified with moderate to severe work-related disability had lower HRQoL scores than those classified with low disability. Similarly, Galego JCB et al.[12] evaluated the stress presence and its influence in the quality of life of 100 patients with chronic daily headache (CDH). SF-36 questionnaire was used, and they also concluded the majority of the patients presented stress with significant reduction in their quality of life. Gupta P et al.[13] explored quality of life in 50 male and 50

female migraine patients using PGI Quality of Life Scale. Quality of life of migraine patients was found significantly impaired. Migraine attack can undermine the individuals' self-confidence and sense of well-being, and repeatedly disrupt their normal routine work. Another study by Suijlekom HA et al.[14] established the health-related quality of life of patients with cervicogenic headache and to compare it with a random Dutch sample of control subjects and with patients with migraine without aura or with episodic tension-type headache. Domain scores for "physical functioning" of patients with cervicogenic headache were worse than those of patients with migraine or tension-type headache. Physical functioning scores were lower for patients with tension-type headache than for those with migraine. Migraineurs reported a diminished score for "social functioning" compared to patients with tension-type headache. All Medical Outcomes Study 36-Item Short Form domain scores were significantly lower for patients with cervicogenic headache relative to the control group.<sup>33</sup> Similar to our study, Sun-Young Kim et al.[15] evaluated the contribution of headache chronicity to QOL in relation to clinical, psychiatric, and psychosocial variables in patients with migraine using Migraine-Specific Quality of Life (MSQoL) scale and concluded that chronic migraine appears to impair QOL directly

as well as indirectly by provoking disability and depression. Finding of our study was also in concordance with D'Amico D et al.[16] who assessed quality of life (HRQOL) in Italian patients suffering from chronic migraine and medication overuse (150 subjects) or chronic cluster headache (22 subjects) using SF-36 and found that MIDAS and SF-36 were sensitive to clinical changes in a group of 84 patients with chronic migraine and medication overuse who completed the both questionnaires before and after treatment. Guitera V et al.[17] reported that primary CDH subjects showed a significant decrease in each health-related concept as compared with the healthy subjects. The highest decreases were seen for physical, bodily pain, vitality, and social functioning.

#### **Conclusion & Recommendations:**

In conclusion quality of life is significantly impaired in patients with Tension-type Headache, Migraine without Aura and Mixed type Headache. Studied with larger sample size and in general populations are needed to see the quality of life. Also, objective component of quality of life should also need to be assessed to know complete impact on quality of life.

#### **Limitations:**

Current study was based exclusively on hospital-based outpatient sample which might not be representativeness of patients in community and the data were collected from a college population of young adults so external validity as applied to older adults and treatment-seeking pattern is unclear. The QOL instrument WHO QOL-BREF used in this study is a generic instrument that was not designed specifically for headache patients, using a combination of both generic and specific instruments would have been a better choice. This instrument only assesses the subjective QOL, whereas the addition to

objective measures might have been useful.

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