

Negative Metacognitive Beliefs and Perceived Stigma as Predictors of Quality of Life Among Adults with Epilepsy

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ABSTRACT

This study explored how negative thinking patterns and feelings of stigma affect the quality of life in adults with epilepsy. Forty participants completed surveys measuring their thoughts about thinking (negative metacognitive beliefs), how much stigma they felt, and different aspects of their quality of life. The results showed that people who were more aware of their thoughts tended to have better overall well-being, while those who believed their thoughts were dangerous or uncontrollable experienced more problems, especially in social situations. Similarly, those who felt a strong need to control their thoughts had lower quality of life in most areas. Feeling stigmatized—like being judged or misunderstood—was strongly linked to poorer outcomes across all parts of life. The findings suggest that both negative thought patterns and stigma play a major role in reducing the quality of life for adults with epilepsy, and addressing these issues could help improve their well-being.

Keywords: *Metacognitive Beliefs, Perceived Stigma, Quality of Life (QoL), Epileptic Patients, Mental Health, Psychological Interventions, Social Functioning*

Epilepsy, a neurological disorder marked by recurrent seizures, affects not only the physical health of individuals but also their psychological and social well-being. People with epilepsy (PWE) frequently encounter a range of challenges beyond seizure control, including difficulties with social integration, strained interpersonal relationships, workplace limitations, financial hardship, inadequate access to healthcare, and the burden of stigma. These factors collectively contribute to a diminished quality of life (QoL) among this population (Nagarathnam et al., 2017).

Although epilepsy is primarily recognized for its seizure-related symptoms, it is increasingly understood as a condition with broad psychosocial implications. Psychological distress, particularly anxiety and depression, is significantly more prevalent among PWE than in the general population. Moreover, cognitive impairments—such as difficulties with attention, memory, and executive function—further compound the negative impact on daily living and overall well-being (Puteikis et al., 2025).

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Negative Metacognitive Beliefs and Perceived Stigma as Predictors of Quality of Life Among Adults with Epilepsy

In India, epilepsy remains a significant public health concern, with an estimated 12 million people affected. National prevalence rates range between 3 to 11.9 per 1,000 individuals, and incidence rates vary from 0.2 to 0.6 per 1,000 annually (Nagarathnam et al., 2017). These figures highlight the urgent need for research that goes beyond clinical symptom management and addresses the broader psychological and social factors affecting this population.

One such factor is metacognition, which refers to the ability to reflect upon and regulate one's own thinking processes (Wells, 1995). While adaptive metacognitive strategies can support emotional resilience, negative metacognitive beliefs—such as beliefs that worrying is uncontrollable or that negative thoughts are harmful—are linked to increased psychological distress and have been implicated in the maintenance of emotional disorders (Wells & Cartwright-Hatton, 2004). Among PWE, these maladaptive beliefs may influence how individuals interpret and respond to both their seizures and the social reactions they encounter.

Another critical factor is stigma, which often manifests in the lives of people with epilepsy in both internalized (felt stigma) and externally imposed (enacted stigma) forms (Scambler & Hopkins, 1986). Felt stigma includes personal feelings of shame, fear, or inadequacy due to having epilepsy, while enacted stigma involves actual experiences of discrimination and social exclusion. The anticipation or experience of stigma often leads individuals to conceal their condition, further isolating them and limiting access to support systems (Scambler & Hopkins, 1996).

Children and adolescents with epilepsy have also been shown to internalize stigma at an early age, which negatively impacts their mental health. Funderburk, McCormick, and Austin (2007) found that among children aged 9 to 14, higher levels of perceived stigma were associated with poorer emotional outcomes, as measured using the Child Stigma Scale (Austin et al., 2004). These early experiences may persist into adulthood, reinforcing a cycle of self-doubt and social withdrawal.

In particular, individuals with refractory epilepsy—those whose seizures are not well controlled with medication—report more frequent difficulties, including cognitive deficits, limited social support, mental health issues, and greater exposure to stigma. Compared to people with other chronic conditions, they report more days of functional impairment, greater difficulty with daily activities, and lower income levels (Wiebe, Bellhouse, Fallahay, & Eliasziw, 1999).

Given these multidimensional challenges, there is a growing need to investigate psychological and social predictors of quality of life among adults with epilepsy. This study seeks to examine the roles of negative metacognitive beliefs and perceived stigma in predicting quality of life in this population. It is hypothesized that higher levels of maladaptive metacognitive beliefs and greater perceived stigma will each be significantly associated with lower QoL, and that both variables will independently and jointly predict variation in QoL among adults with epilepsy.

METHODOLOGY

Participants:

The study involved 40 adult patients with epilepsy, aged between 35 and 55 years (average age = 42.53, SD = 6.19), selected through purposive sampling. Participants were recruited from the Department of Neurology at S.S. Hospital, B.H.U. Varanasi, as well as Care Hospital DLW Bhikharipur, Galaxy Hospital Mahmoorganj, and Tripathi Neurocare Tulsipur, Varanasi. Each participant was interviewed to gather demographic details (such as age, gender, and marital status) and clinical history (including duration of the illness). Patients who did not meet the inclusion criteria were excluded from the study.

Psychometric Tools:

To examine the relationship between the variables, the following tools were used to assess the participants in this study.

- 1. Meta-cognition Questionnaire (MCQ-30):** To evaluate the metacognitive beliefs of adult epileptic patients, the MCQ-30 (Wells & Cartwright-Hatton, 2004) was used in this study to assess Negative Metacognitive Beliefs. This questionnaire consists of 30 items across five subscales, focusing on various aspects of metacognition. However, in this study, only three subscales—Negative Beliefs About Thoughts, Need to Control Thoughts, and Cognitive Monitoring—were assessed, using 18 items (6 items for each subscale). The Cronbach's alpha values for the study sample were as follows: Cognitive Self-Consciousness ($\alpha = 0.801$), Negative Beliefs ($\alpha = 0.851$), Need to Control Thoughts ($\alpha = 0.789$), and the overall MCQ score ($\alpha = 0.810$).
- 2. Kilifi Stigma Scale of Epilepsy (Mbuba et al., 2012):** To evaluate felt stigma in the current study sample, the Kilifi Stigma Scale of Epilepsy (KSSE) was used. The self-stigma dimension of the scale is measured using 6 items. The KSSE employs a 3-point Likert scale (scored 0, 1, and 2) and contains a total of 15 items. The total score is derived by summing the individual item scores. In this study, the reliability coefficient for the scale was found to be 0.801.
- 3. Quality of Life in Epilepsy-31 (QOLIE-31, Cramer, Perrine, Devinsky, Bryant-Comstock, Meador, & Hermann, 1998):** This tool was used to assess the quality of life (QOL) in adult patients with epilepsy. It is a self-administered questionnaire and a shortened version of the QOLIE-89. The questionnaire consists of 31 items divided into seven subscales: Seizure Worry (5 items), Emotional Well-Being (5 items), Energy/Fatigue (4 items), Social Functioning (5 items), Cognitive Functioning (6 items), Medication Effects (3 items), and Overall QOL (2 items), plus a single item on overall health status. Reliability analysis revealed the following alpha coefficients for the domains: Emotional Well-Being = 0.798, Energy/Fatigue = 0.801, Seizure Worry = 0.800, Overall QOL = 0.791, Cognitive Functioning = 0.815, and the total score = 0.801.

Procedure:

Participants were invited to take part in the study after receiving approval from medical institutions and providing their informed consent. Data was collected in the neurology departments of several hospitals (mentioned above) from Varanasi District, Uttar Pradesh. Participants were given clear instructions on how to complete the surveys, and any questions they had were answered. They were also assured that their personal information would remain confidential and be used solely for research purposes.

Negative Metacognitive Beliefs and Perceived Stigma as Predictors of Quality of Life Among Adults with Epilepsy

RESULTS

The data collected were analysed using averages (mean), standard deviation, Pearson's correlation coefficient (r), and multiple regression analysis.

To understand the relationship between metacognitive beliefs, stigma, and quality of life in epilepsy patients, a correlation test was done. The results are shown in the table below.

Table 4.1: Summary of the correlation analysis between negative meta-cognitive beliefs and quality of life in adult epileptic patient (N=40).

Variables	M	SD	SW	OQ	EW	E/F	CF	ME	SF	TQ
Cognitive self – consciousness	15.67	1.62	.41**	-.78**	-.03	-.20	-.28	.46**	.39*	.38*
Uncontrollability and danger	15.60	1.19	-.48**	-.92**	-.11	.37*	-.40*	-.61**	-.32**	-.39*
Need to control thoughts	15.50	1.51	.35**	-.69**	-.15	-.41**	-.38*	.38*	.42**	-.38*
Total Negative MCQ	46.77	3.92	.45**	-.87**	-.11	-.35*	-.38*	-.52**	-.39*	-.37*

* $p < .05$, ** $p < .01$

The correlation analysis (Table 4.1) revealed that the Cognitive Self-Consciousness dimension of metacognitive beliefs was significantly positively correlated with all dimensions of quality of life, including total quality of life ($p < .01$ and $p < .05$), except for Emotional Wellbeing, Energy/Fatigue, and Cognitive Functioning. In contrast, the Uncontrollability and Danger dimension was significantly negatively correlated only with Social Functioning and overall quality of life ($p < .05$). Meanwhile, the Need to Control Thoughts and Total Negative MCQ scores were significantly negatively correlated with all dimensions of quality of life, including the total score, except for Emotional Wellbeing.

Table 4.2: Summary of the correlation analysis between Perceived stigma and Quality of life in adult epileptic patients (N=40)

Variable	M	Sd	SW	OQ	EW	E/F	CF	ME	SF	TQ
Perceived Stigma	10.57	2.59	-.415**	-.371*	-.423**	-.320*	-.115	-.267	-.320*	-.435**

* $p < .05$, ** $p < .01$

The correlation analysis between perceived stigma and quality of life in adult epileptic patients (table 4.2) indicated that perceived stigma was significantly negatively associated with all dimensions of quality of life in adult epileptic patients.

Table 4.3: Summary of the correlation analysis between Metacognitive belief and Perceived Stigma in epileptic patients (N=40)

Variables	M	SD	Stigma
Cognitive self –consciousness	15.67	1.62	.276
Uncontrollability and danger	15.60	1.19	.353*
Need to control thoughts	15.50	1.51	.498**
Total negative MCQ	46.77	3.92	.315*

* $p < .05$, ** $p < .01$

Note: SW (Seizure Worry), EF (Energy/Fatigue), SF (Social Function), OQ (Overall Quality of Life), CF (Cognitive Functioning), TQ (Total Quality of Life), EW (Emotional Wellbeing), and ME (Medication Effect)

Negative Metacognitive Beliefs and Perceived Stigma as Predictors of Quality of Life Among Adults with Epilepsy

Similarly, the correlation analysis in Table 4.3 examines the relationship between different metacognitive beliefs and perceived stigma among adult epileptic patients (N=40). The results show that all dimensions of the Metacognitions Questionnaire (MCQ), along with the total score, were significantly positively correlated with stigma ($p < .01$ and $p < .05$).

Table 4.4: Summary of the Multiple regression (simultaneous) analysis for Metacognitive belief, Perceived stigma and Quality of life in epileptic patients (N=40)

Predictor	Criterion
	Quality of Life
Cognitive self –consciousness	-.211
Uncontrollability and danger	-.477**
Need to control thoughts	.178
Stigma	-.310**
R	.887
R Square	.798
F	9.610**

* $p < .05$, ** $p < .01$ Note- Standardized Beta (β) is reported in the table

Table 4.4 presents the results of a multiple regression analysis examining how metacognitive beliefs and stigma predict quality of life among adult epileptic patients. Among the predictors, the belief that thoughts are uncontrollable and dangerous has a strong and significant negative effect on quality of life ($\beta = -.477$, $p < .01$), indicating that patients who see their thoughts as uncontrollable tend to report lower quality of life. Stigma also significantly and negatively predicts quality of life ($\beta = -.310$, $p < .01$), suggesting that higher perceived stigma is linked to poorer life quality. Overall, the findings of regression analysis highlight that both stigma and dysfunctional beliefs about thought uncontrollability are key factors reducing quality of life in this population. The overall model is significant ($F = 9.610$, $p < .01$) and explains a large proportion of the variance (79.8 %) in quality of life.

DISCUSSION AND CONCLUSION

The present study aimed to explore the interplay between metacognitive beliefs, perceived stigma, and quality of life (QoL) among adult epileptic patients. The findings offer significant insights into the psychological and cognitive dimensions influencing QoL in this population.

The correlation analysis revealed that the *Cognitive Self-Consciousness* component of metacognitive beliefs was positively associated with most dimensions of QoL, except Emotional Wellbeing, Energy/Fatigue, and Cognitive Functioning. This pattern suggests that heightened awareness of one's own thoughts may not uniformly impair life quality but might instead be associated with increased self-monitoring that, in some contexts, supports functional outcomes (Wells, 2000). However, the *Uncontrollability and Danger* dimension was negatively correlated with Social Functioning and overall QoL, indicating that beliefs about the uncontrollability and harmfulness of thoughts may be especially detrimental to interpersonal relationships and general well-being—consistent with previous research linking these beliefs to emotional distress and dysfunction (Spada, Mohiyeddini, & Wells, 2008).

Strikingly, the *Need to Control Thoughts* and *Total Negative MCQ* scores were negatively correlated with nearly all QoL domains, excluding Emotional Wellbeing. This supports the

Negative Metacognitive Beliefs and Perceived Stigma as Predictors of Quality of Life Among Adults with Epilepsy

metacognitive model which posits that rigid cognitive control strategies can exacerbate psychological symptoms and impair functioning (Wells & Matthews, 1996). The partial exception of Emotional Wellbeing might suggest a dissociation between overt emotion regulation and perceived control strategies in this group.

The role of perceived stigma emerged as particularly critical. Stigma was significantly negatively associated with all dimensions of QoL, suggesting its pervasive impact. These findings echo the broader literature indicating that stigma contributes to psychological burden, social isolation, and reduced access to support, thereby diminishing overall life satisfaction in people with epilepsy (Jacoby, Snape, & Baker, 2005; Ridsdale et al., 2007). Emotional and social domains were particularly affected, reflecting how internalized stigma interferes with interpersonal relationships and self-esteem (Hinshaw, 2005).

Further, Negative metacognitive beliefs were significantly positively correlated with perceived stigma, suggesting that maladaptive thinking patterns may reinforce or exacerbate feelings of being stigmatized. This finding aligns with studies showing that individuals who view their thoughts as uncontrollable or dangerous may be more prone to internalize stigma and interpret social cues more negatively (Ladouceur, Gosselin, & Dugas, 2000).

The multiple regression analysis provided compelling evidence that both metacognitive beliefs—particularly those about uncontrollability—and perceived stigma are significant predictors of QoL in adult epileptic patients. The belief that thoughts are uncontrollable and dangerous had the strongest negative effect, followed closely by perceived stigma. This highlights the importance of targeting both cognitive appraisals and societal perceptions in therapeutic interventions. The model explained a substantial proportion of the variance in QoL ($R^2 = 79.8\%$), underscoring the clinical relevance of these psychological factors.

These findings extend existing research by integrating metacognitive theory with stigma frameworks in the context of epilepsy, a condition often neglected in psychological models of chronic illness. They underscore the potential for interventions such as Metacognitive Therapy (Wells, 2009) and stigma-reduction programs to significantly enhance QoL in this vulnerable group.

This study provides robust evidence that metacognitive beliefs and perceived stigma play significant roles in shaping the quality of life of adult epileptic patients. Dysfunctional metacognitive beliefs—particularly beliefs about thought uncontrollability—and higher levels of perceived stigma are both independently and jointly associated with lower QoL across multiple domains. The findings emphasize the importance of addressing both internal cognitive processes and external social perceptions in improving outcomes for people with epilepsy.

These insights carry important clinical implications, suggesting that psychosocial interventions for epilepsy should not only manage seizure symptoms but also incorporate cognitive-behavioral components targeting maladaptive beliefs and stigma. Programs that promote metacognitive flexibility and challenge internalized stigma may foster resilience, improve social integration, and ultimately enhance overall life satisfaction in this population.

Negative Metacognitive Beliefs and Perceived Stigma as Predictors of Quality of Life Among Adults with Epilepsy

Limitations and Future Suggestions

This study has several limitations. First, its cross-sectional design limits the ability to determine causality between negative metacognitive beliefs, perceived stigma, and quality of life. The sample was also drawn from adult population, which may not be representative of diverse populations. Additionally, the use of self-report measures may introduce response bias, and the small sample size (N = 40) limits the statistical power of the findings. Lastly, the study did not account for factors such as epilepsy severity or treatment regimens, which could influence the results.

Future research should adopt a longitudinal design to explore causal relationships and include larger, more diverse samples for broader generalizability. Investigating the impact of epilepsy severity and treatment factors on QoL would be valuable. Additionally, intervention studies focused on metacognitive therapy or stigma reduction could provide further insights into improving QoL in epileptic patients. Finally, exploring the role of family and community support could help better understand the social context affecting QoL.

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Negative Metacognitive Beliefs and Perceived Stigma as Predictors of Quality of Life Among Adults with Epilepsy

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Conflict of Interest

The author(s) declared no conflict of interest.

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