



## FARMERS' MENTAL HEALTH AND THE NEED FOR AGRO-NURSING-BASED NURSING INTERVENTIONS IN THE AGRICULTURAL AREA OF JEMBER DISTRICT

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### ABSTRACT

The agricultural sector faces with various challenges that can affect the psychological condition of farmers. These challenges include crop yield uncertainty, extreme weather, market price fluctuations, debt, and high workloads. This pressure can cause stress, anxiety, and even depression among farmers, who often receive little attention from the health system, including nursing. Objective: This research aims to identify farmers' mental health and the need for agro-nursing-based nursing interventions. Method: This research is descriptive research with a survey method. Respondents were determined using cluster random sampling, and a sample of 227 respondents was obtained. The research instrument to measure farmers' mental health uses the SRQ-20 and the need for nursing intervention uses an instrument prepared by researchers based on the Indonesian Nursing Intervention Standard (SIKI) guidelines. Results: The research results showed that 30.5% of farmers were at risk of mental health problems (SRQ score  $\geq 6$ ). The most common symptom of anxiety experienced was not sleeping soundly (45.9%). The most common cognitive symptom experienced was difficulty making decisions (35.1%). The most common somatic symptom experienced was headache (40.5%). The most common symptom of depression experienced was loss of interest in various things (43.3%). Nursing interventions required by farmers include the need for psychological education (72%), therapeutic support (81%), and advanced therapy (43%). Conclusions: Farmers often face social and economic challenges, including income uncertainty, social isolation in rural areas, and limited access to mental health services. Farmers usually work in remote areas, making it difficult for them to access existing mental health facilities. Agro-nursing-based nursing can develop intervention programs in local communities, helping farmers and their families easily access mental health support. Farmers are one of the professions that are at risk of experiencing mental health problems due to the demands of their work, so they require mental nursing intervention.

Keywords: farmers; mental health; nursing intervention

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### INTRODUCTION

Indonesia is a country that mainly has its livelihood in the agricultural sector. The results of the 2023 Agricultural Census (ST 2023) by the Central Statistics Agency (BPS) show that the number of farmers in Indonesia is 29.36 million. This number decreased by 7.42 percent compared to the 2013 ST results which reached 31.72 million (BPS, 2023). However, the agricultural sector is still the largest labor-absorbing sector in Indonesia. Ironically, the number of poor people in Indonesia, especially in rural areas, is dominated by people who work as farmers (Aldunce, 2015). Several districts in Indonesia rely more on the agricultural sector, including plantations, as a source of income (Lisdiana, 2014). However, in the Jember Regency, the farm sector had the lowest economic growth in 2019, 3.54%. Farmers are faced with various risks, including income uncertainty, climate change, and limited access to health facilities, all of which can trigger stress and mental disorders (Gao et al., 2021). There are still not many studies on the mental health of farmers in Indonesia, although a report from the Ministry of Agriculture (2020) states that farmers are one of the groups vulnerable to psychosocial problems. The problems faced by farmers in Jember Regency include long work

demands which put farmers at risk of injury and other risks, namely occupational diseases such as cardiovascular disease, pesticide poisoning, and emotional mental disorders (EH Kurniyawan, et al, 2022). Similar research conducted by Susanto and Purwandari (2016) showed that of 169 farmers, 57.7% of farmers experienced illness caused by work stress.

The problems or stressors experienced by farmers can endanger the mental health of individuals and groups. Farmer work stressors are different from other types of work. These stressors include the physical environment, family structure, agricultural economy, and uncertainty due to structural and economic changes in the agricultural sector (Kallioniemi, Simola, Kinnunen, & Kymäläinen, 2021). These stressors can cause mental health problems in farmers, although there is still little literature that provides an overview of mental health problems in farmers. Efforts made by the government to improve farmers' welfare include the formation of the Association of Farmer Groups (Gapoktan). Farmer groups are groups of farmers formed based on similar interests, similar environmental conditions (social, economic, resources), and familiarity. Farmer groups aim to improve and develop their members' businesses. All members of the farmer group have the same goals, interests, and motives to achieve the same goals. So far, farmer groups in Jember Regency have not been able to operate optimally. The cause of this not being optimal is the low access to market information compared to other business actors, resulting in the prices received by farmers being unprofitable. Farmers' access to technological information, mastery, and use of technological resources is still very limited, and most of the farmer groups that have been formed do not meet the specified age standards because there are still members of farmer groups who are over 65 years old. The problems faced result in low productivity, efficiency, and competitiveness of farmers' businesses (EW Wuryaningsih et al, 2019). Based on the above background, it is important to identify the mental health of farmers and the need for agronursing-based nursing interventions.

## **METHOD**

The research design used is quantitative descriptive analysis with a survey approach so that results will be obtained in the form of a frequency distribution. This study aims to analyze the mental health picture of farmers and the need for agro-nursing-based nursing interventions. The population of this research are farmers who are members of Gapoktan in the Jember Regency area. The sampling technique used in the research is probability sampling using a more complex cluster random sampling technique, namely: multistage random sampling. The research sample must meet the inclusion criteria, namely: 1. Farmers who are members of Gapoktan; 2. Farmers with an age range of 20 – 65 years; and 3. Willing to be a respondent. The number of samples obtained was 227 farmers. The research was conducted in the Jember Regency area. The variables measured include farmers' mental health and the need for nursing intervention. Farmers' mental health is a psychological condition felt by farmers in the Jember Regency area in the last 1 month. Meanwhile, the need for nursing intervention is the farmer's need for nursing services that can be chosen to overcome mental health problems. The research instrument for measuring farmers' mental health uses the Self Reporting Questionnaire-20 (SRQ-20) and the need for nursing intervention uses an instrument prepared by researchers based on the Indonesian Nursing Intervention Standard (SIKI) guidelines. SRQ is a questionnaire used to screen for mental health problems. Individuals are identified as having mental health problems if they answer 'yes' to at least 6 question items. The SRQ instrument was not tested for validity and reliability because the instrument was standard and sourced from the Indonesian Ministry of Health. SRQ-20 has a high validity value, with  $r$  count (0.708 – 0.941) >  $r$  table (0.136). In addition, the results of the reliability test also show that the SRQ-20 questionnaire has a Cronbach Alpha value of 0.981 > 0.688, which indicates that the questionnaire is reliable (Safitri & Widodo, 2024). SRQ indicators consist of

cognitive symptoms, anxiety symptoms, depression symptoms, somatic symptoms, and symptoms of decreased energy. This research has been declared ethically tested by the health research ethics committee of the Faculty of Dentistry, Jember University, and declared ethically acceptable with ethical approval letter number 2188/UN25.8/KEPK/DL/2023.

**RESULT**

Table 1.

Frequency Distribution of Respondent Characteristics: Gender, Ethnicity, Income (n = 227)

Respondent Characteristics		f	%
Gender	Male	159	70,4
	Female	68	29,96
Ethnicity	Java	95	41,85
	Madurese	132	58,15
Income	< 1 million	38	16,6
	1– 2 million	165	73
	> 2 million	24	10,4

Table 2.

Overview of Screening Results for Mental Emotional Disorders (n = 227)

SRQ	f	%
Potential	69	30,5
Not potential	158	69,5

Table 3.

Overview of Emotional Mental Disorder Categories (n = 227)

SRQ	Question Number	Answer			
		Yes		No	
Category		f	%	f	%
depressive symptoms	6	56	24,3	171	75,7
	9	51	21,8	176	78,2
	10	49	19	178	81
	14	50	20,2	177	79,8
	15	97	43,3	130	56,7
	16	48	18,7	179	81,3
	17	0	0	227	100
anxiety symptoms	3	99	45,9	128	54,1
	4	49	19	178	81
	5	90	37,8	137	62,2
somatic symptoms	1	93	40,5	134	59,5
	2	68	29,7	159	70,3
	7	51	21	176	79
symptoms of decreased energy	19	93	40,5	134	59,5
	8	49	19	178	81
	11	56	24,3	171	75,7
	12	85	35,1	142	64,9
	13	45	15,8	182	84,2
	18	51	20,8	176	79,2
	20	90	37,8	137	62,2

Table 4.

Description of the Need for Nursing Intervention (n = 227)

Need for Nursing Intervention	f	%
psychological education	175	72
therapeutic support	182	81
continued therapy	96	43

## **DISCUSSION**

### **Respondent Characteristics**

The research results showed that the majority of respondents were 159 men (70.04%) and 68 women (29.96%). In many cultures, physical work such as farming is often considered the responsibility of men (Kamilna, et al, 2022). Farming, especially in rural areas, often involves heavy physical labor such as plowing, planting and harvesting which is traditionally identified as men's work (Amaliyah, 2024). However, it is important to note that women also have a significant role in agriculture in various parts of the world. Some countries show data that women farmers contribute more than 40% of the workforce in the agricultural sector, even though their work is often not officially recognized (Maulana, et al, 2022). The results of research related to ethnic characteristics show that there were more Madurese respondents at 132 (58.15%) and Javanese at 95 (41.85%). Many ethnic groups in various regions have long historical ties to agriculture. For example, some ethnic groups have been farming for generations and have knowledge and skills passed down from generation to generation. This creates a strong cultural legacy where agriculture is considered a highly valued occupation in society. The research results show that farmers' income is in the range of 1-2 million (73%), income is more than 2 million (10.4%), and income is less than 1 million (16.6%). These results indicate that the economic level of farmers is in the lower middle category. Farmers' income tends to be at the lower middle level due to a combination of economic, social and structural factors. From limited access to land, and high production costs, to weather and market challenges, all of this contributes to a difficult economic situation for farmers (Gunawan, Suroto, & Nugroho, 2020).

### **Farmers' Mental Health**

The description of mental health based on research results shows that 30.5% of farmers are at risk of experiencing mental health problems. Mental health quality is the level of an individual's ability to manage development and the ability to face difficulties and interact with the environment. According to Peplau's conceptual model, mental problems that arise in a person are triggered by threats originating from environmental factors, both caused by the internal and external environment (Mawaddah, Mujiadi, and Rahmi, 2020). Farmers' mental health can have an impact on individual health, family life, farming productivity, as well as the health and welfare of farmer groups (Yazd, et al, 2019). The risk of mental health problems or mental emotional disorders among farmers has been identified in several countries, especially in countries suffering from crises that affect farmers such as disease outbreaks and drought. This shows a relationship between times of crisis for farmers and increased levels of stress, anxiety, mental health problems and suicide rates (Elyas, et al, 2021). This phenomenon shows that in times of crisis, farmers need additional support considering their vulnerability. Several authors state that there is no conclusive data that shows the level of mental health problems in farmers is higher compared to non-agricultural professions. Other authors found that farmers in England, Wales and Norway had a higher prevalence of psychological morbidity and depression compared to non-farming professions. Further evidence shows that farming is a highly stressful occupation, with farmers experiencing higher levels of stress compared to other occupations (Feng D, Ji L, Xu L, 2015). Judging from the profession in the household, farmers have a higher chance of experiencing symptoms of psychological stress and anxiety compared to non-farmer jobs. Psychological problems in the agricultural sector have a higher prevalence of 31.13% compared to non-agricultural sector jobs such as civil servants at 30.01%. The high demands of work and unfulfilled economic life increase the priority of psychological symptoms in farmers (Septiani, 2019). The results of research by Elyas, et al (2021) showed that 95 farmers (63.8%) were in the Bondowoso Regency farmer category. Similar research conducted by Ludwiwin (2024) on farmers in Bajawa District showed that 32.8% of farmers showed severe

stress, 50% moderate anxiety, and 22.4% mild depression. Financial and economic difficulties are perhaps the most common types of external stressors experienced by farmers.

An overview of farmers' mental health problems can be seen in the following five indicators:

- a. Symptoms of decreased energy. The most common symptom of decreased energy experienced was fatigue (37.8%). Decreased energy in the body can cause individuals to have difficulty completing work and functioning in their living environment. Reduced energy can result in fatigue and a decrease in an individual's ability to carry out activities (Kurniawan and Kumolohadi, 2015). Decreased energy or getting tired easily is a common symptom of psychological disorders such as depression. Research conducted by Hariyono et al (2009) states that a person's fatigue is related to workload or the amount of activity. Decreased energy identified through the SRQ could be an early sign of a more serious mental disorder, such as depression or anxiety disorders.
- b. Anxiety symptoms. Anxiety is an emotional state characterized by physiological arousal, unpleasant feelings of tension, and worry that something bad will happen (Alonso J, Liu Z, Evans-Lacko S, et al). Anxiety among farmers is a fairly common problem, especially because farming work is full of uncertainty and challenges (Saragih et al, 2017). The most anxiety symptoms experienced by farmers occurred during restless sleep (45.9%). This symptom is very relevant in the evaluation of mental health because poor sleep quality can worsen psychological symptoms and disrupt well-being (Choir, 2018). Sleep disorders such as insomnia or poor-quality sleep are often symptoms and consequences of anxiety (Andini, Rochmawati, Susanto, 2023). On the other hand, lack of sleep can worsen anxiety symptoms, creating a cycle that is difficult to break. Several factors that cause anxiety in farmers include weather uncertainty, market price fluctuations, financial burdens and debt, social pressure, lack of support and access to information, physical health and fatigue, the impact of climate change, and political and policy conditions. Unrestful sleep and anxiety influence each other in complex ways. Anxiety can make sleep difficult to achieve, while lack of sleep can worsen anxiety symptoms. Breaking this cycle is important for better mental and physical health, and often requires an approach that includes lifestyle changes, therapy, or medication to address both issues simultaneously.
- c. Cognitive symptoms. The most common cognitive symptom experienced was difficulty making decisions (35.1%). Cognitive symptoms are problems related to concentration and memory, such as lack of attention, slowness in thinking, and lack of understanding of something (Arifin and Nulhakim, 2015). Cognitive symptoms indicate a person's inability to think clearly, consider options, and act effectively. Difficulty making decisions can be one of the symptoms that leads to a diagnosis of a mental disorder such as depression, anxiety or severe stress. People who experience depression may feel hesitant or lack the energy to make important decisions, even about simple things (Wuryaningsih, Holivia, and Kurniyawan, 2019). Anxiety also often causes someone to find it difficult to make decisions. This is caused by excessive fear or doubt about the consequences of the decision which can give rise to a feeling of being trapped or afraid of making a wrong move. Chronic or severe stress can interfere with a person's ability to think rationally and make effective decisions. Cognitive disorders include impaired executive function, verbal fluency, and decreased visual and auditory memory (Corral et al., 2017).
- d. Somatic symptoms. The most common somatic symptoms experienced were headaches (40.5%). Somatic symptoms are physical symptoms which can be motor or sensory symptoms (Wuryaningsih, Fauziyah, Kurniyawan, 2018). Headache as a somatic symptom is a physical manifestation of a psychological or emotional problem. In the context of mental health, somatic symptoms refer to physical complaints that arise as a result of stress, anxiety, or other mental disorders, but are not caused by an obvious

medical condition. Managing stress, anxiety, and other psychological conditions through therapy or lifestyle changes is important for reducing the frequency and intensity of headaches. Farmers who frequently experience headaches can face various negative impacts that affect their physical, and mental health and productivity at work. Recurring headaches, especially when related to stress, fatigue, or anxiety, can worsen farmers' ability to carry out daily activities and contribute to a decline in their overall well-being.

- e. Symptoms of depression. Depression is a mood disorder characterized by feelings of deep sadness and loss of interest in things you like (Kartikasari, 2019). Anxiety and depression are events that are often encountered in everyday life, this is usually characterized by feelings of disturbance or depression, loss of interest or pleasure, feelings of guilt or low self-esteem, difficulty sleeping, decreased appetite, and poor concentration (WHO, 2015). Depression is a psychological problem and mental disorder that is often found in farming populations, where scores for stress and depression are higher and resilience is low. (Jones-Bitton et al., 2019; Marcom et al., 2018; Serrano-Medina et al., 2019; M.O. Torske et al., 2016). The most common symptoms of depression experienced were loss of interest in various things (43.3%). Individuals in a state of depression show a loss of energy and interest, great feelings of guilt, difficulty concentrating, and thoughts of ending their lives (Kurniawan and Sulistyarini, 2016). Loss of interest in various things will result in feelings of avoidance. Feelings of avoidance cause farmers to feel disconnected from other people and unable to participate in activities they like (Rahayu, 2017). The research results of Magnhild Oust Torske, Hilt, Glasscock, Lundqvist, & Krokstad (2016 in Sulistyono and Tristianana, 2019) show that farmers have higher levels of depressive symptoms and moderate levels of anxiety symptoms compared to other occupational groups. Farmers report physical discomfort and mental disorders related to the work they do, especially female farmers (Cezar-Vaz et al., 2015); Anxiety includes excessive worry, panic, PTSD, substance abuse, both drugs and alcohol, and personality disorders psychosis, although they are rare (Marcom et al., 2018).

### **Need for Nursing Intervention**

The research results show that 71% of farmers need psychological education. Psychological education needs to refer to the information and understanding needed by individuals or groups to improve mental well-being, emotional skills, and the ability to face psychological challenges in everyday life (Natasubagyo and Kusromaniah, 2019; Iqsa and Alpihan, 2022). Farmers often face social and economic challenges, including income uncertainty, social isolation in rural areas, and limited access to mental health services. The main goal of psychological education is to provide knowledge, skills, and resources that enable farmers to: understand themselves, manage stress and emotions, improve the quality of interpersonal relationships, face mental challenges, develop life skills, prevention, early intervention, and self-improvement compassion. Efforts to provide information about mental health to people who work as farmers can increase understanding of the symptoms of mental disorders that are felt and speed up improving psychological well-being (Gunn, et al, 2012). Nursing, as a profession that understands this context, can provide more effective support. One intervention that can be carried out by nurses to overcome farmers' mental health problems is carrying out health promotion by providing mental health education. The promotion of mental health is one of the efforts to overcome various health problems, including farmers' mental health problems (Fenderin, Arista, and Nurjanah, 2021).

The research results show that 81% of farmers need therapeutic support. Therapeutic support is a form of assistance or intervention provided by mental health professionals to help individuals deal with emotional, psychological or behavioral problems (Prasetyo, Azizah, and Budiyo, 2022). Support can be provided in various forms and through various approaches

depending on individual needs. Lack of access to mental health services in rural areas is another major burden for the provision of appropriate mental health services, including the provision of therapeutic support. Other barriers include farmer independence, social image/stigma, negative perceptions about the efficacy of health workers and high medical costs. Farmers often state that it is better to manage problems themselves rather than access help for physical or mental health needs.

The research results showed that 43% of farmers needed further therapy, which included: group therapy, psychopharmacology, family therapy, and additional counseling. Apart from that, in overcoming mental health problems in the farming population, contributions from various parties such as the government are needed regarding policy determination and the availability of competent health workers related to primary, secondary and tertiary interventions. Several interventions that can be recommended to farmers who have mental health problems include: 1) Intervening in two different groups according to gender problems and approaches (Hanklang et al., 2016; Jones-Bitton et al., 2019; Lee et al. , 2019). 2) Health workers need to provide health education regarding safe and effective management of pesticide use to farmers to prevent farmers' health complications (Serrano-Medina et al., 2019). 3) Conduct holistic interventions and recognize the protective factors and vulnerability factors that farmers have which can interfere with their psychological condition, participation in the buying and selling market, development of social networks, farmers' skills and knowledge, as well as contribution to the social system (C. Brigance, Soto Mas , Sanchez, & Handal, 2018). 4) Develop policies related to farmers' mental health related to climate change to encourage adaptation to farmers' mental health (Acharibasam & Anuga, 2018). 5) Mental disorder prevention programs in agricultural areas should also carry out cognitive evaluations on farmers and communities living around agriculture which also includes vulnerable populations such as children (Corral et al., 2017). 6) Providing counseling services (Logstein, 2016) for retirement preparation, especially for male farmers, by approaching topics related to physical health, relationships with family, finances related to retirement, public health, and reducing stigma in society (Kunde et al., 2017). 7) Providing self-help-group interventions, especially for nomadic farmers increasing farmers' awareness regarding the importance of mental examination and increasing farmers' access to mental health services (Brew et al., 2016).

Gapoktan can be used as a platform to minimize the appearance of signs and symptoms of mental disorders in farmers. Gapoktan is an organization that has the aim of accommodating farmer groups and farmers who are its members so that farmers will have the same vision as Gapoktan. Apart from having the function of accommodating farmers, combined farmer groups are also needed by the community due to the need for empowerment to increase farmers' abilities and overcome farmers' helplessness (Fauziyah, 2020; Rosidin, Sumpena, & Tamkin, 2022). Gapoktan is usually located within a hamlet or village. Gapoktan empowerment can be optimized when providing group therapy involving farmers who have mental health problems, where farmers usually work in remote areas, so it tends to be difficult to access existing mental health facilities.

Farmers' difficulties in accessing mental health facilities will be greatly helped by the role of agro nursing nurses. Agronursing-based nursing can develop intervention programs in communities and help make it easier for farmers and families to access mental health support. Agronursing is an innovative step to help improve farmers' mental health with a sensitive approach according to symptoms so that it can improve overall welfare in the agricultural sector. Through agronursing, nurses can help farmers manage stress and anxiety related to

weather conditions, changes in agricultural policies, or economic pressures. Agronursing also focuses on mental health education and promotion. Agronursing also includes efforts to increase farmers' awareness of the importance of maintaining a balance between work and mental health, as well as eliminating the stigma related to mental disorders in the community. Agronursing prioritizes a holistic approach by considering agricultural environmental factors, heavy physical work, and the psychological risks that accompany it. This approach is more relevant to farmers because it covers their unique aspects of life. Examples of Agronursing Interventions include mental health education, social support programs, community-based counseling, and stress management training (Teaching coping, mindfulness, and time management techniques) adapted to farmers' work routines. Nurses need to change hospital-based treatment to encourage health promotion in various fields. Nurses need to develop the ability to engage with families and communities to increase public awareness (Salmond & Echevarria, 2017) as well as carry out frequent screening of at-risk groups improve case finding for certain disease problems, provide counseling services and improve individual skills to help their peers. To achieve optimal health conditions such as training new facilitators from farmers to help deal with the psychological conditions of their peers.

## **CONCLUSION**

The research results show that 30.5% of farmers are at risk of mental health problems. The picture of farmers' mental health problems can be seen in five indicators. The most common symptom of decreased energy experienced was getting tired easily (37.8%), the most anxious symptom experienced was not sleeping soundly (45.9%), the most cognitive symptom experienced was difficulty making decisions (35.1%), symptoms of The most common somatic symptom experienced was headache (40.5%), and the most common depressive symptom experienced was loss of interest in various things (43.3%). Nursing interventions required by farmers include the need for psychological education (72%), therapeutic support (81%), and follow-up therapy (43%).

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