

THE EFFECTIVENESS OF PSYCHO-EDUCATIONAL PROGRAM ON BURDENS AND COPING PATTERNS AMONG FAMILY CAREGIVERS OF SCHIZOPHRENIC PATIENTS

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Abstract

Background: Schizophrenia is a severe mental illness that burdens individuals. Caregivers providing at-home care also face challenges. Psychoeducational interventions show promise in alleviating difficulties for caregivers. A quasi-experimental study was conducted at El-abasia Mental Health Hospital in Cairo, Egypt to assess the effectiveness of such interventions. The sample size was 50 family caregivers of schizophrenic patients. The results revealed a statistically significant difference in both total caregiver burden and its subscales ($P < 0.001$), as well as in the total cope inventory and its subscales across the three phases of assessment. These findings indicate that the psychoeducational intervention program has a positive impact on reducing burdens and improving coping patterns among family caregivers of patients with schizophrenia. Consequently, the establishment of dedicated counseling clinics tailored specifically for family caregivers of individuals with schizophrenia is necessary to enhance resilience, coping skills, and overall quality of life.

Keywords: *Illness Burdens, Coping Skills, Schizophrenia, Family Caregivers*

INTRODUCTION

Schizophrenia, as defined by the DSM-V, is characterized by abnormalities in delusions, hallucinations, disorganized speech, disorganized or catatonic behavior, and the presence of negative symptoms (McCutcheon et al., 2020). These symptoms severely impact individuals' daily functioning, leading to relapses and potential harm to themselves and others. Consequently, individuals with schizophrenia often rely on their family members for care and support (Ahmed & Ghaith, 2018).

In families, there is typically a voluntary family caregiver who takes on the responsibility of caring for their ill family members, including those with schizophrenia. Family caregivers play a critical role in providing support in various aspects, such as physical and emotional assistance, addressing socioeconomic issues, and aiding in activities of daily life (Rahmani et al., 2019). Caregivers experience various conflicts and emotional responses, including fear of violence, high burden levels,

stigma, frustration, sadness, anger, and a loss of sense of time. Extended periods of caregiving burden negatively impact the caregiver's quality of life, health, and functionality (Esmaeili et al., 2022).

The burden of caregiving is often assessed objectively and subjectively. Objective burden refers to the practical consequences of caregiving responsibilities on household activities, finances, health, and time, while Subjective burden encompasses the emotional experiences associated with caregiving, such as feelings of loss, guilt, shame, and anger (Ahmed & Ghaith, 2018).

Family caregivers of individuals with schizophrenia employ various coping strategies to deal with the stress and conflicts they encounter. These coping patterns involve behavioral and psychological efforts aimed at managing emotions and resolving challenging situations in different aspects of life (Ahmed et al., 2021).

Psychoeducation programs involve educating patients and their families about available resources. The goal of psychoeducation is to equip family caregivers with information and skills to effectively address the challenges they face. By teaching disorders, treatments, coping techniques, and problem-solving and communication skills, psychoeducation enhances caregivers' coping abilities in managing the care of individuals with schizophrenia (Iyidobi et al., 2022).

Significance of the study

Schizophrenia is a severe and widely recognized mental illness, and it is estimated that approximately 1 million people in Egypt are affected by this condition (Mokhtar et al., 2021). A significant proportion of individuals with schizophrenia, ranging from 50% to 80%, live with or have regular contact with family members who provide them with housing, emotional support, and financial assistance (Yasuma et al., 2020).

Family caregivers of individuals with schizophrenia face chronic stress in their daily lives due to the disruptive and progressive nature of the illness. This chronic stress not only affects the roles and dynamics within the family but also has a negative impact on the mental health of family members. It can lead to missed work, financial strain, and various other challenges (Rafiyah et al., 2021).

Schizophrenia poses a significant source of stress not only for patients but also for their family members. Families dealing with schizophrenia face numerous burdens, including the responsibility of care, feelings of fear and embarrassment related to the signs and symptoms of the illness, uncertainty about the progression of the disease, lack of social support, and the stigma associated with mental health issues (Silaen et al., 2021).

Subject and Methods

A quasi-experimental design utilizing a one-group pre/post-test and follow-up approach was employed in this study. The research took place at the Neuropsychiatric outpatient clinics affiliated with Abasia Mental Health Hospital in Cairo, Egypt. A purposive sample of fifty family caregivers of patients diagnosed with schizophrenia, who willingly participated in the study and met the following criteria, was selected:

The inclusion criteria for patients with schizophrenia in this study are specific and focused. Only patients who have been diagnosed with schizophrenia for a minimum of one year are eligible for inclusion. Additionally, the age range for eligible participants is from 18 years and above, ensuring that the study includes adult patients. Lastly, it is required that the patients are free from any medical disorders, allowing for a clearer examination of the impact of schizophrenia on its own.

The inclusion criteria for family caregivers of patients with schizophrenia in this study are designed to identify a specific group of caregivers. To be included, the caregiver must have been primarily

responsible for providing care to a patient diagnosed with schizophrenia for at least one year. Additionally, the caregiver should be actively involved in the patient's treatment by regularly attending the outpatient clinic. Living in the same household as the patient is also a requirement, ensuring a close and intimate caregiving relationship.

The caregiver should be free from severe psychiatric and medical disorders, allowing for a focused examination of the impact of caregiving specifically related to schizophrenia. Furthermore, the caregiver should not be simultaneously caring for more than one chronically ill person within the family, avoiding the potential influence of multiple caregiving responsibilities.

Finally, the caregiver should not have received any previous educational program aimed at caregiving for individuals with schizophrenia, ensuring that the study interventions are provided to participants without prior exposure to similar programs.

Tools:

This tool is designed to assess the socio-demographic information of both family caregivers and patients diagnosed with schizophrenia. It consists of two parts:

- A) Demographic Data of Family Caregivers: This section included questions about age, gender, level of education, occupation, relationship to the patient, average daily time spent caring for the patient, and any history of physical or mental illness within the family, among other relevant details.
- B) Demographic Data of Patients: This section collected information about the patient, including age, gender, education level, diagnosis, date of diagnosis, reported symptoms of the disorder, and current treatment methods, among other relevant information.

Tool (2): Knowledge and Practice of Family Caregiver toward Schizophrenia:

The tool encompassed the definition, signs, symptoms, causes, and methods of treatment related to schizophrenia. It consisted of ten multiple-choice questions (MCQs), with each question presenting four answer options from which the caregiver selected one. Each question was answered with a "yes" or "no" response, with "yes" representing a correct answer (scored as 1) and "no" indicating an incorrect answer (scored as 0).

Scoring system

Knowledge scores can be evaluated as either satisfactory or unsatisfactory based on a defined threshold. If a score is equal to or greater than 60%, it is considered satisfactory. On the other hand, if the score is less than 60%, it is categorized as unsatisfactory.

Tool (3): Zarit Caregiver Burden Scale (ZCBS):

The tool used in this study was originally developed by Zarit et al. (1980) and was subsequently adapted by the researcher to assess the burden experienced by caregivers of patients with schizophrenia. It consists of twenty-two items that examine the negative effects of caregiving burden on various aspects of caregivers' lives, including psychological well-being, social functioning, physical health, and economic aspects.

Scoring system

Each item is scored on a 5-point Likert-type scale, ranging from 0 (never) to 4 (nearly always); total scores range from 0 to 88. Higher scores reflect increased caregiver burden. The level of burdens can be categorized into four different ranges based on the corresponding scores. A score of 0 to 21 indicates little or no burden experienced. When the score falls between 21 and 40, it signifies a mild

to moderate burden. In the range of 41 to 60, the burden is considered moderate to severe. Finally, a score of 61 to 88 represents a severe burden.

Tool (4): Brief-COPE Scale:

The tool utilized in this study was originally developed by Carver (1997) and subsequently adapted by the researcher to assess different coping strategies employed in response to various stressors. It is composed of three parts, namely emotion-focused coping strategies and problem-focused coping strategies.

The emotion-focused coping strategies section includes ten coping strategies, which are as follows: Self-distraction, Denial, Substance use, Use of emotional support, Behavioral disengagement, Venting, Humor, Acceptance, Religion, and Self-blame.

On the other hand, the problem-focused coping strategies section consists of four coping strategies, namely Active coping, Use of instrumental support, Positive reframing, and Planning.

Scoring system

The tool employed in this study consisted of 28 items that were rated on a Likert scale ranging from 1 to 4. Participants were asked to indicate the frequency of engaging in each coping strategy, with 1 representing "I have not been doing this at all" and 4 indicating "I have been doing this a lot." The total score for the Brief-COPE Scale ranged from 28 to 112, with a higher score indicating the use of more effective coping strategies.

To classify the Brief-COPE Scale scores, two categories were established: effective coping and ineffective coping. A designated threshold of 60% was used. If a participant's score equaled or exceeded 60%, it indicated the utilization of effective coping strategies. Conversely, if the score fell below 60%, it suggested the employment of ineffective coping strategies.

Tools validity and reliability

In order to ensure the trustworthiness of the data collection tools used in this study, several steps were taken. Firstly, the tools were evaluated for face and content validity. Face validity refers to the extent to which the tools appear to measure what they are intended to measure, and content validity refers to the extent to which the tools cover the relevant content of the research topic. This evaluation process helps ensure that the tools are appropriate and relevant for assessing the desired constructs.

Furthermore, the reliability of the tools was assessed. Reliability refers to the consistency and stability of the measurement over time. In this study, questionnaires were administered to the participants, and after a period of seven days, the same subjects were reassessed using the same questionnaires.

Pilot study

A pilot study was conducted with a sample size of 10% (6 family caregivers of schizophrenic patients) to assess the reliability, clarity of questions, applicability of the tools, and the time required to complete them. It's important to note that the family caregivers who took part in the pilot study were subsequently excluded from the main study sample. The purpose of the pilot study was to ensure the effectiveness and feasibility of the tools, allowing for any necessary adjustments or refinements to be made before implementing them in the main study.

Fieldwork

Data collection for this study commenced after obtaining permission to proceed. The objective of the study was explained in a clear manner to the participants who agreed to participate before any data collection began.

The researcher assured each family caregiver of their voluntary participation and the confidentiality of their information, emphasizing that all data would be used solely for scientific research purposes. Participants were selected based on the predetermined inclusion and exclusion criteria. Data was collected during morning and afternoon working hours at the Neuropsychiatric outpatient clinics affiliated with Abasia Mental Health Hospital in Cairo. The researcher met with fifty family caregivers of schizophrenic patients who agreed to participate in the study. After completing the pre-assessment, the intervention program's sessions with the family caregivers commenced. The psychoeducational program sessions and accompanying booklet were designed, reviewed, and revised by three experts in the field of psychiatric/mental health nursing. This process included outlining objectives, content, teaching methods, session numbers, and timing, incorporating relevant visuals, instructions, and explanations. The intervention program was implemented by organizing the family caregivers into five groups, with ten caregivers in each group. The teaching sessions were conducted in a well-equipped classroom on the ground floor of the psychiatric hospital. The room provided a comfortable environment with air-conditioning, suitable lighting, proper ventilation, and ample space for psychoeducational activities. The researcher developed the program content and objectives to span fifteen sessions, with the duration of each session ranging from 30 to 60 minutes, depending on the caregivers' comprehension and attention span. The intervention program covered a range of topics in its fifteen sessions, including four theoretical sessions, nine practical sessions, and two sessions for introduction and evaluation. The program aimed to equip each family caregiver of a patient with schizophrenia with the necessary knowledge and skills to reduce their burdens and improve coping strategies. This was accomplished through the following sessions:

Session (1): An introductory session where family caregivers became acquainted with the educational intervention program's content, objectives, and completed the data collection tools' questionnaire (pre-assessment).

Sessions (2): Covered the meaning of schizophrenia, causes, symptoms, different treatment modalities, and the role of family caregivers in managing patients with schizophrenia.

Sessions (3&4): Focused on the types of burdens experienced by family caregivers, common problems resulting from these burdens, and typical unhealthy reactions to burden.

Sessions (5,6&7): Explored methods, strategies, and techniques for coping with daily life stress.

Sessions (8,9&10): Introduced practices such as meditation, deep breathing exercises, and muscle relaxation techniques.

Sessions (11&12): Addressed cognitive restructuring skills and managing negative thoughts and emotions.

Sessions (13&14): Discussed the significance of time management and problem-solving techniques.

Session (15): An evaluation session (post-assessment) where each family caregiver of a schizophrenic patient filled in the data collection tools' questionnaire.

Overall, the intervention program aimed to empower family caregivers with the necessary information and skills to alleviate burdens and enhance coping mechanisms when caring for individuals with schizophrenia

Ethical considerations

Ethical approval was obtained from the Scientific and Ethical Committee of the Nursing Faculty of Ain Shams University. The researcher explained the purpose of the study to the family caregivers involved. Anonymity and confidentiality of the data were assured and maintained. Family caregivers were

informed that they were allowed to participate or not in the study and that they had the right to withdraw at any time. The researcher also reported that all information would be used for scientific research and would benefit the family caregivers.

Statistical Design

The collected data were coded and entered into the statistical package for social sciences (SPSS) (SPSS Inc; version 24; IBM Corp., Armonk, NY, USA). After completing the data entry, it was explored to detect any errors. Then, it was analyzed using the same program to present frequency tables with percentages. Furthermore, quantitative data were described as mean or standard deviation, as appropriate. The Chi-square probability distribution is particularly useful in analyzing categorical variables. ANOVA test is a type of statistical test used to determine if there is a statistically significant difference between two or more categorical groups by testing for differences in means using variance. Correlation coefficients are used to measure the strength of the relationship between two variables. Cochran's Q Test is a way to find differences in matched sets of three or more frequencies or proportions. The Cronbach Alpha Coefficient test was used to assess reliability. The degree of significance was defined as follows:

- P. Value > 0.05 (Not Significant)
- P. Value ≤ 0.05 (significant)
- P. Value ≤ 0.001 (Highly Significant)

RESULTS

As shown in **Table 1**, this study was conducted on fifty patients. Among them, 68.0% were male, and 44.0% were aged between 28 and less than 38 years old, with a mean age of 38.28 ± 2.56 years. Furthermore, 40.0% of the patients were married, and 70.0% had completed secondary education.

According to **Table 2**, 56.0% of the studied family caregivers are female. Among them, 42.0% are between the ages of 20 and less than 30, with a mean age of 31.12 ± 3.05 years. In terms of employment status, 54.0% of the studied sample are unemployed, and 28.0% are the patients' wives. Regarding the amount of time spent caring for the patient every day, 80.0% of the studied family caregivers spend more than 12 hours.

Table 3 indicates that 36.0% of the studied family caregivers had satisfactory total knowledge pre-intervention. This percentage improved to 86.0% post-intervention and 82.0% during follow-up. There was a statistically significant difference between the phases of intervention ($P < 0.01$).

In **Table 4**, it is demonstrated that there was an improvement in the burden experienced by the studied family caregivers between the phases of intervention. There was a statistically significant difference ($P < 0.001$) between the intervention phases in all registered features, except for economic burden, where there was no statistically significant difference ($P < 0.05$).

Table 5 clarifies that there was an improvement in the coping patterns of the studied family caregivers, particularly in the total problem and emotional-focused coping patterns. There was a statistically significant difference ($P < 0.001$) between the phases of intervention. Additionally, there was a significant improvement in overall coping during the intervention phases, with a p-value of $< 0.01^{**}$.

Table 6 displays a highly significant positive correlation ($p = 0.00$) between the total cope scale and total knowledge of the studied caregivers. Additionally, there is a highly significant negative correlation ($p = -0.001$) between the total knowledge and total burden of the studied caregivers, as well as between the total burden and total cope scale

Table 1: Distribution of the studied patients according to their demographic characteristics (N=50)

Personal information	N	%
Gender		
Male	34	68.0
Female	16	32.0
Age		
18 - <28	12	24.0
28 - <38	22	44.0
38 - <48	8	16.0
> 48	8	16.0
Mean± SD 38.28±2.56		
Marital status		
Single	16	32.0
Married	20	40.0
Divorced	11	22.0
Widow	3	6.0
Occupation		
Employed	9	18.0
Unemployed	41	82.0
Educational Level		
Illiterate	2	4.0
Primary education	11	22.0
secondary education	35	70.0
University education	2	4.0

Table 2: Distribution of the studied family caregivers' according to their demographic characteristics (N=50)

Personal information	N	%
Gender		
Male	22	44.0
Female	28	56.0
Age		
<20	2	4.0
20 - <30	21	42.0
30 - <40	17	34.0
> 40	10	20.0
Mean± SD 31.12±3.05		
Occupation		
Employed	23	46.0
Unemployed	27	54.0
Relationship with the patient		
Husband	6	12.0
Wife	14	28.0
Son	3	6.0
Father	8	16.0
Mother	12	24.0
Brother	5	10.0
Sister	2	4.0
Time spent caring for a patient every day		
<6 hours	4	8.0
6 - <12 hours	6	12.0
>12 hours	40	80.0

Table 3: Comparison of the studied family caregivers' total knowledge at pre, post, and follow-up after three months of psychoeducational program (N=50)

Total Knowledge	Pre (n=50)		Post (n=50)		Follow up (n=50)		Cochran Q-test
	No	%	No	%	No	%	
Satisfactory	18	36	43	86	41	82	13.098
Unsatisfactory	32	64	7	14	9	18	<0.01**

*Significant at p <0.05. ** Significant at p <0.01. Not significant at p>0.05

Table 4: Comparison of the total psychological, economic, social, and physical burdens among family caregivers at pre, post, and follow-up intervention after three months of psychoeducational program (N=50)

Items	Pre (N=50)	Post (N=50)	Follow up (N=50)	ANOVA Test
	Mean/SD	Mean/SD	Mean/SD	
Total physical	32.65±6.1	14.75±3.6	15.02±2.9	13.400 <0.01**
Total Psychological	16.90±4.7	6.6±1.3	7.08±1.80	7.987 <0.01**
Total social	6.03±0.45	2.17±0.19	2.27±0.14	5.600 <0.01**
Total economic	2.96±0.7	2.81±0.5	2.83±0.5	1.004 >0.05
Total burden	58.54±6.3	26.33±5.1	27.2±2.9	12.999 <0.01**

*Significant at p <0.05. ** Significant at p <0.01. Not significant at p>0.05

Table 5: Comparison of the total problem and emotional-focused coping among family caregivers at pre, post, and follow-up after three months of psychoeducational program (N=50)

	Pre (N=50)	Post (N=50)	Follow up (N=50)	ANOVA Test
	Mean/SD	Mean/SD	Mean/SD	
Total Emotional focused coping	32.72±3.10	50.8±6.8	49.57±5.7	10.546 <0.01**
Total Problem-focused coping	11.63±3.9	24.24±4.5	24.09±3.29	9.713 <0.01**
Total coping	44.35±7.13	75.04±9.45	73.66±12.6	11.200 <0.01**

*Significant at p <0.05. ** Significant at p <0.01. Not significant at p>0.05

Table 6: Correlation between studied variable total knowledge, burden, and coping (n=50).

		Total knowledge	Total burden
Total burden	r	0.474	
	p	-0.001**	
Total coping	r	0.697	0.525
	p	0.002**	-.000**

(**) Statistically significant at p<0.01. r Pearson correlation

DISCUSSION

The effectiveness of family psychoeducation activities in improving coping functioning and reducing the burden of care for families of individuals with schizophrenia has been well established. This intervention equips caregivers with information, coping strategies, and support, thereby strengthening therapeutic alliances and broadening their understanding of patients (Ahmed & Ghaith, 2018). Therefore, data analysis confirmed the research hypothesis of the current study: the psychoeducational interventions program has a positive effect on decreasing burdens and improving coping patterns among family caregivers of schizophrenic patients.

Regarding the total knowledge of the family caregivers studied at pre, post, and follow-up of the psychoeducational program, the present study revealed that more than one-third of the caregivers had satisfactory total knowledge prior to the intervention, but this proportion increased significantly between the pre-intervention phase and the post- and follow-up intervention phases.

This finding is consistent with the results of Bademli et al. (2022), who conducted a study in Turkey on "The effect of a psychoeducational intervention on mental health and anxiety in family caregivers of inpatient patients with schizophrenia" and reported that knowledge scores in the study group were significantly higher than in the control group ($P < 0.001$). The psychoeducation program significantly improved the knowledge of caregivers of schizophrenia patients.

Similarly, Verma et al. (2019) conducted a study in India entitled "Family psychoeducation with caregivers of schizophrenia patients: Impact on the perceived Quality of life" and stated that a significant improvement in overall knowledge scores was observed among experimental group caregivers following family psychoeducation, compared to control group caregivers who did not receive such intervention.

The current study examined the various burdens experienced by family caregivers, including psychological, economic, social, and physical burdens. The results indicated that physical burdens had the highest mean score prior to the implementation of the program. However, there was a notable improvement in the physical burden of family caregivers following the intervention, with a significant difference observed between the various phases of the intervention.

This improvement can be attributed to the role of psychoeducation intervention in reducing the care burden among caregivers of patients with schizophrenia. Moreover, the intervention was found to be effective in providing caregivers with appropriate knowledge for caring for their relatives.

On the other hand, there was no significant difference in the economic burden experienced by caregivers between pre, post, and follow-up interventions. These findings are consistent with those of Thimmajja and Rathinasamy (2019), who conducted a study on the effectiveness of psychoeducation on knowledge and caregivers' burden among caregivers of patients with schizophrenia. They reported a significant reduction in the physical burden scores of the study group caregivers at the one-month and three-month follow-up intervals, compared to the control group. However, Ebrahim et al. (2020) found emotional caregiving burden to be the most common burden experienced by caregivers in their study on the burden of schizophrenia on caregivers in Turkey.

Regarding coping strategies among family caregivers for both total problems and emotion-focused patterns, the present study established a higher mean score for emotion-focused coping than problem-focused coping. This finding could be associated with the fact that most caregivers were women. Due to their physical and emotional closeness to their patients, they experience more burdens than males.

Similarly, Mohmed et al. (2019) conducted a study in Egypt on the "Assessment of coping strategies among family caregivers of psychotic patients" and discovered that family caregivers significantly employed emotion-focused coping strategies. In contrast, Plessis et al. (2022) reported that the most common coping strategies used by caregivers of psychotic disorders were consulting doctors and seeking practical help as problem-focused coping.

In the same concern, the present study illustrated that there was improvement in the studied family caregivers' total problem and emotional focused coping patterns with a statistically significant difference between phases of psychoeducational program. These improvements might be attributed to psycho-education program increased the relatives' understanding of the illness, which increases the level of acceptance about the illness and reduces denial and helping the caregivers to learn more effective techniques of problem solving that assisting them to deal with stress situation that leading to burdens in a positive rather than in a negative way. This result was compatible with study in Brazil conducted by Tabeleão et al., (2018), entitled "A randomized, controlled trial of the effectiveness of a psycho-educational intervention on family caregivers of patients with mental disorders" they found that there was significant improvement occurred in the studied caregivers' coping patterns following psycho-education.

The present study found that most of the family caregivers observed had inadequate coping mechanisms before participating in the psychoeducational program. However, their coping skills significantly improved following the intervention of psychoeducational program. In fact, their post-program coping levels were less than one-quarter of their initial levels, and this difference was statistically significant. This suggests that the psychoeducational program had a profound and positive impact on the caregivers' overall coping abilities.

This result was congruent with, Borah, (2021) who declared that most of the studied care givers (85%) had effective coping post intervention with a statistically significant difference between all phases of intervention ($p < 0.01$). On the other hand, El-Emary, & Elzeiny, (2019) mentioned concerning caregivers' coping, the study results revealed generally acceptable levels prior to the intervention.

In the same vein, the present study illustrated an improvement in the total problem and emotion-focused coping patterns among the studied family caregivers.

CONCLUSION

Based on the findings of the current study, it can be concluded that the psychoeducational interventions program has a positive effect on decreasing burdens and improving coping patterns among family caregivers of schizophrenic patients.

Recommendations

- Facilitating access to psycho-educational programs in psychiatric hospitals and outpatient clinics and integrating this intervention into the regular treatment plans for patients with schizophrenia.
- Further studies are needed to examine the effects of family psycho-educational programs on other outcomes such as relapse rate, patient functioning, and medication compliance after hospital discharge.
- Replication of the study on a large sample selected from different geographical areas from Egypt is recommended for generalizing the study findings.
- Establishment of counseling clinics for caregivers of patients with mental illness including schizophrenia to improve to enhance resilience, coping skills, and quality of life.

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Ethical approval: was obtained from the Scientific and Ethical Committee of the Nursing Faculty of Ain Shams University.

Consent to participate Family caregivers were informed that they are allowed to participate or not in the study and that they have the right to withdraw from the study at any time, Participants gave verbal consent to participate.

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