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Assessment of Parental Social Stigma Across Three Testing Phases: A Comparative Analysis Between Study and Control Groups

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ABSTRACT

Background: *This study* ***aims*** *to evaluate the effect of a psycho-educational program on reducing social stigma among parents of children with epilepsy.* ***The research was conducted on two groups*** *(intervention and control), each consisting of 50 participants from the Psychiatric Diseases Center at Al-Hakim General Hospital in Najaf, Iraq. Three assessment tools were used to measure the level of social stigma before and after the intervention. The results showed a significant decrease in social stigma levels among the intervention group who received the psychological program, compared to the control group who received no intervention. It is* ***concluded*** *that psycho-educational programs effectively contribute to improving the psychological and social well-being of parents of children with epilepsy.*

Keywords: Parental; Social Stigma; Epilepsy.

Article Information

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INTRODUCTION

Epilepsy poses a major psychological challenge to families with children with epilepsy (1,2). The social stigma associated with epilepsy often leads to psychological stress, especially for parents who are busy raising their children, and the social stigma they are exposed to by the surrounding community (3,4). Societies that lack education and human awareness do not realize that treating epilepsy has become easy through the development of medicine towards diseases in general and epilepsy in particular (5). This bullying does not only affect children with epilepsy but also has a negative impact on parents directly (6). Therefore, parents bear the community's misunderstanding of their children's condition, which leads to severe psychological stress that may affect their relationship with society and with each other (7,8). The aim of this study is to reduce the psychological burdens through three tests for the study group and the control group, and the effect of the program in improving their psychological state (9). This test showed different results between the study group and the control group (10). We note that the results of the decrease in the psychological burdens of the parents compared to the control group, which did not cause a significant change, but there was still a significant change towards the psychological burdens (11,12).

The purpose of this is to test whether the program is useful and whether the effectiveness of the program is useful in improving the well-being of parents and their children with epilepsy (3,4). The importance of the study is that understanding the strategies of education on the social stigma of parents is of great importance for developing programs in the Ministry of Health aimed at reducing the psychological burdens of parents and making these systems more comprehensive (12,13). This study provided insights that affect health care and its policies in developing psychological programs to reduce the social stigma suffered by parents who have a child with epilepsy (4).

METHODS

Study design:

It is a quasi-experimental study to measure the social stigma of parents of children with epilepsy through three stages of testing. The study began on April 16, 2024, and ended on October 17 of the same year.

Participants:

Study sample 100 parents (50 study group and 50 control group) of children diagnosed with epilepsy. The purposive sample was selected from the Psychiatry Center at Al-Hakim General Hospital for Psychiatric Diseases in Najaf, Iraq.

Data collection:

The sample was collected through a structured questionnaire designed and validated by experts specialized in the field of psychiatry and social stigma design across its various dimensions, and the study was stable with a Bach-Crome alpha coefficient of 0.879. The study group underwent psychological training aimed at reducing psychological burdens and explaining to the participants what the methods are and increasing the main strategies followed by the participants, while the other group did not receive any psychological program to reduce psychological burdens(15).

Statistical analysis:

In this statistical analysis, they used SPSS version 25 to analyze the collected data. Statistical tools to prove these experimental studies, including the paired t-test and the chi-square test to compare the two groups through three stages.

RESULTS

Pre-Intervention Phase: Prior to the intervention, both the study and control groups reported moderate levels of social stigma, with no significant differences between the two groups.

Post-Intervention Phase 1:

Following the first phase of the intervention, the study group showed a significant reduction in stigma levels compared to the control group, which remained unchanged.

Post-Intervention Phase 2:

The study group continued to show a reduction in stigma, with the majority reporting low levels of stigma by the third testing phase. In contrast, the control group’s stigma levels remained consistent throughout the study period. Summary of Findings: intervention effectively reduced social stigma among parents in the study group, with a statistically significant difference observed between the study and control groups in all phases.

This part displays the results of the data analysis methodically in tables, which align with the study's goals in the following ways:

Table (1): Distribution of Socio-Demographic Characteristics for the parents of both study and Control Groups (N=100; 50 for each Group).

Socio-Demographic Characteristics	Rating and Intervals	Study group		Control Group		Chi-square (df)	P-value
		F.	%	F.	%		
Age of Parents (Years)	<= 35	24	48	35	70	7.380 (3)	0.061 (NS)
	36 - 45	19	38	14	28		
	46 - 55	6	12	1	2		
	56 and More	1	2	0	0		
Gender	Males	31	62	30	60	0.042 (1)	0.838 (NS)
	Females	19	38	20	40		
Level of Education	Illiterate	10	20	7	14	4.573 (5)	0.470 (NS)
	Primary School Graduate	7	14	10	20		
	Middle School Graduate	12	24	19	38		
	Institute Graduate	10	20	5	10		
	College Graduate	8	16	7	14		
	Advanced Education	3	6	2	4		
Occupation	Government Employee	15	30	7	14	14.717 (5)	0.012 (S)
	Private Sector Employee	12	24	9	18		
	Retired	1	2	0	0		
	Unemployed	9	18	3	6		
	Housewife	7	14	16	32		
	Self-employed	6	12	15	30		
Have you received any information about epilepsy?	None	19	38	24	48	4.410 (4)	0.353 (NS)
	Doctor	10	20	6	12		
	Nurse	0	0	1	2		
	Healthcare professionals	0	0	0	0		
	Family and relatives	0	0	0	0		
	Friends	0	0	0	0		
	Mass media (TV, radio)	4	8	1	2		
	Social media and internet	17	34	18	36		
Total		50	100%	50	100%		

%= percentage, F. = frequency, df = degree of freedom, P = probability value. S=Significant at ($P < 0.05$), NS= Non Significant at ($P > 0.05$).

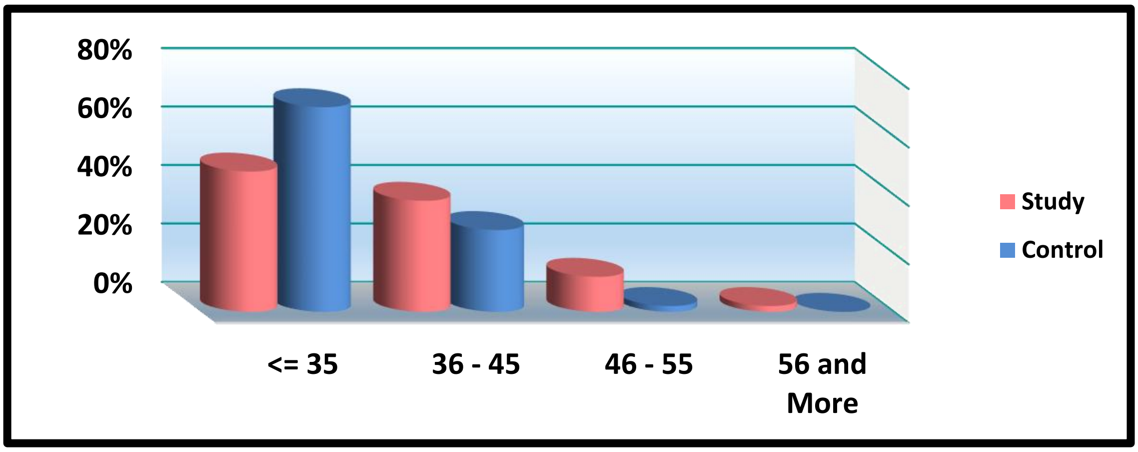


Figure (1): Bar chart of parents samples (Study group (*n = 50*) and control group (*n = 50*)) according to their age groups (years).

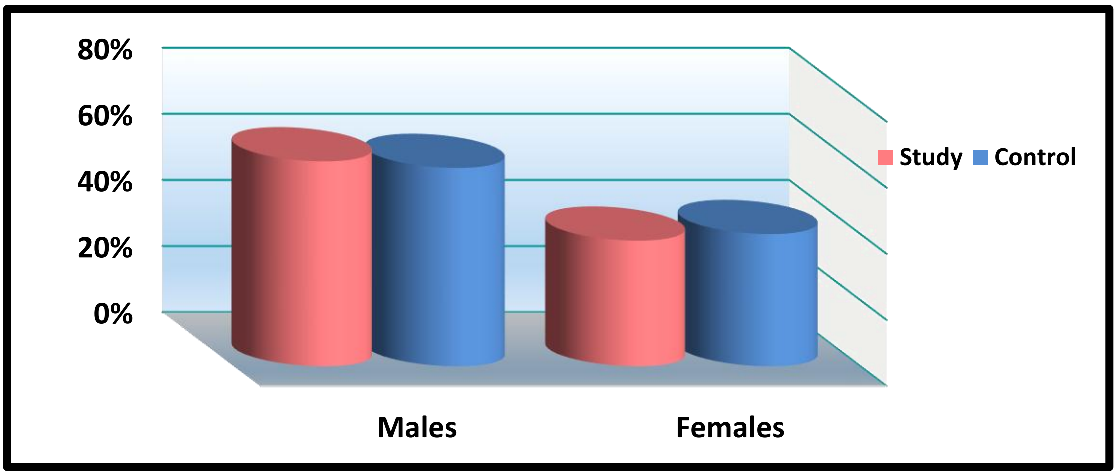


Figure (2): Bar chart of parents samples (Study group (*n = 50*) and control group (*n = 50*)) according to their Gender.

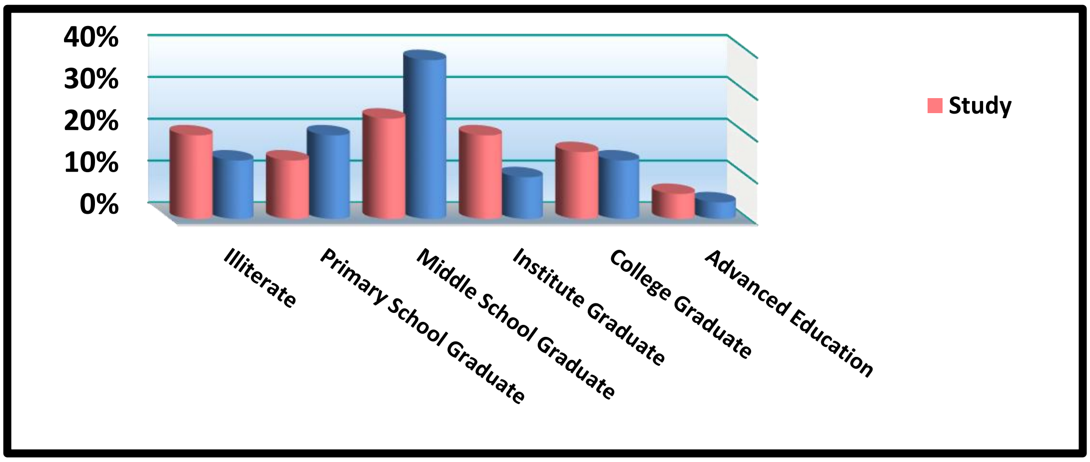


Figure (3): Bar chart of parent's samples (Study group (*n = 50*) and control group (*n = 50*)) according to their Education.

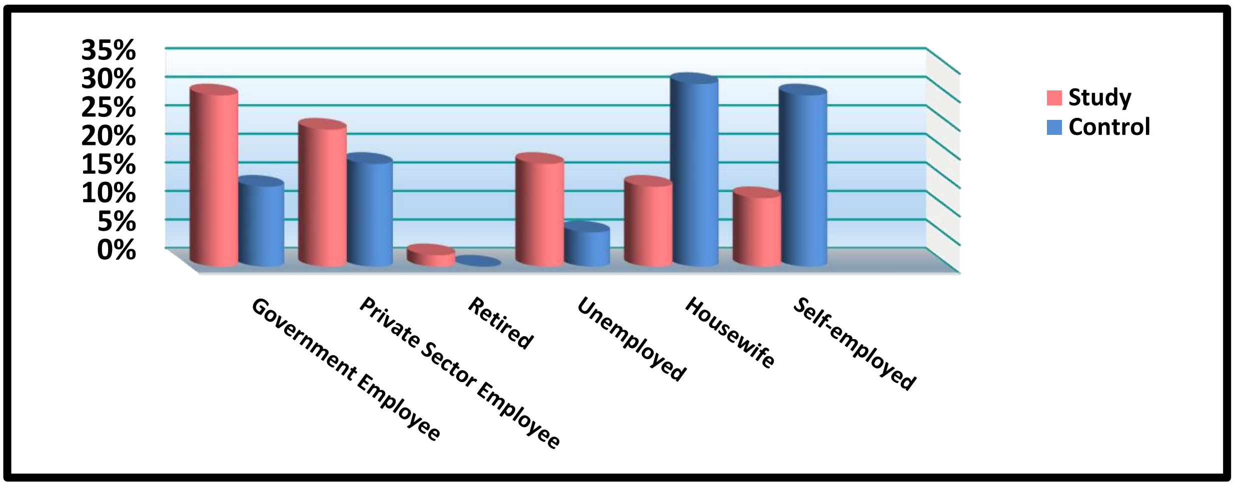


Figure (4): Bar chart of parents samples (Study group (*n* = *50*) and control group (*n* = *50*)) according to their occupation.

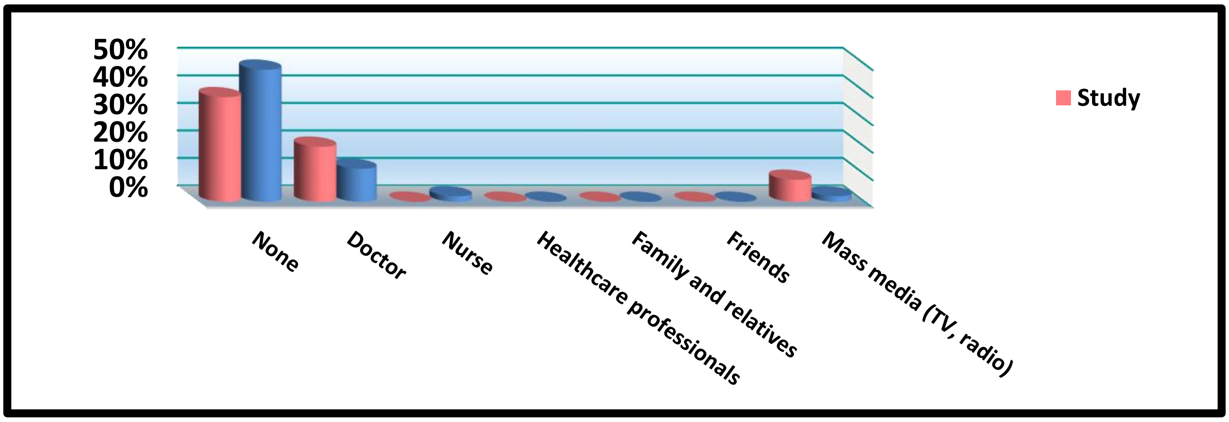


Figure (5): Bar chart of parent's samples (Study group (*n* = *50*) and control group (*n* = *50*)) according to their information about epilepsy.

Table (2): Distribution of Socio-Demographic Characteristics for the children; both study and Control Groups (N=100; 50 for each Group)

Socio-Demographic Characteristics	Rating and Intervals	Study group		Control Group		Chi-square (df)	P-value
		F.	%	F.	%		
Age of Children (Years)	<= 3	12	24	18	36	3.614 (3)	0.306 (NS)
	4 - 6	23	46	24	48		
	7 - 9	11	22	5	10		
	10 and More	4	8	3	6		
Gender of Children	Males	31	62	28	56	0.372 (1)	0.542 (NS)
	Females	19	38	22	44		
How long has it been since your child was diagnosed with epilepsy?	< 1	0	0	1	2	6.140 (3)	0.105 (NS)
	1-2.9	12	24	18	36		
	3-5.9	23	46	25	50		
	6 and More	15	30	6	12		
Total		50	100%	50	100%		

%= percentage, F. = frequency, df = degree of freedom, P = probability value. NS= Non Significant at (P > 0.05).

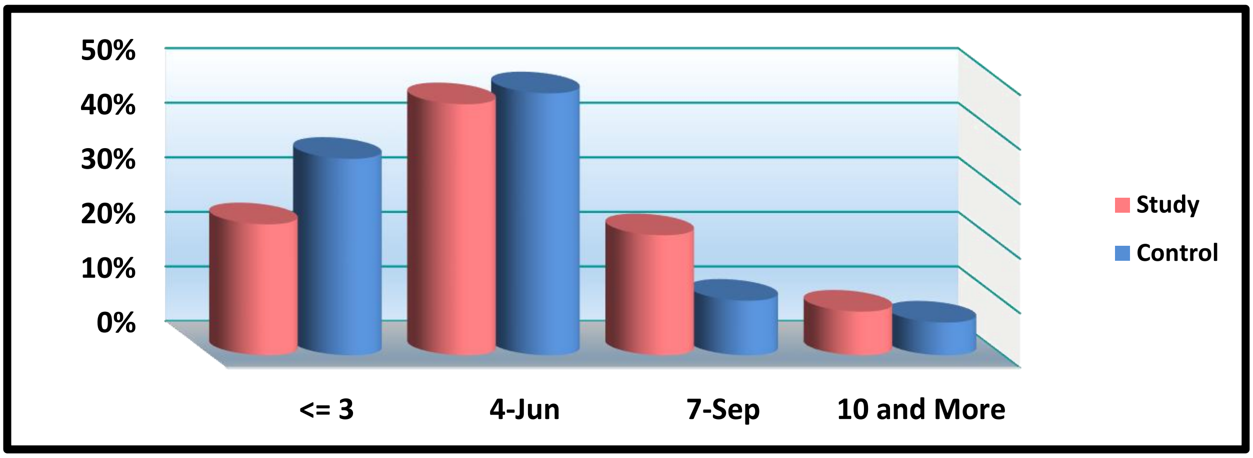


Figure (6): Bar chart of children samples (Study group (*n = 50*) and control group (*n = 50*)) according to their age (Years).

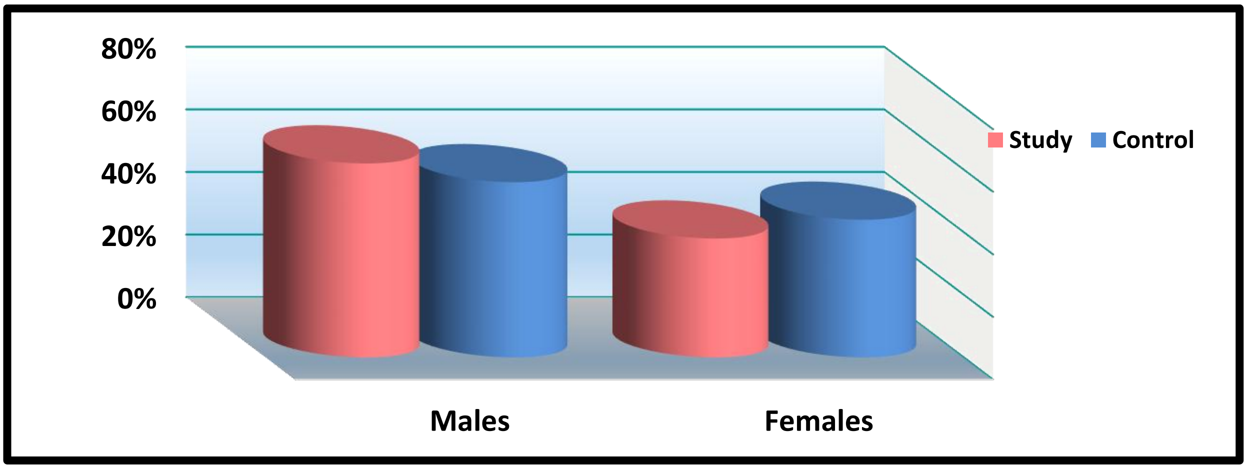


Figure (7): Bar chart of children samples (Study group (*n = 50*) and control group (*n = 50*)) according to their sex.

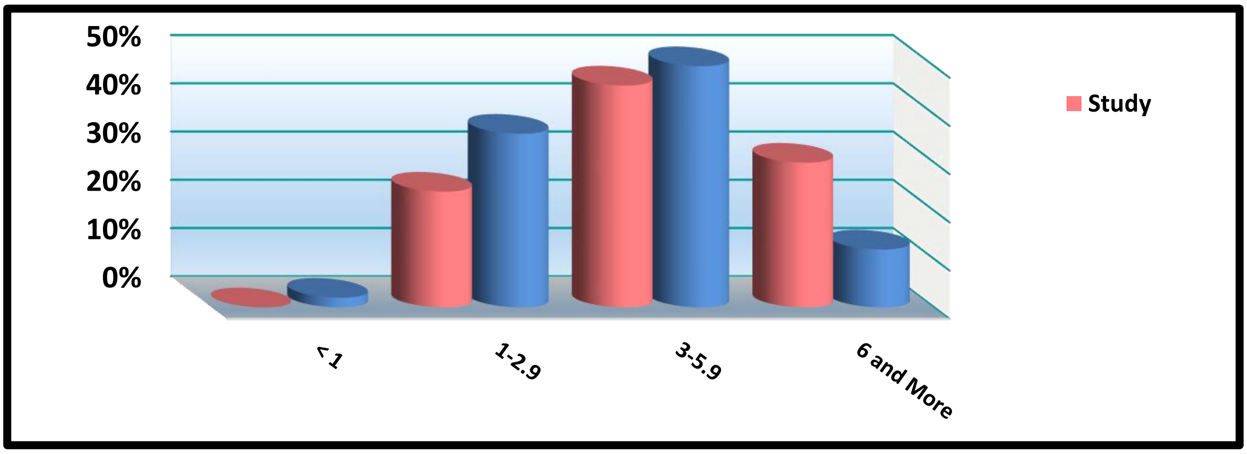


Figure (8): Bar chart of children samples (Study group (*n = 50*) and control group (*n = 50*)) according to their duration of diagnosis with epilepsy.

Table (5): Assessment of Parents' social stigma items for the study and control groups over three tests.

Mean Scores of Parents' Social Stigma (Items Q1–Q8)

Item	Study Pre	Study Post I	Study Post II	Control Pre	Control Post I	Control Post II
Q1	1.84	1.02	1.14	1.84	1.68	1.64
Q2	1.62	0.96	1.08	2.10	1.58	2.02
Q3	2.10	0.92	0.96	1.88	1.64	1.90
Q4	1.80	0.82	0.84	1.12	1.64	1.28
Q5	1.70	0.98	1.00	1.80	1.66	1.86
Q6	1.70	1.00	0.88	1.52	1.66	1.46
Q7	1.80	0.88	0.92	1.90	1.66	1.96
Q8	1.56	1.20	1.10	1.54	1.66	1.42

Mean Scores of Parents' Social Stigma (Items Q9–Q15)

Item	Study Pre	Study Post I	Study Post II	Control Pre	Control Post I	Control Post II
Q9	1.58	0.96	0.96	1.52	1.46	1.48
Q10	1.68	1.14	1.06	1.86	1.54	1.78
Q11	1.76	0.82	0.76	1.60	1.62	1.68
Q12	1.78	0.94	0.92	1.36	1.34	1.38
Q13	1.94	0.84	0.80	1.38	1.52	1.50
Q14	1.62	0.86	0.88	1.72	1.66	1.70
Q15	1.88	0.94	1.14	1.18	1.36	1.24

The table compares parental stigma across 15 items for both groups over three assessments. The study group’s mean stigma score dropped from 1.75 (moderate) at pre-test to 0.94 and 0.95 (low) at post-tests I and II. In contrast, the control group’s scores remained virtually unchanged—1.77, 1.73, and 1.72—staying at a moderate level. These findings confirm that the psycho-instructional intervention effectively reduced social stigma among parents of children with epilepsy, while no such change occurred without the program.

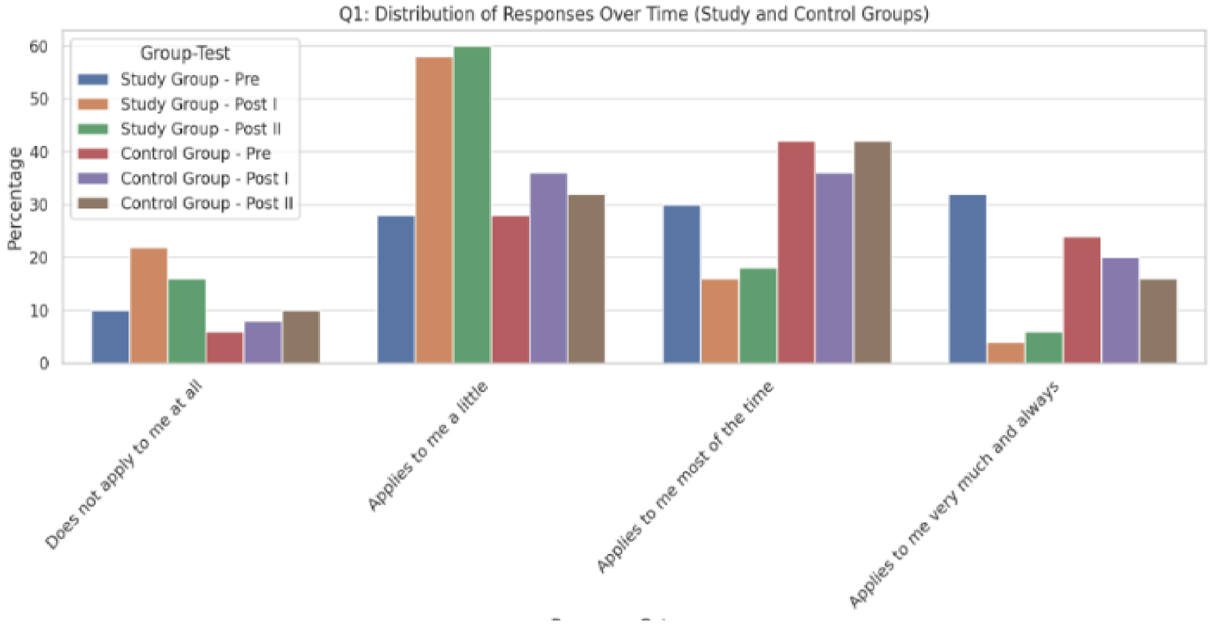


Chart (1) shows that both groups began with nearly identical levels of social stigma across all 15 items during the pre-test phase. The similarity in mean scores validates the homogeneity of the groups prior to the intervention and establishes a reliable baseline for measuring changes due to the psycho-instructional program.

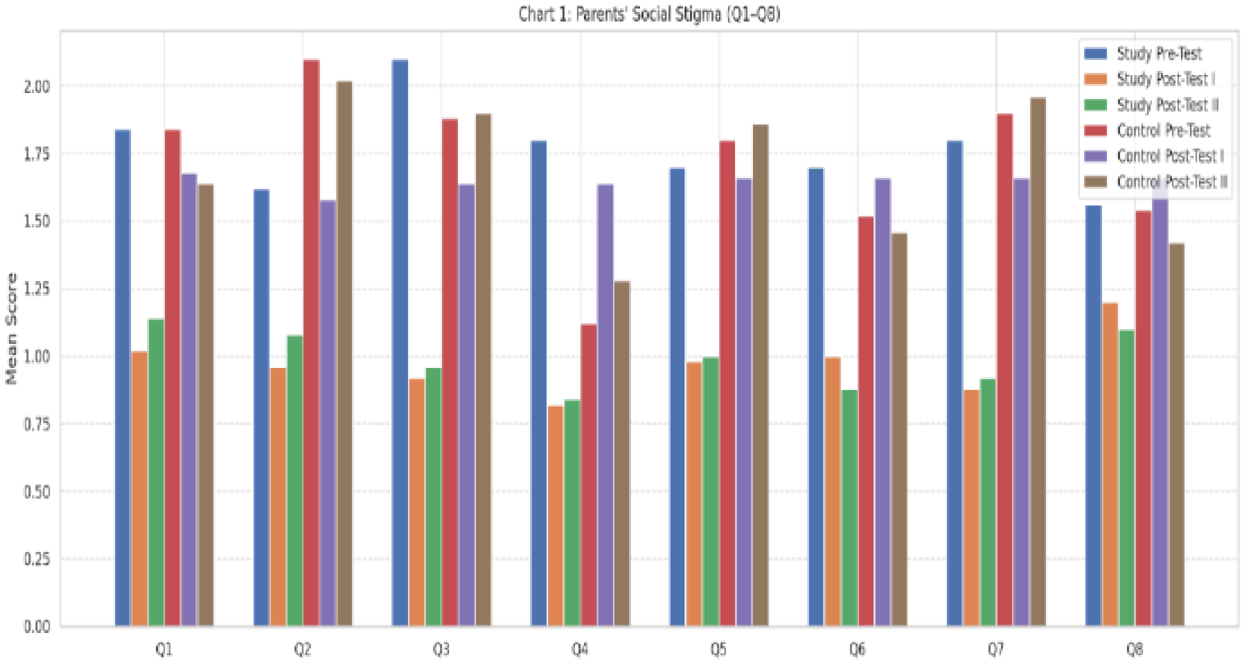
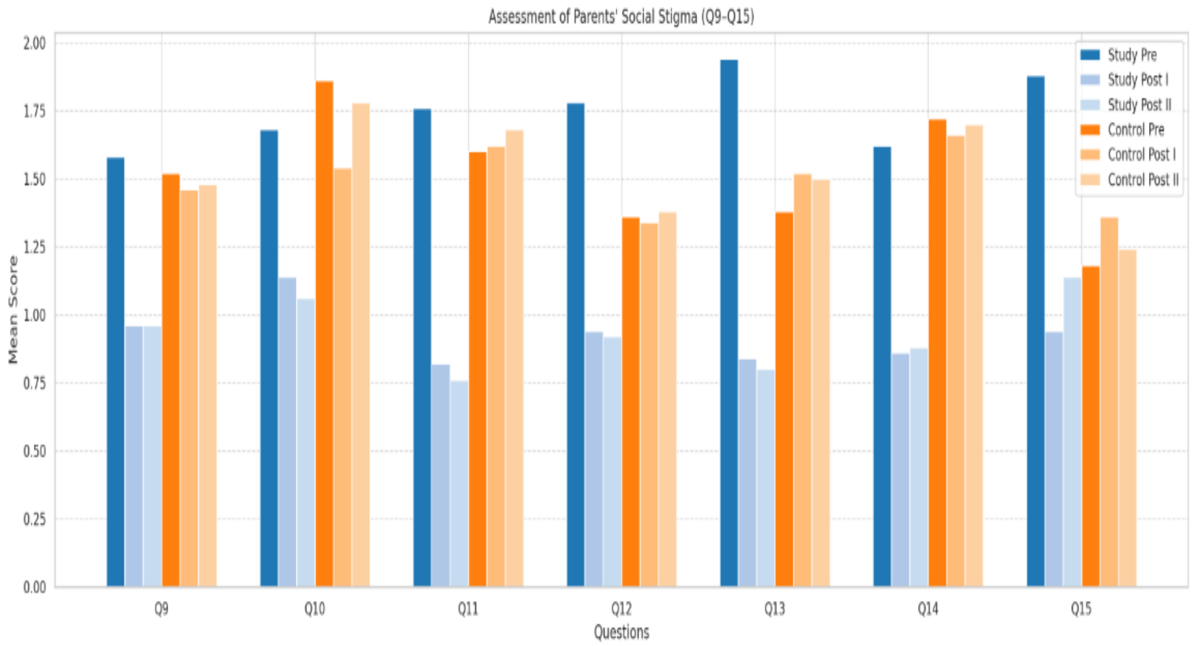


Chart (2): Comparison of Study and Control Groups in Post-Test I. This chart illustrates a notable drop in stigma levels across all items in the study group, whereas the control group maintained similar mean values to the pre-test. The intervention's immediate impact is evident, particularly in sensitive areas such as shame, fear of judgment, and social avoidance, where the study group experienced sharp reductions.



Comparison of Study and Control Groups in Post-Test II

Chart (3) reinforces the sustained improvement in the study group, with consistently lower scores across all stigma items. The control group, on the other hand, showed minimal change. This indicates that the intervention not only had an immediate effect but also resulted in lasting reductions in social stigma over time.

Table (6): Assessment of overall items of Parents' social stigma, including depression, anxiety, and stress for both the study group and control group over three tests.

overall items of Parents' social stigma		Study Group (*n*=50)															Control Group (*n*=50)														
		Pre					Post I					Post II					Pre					Post I					Post II				
		F.	%	MS	SD	Assess.	F.	%	MS	SD	Assess.	F.	%	MS	SD	Assess.	F.	%	MS	SD	Assess.	F.	%	MS	SD	Assess.	F.	%	MS	SD	Assess.
Social Stigma	Low	5	10	1.76	.43	Moderate	34	68	.95	.18	Low	31	62	.96	.18	Low	0	0	1.62	.28	Moderate	1	2	1.58	.24	Moderate	0	0	1.62	.28	Moderate
	Moderate	31	62				16	32				19	38				47	94				48	96				47	94			
	High	14	28				0	0				0	0				3	6				1	2				3	6			

%= percentage, F. = frequency, M.S: Mean of score, Low (mean of scores 0-1.00), Moderate (mean of scores 1.01-2.00), High (mean of scores 2.01 and more), SD: Standard Deviation, Assess.: Assessment.

DISCUSSION

Results of the research interpretation: It has caused a clear and noticeable decrease in social stigma among the study group through the psychological educational program that played a role in reducing psychological pressure in reducing social stigma (3,4). This is what was included in previous studies and research that indicate and recommend raising the level of awareness among participants in the scientific and accurate program and can significantly change the community's view of social stigma (3,4).

Comparison with the existing literature: The results are consistent with studies conducted in other cultural settings where there have been similar results in reducing social stigma for other medical conditions including epilepsy(16).

Limitations:

The non-inclusive nature of the study sample with self-reported data may have limited the possibility of drawing conclusions on a large sample size. Additionally, the short duration followed may reflect more long-term changes to ensure increased psychological support (17).

Implications for practice:

The results suggest that health care providers should provide structured psychoeducational programs for children and families with epilepsy to address the social stigma and quality of life for both parents and children (7).

From what this study showed, psychological programs can reduce social stigma among parents who have a child with epilepsy (18). It also sheds light on the need to provide community support towards epilepsy through focused educational efforts. In addition, this research provided clear concepts to reduce social stigma and was a cornerstone for future research in this field (19).

CONCLUSION

- Healthcare Providers: Integrate educational programs focused on epilepsy awareness into the standard care provided to families.
- Policy Makers: Develop and support public health campaigns that challenge misconceptions about epilepsy and reduce stigma at the community level.
- Future Research: Conduct longitudinal studies to assess the long-term impact of educational interventions on parental stigma and well-being.

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I would like to extend my deepest gratitude and sincere appreciation to all the parents who participated in this study. Your patience, commitment, and willingness to take part in the educational despite the challenges of caring for children with epilepsy—have been truly admirable. This research could not have been accomplished without your cooperation and trust.

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