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Research Article

Assessment of Quality of Life and Compare the Impact of Amitriptyline and Propranolol in Migraine Patients

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ABSTRACT

Background: Assessing Quality of life of Migraine patients is important so as to manage the Headache and to implement some interventional programs in order to improve the quality of life of these patients. The study aims to find out the impact of Migraine on quality of life of Migraine patients.

Material and method: This was a Prospective, Observational and questionnaire-based study, conducted from March to August 2019 for a period of 6 months, after approval from Institutional Ethics Committee. Data was analysed using Statistical Package for Social Sciences (SPSS) version 25. The quality of life in Migraine (HIT-6) was used for collecting data on Quality of Life.

Results: Among 100 patients 81 were Females accounting for 81% of total study population and 19 were Males accounting for 19% of total study population. Majority of the patients were in the age range of 33-39 (30%). These were the Social History of the Patients among which 16(16%) patients were smokers, 20(20%) consumed alcohol, 21(21%) smoke and consumed alcohol and 43 (43%) did not smoke nor consumed alcohol. 44 patients were from nuclear family and 56 were from joint family. The age of onset of migraine was more in the age of 21-30 that is (33%) as compared to other age groups. In this study the patients were to drug therapy planned to be given to them- amitriptyline and propranolol. The mean value for quality of life (QOL) before amitriptyline treatment was found to be 78.32 and the mean value for quality of life (QOL) before propranolol treatment was found to be 73.60 which comes under the score of ≥ 60 in accordance of HIT-6 that indicates severe impact on migraine patients. The HIT score after amitriptyline was found to be 46.5 and HIT score of propranolol was recorded to be 60.5. The score with amitriptyline falls under scoring 49 or less which indicates that the headache have little or no impact on QOL. And score of 60.5 with propranolol indicates that still headache have severe impact on QOL of the patient.

Conclusion: Migraine patients had poor Quality of Life, which affected their pain and role functioning. It is very important to improve their Quality of life so that they can enjoy their day to day life.

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INTRODUCTION:

Migraine is a chronic neurologic disorder characterized by repeated pulsating headaches that are moderate to severe.^[1] Normally, the headaches affect one half of the head, are pulsating in nature, and last from 2 to 72 hours.^[1] Related symptoms may include nausea, vomiting, and sensitivity to light, sound, or smell.^[2] The pain is generally made worse by physical activity.^[3] Up to one-third of an individuals have an

aura: typically a short period of visual disturbance that signals that the headache will soon occur.^[3] Occasionally, an aura can occur with little or no headache following it.^[4]

Migraines are supposed to be due to the combination of environmental and genetic factors.^[5] About two-thirds of cases run in families.^[6] Changing hormone levels may also play a role, as migraines affect slightly less girls than boys before puberty and two to three times more women than

men.^{[7][8]} The risk of migraines usually decreases during pregnancy.^[7] The underlying mechanisms are not fully known.^[9] They are, however, believed to involve the nerves and blood vessels of the brain.^[6]

Worldwide, migraines affect nearly 15% or approximately one billion people.^[10] It is more common in women at 19% than men at 11%.^[10] These figures vary substantially with age: migraines most commonly start between 15 and 24 years of age and occur most frequently in those 35 to 45 years of age.^[6] During perimenopause symptoms often get worse before decreasing in severity.^[11] While symptoms resolve in about two thirds of the elderly, in between 3 and 10% they persist.^[12]

The underlying causes of migraines are unknown.^[13] However, they are believed to be related to a mix of environmental and genetic factors.^[5] Studies of twins shows a 34% to 51% genetic influence of possibility to develop migraine headaches.^[5] This genetic relationship is stronger for migraines with aura than for migraines without aura.^[14] A number of specific variants of genes increase the risk by a small to moderate amount.^[15]

Quality of Life:

Quality of life has been defined as the ability of an individual to play a role in society and to enjoy fully their role as a citizen, with an independent social status ^[16]. It refers to an individual's assessment of their general well-being and position in life as perceived within the context of their culture, value systems, goals, and concerns. HRQOL is a subset of overall quality of life representing the overall effect of illness and its therapy on a patient. It encompasses an individual's health state, functional status (both physically and mentally), as well as the individual's overall well-being ^[17]. A generally applicable definition of HRQOL is one that includes both subjective perception on one's life situation and objective registrable health factors. Measurements of HRQOL, a multidimensional concept, and disability have become increasingly accepted as tools for assessing the functional impact of a disease and evaluation of the burden of headache. The available data indicate that the individual's personality, the headache attacks, or their treatment or both, can influence the patient's health-related quality of life (HRQOL). ^[18,19].

Many instruments have been used to analyze the difference in the quality of life associated with headache diagnoses, recent research has led to the identification of specific dimensions of QOL and their incorporation into both valid and reliable instruments.

MATERIALS AND METHOD:

The study was conducted in Tertiary Care Hospital, Dehradun. The patients attending the outpatient facilities of the department of neurology with clinical diagnosis of migraine were included in the study. This was a prospective, observational and questionnaire-based study, conducted from March to August 2019 for a period of 6 months, total 100 migraine patients were enrolled in the study that satisfies the inclusion and exclusion criteria. Inclusion criteria were male and female patients who were willing to participate of age 18-60 years, and with the diagnosis of migraine. Exclusion criteria were patients with pregnancy and lactation period, and patient below 18 years and above 60 not willing to participate. An interview was performed with the use of a HIT-6 questionnaire to assess the quality of life. Informed consent form was obtained from each patient.

In this study HIT-6 Questionnaire was used in which, items of the HIT-6 cover several HRQOL domains: pain, social

functioning, role functioning, vitality, cognitive functioning, and psychological distress.

Statistical analysis

Data was analysed using Statistical Package for Social Sciences (SPSS) version 25. Mean and standard deviation for each of the QOL score and comparison of Amitriptyline and Propranolol were calculated. Paired sample t-test was used to compare the means between group. Pearson correlation was used to calculate the correlation. The results were tabulated and graphically represented using Microsoft Excel for Windows 2010.

RESULTS

A study was conducted on 100 patients, from which 50 were prescribed with Amitriptyline and 50 with Propranolol to gather the information about their quality of life.

Demographic Profile of the Patients

The demographic profile of the patients includes gender wise distribution of patients, age-wise distribution of patients and socio-economic parameter of the patients involved in the study.

1. Gender Wise Distribution of Patients

Among 100 patients 81 were Females accounting for 81% of total study population and 19 were Males accounting for 19% of total study population.

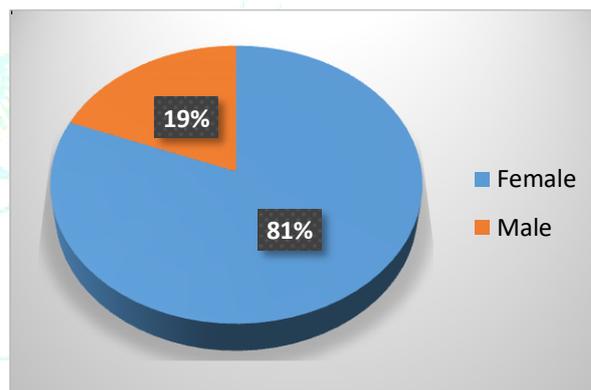


Fig 1: Gender wise distribution of patients who were taking Amitriptyline and Propranolol.

2. Age wise distribution of patients:

Maximum Drugs were taken by the patients of age group between 33-39 yrs.

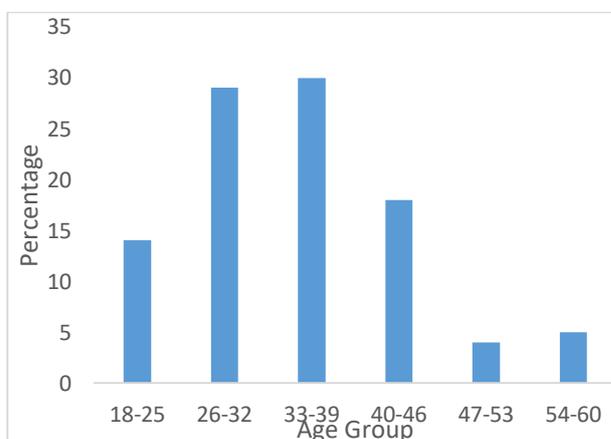


Fig 2: Age wise distribution of patients who were taking Amitriptyline and Propranolol.

3. Social History:

In total number of 100 patients, 16(16%) patients were smokers, 20(20%) consumed alcohol, 21(21%) smoke and consumed alcohol and 43 (43%) did neither smoke nor consumed alcohol.

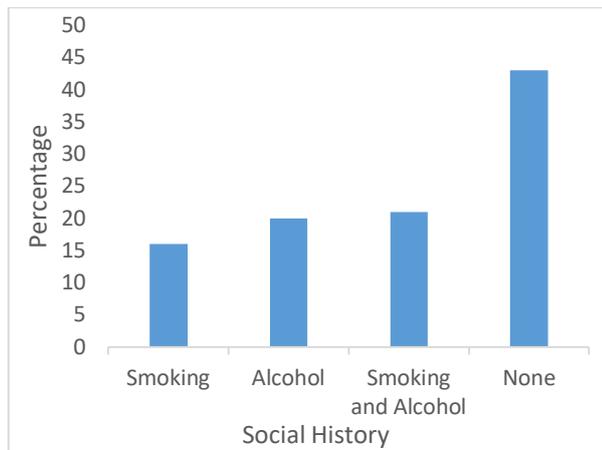


Fig 3: Distribution of subject on the basis of social history

4. Type of Family:

It was observed that in total 100 patients, 44 patients were from nuclear family and 56 were from joint family.

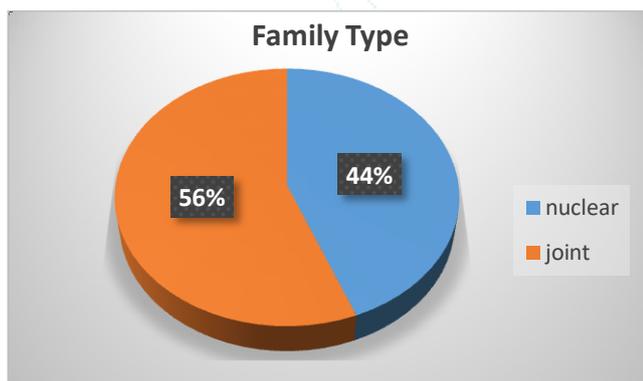


Fig 4: Distribution of subject on the basis of family type

5. Age at the onset of migraine:

From 100 patients, the age of onset was more from the age of 21-30 that is (33%) as compared to other age groups.

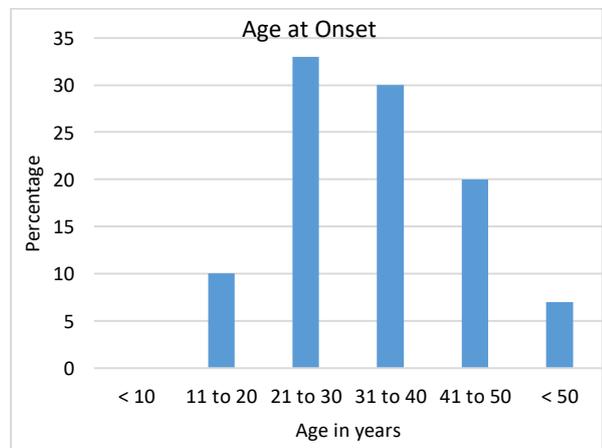


Fig 5: Distribution of subject on the basis of age of onset of migraine

6. Assessment of Quality of Life:

Among 100 patients 50 were prescribed with Amitriptyline and 50 with Propranolol. Quality of life was assessed before the treatment was initiated, by using the HIT-6 Questionnaire.

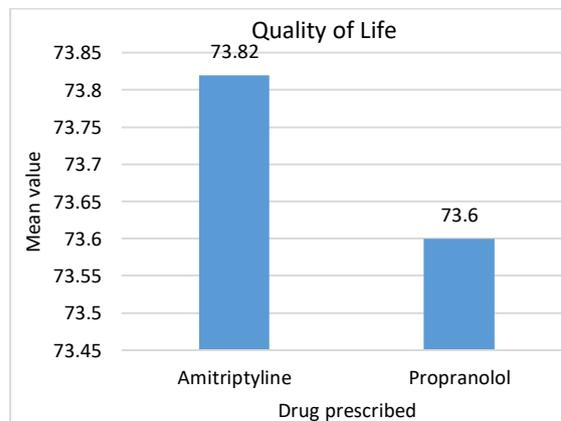


Fig 6: Quality of life in migraineurs

7. Assessment of Quality of Life after taking Amitriptyline and Propranolol

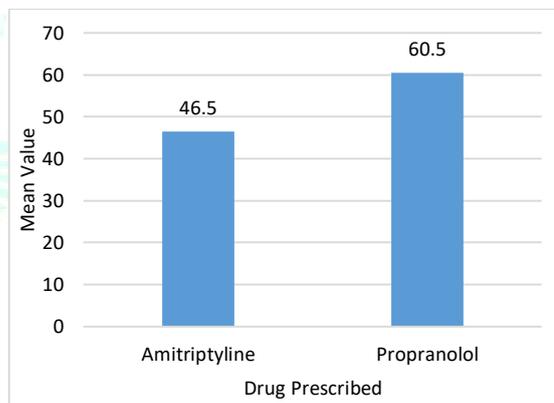


Fig 7: Quality of life in migraineurs after Amitriptyline and Propranolol Treatment

DISCUSSION

In present study, about 100 patients were selected on the basis of exclusion and inclusion criteria. Out of 100 patients female patients were more affected than male patients. About 81 (81%) were female and while male were 19 (19%). According to Kartavya Sharma et al,^[20] females had significantly higher impairment in physical HRQoL scales compared to males even after adjusting for headache frequency, severity, disability, and psychiatric illness.

In the present study, the patients of age group 33-39 years were more commonly affected. Among 100 patients, lower incidence rate of disease affect had been shown in the age group 41-60 years, which was found to be in 27 (27%) patients. Higher incidence rate of disease affect had been shown in the age group of 18-40 years, which was found to be in 73 (73%) patients. According to Kuldeep Moras et al,^[21] in the study of 100 patient, the incidence of migraine were found more common in the age group between 30-40 years.

In the present study the Quality of life was found to be poor in migraine patients and similar findings were noted according to Munvar Miya Shaik et al,^[22] in this study measurements of QOL and disabilities have emerged as important complementary approaches for the evaluation of the burden of headaches. The overall perception score of

QOL and health was significantly lesser among migraine patients.

According to the present study, HIT-6 shows beneficial effect in assessing the quality of life in migraine patients. In this study the mean value before amitriptyline treatment was found to be 78.32 and the mean value before propranolol treatment was found to be 73.60 which comes under the score of ≥ 60 in accordance of HIT-6 which indicates severe impact in migraine patients. Patients might be experiencing disabling pain and other symptoms that are more severe than those of other headache sufferers.

After proper treatment was given to the patients with amitriptyline and propranolol, again the QOL was being measured using the same HIT questionnaire. The HIT score after amitriptyline was found to be 46.5 and HIT score of propranolol was recorded to be 60.5. The score with amitriptyline falls under scoring 49 or less which indicates that the headache have little or no impact on QOL. And score of 60.5 with propranolol indicates that still headache have severe impact on QOL of the patient.

Thus, it was noted that after treatment with amitriptyline and propranolol. Amitriptyline has much better effect in improving the QOL of the patients that treatment with propranolol.

CONCLUSION

Severe migraine attacks have a negative effect on functioning and quality of life including pain, and role functioning of daily life. Improvement in quality of life is a vital part of this process, as it helps all involved healthcare providers deliver appropriate care. The evidence presented in the current study shows that the patients suffering from migraine had poor quality of life.

Migraine prophylaxis with amitriptyline, decreased the frequency of symptoms and also reduction in days of migraine attack thus improving the quality of life in migraineurs. Rather in Propranolol somehow decrease in frequency of symptoms and there is no reduction in days of migraine attack thus have severe impact on quality of life.

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