

## EXPRESSED EMOTION: FAMILY PSYCHO-EDUCATIONAL EFFECT WITH AUDITORY HALLUCINATION TREATMENT ON FAMILY CAREGIVERS OF PEOPLE WITH SCHIZOPHRENIA

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### ABSTRACT

**Background:** Hallucinations in people with schizophrenia can trigger high expressed emotion on family caregivers. Family psycho-education using auditory hallucination treatment modules and videos has never been done and is not specific to auditory hallucinations. The study aimed to determine the effect of the use of Auditory Hallucination Nursing Module and Videos on expressed emotion the family caregivers of people with Schizophrenia.

**Method:** The research design was *Randomize Controll Trial (RCT)*. The population study consists of 1729 family caregivers of schizophrenia patients with auditory hallucinations at the psychiatric out patients clinic of the Jambi Regional Psychiatric Hospital. Subjects were selected randomly with 42 subjects for each treatment and control group. The treatment group received auditory hallucination treatment materials in the forms of module and videos, while the control received the modules only. Expressed emotions measured by the *Family Attitude Scale* before and 1 month after treatment. The data were analyzed univariate and bivariate by dependent and independent t-tests.

**Results:** There was a significant difference in expressed emotion ( $p=0.000$ ) within treatment groups before and after the treatment. There was a significant difference in expressed emotion ( $p=0.000$ ) within control groups before and after the treatment. There was no significant difference in expressed emotion ( $p=0.132$ ) between both of groups 1 month after treatment.

**Conclusions:** Family psycho-education by the module and videos treatments can lower the expressed emotion of family caregivers of schizophrenia patients with auditory hallucination. Psychiatric Nurses should educate the family caregivers by auditory hallucination nursing module and videos as means to reduce expressed emotion of family caregivers.

**Keywords:** Hallucinations; Family; Expressed Emotion; Schizophrenia

### INTRODUCTION

Hallucinations are perceptual experiences without any relevant stimuli from outside the senses (Parnas, et al, 2024). One of the positive symptoms of schizophrenia is hallucinations, where about 59% of schizophrenia patients experience auditory hallucinations (Harvey, 2018; Gupta et al., 2015); 60-80% schizophrenia (Shao et.al, 2021); 95% of patients with mental disorders (Waters & Fernyhough, 2016). Auditory hallucinations are experienced by 59-95%

schizophrenia patients. They hear the voices discussing the patient or commenting on his or her behavior as a third person (Parnas, et al, 2024). The content may be negative in 50% of cases, more often positive (83%) in schizophrenia (Waters & Fernyhough, 2016). Negative hallucinations make their behavior uncalm such as restless, making noise, and even though self-harm and their environment. The patient's behavior generates tension that is expressed as a heightened emotional state of the family caregivers.

Expressed Emotion is manifested in the form of the attitude of family members or

people who are directly related to the patient (Dewi, et al., 2019; Putra et al., 2018). Components of Expressed emotion (EE) consists of critical comment, hostility, positive remarks, warmth, and emotional over-involvement (Chien, et al, 2016; Sadath et al, 2018). Around 77% of families of schizophrenia patients display high expressed emotion, in the form of critical comments and excessive emotional involvement (Zanetti, et al., 2019); 43.6% of high expressed emotion in family caregivers in southwestern Ethiopia (Yimam, et al., 2022); 50.5% of high emotional expression in caregivers in South Ethiopia (Sime, et al., 2022); 71.9% of the emotional expression was high in the patient's family in China (Wang., et al, 2017). It is nearly 43.6-77% of family caregivers have high expressed emotion towards people with schizophrenia.

Family involvement in the care of people with mental disorders is a very important role (Ong, et al., 2021). In fact, around 56.4% of family knowledge about the symptoms of the disease in patients is low (Wan and Wong, 2019). In addition, the patient's family's knowledge of hallucination treatment was low, where before the treatment the average value was  $4.87 \pm 1.25$  (Daryanto.,et al, 2023). The family's ability to care for schizophrenia patients is predicted by family resources (Iswanti et al, 2023). While Family psychoeducation aims to improve knowledge and ability to care for patients at home (Rusmimpong, et al, 2016).

Several studies on effect of family psycho-education on expressed emotion of patients' families. Family psycho-education can reduce high expressed emotion (Batra, et al., 2018; Zanetti, 2019; Begam and Baruah, 2020; Suparada, et al., 2022; Ahmed and Ghaith, 2022) and have a positive effect on expressed emotion (Budiono, et al., 2021). Family psycho-education with 6 sessions had an effect on expressed emotion of caregivers of schizophrenia patients (Shetty, et al., 2023). This study did not explain the material

provided, but the media used by online through social media, seminars, and inpatient visits.

The researcher interviewed 5 caregivers family of schizophrenia patients with auditory hallucinatory. They often comment critically to the patient's behavior, such as; does not obey the advice, do not want to stay at home and make quarrels in the family environment, and even though they come to mental hospitals themselves to asked for treatment, and some of them have relapses. This illustrates that family caregiver have high expressed emotion and it have difficulty in managed tha patient's behavior. The research question is: "Does family psychoeducation using auditory hallucination nursing modules and videos affect to the expressed emotion the caregivers of people with Schizophrenia.?". This study aims to analyze the effect of family psycho-education using auditory hallucination nursing modules and videos on the expressed emotion between groups.

## METHODS

This study a quantitative design used *pretest and post test design with control group design*. The hypothesis measured effect of family psycho-education by Module and Nursing Video on expressed emotion of family caregivers of Schizophrenia Patients with Auditory Hallucinations compared to the Control. The family caregivers participated at outpatient clinic of the Jambi regional psychiatric hospital in 2022, as sums of 1729 people. The number of research subjects was 42 people for each group, both of treatment and control group with a total sample of 84 people who met the following criteria; Familie's caregivers of schizophrenia patients who experience prominent symptoms of auditory hallucinations, who takes care of patients (16 hours/week), ranging from 18 to 65 years, can read and write Indonesian. Then, the treatment and control groups were selected randomly.

The research instruments include demographic data, such as; age, gender, education level, marital status, occupation, kinship, number of hours of care and parenting methods. Expressed emotion measured by the *Family Attitude Scale*, that contains 30 statements with the modification of the answer score into four scales (scale 1-4), consists of scale 1 = never, 2 = rarely, 3 = often and 4 = every day. The questionnaire consisted of 20 negative statements (2, 3, 4, 5, 6, 7, 8, 10, 11, 13, 14, 17, 18, 19, 22, 23, 25, 26, 27, 29). The positive statement consists of 10 items (1, 9, 12, 15, 16, 20, 21, 24, 28, 30). The grade for a negative statement is that if you choose an answer every day=4, often=3, rarely=2, never=1. The grade for a positive statement in the opposite way, that if you choose an answer every day =1, often=2, rarely=3, never=4. The number of FAS scores is in the range of 30-120 values. The results of the validity and reliability test of the Indonesian version of the FAS obtained a *chronbach value* of  $\alpha=0.935$ .

Data were analysed by the *t-dependent test* was used to analyze the differences in expressed emotion before and after treatment in the treatment and control groups. An independent t test was conducted to analyze the differences in expressed emotion between the two groups before and after treatment.

## RESULTS AND DISCUSSION

### Demographic Characteristic

Description of demographic characteristics of the family caregivers of the treatment vs control groups. Female caregivers 57.1 vs 61.9%, high school education 42.9 vs 38.1%, working 57.1-59.5%, married 71.4% vs 64.3%, Javanese ethnicity 40.5%, parents (father/mother) 31 vs 38.1%, and 71.4% taking turns of care each others. The mean scores age of the treatment vs control groups is closely between 38.69 vs 39.64 years, and the mean scores duration of caregiving is closely to 7.26 vs 7.88 hours

daily.

This finding was different from other studies, where the mean age scores of caregiver is 45.31 years old (Gupta, et al., 2015); 46.44 years (Dewi, et al., 2019); 32.5% are between the ages of 56-65 years (Wan and Wong, 2019); and 56 years old (Zanetti, et al, 2019). Caregiver's age was identified as a predictive variable of high expressed emotion (Araujo and Pedroso, 2019). The patient's age was related to excessive emotional involvement and the level of critical comments in the families of schizophrenia patients in Brazil (Zanetti, et al., 2019).

The more caregiver was female, such as, 57.1 vs 61.9%, which is almost the same with six other studies, such as, 72.2% vs 55.6% (Gupta, et al., 2015); 59.6% (Dewi, et al, 2019); 71.8% (Wan and Wong, 2019); 71% (Zanetti, et al, 2019); 59.4% (Shime, et al. 2022), and 68.8% (Wang, et al, 2022). Gender is related to excessive emotional involvement and the level of critical comments in Brazil (Zanetti, et al., 2019). These findings and the previous research confirm that 51.37-72.2% of women act as family caregivers. It's mean that women are the main source of care for schizophrenia patients.

The education of family caregivers is mostly high school around 41.9% vs 38.1%, which is different from family caregivers in other places where 30.6 vs 36.1% do not complete elementary school (Dewi, et al, 2019) and also 65% (Zanetti, 2019); High school below is around 65.97% (Dewi, et al, 2019); SMA 47% (Wan and Wong, 2019). Education is also considered a predictive variable of high expressed emotion (Araujo and Pedroso, 2019) and correlated with expressed less warmth (Avraam, et al, 2022). Our findings confirm that the number of caregivers in high school is almost the same in others four places and that is different in contrast to others two studies where elementary level or equivalent.

The family caregivers who worked

ranged from 59.5% vs 57.1%, which is almost the same as other findings, that was 57.64% (Dewi, et al., 2019), and vice versa in contrast to other studies, where 49.3% do not work/retire (Wan and Wong, 2019). Meanwhile, other studies mention low income of around 69.4% (Gupta, et al., 2015), and 55.4% (Wan and Wong, 2019). This confirms that more than half of the caregiver were worked and low-income. The marital status is 71.4% vs 64.3%, where the results are almost the same as other findings, that was 62.83% (Dewi, et al., 2019), and 89.1% (Wang, et al, 2022).

Furthermore, we found that the Javanese ethnicity is 40.5%, confirming that the Javanese ethnicity dominates for mental disorders, this is possible considering that the distribution of the Javanese population has spread throughout Indonesia including Jambi. This study found that parents (Father/Mother) are the main caregivers of patients compares to others relatives. Parents (father/mother) as caregivers of patients ranged from 31 vs 38.1%, where others studies showed that it was higher, that were 41.7-58.3% (Gupta, et al., 2015), and 78.3% (Wang, et al, 2022) or almost the same nearly 41.8%, where fathers 9.9%, and mothers 31.9% (Wan and Wong, 2019) and 30% were siblings of patients (Zanetti et al., 2019). Then, parents (fathers), siblings and descendants, there was an increase in average critical comments of 68.19%, 82.85% and 52.65%, respectively, when compared to mothers (Zanetti, et al., 2019). The degree of relationship bonding is related to excessive emotional involvement and the level of critical comments in families of schizophrenia patients in Brazil (Zanetti, et al., 2019). Parents with a mental illness are show high expressed emotion often, especially high critics (Fahrer et al, 2022). Then, the parents (father and mother), especially mothers, are important people and have the closest relationship with their children and vice versa affect excessive emotional involvement and critical

comments.

It's nearly 71.4% who takes turn in provide care to the patients. The mean scores duration of care is 7-8 hours daily and other studies show that 62.8% provide 1-3 hours of care time daily (Wan and Wong, 2019), more than 92.5% have contact with patients every day (Shetty et al., 2022). Other research, although it does not mention how to provide caregiving, it was estimated that all siblings and relatives are involved in took care the patients.

### Expressed emotions within groups before and after treatment

**Table 1.** Comparison of expressed emotion within groups of treatment and control group before and after treatment (n=42)

Group	Expression of Emotions	
	Treatment	Control
Before	70.52±14.69	66.83±14.16
After	58.93±12.25	63.33±14.20
Mean difference	11,59	3,5
p	0,000	0,000

The results show that expressed emotion of caregivers of treatment group at before and 1 month after the treatment by module and videos of auditory hallucination nursing. The mean score of expressed emotion were 70.52 and 1 month after treatment were decreased to 58.93, where the difference scores were 11.59. It means that the expressed emotion of family caregivers in the treatment group has decreased by 11.59 after the treatment. There was a significant difference in expressed emotion before and after the treatment ( $p$  value  $0.000 < \alpha = 0.05$ ).

In the control group, there were changed in the mean scores of expressed emotions before treatment was 66.83 and 1 month after the treatment decreased to 63.33, where the difference scores were 3.5. It means that the expressed emotion of family caregivers in the control group has decreased by 3.5 after the module treatment. There was a significant difference in the mean scores of expressed emotions before and after the treatment ( $p$  value  $0.000 < \alpha = 0.05$ ).

This research shows both of the treatment has same effect in decreased expressed emotion. The mean scores of expressed emotions at the treatment have more decreased than the control group. This confirms that family psycho-education with combination auditory hallucination nursing module and videos has more decreased than the module group.

### Expressed emotions between groups after treatment

The results of the levenes test for expressed emotion were obtained with  $p$  value =  $0.314 > \alpha=0.05$ , which means that the expressed emotion of the treatment and control groups 1 month after treatment had the same variant or no difference in variant.

**Table 2.** Comparison of expressed emotion between treatment and control group before and after treatment (n=42)

after treatment (n=42)					
Expressed Emotion	Mean	SD	d	SE 95%	p
<b>Before</b>					
Treatment	70.52	14.68	3.69	2.26-2.18	0.244
Control	66.83	14.15			
<b>After</b>					
Treatment	58.93	12.24	4.40	1.89-2.19	0.132
Control	63.33	14.20			

Based on table 2, there was the difference mean scores of expressed emotions between the treatment and control groups before treatment were 3.69. The results shows that expressed emotion for the same variant ( $p$  value  $0.244 > \alpha=0.05$ ). It means that there was no significant difference in expressed emotion between the treatment and the control group before treatment (Pretest). Next, there was the difference mean scores of expressed emotions between groups was 4.4. The results show that expressed emotion for the same variant ( $p$  value  $0.132 > \alpha=0.05$ ). It means that there was no significant difference in expressed emotion between the treatment group (Module and Video) and the control group (Module) 1 month after the treatment (Posttest).

### Module and videos as a medium for family psycho-education and expressed emotion effect on family caregivers of schizophrenia patients

The use of auditory hallucination nursing module and videos as a psychoeducational medium for caregivers of schizophrenia patients has been proven to reduce the mean scores of expressed emotions in both the treatment group (Module and video) and control (Module). The mean scores of expressed emotions in the treatment group were decreased more than 3 times compared to the control group. This indicates that video as a psychoeducational medium can help family caregivers in improving their ability to provide care to the people who experienced auditory hallucinations. In addition, videos psycho-educational media are considered more interested, needed and easier than the module. Caregivers can apply the subject matter by imitating actions as demonstrated in the video, besides, the video can be played over and over repeatedly so that it is more practical for family caregivers to apply.

The results findings are consistent with previous study that family psycho-education has decreased significantly in expressed emotion in the treatment group (Batra, et al., 2018; Begam and Baruah, 2020); Budiono, et al., 2021). Although not exactly the same, the application of family psycho-education takes more longer than this study, where using brainstorming, case sketches, and role playing, and video clipping, can significantly reduce the expression of family emotions (Shetty, et al., 2023). Other study focus on schizophrenia as a mental disorders, while this study focus specifically on the module and videos for treatment of auditory hallucinations (Daryanto, et al, 2022; Daryanto, et al, 2023).

Although the psychoeducational effect has been proven to be effective in reducing expressed emotion, in fact, family caregivers have increased in parenting ability. This ability reduces family stress, so that it has an impact on reducing emotional reactions from



the family. Actually, they cannot able how to manage the emotions caused by hallucinatory symptoms in patients. The researcher's experienced when mentoring several caregivers of patients' families, they reported that they were very stressed in dealing with the symptoms of hallucinations of patients. They also have difficulty managing their own emotions in the face of patient behavior. This would rise to expressed emotions of family caregivers. The expressions forms were comments that are critical, hostile, limiting and supervising their activities, etc. It should be considered, that's family caregivers also need to be given knowledge on how to manage their emotions conveyed online using social media or through face-to-face meetings either individually or in groups.

Family psychoeducational materials need to be added as needed. It's providing families knowledge about psychiatric illness and their management (Sarkhel et al, 2020). They need to learned how to provide hallucinatory nursing care. They also need to be given a manual or video on how to manage emotions to learn on their own or practice their own skills at home according to the content of the material in the manual or video that has been given. Other psychoeducational materials that need to be provided include how to communicate assertively, and how to manage emotions and anxiety and prevent recurrence. Through family psychoeducation, caregivers are expected to have a number of abilities to manage their own emotions so that the family becomes an important support system by creating a family environment that is conducive to recovery and preventing patient recurrence.

### Research excellence

The advantage of this research lies in the media and materials of family psycho-education using the module and videos as well as materials/content that learned specifically auditory hallucination nursing. Meanwhile, the media used in previous study for the

patient's family were films, leaflets, manuals or modules, the language material is still general related to schizophrenia. Although videos media has been applied to other research before, but this psychoeducation material related to auditory hallucination treatment and it is the first thing. Psycho-educational materials includes how to expand self-awareness, stop unpleasant past thoughts/ memories, manage anxiety, install plugs/ earmuffs, listen to music through a headphone set, watch entertainment programs on radio or television and do activities according to the schedule (Daryanto, et al, 2023).

### Study Limitations

Psychoeducation took in short time treatment, which is one week and followed by group mentoring for a month. The results of this study have also not been able to detect the differences expressed emotion between the treatment and control groups 1 month after treatment. While others study was mostly conducted over a longer period of time such as 6 months, 1 year and 2 years. It is necessary to practice emotional management skills repeatedly and until it confirmed the skill has been mastered properly. Therefore, future research needs to be conducted by considering longer treatment and mentoring times for families as well as training emotional management skills. Besides, psychoeducation is expected to be carried out face-to-face so that participants' skills can be trained and supervised and guided directly. Thus, the goal of family psychoeducation can be achieved according to expectations.

### CONCLUSION

The was several conclusions in this study:

- a. Family caregivers are mostly over 45 years old, most of them are parents, especially the patient's mother, 62.8% are married, have a high school education, more than 57% worked with low income and 40.5% as the Javanese.

- b. The mean scores of emotional expressions in the treatment group of 70.52 decreased to 58.93 after treatment, while the mean scores of expressed emotions in the control group was 66.83 decreased to 63.33 after treatment.
- c. There was a significant difference in expressed emotion (Pv 0.000) within treatment group before and after the treatment.
- d. There was a significant difference in expressed emotion (Pv 0.000) within control group before and after the treatment.

There was no significant difference in expressed emotion (Pv 0.132) between groups, 1 month after treatment hallucination module and nursing videos.

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## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest in this research publication. The researcher team guarantees that this manuscript and publication are the rights of each author according to their proportionally.

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