MENTAL HEALTH EMPOWERING FOR HEALTH CADERS BY USING MOBILE SCREENING TOOLS

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Abstract. Based on the monitoring of the Healthy Family Application in 2015, as many as 15.8% of families had severe mental disorders. In primary health care, one of the activities is to improve the quality of community mental health. In the mental health community program, the main target was society, with activities for socialization and early screening regarding mental health problems. Individuals with mental disorders (ODGJ) could participate in a work activity therapy program. This study aimed to screen for mental-emotional health problems and empower cadres to conduct community screening by using the mobile tool. A cross-sectional design among 13 health cadres of one district health center in South Jakarta Indonesia, and 120 residents aged 15-59 years. Using the SRQ-29 instrument for initial screening and early detection of mental health in the community from October through November 2021. Based on early detection, there were 13% of subjects indicated psychological problems, such as psychotic disorders, PTSD, and combined. The understanding of cadres about screening tools and knowledge were increased after peer education on “Emotional Mental Disorders” topics and training mobile tools. However, continuing education should be scheduled regularly, thus they always keep up-to-date information.
Keywords: *mental health, early screening, mobile tool, empowering, health caders*

Introduction

Currently, Institute for health metrics and evaluation (IHME) 2017 noted, based on WHO (2017) report, that the estimated number of people with mental disorders in the world is around 450 million people including schizophrenia. Globally, the largest contributor to disease burden (DALYs) and the current cause of death is cardiovascular disease (31.8%). However, when viewed from YLDs (years lost due to illness or disability), the greater percentage contributes to mental disorders (14.4%). The situation for Southeast Asia was no different from global conditions where the biggest cause of death was cardiovascular disease (31.5%), but seen from YLDs, it is a bigger contributor to mental disorders (13.5%). In Indonesia, based on the National Basic Health Research 2018 (Badan Litbangkes Official Portal, 2018) stated that the prevalence of emotional mental health in the population aged 15 years and over, increased from 2013 to 2018 from 6% to 9.8%. The prevalence of people with depression in 2018 is by 6.1%. Depressive disorders can be experienced by all age groups. Badan Litbangkes Official Portal (2018) results show that depressive disorders have started to occur in the adolescent age range (15-24 years), with a prevalence of 6.2%. The pattern of prevalence of depression increases with an increase in age, the highest at the age of 75+ years at 8.9%, 65-74 years at 8.0%, and 55-64 years at 6.5%.

Through the monitoring of the Healthy Family Application in 2015 cited in Infodatin (2019), as many as 15.8% of families had severe mental disorders.

Provisions regarding the National implementation of mental health problems are regulated in the Action Plan for Activities (RPJMN) for 2020-2024 issued by the Directorate of Prevention and Control of Diseases related to Mental Health and Drugs. As stated in Article 1 of Law Number 18, 2014 of Mental Health, is a condition in which an individual can develop physically, mentally, spiritually, and socially so that the individual is aware of his abilities, can cope with pressure, can work productively, and can contribute to his community. While the category of mental health of a person can be divided into people with mental problems (ODMK) and people with mental disorders (ODGJ). In Indonesia, people still believe that mental health disorders are caused by irrational and supernatural things. Thus, with this stigma, lots of the community handles it with a non-medical approach such as supra-natural, also if happened among their family members. Sometimes there are shackles for family members who have mental problems because they are ashamed of their neighborhoods. Nationally, mental health efforts based on Law No. 18 of 2014 are carried out through promotive, preventive, curative, and rehabilitation activities. It is carried out in stages by the government, local government, and/or the community. Mental health efforts can be implemented in an integrated, comprehensive, and sustainable throughout the life cycle. A promotive effort is an activity and/or a series of mental health service implementation activities that are mental health promotion in primary health care. To maintain and improve the mental health of the community optimally; eliminate stigma, discrimination, and abuse of ODGJ's human rights as part of society; increase understanding and participation in society on mental health, and increase acceptance and participation in society on mental health.

Several approaches can be taken in solving problems that exist at the community level by considering the main target. Promotive efforts in the community can be implemented in the form of communication, information, and education regarding mental health, as well as creating an environment and a society that is conducive to growth and healthy mental development. Promotive efforts in healthcare facilities can be implemented in the form of communication, information, and education on mental health with a target patient group, family group, or community around healthcare facilities. While promotive efforts in the family and environment can be done in the forms of parenting and communication patterns in the family that could support healthy mental growth and development. Based on the results of the mental health program, the achievements for early detection of emotional mental disorders in MP primary health centers until the mid-semester of 2021, only reached 2% out of target. Of course, the achievement of this work is not only due to the constraints of the pandemic. Data from outpatient to mental health clinics at the MP primary center, it was reported that cases of depression in the study area indicated an increase from 2019 to 2021. Within details of cases in 2019, there were 10 cases, in 2020 17 cases, and 24 cases in 2021 (which obtained from the Annual Report 2019-2021 of mental health clinics at MP primary center). It is still more vigilant to do a follow-up on what causes the occurrence and solutions for handling related psychological or mental emotional problems faced by patients. Regarding the information of in-depth interviews with health officers in the MP primary care center, cadres have duties and roles to report if there is a case of interference and restlessness. In addition, cadres have also conducted to incorporate mental health screening and monitoring of patients diagnosed with ODGJ has returned

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home from hospital care. It is still more vigilant to do a follow-up on what causes the occurrence and solutions for handling related psychological or mental emotional problems faced by patients.

The objective of the study

Based on the problems and approaches that have been chosen previously in mental health programs, an evaluation was carried out on why the achievement of activities at the community and family level was not achieved, other than due to the COVID-19 pandemic. Therefore, the study aimed to screen for mental-emotional health problems and empower cadres to conduct community screening by using the mobile tool.

Materials and Methods

A descriptive-analytical design study with a community diagnostic approach. The selection of descriptive-analytical method was carried out to, first obtain a profile of the study subject according to the subject's inclusion criteria and health cadres of mental health problems in the community. The next stage is conducting early detection among study subjects by using the Self Reporting Questionnaire (SRQ-29) instrument. In the third stage, conducting training for the cadres in using the SRQ-29 as an early detection instrument. In the final stage, compare the level of knowledge and understanding of using the screening tool among cadres, before and after the training. The research time was performed from October to December 2021. A Self Reporting Questionnaire-29 (SRQ 29) is a questionnaire developed by the WHO as a measuring tool for mental problems or disorders. SRQ-29 contains 29 questions with the Guttman scale related to issues that may have bothered you over the past 30 days. For questions number 1 to 20. If there are 6 YES, then you should be referred to a mental health professional. For questions number 21 to 29 if there is only 1 (one) YES answer, then it should be referred to a mental health professional, if any disturbances were found should be immediately intervened to overcome them (*Table 1*) (Paisal et al., 2020; Netsereab et al., 2018; Beusenbrg and Orley, 1994).

Table 1.*Manual SRQ score-29.*

No	Category	Item	Score
1	Mental emotional disorder (anxiety and depression)	1-20	≥ 6
2	Napza (Narcotic, psikotropica, drugs)	21	1
3	Psychotic	22-24	1
4	Post Traumatic Symptoms Disorder (PTSD)	25-29	1

Therefore, cadres as someone who is elected in the community and an extension of the primary health care center could incorporate early detection and education if health symptoms are found related to mental health problems in their neighborhoods. The study was conducted in one district area of the Primary health care center of South Jakarta in one sub-district. The inclusion criteria of research subjects were residents who live in the area and were aged 15-59 years; selectively sampling based on the recorded area has the highest number of cases diagnosed with ODGJ. The total research subjects consisted of 120 residents and 13 health cadres. Research approval was obtained from the head of the MP primary health care center, the head of the community leader, and continued with the overview of the study objective. Participation in the

study was based on voluntary and requested their consent. All subject data were coded to keep personal data and screening results confidential and to prevent subjects from stigmatization. The results of the initial detection were also given to the person in charge of the mental health program at the primary health care center for follow-up. Data management was carried out according to stages of cleaning through coding, and analysis using descriptive statistics for univariate data, and a T-test was performed for analysis and evaluation before and after based on a score of their perspective.

Results and Discussion

First and second stage activities: Subject study profile

Table 2 describes the results of the study subject profile mostly female, with a mean ± SD of aged 44 ± 4 years, which means productive age and active subjects. Based on the SRQ-29 score, 13.3% indicated in the last 30 days have mental and emotional problems, in detail: (1) 6 subjects indicated psychological problems, psychotic disorders, and PTSD; (2) 4 subjects indicated psychological problems and PTSD; (3) 2 subjects indicated psychotic disorders and PTSD; (4) 1 subject had psychological problems and psychotic disorders; (5) 2 subjects indicated only PTSD; and (6) 1 subject indicated psychological problems.

***Table 2**. Characteristics and SRQ-29 score (N=120).*

Variables		Frequency, N (Percentage, %)
Sex	Male	7 (5.8)
	Female	113 (94.2)
Aged	15-19	6 (5)
	20-24	7 (5.8)
	25-29	10 (8.3)
	30-34	14 (11.7)
	35-39	13 (10.8)
	40-44	19 (15.8)
	45-49	22 (18.3)
	50-54	23 (19.2)
	55-59	7 (5.8)
SRQ-29 score	≥ 6	16 (13.3)
	< 6	104 (86.7)

All those who were detected as having mental-emotional problems were reported to mental health officers (doctors or mental health nurses) to be visited again and followed up by the primary health care center. Untreated and unmanaged psychological problems result in a poor outcome for people with psychological problems (ODMK) who has co-morbid physical illness commonly seen in primary health care. Untreated psychological problems could develop into psychological disorders and heighten the risk of suffering from physical illness because of the reduced immune system, poor health behavior, non-compliance with prescribed medical regimens, and barriers to obtaining treatment for physical disorders (Netsereab et al., 2018). ODMK, as indicated in the table above, is people who are at risk of developing mental disorders if not treated as early as possible. Primary health care providers play an important role in preventing the progression of ODMK's psychological problems. SRQ-29 questionnaire covers the ground for depression, anxiety-related disorders, somatoform disorders, psychotic disorders, and

the abuse of NAPZA. Using the SRQ-29 score as a basis, primary care providers could help ODMK persons to receive specialized care for their psychological problems. Cases such as psychotic disorders, PTSD, and the abusive use of NAPZA need to be referred to a secondary or tertiary health care facility, because in order to receive treatment and medications those are not provided in primary health care. Mental emotional disorders (anxiety-related and depression) could be managed in primary health care, except for psychotic episodes (Khalimah, 2020).

Primary care providers need to approach ODMK and educate them about their score on the SRQ-29. Educating and giving ODMK's reassurance about the score is important that they understand their problems. Discussing with ODMK's patients about their choice of treatment is important for the next step of management. Primary care providers also need to engage ODMK's family or other support systems for involvement. As cited in Ong et al. (2021) family unit plays a crucial role in ODMK and ODGJ, because family influences a person's development, behaviors, and habits. Thus, it is necessary to acknowledge both patients' and their families' experiences in planning treatment. The World Psychiatric Association and WHO have recommended in giving clinical psychiatric care should be done in collaboration between health care providers, patients, and the family or carer (WHO. 2020; Wallcraft et al., 2011). Engaging family in treatment planning consider as the potentially lead patients to a better outcome.

Third and final stage activities: Training and follow-up cadres

The third stage begins with developing seven (7) multiple choice (MCQ) questions to measure cadres' understanding of training materials related to used screening instruments (SRQ-29), before and after training (*Table 3*). Seven questions containing an evaluation of SRQ-29 as an early detection instrument and an understanding of the concept of the mental-emotional disorder. By enhancing their knowledge, it was hoped that cadres could support the doctor at primary health care on early detection of community mental-health problems and recommend the individual to the primary care center, thus they could get better treatment as early as possible. To build mobile instruments, cadres could conduct screening in the community setting more handy and easier compared to using paper, so it means also more paperless and green activity. We designed and compiled it into a google form and a screening QR code was made based on the SRQ-29 instrument. However, there were also some obstacles, related to mobile phone ownership and the availability of cost for subscribing to internet data packages for access per cadres. The allocation of these costs must also be taken into account from the village funds originating based on local government budgets (Mogi and Ratag, 2021).

***Table 3**. Evaluation questions.*

No	Question items
1	What is the score if someone has had mental-emotional problems in the last 30 days?
2	What do you know anout the signs and symptoms of people who have mental-emotional problems (ODMK)?
3	The SRQ-29 instrument was used to screen people with age?
4	How many question were in SRQ-29?
5	Look at the list bwloe, which was not included in the metal-emotional disorders?
6	What to do if someone gets a high score for the SRQ-29?
7	What was a mentally healthy family?

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After the above stage, we go to the next step. In this stage, we conduct face-to-face training for cadres carried consisting of socialization on mental-emotional problems, and practices of e-mobile instruments ended with an evaluation and follow-up next 3 days after the activity. The follow-up after 3-day has aimed to determine whether the persistent time of memory after the material was given or diminished already. By looking of the result score evaluation could be seen in *Figure 1*. Based on the evaluation in *Figure 1*, the results score of pre-test and post-test on the day activities, and the follow-up post-test after 3-days among 12 cadres; the average pre-test score was 41. After training and education session, the score increased to an average score of 90 but decreased again on the third day after training with an average score of 83.

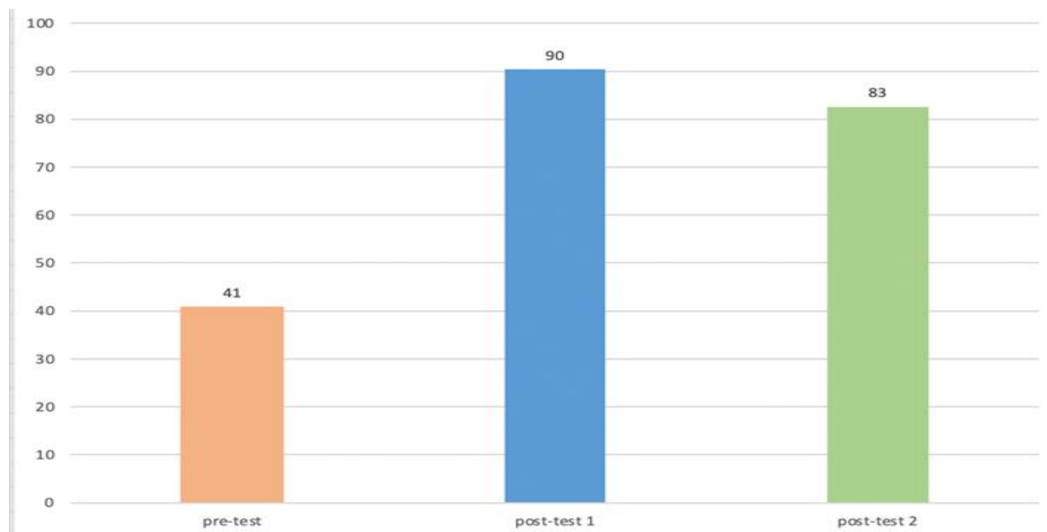

Figure 1. *Evaluation results and follow-up.*

Table 4 presented the significant differences due to educated intervention based on evaluation scores on the day of activity. By using paired T-test, computed result t-value was -5.013 and p-value 0.000394, and shows mean difference before and after cadre's education with increased their perspective score, T-value t0 > t0.025,11 (−5.013 > 2.201. It could be concluded that there were significant differences. The results of this analysis indicate that intervention in the form of training and education session for cadres as a form of refreshment and capacity building was very useful. Especially considering mental health problems and stigmatization in society. The results of this analysis indicate that the intervention with a training and education approach to cadres as a capacity-building and development activity is very useful. Especially considering the mental health problems and stigmatization that still exists in the community. Because it is why very firmly pressed in the elaboration based on Law Number 18 of 2014 concerning Mental Health is intended to ensure that everyone can achieve a good quality of life, provide integrated, comprehensive, and sustainable health services through promotive, preventive, curative and rehabilitative efforts. The law also mandates: (1) The need for community participation in protecting and empowering ODGJ in the form of assistance in the form of personnel, funds, facilities, and treatment for ODGJ; (2) Protection against acts of violence, creating a conducive environment, providing skills training; and (3) Supervise service delivery at facilities serving ODGJ (Rokom, 2014). Therefore, preventive measures before a person is diagnosed with a

mental disorder (ODGJ) need to be emphasized more. It needs mutual concern to prevent and understand the problems that arise in someone with mental problems (ODMK) as early as possible.

Table 4*. Pair T-test result of pre-post score.*

	Pair differences					t	df	Sig. 2-tailed
	Mean	Std. Deviation	Std. Error mean	95% confidence interval of the differences				
				Lower	Upper			
Pair 1 score pre-post	-39.63	27.38	7.90	-57.02	122.23	-5.013	12	.000394

Basic level of health services, provided by service facilities that are spearhead in the community, such as Primary health care (Puskesmas), Community Mental Health Center, private practice doctor or Community Mental Health Nurse, who has received training. Community mental health services by the community have very diverse forms, both could be institutionally such as posbindu, Recovery Institutions, and non-institutions such as self-care by family, and counseling by religious leaders. Other community mental health services are provided by trained and organized personnel, such as mental health cadres, teachers, police, and related sectors. Usually, services obtained for mental health problems in Primary health care include counseling, early detection, Psychiatric Emergency Services, Outpatient Services, Referral Services, and Home Visit Services. However, there is still a lack of public awareness and knowledge about the importance of knowing about mental-emotional health problems. This is a result of the lack of available information should be given by health workers to the public about the problem of mental-emotional disorders can be a trigger for mental illness. One form of community-based effort is posbindu for productive age targets. An integrated coaching post (posbindu) is an extension of the health center to provide promotive and preventive health services in the community. In posbindu training could be held specifically for mental health cadres. Form and types of skills training in mental health cadres include knowledge and skills in helping health for mental health services in society. Examples of skills training given include knowledge about mental illness and how to involve patients with mental illness after treatment back in society. Through the knowledge transfer program and community-based technology the expected group of patients after recovering from mental disorders to have a relationship or socialize with the surrounding community and engage in community activities so that the patient's quality of life improves and results in a low recurrence rate.

As we know that psychosocial is a condition or event that causes changes in a person's life so that that person is forced to make adjustments (adaptations) to cope with stress or mental stress. However, not everyone was able to adapt and overcome it, thus it has an impact on the emergence of mental disorders in a person. Types of psychosocial stressors could be grouped because of marital problems, parental problems, interpersonal relationships, work, environment, finances, life cycles of development, and so on. Efforts to prevent disease are to manage stressors, the management relates to how individuals maintain their health. Maintenance of health is the main brain function. the middle part of the brain when there is a stressor will stimulate the brain's biochemical processes, the relaxation response is the body's effort to return to a state of balanced. Increase public knowledge and awareness, ease of doing early detection, treatment of impaired patients' mental health, and socialization of patients with mental disorders with the surrounding community facilitated by mental health cadres are needed. Without the strong role and assistance of cadres, basic health services,

including early detection of health problems in the community, could not run. Cadre is a liaison at the community level with the family. After the community understands, it cannot be forgotten that the role of family support as the closest environment is to be willing and able to participate and support family members who have mental health problems. Family support for people with psychiatric problems as a psychosocial intervention was believed to be able to improve mental health services in primary care for sufferers and reduce stigmatization in the community (Hartini et al., 2018).

Conclusion

Primary health services, especially puskesmas as the spearhead of health services in the community, have a very important role in supervising and giving first-level prevention of the mental-emotional problem. Puskesmas are expected to play a role in providing mental health services that are integrated with general health services. Limited mental health resources and trained health cadres are one of the problems that need to be addressed. For this reason, it is necessary to increase the capacity of health workers in primary services, and community empowerment for health cadres needs to be carried out and synergize with each other. The use of screening instruments based on simple technology needs to be introduced and trained to health cadres to support a green environment.

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Conflict of interest

All authors declare that there is no conflict of interest in the writing of the manuscript for publication and the research study.

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