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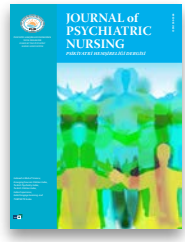

Original Article

The effectiveness of family motivational interviewing in improving families' ability to motivate people with severe mental illness in Indonesia

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Abstract

Objectives: This study aims to analyze the effectiveness of family motivational interviewing in improving families' ability to motivate people with severe mental illness (SMI) in Indonesia.

Methods: This study employed a quasi-experimental pre-posttest design with a control group. Sampling was conducted using proportionate stratified random sampling of families with members diagnosed with severe mental illness, as recorded in the mental health report at the Babakan Sari Public Health Center during the January–December 2022 period (n=62). The intervention group received family motivational interviewing for four weeks. Family ability was measured using the Family Motivational Interview (FMI) instrument. Data were analyzed using paired t-tests and independent t-tests.

Results: A significant difference was found between the intervention and control groups after the motivational interviewing intervention in terms of the family's ability to motivate individuals with SMI (p-value < 0.01). These results indicate that family motivational interviewing effectively improves families' ability to encourage medication adherence and regular performance of activities of daily living among people with severe mental illness.

Conclusion: Family motivational interviewing is effective in enhancing families' ability to motivate individuals with SMI. It is hoped that this approach can serve as a supportive medium to boost motivation among people with SMI. Community nurses are encouraged to continuously provide information and motivation to families accessing primary health care services. Further research is recommended to evaluate the long-term effects of family motivational interviewing on health outcomes in individuals with severe mental illness.

Keywords: Family nursing; motivational interview; severe mental illness

Mental illness is a leading cause of disability, requiring substantial treatment costs. The World Health Organization (WHO) identifies mental health as a priority by empowering communities and individuals to achieve the highest health standards through ensuring mental and physical well-being.[1] Based on the 2020 performance report of the West Java Provincial Health Office, only 74% of the population experiencing severe mental illness (SMI) received health services. The number of people with SMI in the city of Bandung (the capital of West Java Province) is 3,068, spread across 30 sub-districts. The highest numbers are reported in four sub-districts: Kiaracondong, Buah Batu, Bojongloa Kaler, and Cibeunying. The high prevalence of SMI cases with uncontrolled access to mental health services prompted the Bandung City Health Office to establish a Mental Health Alert Village to prevent patient relapse.[2]

The role and function of family care are crucial in supporting sick family members to improve overall family health status.

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According to research conducted by Harvey and B. O'Hanlon, 55% of families felt they were not provided with adequate information or motivational support to care for people with SMI at home.[3] In Türkiye, families experience difficulties in caring for individuals with SMI due to a lack of knowledge, economic hardship, and long distances to health facilities, which often leads them to seek traditional healers instead.[4] Family perceptions of caring for individuals with SMI remain negative due to infrequent hospital visits and poor medication adherence.[5] The prolonged treatment duration (minimum of 6 months) increases the risk of family burnout, resulting in emotional and economic stress that impairs caregiving ability. Studies[6–8] note that relapse risk in people with SMI is exacerbated when interventions focus solely on patients and fail to involve their families.

Family motivational interviewing is a collaborative conversational approach designed to enhance an individual's motivation and commitment to change. It aims to explore the challenges faced by individuals with SMI and their families, supporting improvements in quality of life while reducing stigma.[9] Communication training through family-based motivational interviewing can strengthen relationships, reduce conflict, and improve treatment adherence. This intervention was implemented over four sessions, each lasting 60 minutes. Evidence shows that 94% of participants completed the MILO (Motivational Interviewing for Loved Ones in Early Psychosis) training within three sessions, 84% stated they would "definitely" recommend the training to others in similar circumstances, and hospitalization rates for psychiatric patients decreased over the four-week period.[9,10]

A preliminary study of families in West Java Province, Türkiye, revealed that many families felt exhausted and financially burdened by the ongoing treatment of psychiatric conditions, leading some to refuse further care. This contradicts the intended family role of providing motivation and behavioral regulation to support health. The duration of SMI treatment imposes emotional and economic stress, often resulting in suboptimal care. Although family motivational interviewing has been discussed in some literature, its application specifically for families of individuals with severe mental illness has not been adequately studied. Therefore, the purpose of this study was to analyze the effectiveness of family motivational interviewing in improving families' ability to motivate individuals with SMI in Türkiye.

What is presently known on this subject?

- The family has an important role in caring for people with severe mental illness (SMI). Lack of communication and treatment negatively impacts the behavior and recovery of people with SMI.

What does this article add to the existing knowledge?

- The findings of this study have proven that the Family Motivational Interviewing (FMI) intervention program is effective in improving the ability of families to motivate people with severe mental illness, compared to those who do not use the family motivational interviewing method. Family motivational interviews can increase the knowledge of people with SMI about their treatment, thereby preventing relapse, enhancing medication adherence, improving self-care independence, and supporting engagement in daily activities.

What are the implications for practice?

- Motivational interviews (MI) aimed at achieving optimal care have been shown to support behavioral changes in patients. Motivational interviews build social relationships between families and people with SMI by focusing on, motivating, and managing care. Family health nurses can use family motivational interviewing to ensure the long-term impact of this intervention on patients' self-management.

Materials and Method

Design

This study used quantitative research with a quasi-experimental pre- and posttest control group design. The intervention group received family motivational interviewing.

Hypotheses

H1: There is a difference in the ability of families to motivate people with severe mental illness (SMI) after being given a motivational interview intervention in the treatment and control groups in the work area of the Babakan Sari Community Health Center.

H2: There is no difference in the ability of families to motivate people with severe mental illness (SMI) after being given a motivational interview intervention in the treatment and control groups in the work area of the Babakan Sari Community Health Center.

Sample and Setting

The research was conducted in the working area of the Babakan Sari Public Health Center over a period of 20 days in July 2023. The number of families with SMI recorded in the medical records of the Babakan Sari Public Health Center from January to December 2022 was 137. A total of 62 people participated in the study—31 in the experimental group and 31 in the control group—as presented in Figure 1.

The sample size and power for the two-sample Wilcoxon Mann-Whitney U test were calculated. Sampling referred to a reference article with a p value of 0.28, a value of α=0.05, and power=80%, assuming a large effect size. The total sample consisted of 62 families of people with SMI assisted by the Babakan Sari Public Health Center, with 31 respondents in the treatment group and 31 in the control group. All respondents agreed to participate in the research.

Respondent characteristics included family relationship, age, gender, highest level of education, employment, income, health insurance ownership, and length of time caring for people with SMI. Demographic characteristics in both groups included gender, age, highest level of education, employment,

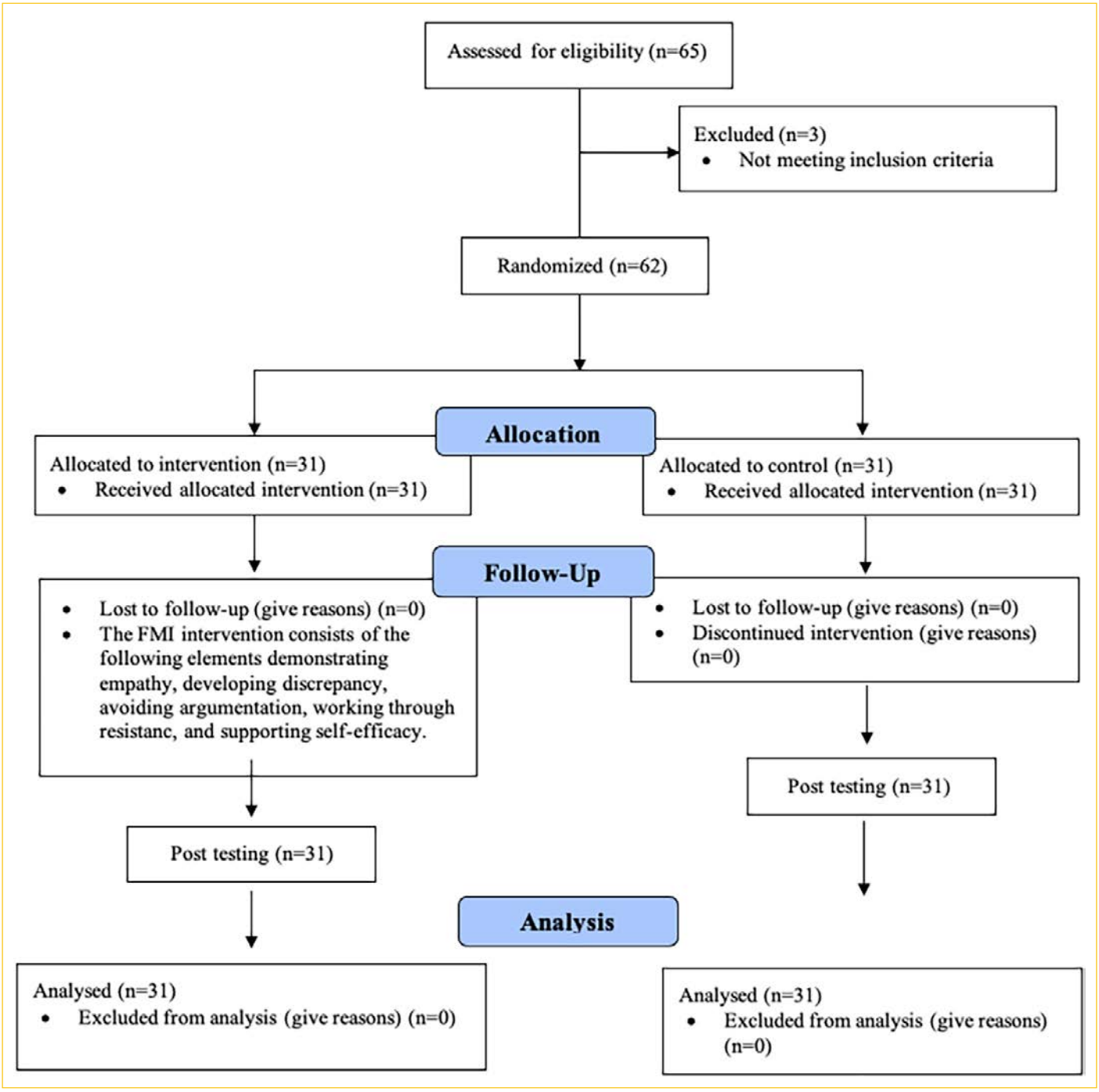

Figure 1. Consort flow diagram representing steps at each stage of intervention.

EEQ: Emotional eater questionnaire; GSHP: Guided self-help program.

income, health insurance status, family relationship to the patient, and length of care. Eligibility criteria required that the family member monitors medication intake, acts as the primary caregiver for the person with SMI, and is in good physical and mental health. No special requirements were imposed beyond meeting the inclusion criteria and agreeing to participate.

The inclusion criteria were people with SMI who had been medically diagnosed with schizophrenia or psychosis by a doctor, were in a calm and controlled condition, and took regular medication. The exclusion criteria included families involved in the care of people with SMI who also experienced mental or physical health issues.

Instruments

The instrument used to measure the ability of families to motivate people with SMI is the Family Motivational Inter-

viewing (FMI) instrument. This instrument is based on specific behaviors assessed in terms of competence, empathy, and compliance.[11]

The instrument is divided into two parts:

1. Demographic characteristics, including age, gender, highest level of education, income, type of health insurance, and family relationship. Health-related data include the type of mental disorder and the duration of caregiving.
2. The Family Motivational Interviewing (FMI) section consists of 15 questions covering three subdomains: competence, empathy, and compliance.

The instruments underwent both forward and back translation, assisted by Dutch language experts from the Indonesian Government Translator Association. The reliability of the instrument was tested and yielded a Cronbach's alpha coefficient ranging from 0.63 to 0.81.[12] The validity and reliability of the instrument have been confirmed. The results of the analysis indicated that the instrument was comprehensible and culturally appropriate for the Indonesian community.

Intervention

The intervention was carried out through home visits to families with a member diagnosed with SMI, conducted in four sessions over 20 days, with each session lasting 60 minutes. The intervention was delivered by researchers certified in conducting motivational interviews. Family abilities were assessed based on their support for medication adherence, relapse prevention, self-care independence, and physical activity for individuals with SMI at home.

The intervention sessions were structured as follows:

- **Meeting 1 (First day):** Families completed pre-tests, were introduced to the motivational interviewing program, and participated in discussions. They were assigned a task to write examples of open-ended questions, affirmations, and reflections for conversations while caring for individuals with SMI.
- **Meeting 2 (Seventh day):** Evaluation of the family's ability to motivate people with SMI based on the assigned tasks and simulation results. Families received education on solving problems by reinforcing thoughts and behavior.
- **Meeting 3 (13th day):** Families practiced problem-solving simulations. Education was provided on how to ask for permission before giving advice and how to summarize conversations using motivational interview techniques.
- **Meeting 4 (20th day):** Families were evaluated on their ability to ask permission and summarize conversations using motivational interviewing techniques. A comprehensive simulation covering all previous sessions was conducted, and performance was assessed by observers. Post-tests were administered using interview and observation techniques.

The control group received routine care from the local public health center and was only provided with an explanatory module on motivational interviewing for families after the post-test was completed.

The CONSORT diagram is presented in Figure 1.

Data Collection

The Family Motivational Interviewing (FMI) form consisted of demographic characteristics, health data, and motivational interviewing items. Additionally, an observation sheet was used to assess the ability of families to motivate people with mental illness.

Data Analysis

Univariate analysis was used to measure the frequency distribution of demographic and health data characteristics. Bivariate analysis was conducted to examine differences in families' ability to motivate people with SMI. A normality test was performed using the Kolmogorov–Smirnov test, followed by a homogeneity test. Once the pre-test data were confirmed to be normally distributed and homogeneous, statistical analysis was conducted using the paired t-test to identify differences before and after the intervention within each group. To determine differences between the two groups after the intervention, the independent t-test was applied.

Ethical Consideration

This study received ethical approval from Padjadjaran University with the number 847/UN6.KEP/EC/2023. The study procedures adhered to the guidelines of the Declaration of Helsinki. Informed consent was obtained from each participant.

Results

The characteristics of respondents in the treatment and control groups are presented in Table 1.

The characteristics of people with SMI based on sex showed that 67.7% were male adults (59.7%). Care was provided by family members, most of whom were pre-elderly (aged 45–59 years) at 46.8%, with a high school education background (45.2%). The majority were housewives (45.2%), and 64.5% had an income >RMW (Regional Minimum Wage). Most families had health insurance (83.9%). Among caregivers, mothers of people with SMI constituted the highest proportion, with 22 individuals (35.5%). The most common caregiving duration was 49–60 months (25.8%) in both groups. The characteristics between the two groups were similar, with a p-value=0.946.

Table 1. Demographic characteristics in the treatment and control groups

Characteristics	Treatment group (n= 31)		Control group (n= 31)		Total	
	F	%	F	%	f	%
Gender of people with SMI						
Female	9	29	11	35.5	20	32.3
Male	22	71	20	64.5	42	67.7
Age of people with SMI						
Adult (19–45 years)	24	77.4	13	41.9	37	59.7
Pre-Elderly (45–59 years)	7	22.6	15	48.4	37	59.7
Elderly (≥60 years)	0	0	3	9.7	3	4.8
The age of family caregiver						
Youth (10–18 years)	1	3.2	0	0	1	1.6
Adult (19–45 years)	7	22.6	7	22.6	14	22.6
Pre-Elderly (45–59 years)	15	48.4	14	45.6	29	46.8
Elderly (≥60 years)	8	25.8	10	32.3	18	20
The educational level of family caregiver						
Elementary School	8	28.5	7	22.6	15	24.2
Middle School	9	29	5	16.1	14	22.6
High School	11	35.5	17	54.8	28	45.2
University	3	9.7	2	6.5	5	8.1
The Occupation of the family caregiver						
Housewife	16	51.6	12	38.7	28	45.2
Private sector worker	3	9.7	2	6.5	5	8.1
Self-employee	5	16.1	5	16.1	10	16.1
Retired	0	0	4	12.9	4	6.5
Other	5	16.1	5	16.1	10	16.1
Unemployed	2	6.5	3	9.7	5	8.1
Income						
<RMW	7	22.6	15	48.4	22	35.5
>RMW	24	77.4	16	51.6	40	64.5
Health insurance ownership						
Yes	28	90.3	24	77.4	52	83.9
No	3	9.7	7	22.6	10	16.1
Family relationship						
Husband	1	1.6	5	8.1	6	9.7
Wife	3	4.8	2	3.2	5	8.1
Mother	12	19.4	10	16.1	22	35.5
Father	3	4.8	4	6.5	7	11.3
Younger sibling	4	6.5	1	1.6	5	8.1
Older sibling	5	8.1	4	6.5	9	14.5
Daughter/son	3	4.8	4	6.5	7	11.3
Niece/nephew	0	0	1	1.6	1	1.6
Treatment Duration (in months)						
0–12	2	6.5	3	9.7	5	8.1
13–24	1	3.2	3	9.7	4	6.5
25–36	7	22.6	4	12.9	11	17.7
37–48	8	25.8	4	12.9	12	19.4
49–60	8	25.8	8	25.8	16	25.8
61–72	3	9.7	4	12.9	7	11.3
73–84	0	0	1	3.2	1	1.6
109–120	0	0	3	9.7	3	4.8
145–156	1	3.2	0	0	1	1.6
169–180	1	3.2	1	3.2	2	3.2
Total	31	100	31	100	62	100
p-value homogenity-test				0.946		

SMI: Severe mental illness; RMW: Regional minimum wage.

Table 2. Ability to motivate people with smi before and after given the motivational interview intervention in the treatment group (n=31)

Sub variable	Paired t-test						p
	Pre-test			Post-test			
	Range	Mean	+SD	Range	Mean	+SD	
Competency	34	28.84	9.198	31	44.9	7.752	0.000
Empathy	4	3.77	1.499	5	5.81	1.327	
Obedience	31	23.87	8.678	19	36.87	5.420	
Family ability	59	56.48	17.198	53	87.65	12.252	

SD: Standard deviation

Table 3. Ability to motivate people with smi in the control group (n=31)

Sub variable	Paired t-test						p
	Pre-test			Post-test			
	Range	Mean	+SD	Range	Mean	+SD	
Competency	30	25.45	7.320	27	27.03	7.167	0.763
Empathy	6	3.42	1.385	6	3.29	1.395	
Obedience	31	19.58	7.915	26	13.9	6.379	
Family ability	58	44.58	14.059	48	44.23	12.39	

SMI: Severe mental illness.

The ability of families to motivate their family members with SMI in the treatment and control groups is presented in Tables 2 and 3, respectively.

Based on Table 2, the score results before and after the motivational interview intervention in the treatment group showed a range value of 59 in the pre-test and 53 in the post-test. The average score in the pre-test was 56.48 with a standard deviation of ±17.198, while the post-test average was 87.65 with a standard deviation of ±12.252. The difference in the average value in the treatment group was 31.17. The results of the paired t-test yielded a p-value=0.000. These findings indicate a statistically significant difference (p<0.05), suggesting that H0 is rejected and Ha is accepted. Therefore, there is a significant improvement in the families' ability to motivate individuals with SMI after the motivational interview intervention.

Based on Table 3, the control group—who received only the motivational interview guidebook—had a pre-test score range of 58 and a post-test range of 48. The average pre-test score was 44.58 with a standard deviation of ±14.059, and the post-test average was 44.23 with a standard deviation of ±12.39. The mean difference in the control group was -0.35. The paired t-test yielded a p-value=0.763, which is >0.05, indicating no significant difference in the family's ability to motivate individuals with SMI.

Table 4. The effectiveness of families' ability to motivate people with smi after the family motivational interviewing intervention in the treatment and control groups

Sub variable	Independent t-test				p
	Treatment group (n=31)		Control group (n=31)		
	Mean	+SD	Mean	+SD	
Competency	44.9	7.752	27.03	7.166	0.000
Empathy	5.81	1.327	3.29	1.395	
Obedience	36.87	5.420	13.90	6.378	

The effectiveness of family motivational interviewing on the families' ability to motivate their family members with severe mental illness is presented in Table 4.

Based on Table 4, the Independent t-test results yielded a p-value=0.000, which is <0.05. Previous studies showed that parents of individuals with schizophrenia who were trained in FMI and engaged in routine activities demonstrated significantly higher compliance (p=0.03) and competence (p=0.04). These findings confirm that there is a significant difference between the treatment and control groups after the motivational interviewing intervention, in terms of the families' ability to motivate their members with SMI.

Discussion

Family motivational interviewing is effective in improving the ability of families to motivate individuals with SMI. This outcome is attributed to the motivational interviewing technique, which allows participants to freely explore and resolve their ambivalence regarding illness, treatment, related life situations, and family involvement, while fostering genuine empathy and addressing negative symptoms.[13–15] Home visits enable researchers to observe family perceptions of SMI and deliver direct communication training to improve relationships, reduce conflict, influence decision-making, and promote treatment adherence.[16] However, this study was limited to evaluating cognitive understanding and did not yet assess affective (participation and response) or psychomotor (readiness) aspects, as such evaluations typically require a minimum of 3 months.[16]

The Babakan Sari Public Health Center has implemented an innovative program called the Mental Health Alert Village. This program aims to enhance public knowledge, empower the community to support itself, improve preparedness for mental health risks, and increase stakeholder involvement. [17] Research by Sunyanta found that this program improved motivation and understanding of mental health.[18] Compliance in this study was assessed based on patient and caregiver perspectives concerning patient issues, stigma, and affirmations used by families. The results revealed changes in caregivers' assessments of family compliance and motivational ability. A positive acceptance of individuals with SMI reflects acknowledgment of their condition and encourages social adaptation and participation.[19]

Demographic characteristics showed that people with SMI were predominantly adult males. This aligns with evidence that adulthood is a high-risk age group for schizophrenia. [20–22] The duration of caregiving ranged from 49–60 months. According to,[23] families who care for individuals with mental illness for 1–5 years must demonstrate patience, as they often prioritize caregiving over personal needs. Care was predominantly provided by mothers who were housewives, consistent with the family's role in influencing and guiding health-related behaviors.[24] Most caregivers were pre-elderly and had a high school education. A person's formal education level influences how information is received, processed, and used in health-related decision-making, and it also affects recovery speed.[24,25]

In terms of competence, empathy, and compliance, the intervention group showed significant improvement, with a p-value=0.00, indicating a positive effect of the intervention. In contrast, the control group had p-values of 0.15 for competence and 0.103 for empathy, showing no significant impact of motivational interviewing in these aspects. However, there was a similar result in the control group's total score with a p-value=0.00. This supports the finding that there were differences in family abilities before and after the motivational interviewing intervention in the treatment group.

Research by Smeerdijk[26] also indicated improved family skills among those caring for individuals with schizophrenia. Families trained in motivational interviewing demonstrated greater empathy and medication adherence. Such interventions promote behavioral change, lifestyle modification, and adherence to treatment. Motivational interviewing also raises awareness of the desire to change and fosters positive thinking.[27] The improvement in family capacity observed in the treatment group was influenced by healthcare-related factors, including communication and adherence to medication.

Differences in the ability of families to motivate people with SMI were shown to be due to the direct support provided to the treatment group. This group received structured assessment centered on the patient, autonomy support through decision-making, empathy, and affirmations delivered through verbal communication.[28] Empathy allows patients to feel understood and supported in their autonomy, facilitating behavior change.[29] An individual's motivation to change includes the desire to change, belief in the ability to change, reasons for changing, need to change, and commitment to change.[30] This commitment determines behavior change and enhances treatment adherence, all while focusing on the patient's interests, concerns, experiences, and value systems.[31]

In the control group, there was no significant difference in the family's ability before and after receiving the motivational interview intervention. This is likely because the control group only received a guidebook and an explanation on how to use it for 20 days at home. However, they did not receive home visits, task assignments, skill practice, or evaluations, unlike the treatment group. This lack of active engagement likely led to a lower score improvement compared to the treatment group.

Guidebooks are teaching materials that are designed to be engaging and systematic, including content, methodology, and self-evaluation components to meet learning objectives. [32] According to Nasution, the benefits of using a guidebook include providing feedback for learners, enabling awareness of learning outcomes and correction of errors, offering a solid foundation for new lessons, and increasing success through guided learning. Guidebooks are flexible and can be tailored to the learning method, pace, and material content.[33]

Limitations

This study focused only on the cognitive domain, evaluating the family's understanding of motivating people with SMI to adhere to medication, prevent relapse, improve self-care independence, and engage in daily activities. However, it did not address affective (participation and response) and psychomotor (readiness) domains, as these require a longer eval-

uation period—at least three months. Additionally, the study was not conducted longitudinally, which would have allowed for periodic evaluation over time. In the compliance sub-variable, the p-value=0.00 for both the control and intervention groups, suggesting a shared influence of family compliance on intervention outcomes. There was an effect observed both pre- and post-intervention in both groups.

Conclusion

This study showed that there were significant differences in the ability of families to motivate people with SMI after the motivational interview intervention. In the treatment group, the paired t-test yielded a p-value=0.000, indicating a significant improvement. In contrast, the control group obtained a p-value=0.716, showing no significant difference after the intervention. Furthermore, the comparison between the two groups using the independent t-test resulted in a p-value=0.000, confirming a statistically significant difference. These changes were attributed to the effect of motivational interviewing techniques, which involved exploring family attitudes and behaviors, and conducting home visits over a 4-week period.

For future research, repeated measurements at intervals (1 month, 3 months, 6 months, and one year) are recommended to evaluate long-term effects.

It is hoped that the findings of this study can serve as a supportive medium for increasing motivation among people with SMI, particularly within basic health services aimed at managing mental health problems in the community. Community nurses are encouraged to provide ongoing information and motivation to families accessing primary health care services.

Ethics Committee Approval: The study was approved by the Padjadjaran University Ethics Committee (no: 847/UN6.KEP/EC/2023, date: 06/07/2023).

Informed Consent: Informed consent was obtained from all participants.

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