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Impact of Patient Counselling in Knowledge, Attitude, Practice and Quality of Life Among Epileptic Patients

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Abstract

Epilepsy is a long-term neurological disorder often surrounded by misconceptions and stigma, leading to poor treatment adherence and reduced quality of life. Educating patients through patient counselling can help dispel myths and improve KAP. This study evaluates impact of pharmacist led counselling on epilepsy-related knowledge, attitudes, practice (KAP) and QOL. A comparative interventional study was conducted at a tertiary care hospital, where patients were divided into counselling and non-counselling groups. KAP and QOL assessments were conducted at baseline (V0) and subsequent follow-ups (V1-V3). Statistical analyses, including the chi-square test and paired test, were used to evaluate changes over time. The counselling group showed significant improvements in KAP compared to non-counselling groups. QOL scores also improved significantly in the counselling group, whereas minimal changes were observed in the non-counselling group. Pharmacist-led counselling plays a vital role in improving epilepsy-related knowledge, fostering positive attitudes, promoting better healthcare practices and enhancing overall QOL.

Keywords: Epilepsy, Patient counselling, Patient education, Knowledge, Attitudes, Practices, Quality of life.

Introduction

Epilepsy, referred to as Apasmara in Ayurveda, the ancient Indian medical system developed between 5000 and 4500 BC, is a chronic neurological disorder characterized by recurrent disturbances in the nervous system.[1] These disturbances arise from sudden, inefficient discharges of neuronal aggregates originating from various cerebral regions, leading to sensory disruptions, motor impairments, and psychiatric or behavioural symptoms, sometimes occurring without loss of consciousness,[2] among older adults, epilepsy rank as the third most prevalent neurological disorder, following stroke and dementia. This population also experiences prolonged hospital stays due to the increasing incidence of epilepsy with age. Globally, the lifetime prevalence of epilepsy is estimated to affect approximately 100 million individuals. The incidence and prevalence are notably higher in modern societies, largely due to the heightened susceptibility of aging populations.[3]

Epilepsy is recognised as one of the most common neurologic disorders; however, it remains widely misunderstood and often unaccepted particularly in developing countries.[4] Misconceptions and

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misrepresentations, such as conflating epilepsy with mental illness or attributing it to supernatural causes, contribute to negative attitudes toward People with Epilepsy (PWE). Misinformation, often rooted in myths, superstitions and sociocultural beliefs can severely impact the quality of life and social integration of those living with the condition.[5] Patients with chronic epilepsy frequently experience a diminished health-related quality of life (HRQOL) which is influenced by both physical and psychological factors. Furthermore, the stigma surrounding epilepsy imposes additional psychosocial challenges, creating a significant burden that can indirectly affect overall well-being and HRQOL.[6]

The amalgamation of knowledge, attitude, and practice significantly various different facets of human life. Knowledge encompasses the acquisition, retention and application of information, incorporating, understanding, experience, judgement and skill.[7] It is developed through multiple cognitive processes, including perception, imagination, memory, reasoning, abstraction and judgement. Attitude refers to an individual's tendency to respond to situations in specific ways, shaped by preexisting biases and a structured worldview. Practice, on the other hand, involves the application of knowledge and principles to guide action. Effective practice is both an art and a science, intertwined with the advancement of knowledge and technology and must be conducted ethically. Misconceptions about the causes of epilepsy significantly influences care-seeking behaviour, leading many PWE to seek treatment through complementary and alternative medicine rather than conventional medical approaches.[8] In low-income countries, the stigma surrounding epilepsy further exacerbates barriers to treatment and societal integration. A major challenge is the substantial treatment gap exceeding 60% in underserved communities due to inconsistent access to affordable, high-quality antiepileptic medications. However, this issue can be addressed through cost-effective solutions aimed at improving accessibility and healthcare infrastructure.[9] this study hypothesizes that patient counselling can have a significant impact on the KAP and QOL in epileptic patients. This was developed to empower the pharmacist role in health and perception related outcomes of patients. It is very important to have pharmacist lead education to the patient as physician always do not have the liberty of time for each patient especially in the most populus country, India.

Materials and Methods

Study Design: This study was designed as a prospective interventional comparative study.

Study Site: The research was conducted at the Government Hospital, Rajiv Gandhi Institute of Medical Sciences, Kadapa.

Study duration: The study was carried out over a period of six months.

Study Population: The study included epileptic patients attending the hospital for treatment.

Study Criteria:

Inclusion criteria

Male and female patients above 16 years diagnosed with epilepsy and undergoing treatment with antiepileptic drugs (AEDs). Patients willing to participate in the study.

Exclusion criteria

Patients unwilling to participate. Patients experiencing a seizure attack for the first time. Patients who fail to attend their scheduled follow-up appointments. Pregnant women and breastfeeding mothers.

Study Materials: informed consent form and standard patient data collection form.

Questionnaire and Study Tools

QOLIE Questionnaire (Quality of Life in Epilepsy) [10] KAP Questionnaire

Statistical Analysis: Statistical analysis was performed using jamovi software. The analysis included the calculation of the mean and standard deviation of quality of life (QOL) scores in both the counselling and non-counselling groups at baseline, Visit 1 (V1), Visit 2 (V2), Visit 3 (V3).

To assess the impact of counselling on QOL, paired-sample t-tests were conducted to compare baseline QOL with those recorded at the first, second and third follow-up visits.

Study Procedure

1. Patient Recruitment and Randomisation: patients meeting the study criteria were recruited and randomly assigned to one of the two groups that is counselling and non-counselling groups by coin flip randomisation method.
2. Assessment of Knowledge, Attitude, Practice and Quality of Life: both groups were assessed using standardized questionnaires to evaluate knowledge, attitude, practice (KAP) and quality of life (QOL) at baseline and during follow-up visits.
3. Patient Education (Intervention Group): the counselling group received structured patient education at baseline and during each follow-up visit (Table 1).
4. Data Collection: all patient responses were recorded in a physical questionnaire and entered in Excel sheets for data analysis.
5. Data Analysis ad Interpretation: collected data were analyzed to evaluate the impact of counselling on KAP and QOL. Results were interpreted, summarized and reported.

Table 1: Timeline of activities performed

Activity	Baseline (V0)	30th day (V1)	60th day (V2)	90th day (V3)
Patient Enrolment	✓			
Informed consent	✓			
KAP Assessment	✓			✓
HRQOL Assessment	✓	✓	✓	✓
Patient Education (Intervention group)	✓	✓	✓	✓

*KAP: Knowledge, Attitude, Practice; HRQOL: Health Related Quality of Life

Results

A total of 51 patients with epilepsy visited the hospital, among them 48 patients met the inclusion criteria and were subjected to randomisation where control group (non-counselling group) were allotted 23 members and intervention group (counselling group) were allotted 25 members. There was a loss of sample in both control and intervention group due to loss of contact, improper responses from the subjects and subjects who did not attend all the visits. in the end a total of 40 patients 20 in each group had all the visits and gave proper responses to the questionnaire. The mean age of participants was 42.4 years in the intervention group and 39.7 years in the control group. There were 24 (60%) male and 16 (40%) female subjects. Table 2 shows the distribution of age among the subjects. In terms of literacy, 29 participants (73%) were illiterate and 11 (27%) were literate.

Table 2: Age-wise categorization of intervention and control groups

Age Group (Years)	Intervention Group (%)	Control Group (%)
21–30	5 (25)	8 (40)
31–40	6 (30)	4 (20)
41–50	4 (20)	3 (15)
51–60	2 (10)	4 (20)
61–70	3 (15)	1 (5)

*Distribution of subjects in different age groups.

KAP assessment in intervention and control groups. A set of standard questions were asked to both control and intervention groups and their responses were marked. Table 3 shows the responses from the intervention group and Table 4 with the responses from control group.

Table 3: KAP assessment in Intervention (counselling) Group

Question	**Positive response at V0 (%)**	**Positive response at V3 (%)**
Do you think that epilepsy is a mental illness?	5 (25)	1 (5)
Do you think that epilepsy is a genetic disorder?	6 (30)	1 (5)
Do you think that epilepsy can spread by contact?	1 (5)	0 (0)
Do you think that epilepsy crates obstacles in everyday life?	18 (90)	8 (40)
Do you think that a person with epilepsy should not marry?	6 (30)	2 (10)
Do you think that a person with epilepsy should not study?	3 (15)	1 (5)
Do you think that a person with epilepsy should not work?	7 (35)	3 (15)
Do you think that society may behave differently with a person with epilepsy?	11 (55)	9 (45)
Do you think that allopathic medicine can treat epilepsy?	19 (95)	20 (100)
Do you think that a person with epilepsy needs lifelong treatment?	15 (75)	9 (45)

*V0: baseline visit that is when the subject enrolled in the study; V3 is Visit 3 (at the end of the study)

Table 4: KAP assessment in Control (non-counselling) Group

Question	**Positive response at V0 (%)**	**Positive response at V3 (%)**
Do you think that epilepsy is a mental illness?	6 (30)	6 (30)
Do you think that epilepsy is a genetic disorder?	5 (25)	5 (25)
Do you think that epilepsy can spread by contact?	3 (15)	3 (15)
Do you think that epilepsy crates obstacles in everyday life?	16 (80)	14 (70)
Do you think that a person with epilepsy should not marry?	4 (20)	3 (15)
Do you think that a person with epilepsy should not study?	5 (25)	5 (25)
Do you think that a person with epilepsy should not work?	6 (30)	6 (30)
Do you think that society may behave differently with a person with epilepsy?	10 (50)	10 (50)
Do you think that allopathic medicine can treat epilepsy?	17 (85)	18 (90)
Do you think that a person with epilepsy needs lifelong treatment?	17 (85)	17 (85)

*V0: baseline visit that is when the subject enrolled in the study; V3 is Visit 3 (at the end of the study)

Comparison of KAP between Intervention and Control group at Study Completion:

The comparison of KAP between both groups is given in table 5.

Table 5: KAP assessment comparison in Counselling and Non-counselling Groups

Question	Counselled group Positive response at V3 (%)	Non-counselled group Positive response at V3 (%)
Do you think that epilepsy is a mental illness?	1 (5)	6 (30)
Do you think that epilepsy is a genetic disorder?	1 (5)	5 (25)
Do you think that epilepsy can spread by contact?	0 (0)	3 (15)
Do you think that epilepsy crates obstacles in everyday life?	8 (40)	14 (70)
Do you think that a person with epilepsy should not marry?	2 (10)	3 (15)
Do you think that a person with epilepsy should not study?	1 (5)	5 (25)
Do you think that a person with epilepsy should not work?	3 (15)	6 (30)
Do you think that society may behave differently with a person with epilepsy?	9 (45)	10 (50)
Do you think that allopathic medicine can treat epilepsy?	20 (100)	18 (90)
Do you think that a person with epilepsy needs lifelong treatment?	9 (45)	17 (85)

*V0: baseline visit that is when the subject enrolled in the study; V3 is Visit 3 (at the end of the study)

At the end of the study (Visit 3), we conducted a comparative analysis of KAP between Intervention and Control groups. The results indicated a statistically significant difference between the two groups ((χ^2 = 50.98 df = 9, P<0.0001).

These findings suggest that participants in the counselling group demonstrated a notable improvement in their KAP regarding epilepsy, reinforcing the positive impact of patient counselling sessions.

Quality of Life Assessment and Statistical Analysis

Quality of Life in the Intervention and Control Groups: the quality of life (QOL) scores among subjects in the counselling group improved progressively over time. Mean%, standard deviation and standard error of mean in is given in Table 6 and 7.

Table 6: Quality of Life scores in the counselling group

Visit (V)	Mean (%)	Standard Deviation (SD)	Standard Error of Mean (SEM)
Baseline (V0)	47.9%	9.45	2.11
30th day (V1)	60.0%	9.11	2.04
60th day (V2)	68.95%	9.10	2.04
90th day (V3)	74.7%	8.75	1.95

*These results demonstrate a significant improvement in QOL among the counselling group over time, suggesting that patient counselling played a vital role in enhancing their well-being.

Table 7: Quality of Life scores in the counselling group

Visit (V)	Mean (%)	Standard Deviation (SD)	Standard Error of Mean (SEM)
Baseline (V0)	47.50	8.99	2.01
30th day (V1)	50.65	7.72	1.71
60th day (V2)	51.8	8.45	1.88
90th day (V3)	53.55	8.84	1.98.

*These values indicate a slight improvement in QOL among subjects in the non-counselling group.

These findings indicate a substantial improvement in QOL scores among the counselling group compared to the non-counselling group.

Paired Sample t-Test Analysis

To assess the statistical significance of these changes, a paired sample t-test was conducted comparing baseline (V0) values with subsequent visits (V1, V2, V3) for both groups (table 8):

Table 8: Paired Sample t-Test for Counselling Group and Non-Counselling Group.

Visit (V)	**Pairs**	**t-value**	**Degrees of freedom**	**95% Confidence interval**	**significance**
Baseline (V0)	CGV0-NCGV0	-0.116	19	5.69 to 5.09	0.9197 (NS)
30th day (V1)	CGV1-NCGV1	-4.846	19	13.38 to -5.31	0.0011*
60th day (V2)	CGV2-NCGV2	-11.251	19	20.28 to -13.91	<0.0001*
90th day (V3)	CGV3-NCGV3	-20.184	19	23.39 to -19.00	<0.0001*

CG = counselling group; NCG = non-counselling group; CI = confidence interval; NS = not significant; P < 0.05 = statistically significant (indicated by *)

No significant difference at baseline (V0), indicating that both groups started at a similar QOL. Significant improvement in the counselling group compared to the non-counselling group starting from V1 (30th day) onward. Highly significant differences at V2 (60th day) and V3 (90th day), showing a progressive and sustained impact of counselling on Quality of Life.

- Counselling group: A statistically significant difference was observed ($P < 0.05$) across all time points, suggesting that patient counselling had a positive impact on QOL.
- Non-counselling group: while a slight increase in QOL scores was noted, the change was not statistically significant.

Discussion

This study evaluated the impact of counselling on KAP related to epilepsy and compared outcomes between individuals who received counselling and those who did not. The findings highlight that structured counselling significantly improved KAP scores and QOL whereas the non-counselling group exhibited minimal changes over time.

Knowledge (Q1-Q4)

At baseline (V0), 25% of participants in the counselling group believed epilepsy was a mental illness. Following the counselling sessions, this misconception declined from 30% at V0 to 5% at V3. The mistaken perception that epilepsy could spread through contact was initially held by 5% of participants but was completely eliminated after counselling. Furthermore, the percentage of individuals who believed epilepsy significantly hindered daily life decreased from 90% at V0 to 40% at V3. These findings align with a study conducted by Sethi et al., [11] who reported that structured counselling programs led to significant improvements in epilepsy-related knowledge and overall QOL. And also, similar results were observed in another study by Gosain K et al.,[12] which found that patient education enhanced awareness and reduced misconceptions about epilepsy.

The non-counselling group showed little to no improvement. At V0, 30% of participants believed epilepsy t be a mental illness, and this percentage remained unchanged at V3. Similarly, the belief that epilepsy is a genetic disorder persisted in 25% of participants and the misconception that epilepsy could spread through contact remained constant at 15%. Although the percentage of participants who felt epilepsy significantly affected daily life decreased slightly from 80% to 70%, this change was less pronounced than in the counselling group.

Attitude (Q5-Q8)

At V0, 30% of the participants in the counselling group believed that individuals with epilepsy should not marry. After counselling, this percentage dropped to 10% at V3. Similarly, the portion of participants who felt that individuals with epilepsy should not pursue education decreased from 15% to 5%. Additionally, the belief that individuals with epilepsy should not work declined from 35% to 15%, while the perception that society would treat them differently reduced from 35% to 15%, while the perception that society would treat them differently reduced from 55% to 45%. These results are consistent with Jacoby et al.,[13] who demonstrated that targeted educational interventions significantly improved public attitude toward epilepsy and reduced associated social discrimination.

However, in the non-counselling group, attitude-related beliefs remained largely unchanged. The proportion of individuals who felt that people with epilepsy should not marry decreased slightly from 20% to 15%, while beliefs regarding restrictions on education (25%), employment (30%) and societal discrimination (50%) remained constant.

Practice (Q9, Q10)

The counselling group also exhibited notable improvements in epilepsy-related practices. At V0, 95% of the participants believed epilepsy could be treated with allopathic medicine and by V3, confidence in this treatment approach had been reinforced. Additionally, 75% of participants initially thought epilepsy required lifelong treatment, but this belief decreased to 45% following counselling. In contrast, noon-counselling group exhibited only minor improvements. The proportion of participants who believed in allopathic treatment increased slightly from 85% at V0 to 90% at V3, while the belief that epilepsy required lifelong treatment remained unchanged at 85%.

Statistical analysis confirmed the significant impact of counselling on KAP scores. A chi-square test showed a significant difference between V0 and V3 in the counselling group ($\chi2 = 42.62$, df = 9, $P < 0.0001$). however, no significant difference was observed in the non-counselling group ($\chi2 = 1.41$, df = 9, $P = 0.9978$).

Quality of Life (QOL)

This study also assessed QOL differences between the counselling and non-counselling groups across different visits. at V0, no significant difference was observed between the groups ($p = 0.9$). however, by V1, a significant difference emerged ($p = 0.001$), which further increased at V2 and V3 ($p < 0.001$ for both time points). These results suggest that structured educational interventions (patient counselling) enhanced QOL in epilepsy patents. Similarly, Fontaine et al.,[14] found that structured educational interventions enhanced QOL and reduced epilepsy-related stigma.

Conclusion

This study emphasizes the vital role of patient counselling in enhancing KAP among individuals with epilepsy, ultimately improving their quality of life (QOL). Participants who received counselling showed a significant reduction in misconceptions, greater acceptance of allopathic treatment and a more positive outlook on social integration compared to those who did not receive counselling. Pharmacists, as accessible healthcare professionals, can improve patient understanding, encourage adherence to treatment and foster a supportive healthcare environment. Their involvement bridges the gap between clinical recommendations and patient experiences, ensuring better long-term health outcomes. This study highlights the importance of integrating pharmacists into epilepsy care, reinforcing the need for structured educational programs.

Limitations

This study has several limitations. First, the sample size was relatively small, which may limit the generalizability of the findings to larger populations. A larger, more diverse sample could provide a more comprehensive understanding of the impact of counselling on epilepsy management. Second, the study relied on self-reported responses, which may introduce bias due to social desirability or recall errors. Third, the follow-up period was limited, making it difficult to assess the long-term sustainability of the improvements in KAP.

Future Directions

Developing standardized counselling protocols and integrating pharmacist-driven educational programs into routine epilepsy care could enhance patient outcomes. Leveraging digital health technologies such as mobile applications and telemedicine platforms could help provide continuous education and support to epilepsy patients. Future studies should evaluate the impact of these digital tools on medication adherence, quality of life and stigma reduction in epilepsy or any other disease management which is currently lacking in Indian healthcare system.

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Conflict of Interest

The authors declare that there are no conflicts of interest regarding the publication of this study.

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