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Preventive health actions of female farmers in Semarang regency to anticipate malnutrition

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Abstract

Malnutrition, obesity and non-communicable diseases still frighten Indonesia until 2019. The phenomenon of malnutrition cases of toddlers and school children was quite elevated in female farmers' families in Semarang Regency, Central Java. This study described female farmers in ¹assessing the facilitative role of *Kelompok Wanita Tani* (Female Farmers Organization), ² assessing the effect of the facilitative role of Female Farmers Organization (FFO) on preventive health actions, and ³ assessing preventive health action to anticipate cases of malnutrition risks. The findings of this ex-post-facto research were used to develop strategies to reduce the risk of malnutrition.

Keywords: Female farmers; Female farmers Organization; Preventive health actions; Malnutrition.

Acciones preventivas de salud de los agricultores femeninos en la región Semarang para anticipar la malnutrición

Resumen

La desnutrición, la obesidad y las enfermedades no transmisibles aún asustan a Indonesia hasta 2019. El fenómeno de los casos de desnutrición de niños pequeños y escolares fue bastante elevado en las familias de las mujeres agricultoras en Semarang Regency, Java Central. Este estudio describió a las mujeres agricultoras al ¹valuar el papel facilitador de Kelompok Wanita Tani (Organización de Mujeres Agricultoras), ² evaluando el efecto del papel facilitador de la Organización de Mujeres Agricultoras (FFO) en las acciones preventivas de salud y ³ evaluando las acciones preventivas de salud para anticipar casos de riesgos de desnutrición. Los resultados de esta investigación ex-post-facto se utilizaron para desarrollar estrategias para reducir el riesgo de desnutrición.

Palabras clave: Mujeres agricultoras; Organización de mujeres agricultoras; Acciones de salud preventiva; Desnutrición.

1. INTRODUCTION

The population of Indonesian women are equal in to men, and they gradually become equal in potential resources. Based on a survey by Inter-Census Population Survey in 2015, Indonesian's population is assumed to be 266.91 million in 2019 – 68% are in the productive age with men with 134 million and women with 132.89 million (BAPPENAS, 2018). According to this survey, the number of female

farmers in Indonesia in 2018 was recorded at 8.051.328 people (BPS, 2018). If this is compared to Pakistani women, the majority of them work in the agricultural sector. They become the second power after the male role, so they can be considered having equal role (ZAIDI, et al., 2018).

The problem of malnutrition, obesity and non-communicable diseases is estimated to still frighten Indonesia until 2019 (AGUSTINA, et al., 2018). The frequency of malnutrition cases for toddlers and school children in Indonesia and the world are still quite high. The Ministry of Women Empowerment and Children Protection (KPPA) stated that 79.2% of toddlers have good nutritional status, 3.9% are poor, and 13.8% of them are malnourished and 30.8% experience stunting (KPPA and BPS, 2019). As illustration, World Health Organization revealed that 150 million toddlers suffer from malnutrition, and 49% of 10.4 million toddlers die of it (DEWI, 2013; KURNIASARI, 2011). In Minnesota, 10% of families give children unsafe consumption, then 1 of 6 children is at risk of malnutrition as reported in Second Harvest Heartland (2013). In 2012, children from 10 % of family in the USA got problems with food (COLEMEN-JENSEN, NORD, & SINGH, 2013). In Australia, people in rural areas have lower health status and life expectancy than in urban environment reported in a statistic from AUSTRALIAN BUREAU (2011). Social disparity and geographical distance from service centers and resources are two main causes (AUSTRALIAN INSTITUTE OF HEALTH AND WELFARE, 2008). Children with malnutrition have much lower

energy and learning interests than the healthy ones. This condition affects their development (ENGLE, 2010).

The Indonesian government seeks to reduce the malnutrition risk through planned efforts including training female farmers about preventive actions to reduce the cases, which are spreading throughout Indonesia. Active participation of them is one important focus to decrease the occurrence of malnutrition cases because health, economy, and social life are according to GOLDIN (2006) and LUNDBERG & POLLAK (2007) controlled by family. In the health sector, the presence of knowledge-based family participation is far more effective if done by themselves, for instance by identifying and proposing solutions when health problems occur in the family (MORGAN, 2001). There is an established general consensus, namely the presence of community participation in handling health issues because it is the main enabling factor for the community to optimize its potential (WHO, 1978; WHO, 1986). The involvement of a community is an important dialogue process to increase a correct-based health way. Such process is transformative because the actors are present and directly involved in handling it. All capacities and authorities must be discussed by Health Office, FFO, and female farmers in order to solve the health problems. Hence, this approach requires the presence of innovative action solutions from them (MARSTON, et al., 2016).

This study reveals the preventive health actions of female farmers and the role Female Farmers Organization (FFO) in building its independence in the health sector, specifically to reduce the

malnutrition risk. Female farmers in Semarang Regency are mostly fertile-aged housewives, and most of them have toddlers and school children.

Malnutrition has an effect on brain structure of mice. DEBASSIO et al., (1996), MATHANGI & NAMASIVAYAN (2001), GRANADOS-ROJAS et al., (2002) and ALAMY & BENGELLOUN (2012) stated that malnutrition can change number of cell, migration of cell, myelination, synaptogenesis, formation of hippocampal and neurotransmission. It is a health phenomenon that has potency to disrupt the productivity of female farmers' family in Indonesia. In general, symptoms of malnutrition are identified when a mother feels an indication of a decrease in the child's immune system. Furthermore, in its normative format, a mother's instincts will analyze and think of a solution, where the specificity of symptoms is the key, whether it points to the risk of malnutrition or not. Meanwhile, the specificness of symptoms influences the expectation factor, which plays a role in making decisions to identify and determine further solutions to eliminate these symptoms.

In this context, the level of seriousness regarding attention to symptoms is influenced by the child's immune deficiency, which can directly point to the symptoms of malnutrition (GOCHMAN, 1988). A mother's attitude at risk of this point is part of a unique predisposition, which can act as a starter and director of behavior and it is a genetic and learning factor (ALLPORT, 1961). As an illustration of this attitude, it has been proven that the value of belief has superiority in healing illness. In Ghana, the value of spirituality is used to help

people heal physical and mental illness. Based on 42 of 45 studies (93%) in the sick group, it is known that there was a significant correlation between spirituality values and life goals (KRAUSE, 2010). When stimuli act as triggers, then the attitude component will act as an intermediary that elaborates in the advanced stages of calculating responses to triggers (GIBSON, IVANSEVICH & DONELY, 1995). The weakening condition of toddlers' health can be a stimulus for the affective, cognitive, and conative components for each mother.

2. METHODOLOGY

This is ex-post-facto reserach taking the population female farmers in Semarang Regency. There were 20 active Female Farmers Organization (FFO). Each FFO consisted of 20-30 people by purposive random sampling. 182 from 381 people were chosen based on validity of 5%. Data collected from female farmers: ¹⁾ knowledge of preventive health actions obtained through the facilitative role of FFO. The score range of each subject was $22 \leq x \leq 88$, and respondents assess 22 statements with some optional answers: ^{a)} “plays very facilitative role” scores 4, ^{b)} “gives facilitative role” scores 3, ^{c)} plays “enough facilitative role” scores 2, ^{d)} “does not play a facilitative role” scores 1; the score categorization was conducted by using

Interval scale description techniques, namely; ²⁾ preventive health measures reduce malnutrition cases risk. The score range for

each subject was $22 \leq x \leq 88$. The respondents assessed 22 statements with some alternative (optional) answers: ^{a)} “always” scores 4, ^{b)} “often” scores 3, ^{c)} “rarely” scores 2, ^{d)} “never” score 1; the score categorization was done by using interval scale description techniques; ³⁾ Supporting data was in the form of education and family income description.

The validity test was done with the product moment correlation coefficient and reliability with the rulon split half formula ($\Sigma: 30$ org). The results are ¹⁾ there were 22 items of knowledge measurement tools. The validity test results were valid with a reliability score of $0.590 > r$ table: 0.361 at p: .05; the validity tests of all knowledge items were valid, with a reliability score of $0.6600 > r$ table: 0.361 at p: .05. Thus, the knowledge measurement tool was reliable; ²⁾ there were 22 items of preventive health actions. The validity test results were valid with a reliability score of $0.8726 > r$ table: 0.361 at p: .05; the validity test of all preventive health action items was valid, with a reliability score of $0.7308 > r$ table: 0.361 at p: .05. Thus, the preventive health action measurement tool was reliable. All data were normally distributed and homogeneous. The effect test was done with F/Anova Test, norm p: .05.

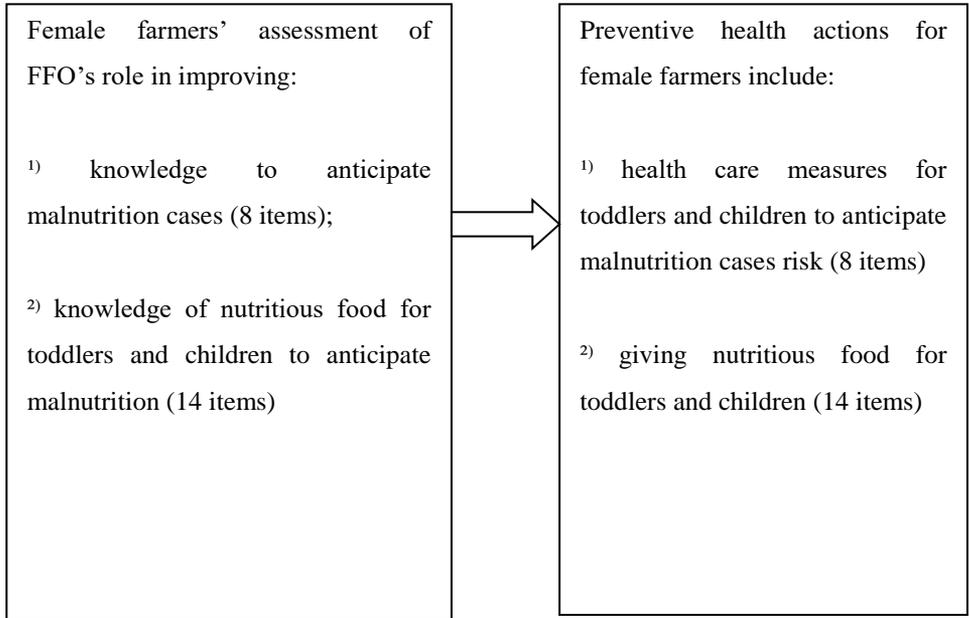


Figure 1: Research analysis framework

3. RESULTS and DISCUSSION

Table 1 shows assessment of female farmers on the facilitative role of FFO to improve knowledge. 53.2% consider FFO as having a facilitative role and 42.0% think that FFO gives a very facilitative role.

The FFO Facilitative Role Category	Frequency	Percentage (%)
Does not play a facilitative role	1	0.5
Gives enough facilitative role	8	4.3
Plays a facilitative role	100	53.2

Really plays a facilitative role	79	42.0
Total	188	100

Table 1: The category of female farmers' assessment towards the facilitative role of FFO

Description of the number of female farmers who take preventive health actions to anticipate the malnutrition risk is presented in Table 2. A total of 59.6% often do, and 38.3% of them are in the always do category.

Category	Frequency	Percentage (%)
Never do	-	-
Rarely do	4	2.1
Often do	112	59.6
Always do	72	38.3
Total	188	100

Table 2: The preventive actions category of female farmers anticipating the malnutrition risk

The facilitative role FFO significantly had effect on preventive health actions of female farmers to anticipate the malnutrition risk. F score was 13,328 at p: .00. That can be seen from Table 3.

Model	Total Squares	Df	Mean	F	Sig
Regression	754.524	1	754.524	13.328	.000
Residual	10529.944	186	56.613		
Total	11284.468	187			

Table 3: F test results about the influence FFO’s facilitative role on preventive health actions

The amount of effective contribution of FFO’s facilitative role in preventive health actions is very significant though small, namely at 6.7% as in the following table.

Model	R	R Square
1	.259	.067

Table 4: FFO’s contribution in the female farmers’ preventive health actions

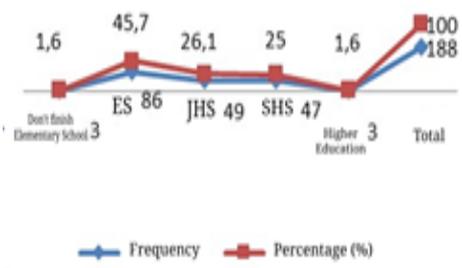


Chart 1: Female farmers’ education category

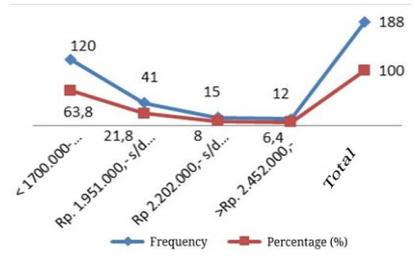


Chart 2: Monthly income category

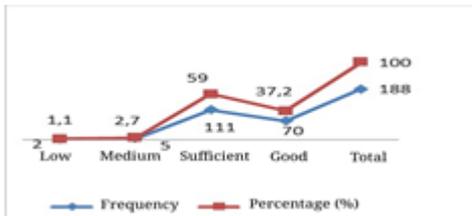


Chart 3: Nutrition knowledge category

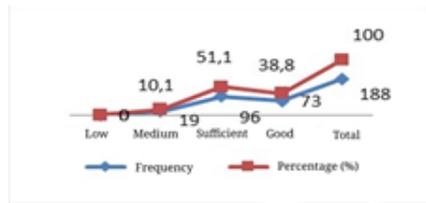


Chart 4: Children's health protection category

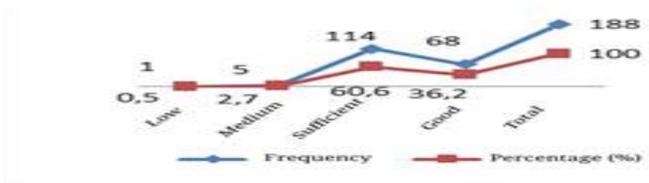


Chart 5: Nutritious feeding category

There are 53.2% of female farmers' assessing that FFO played a facilitative role to increase their knowledge. In fact, 71.8% of FFO members had elementary education background (check Chart 1). Because of that, they had no idea how to deal with children's health status. The actions carried out were normative, tradition-based in the childcare approach, and it was more appropriate as a portrait of what parents did in the past. Fixing or beautifying this portrait was not a simple job. A lot of resistance must be solved one after another. From a health perspective, it was not based on an academic concept even though they were not definitely wrong.

The education factor really influenced as revealed by SUKARNI (1988). The level of mother's education influenced the quality of childcare. Educated female farmers can likely plan families better than the ones who do not. They can take care of children to be healthier and well educated (AMIN et al., 2011), although in several cases, job choices are prioritized over the role of mother when education becomes dominant as a motivating factor for women (MAZHAR, et al., 2017). One's education level affects the capacity to respond and analyze information. In fact, a women's education level and mothers as well as infant mortality is correlated (MCALISTER & BASKETT, 2006). Other findings revealed that 59 percent of female farmers consider their nutritious food knowledge to be sufficient (check Chart 3). Based on this fact, optimizing FFO role as a mode to increase the female farmers' knowledge is an urgent and relevant way. However, intervention towards female farmers demands a significant additional time and potentially gives negative impact on their health status (RUEL, et al., 2018).

Issues that need to be raised are why preventive health measures and nutritional knowledge of farm women in general are in the medium category (check Table 2 and Chart 3). The answer from a behavioral perspective explains that the reinforcing and enabling factors of predisposition become a very dominant component of causes. The Javanese cultural context justifies that female farmers understand better related to preventive health actions exemplified by their parents when they were still young. However, these actions are not always in sync with the health provisions, and sometimes they are

even contradictive. Feeding children under five and school age, for instance, has been done in many wrong ways. It is estimated that all actions taken are based more on normative provisions in force in the environment, even though those provisions are now incompatible with norm of health.

The farmers understand kinds of food ingredients to eradicate famine and intensify energy. How female farmers feed nutritiously to children is quite encouraging. 60.6 percent is enough and 36.2 percent is good (check Chart 5). This fact is commensurate with the facts of their nutritional knowledge. 59 percent is adequate and 37.2 percent is good (check Chart 3). Generally, this can be concluded that female farmers have experienced systemic difficulties in dealing with malnutrition phenomenon. This is because the malnutrition cases are thought to be built more by causes that come from outside of nutrition knowledge and the act of feeding children.

Presumably, there are other things that need to be further investigated about the phenomenon. In terms of looking after children's health, 51.1 percent did it in the adequate category and 38.8 percent did well (check Chart 4). This fact seems to reinforce the conclusion that there are other causes beyond the health measures carried out daily prevention, occurs in those who are facing systemic difficulties. The meaning is, the findings of the available evidence may be categorized as a reversal of malnutrition cases in female farmers' family. As an illustration, it was found in the research of Johnson, et al., that women's work in certain contexts can have an impact on family nutrition (2018). Because of this, preventive measures for

female farmers leave complex problems, departing from systemic difficulties that need to be further investigated, and there is a large probability that these phenomena depart from the limitations of the academic map. Another cause can be the economic condition of most families with small income, amounting to 85.6 percent (check Chart 2). This phenomenon took place in an unplanned period of time. In the end, the situation was able to change the mental map from material poverty to structural poverty. The academic map that underlies the health actions of female farmers is always co-opted paradigmatically and symbiotically, in and by other life problems. The solutions are according to apperception and mental measurements that are prioritized. All happened because of the limitations of initial knowledge possessed.

59 percent of female farmers choose "often do" in malnutrition anticipation. 38.3 percent of them choose "always do" (check Table 2). Linking these numbers points out to a positive trend. It brings a clear message that there is a significant trend of preventive health actions which continuously increase. Strengthening the facilitative role of FFO is the right spectrum, because statistically that role is very significant ($p: .00$) even though it is only 6.7 percent (check Table 3 and Table 4). The facilitative role of FFO can directly be a mode of improving the female farmers' knowledge. The level of education, socio-economic, environment, interest, needs and health merit in the society indirectly influences the actions. These are a mental synergy of the elements of cognition and affection, as worthy as the action itself. The cognition process is the main interaction between the health action predisposing

aspects, as well as constructing a preventive mechanism anticipating malnutrition risk.

4. CONCLUSION

1. Female farmers assess the facilitative role of Female Farmers Organization (FFO) to improve the preventive health actions knowledge as follows: ^{a)} 42.6% of them consider it as very important, ^{b)} 51.1% people think it plays a role, ^{c)} 5.3% of them rate it as having sufficient role, ^{d)} 1.1% female farmers rate it playing less role.

2. Preventive health actions for female farmers anticipate the risk of malnutrition cases as follows: ^{a)} 38.3% always do; ^{b)} 59.6% often do; ^{c)} 2.1% rarely do, and ^{d)} 0% never do.

3. The influence of the FFO's facilitative role in anticipating the risk of malnutrition cases is very significant for $p: .00$. The contribution is 6.7% with $p: .00$.

4. Malnutrition phenomenon of toddlers and children among Indonesian female farmers' families becomes a systemic problem. The reduction requires a multi-dimensional approach, not only through the spectrum of resolution of the health dimension, but also extends to the problem of institutional and personal paradigm changes. Besides that, socioeconomic problems are a latent scourge among female farmer's families. The massive of structural poverty affecting most of them needs to be decomposed as carefully as possible, and this takes a long time.

5. RECOMMENDATION

The recommendation of research results:

1. The Department of Agriculture should enrich information on preventive health knowledge in order to anticipate the malnutrition risk cases in FFO work programs.

2. Health Office continuously improves education about preventive health knowledge of the malnutrition risk, and is carried out on an ongoing basis through FFO modes of activity

3. Further research is needed, which is a comprehensive multi-approach to deconstruct the malnutrition phenomenon of toddlers and children among Indonesian female farmers. It also requires international collaboration so that the results have a strong justification for extrapolating to other regions, countries, and even other continents that are culturally and behaviourally equal.

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