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SELF-EFFICACY AND SELECTED DEMOGRAPHICS AS DETERMINANTS OF THE FAMILY BEHAVIOR ON EXAMINATION FOR PATIENTS WITH TUBERCULOSIS IN PAMEKASAN

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ABSTRACT

Background: Tuberculosis is still a global health problem, particularly in Pamekasan. The family support to do examination for patient with tuberculosis is inadequate. There was a limited literature exploring the factors associated with the Family Behavior on Examination for Patients with Tuberculosis.

Objective: This study aimed to analyze the correlation between self-efficacy, demographics and Family Behavior on Examination for Patients with Tuberculosis in Pamekasan.

Methods: This research was conducted through cross-sectional design. A number of 379 respondents were invited from 8 clinics using a two-stage cluster sampling. This study was conducted from December 2016 to August 2017. The Bivariate analysis was tested using Chi-square while multivariate analysis was examined through logistic regression.

Results: The most respondents who did not do examination for patient with Tuberculosis was > 50 years old and have low level of education. The bivariate analysis showed that only self-efficacy and education level have relationship with the behavior of self-examination among family of patients with Tuberculosis (p-value < .05). The positive relationship indicates that the higher score of self-efficacy and education level the greater the effort of family to do examination for patient with Tuberculosis (p-value < .05).

Conclusion: The self-efficacy and level of education have significant influence toward the behavior of self-examination, therefore it can be reference for health practitioner and researcher to promote health behavior among family of patient with Tuberculosis.

Key words: Behavior, family, self-examination, self-efficacy, tuberculosis.

INTRODUCTION

Tuberculosis is still a global problem because until now no country in the world has been free from this disease. The Mycobacterium tuberculosis has infected one third of the world's population, based on WHO data there are around 10.4 million cases of tuberculosis, some 5.9 million (56%) sufferers are men, 4.5 million (44%) are women, 1 0 million (10%) of tuberculosis sufferers attack children (WHO, 2014).

The case detection rate (CDR) of tuberculosis in Pamekasan Regency recorded in Pamekasan District Health Office for all Public Health Center in 2015 averaged 39.85%, this figure is certainly very far from the national coverage target of 70% (Widjanarko, 2016). Most of local society consider that tuberculosis is not contagious. They think that Tuberculosis can be cured by putting phlegm in a container and then buried. This happened from generation to generation until now, thus affecting the interest of the community to utilize Public Health Center. Family plays an important role in efforts to treat

and prevent transmission of tuberculosis (Heny, 2015).

A factor that might affect the behavior of self-examination is self-efficacy of the family to support patient to do Tuberculosis examination. *Self-efficacy* plays a significant role on how people think, feel, and behave. *Self-efficacy* consisted in cognition can determine whether health *behavior* will be sustained or change (Bandura, 1997).

This study aims to explore factors associated with the behavior of self-examination among family who has direct contact to patient with tuberculosis in Pamekasan. The results of this study are expected to help health workers and government to build a strategy so that family can utilize the service of Public Health Center. This study aimed to analyze the correlation between self-efficacy, demographics and Family Behavior on Examination for Patients with Tuberculosis in Pamekasan.

METHODS
Study Design
This research was conducted with an observational approach, which is to observe without giving treatment to the population but to analyze the influence of existing variables. This research is a quantitative analytic using cross-sectional approach.

Setting
This research was conducted in Pamekasan Regency from December 2016 to August 2017.

Research Subject
The population in this study were all close contact families of patients with pulmonary tuberculosis (care giver) in Pamekasan Regency with a total of 881 people. The sample used in the study was a portion of close contact families (care giver) of pulmonary tuberculosis patients who were willing to be examined.

The data collection method was a simple random sample selection procedure. Data collection was done by distributing questionnaires randomly until the required number of samples was met. The sample size for this study amounted to 379 samples. Determination of the sample size of each Public Health Center using the proportional method of determining the sample size of each Public Health Center selected proportionally according to the patient population in each Public Health Center.

Instruments
The conceptual framework in this study was designed based on the Social Cognitive Theory (SCT) developed by Albert Bandura (1977) where this model can provide an overview of how individuals, the environment and habits have a strong relationship to the emergence of a person's behavior. This study analyzes the relationship of factors contained in personal components such as age, gender, education level, work status and self-efficacy with family behavior in tuberculosis examination. For validity, it used a significance test by comparing the value of r arithmetic with the value of r table. This validity test was conducted by testing the questionnaire on populations that have similar criteria of 20 respondents, after the tabulated data, the construct validity testing was carried out by factor analysis, which is to correlate between scores of questionnaire items. In this case the magnitude of df can be calculated from 20 to 2 or df = 18 with alpha 0.05 obtained r table 0.444, if r counts the questions can be seen greater than r table and the value of r is positive, then the question is said to be valid. Reliability test means that an instrument can be trusted enough to be used

as a data collection tool because the instrument is good. If the data is true in accordance with reality (Arikunto, 2006), then no matter how many times it is taken, it will still be the same. Self-efficacy has Cronbach Alpha .650, meaning that the instrument was reliable.

Data Analysis

The data obtained were examined trough descriptive, bivariate, and multivariate analysis.

Ethical Consideration

This research has gone through an ethical test from Nursing Academy of Nazhatut Thullab Sampang and obtained permission from National Unity and Politics of Pamekasan Regency. The authors confirmed that all respondents had obtained appropriate informed consent.

RESULTS
Characteristic of Respondents

Table 1. Distribution of Frequency of Respondents in Pamekasan (n = 379).

Variables	Number	Percentage (%)
Age (year)		
20 – 29	130	34.3
30 - 39	159	42.0
40 - 49	78	20.6
>50	12	3.2
Total	379	100.0
Gender		
Male	168	44.3
Female	211	55.7
Total	379	100.0
Level of education		
No school	15	4.0
Elementary school	135	35.6
Junior high school	146	38.5
Senior high school	56	14.8
University	27	7.1
Total	379	100.0
Occupation		
Farmer	224	59.1
Entrepreneur	143	37.7
Civil servant	12	3.2
Total	379	100.0

From table 1, It can be seen that the majority of respondents consisted of 30-39 years old (42.0%). This proportion indicates that the majority of respondents

were in the productive age group. The majority of respondents of 211 (55.7%) were women. This relates to the roles and responsibilities of meeting household needs and the intensity of contact between family members. A few numbers of respondents were not school (4.0%). The level of education affects health behavior, because the level of education is closely related to the ability of individuals to absorb information.

Most respondents worked as farmers which were 224 (59.1%), compared to other occupations. Agriculture is a job that requires a long time, it can affect one's health behave.

Characteristic of Respondents by Self-Efficacy on Their Ability Doing Health Behaviors

Table 2. Distribution of Frequency of Respondents by Self-Efficacy on Their Ability Doing Health Behaviors in Pamekasan (n = 379).

Category	Number	Percentage
Low	157	41.4
High	222	58.6
Total	379	100.0

From table 2, it can be seen that respondents have high self-efficacy which are 222 (58.6%) respondents. Self-efficacy is related to a person's ability to take action. This affects the confidence to conduct health checks. Most respondents have high self-efficacy, this can be seen from the statement of agreement for each statement of belief. However, there are a small number of respondents who are not sure that they are able to come to the Public Health Center to check their own tuberculosis if there is no support from neighbors and the community in their neighborhoods (4.5%).

Characteristic of Respondents by Family Behavior on Tuberculosis Examination

Table 3. Distribution of Frequency of Respondents by Family Behavior on Tuberculosis Examination in Pamekasan (n = 379).

Category	Number	Percentage
No examination	227	59.9
Examination	152	40.1
Total	379	100

From table 3, it can be seen that the results of the analysis show that the majority of tuberculosis contact families in Pamekasan Regency did not conduct tuberculosis examination as many as 227 (59.9%) respondents.

Examination of Correlation between Characteristic of Respondents and Self-Efficacy on Their Ability Doing Health Behavior

Table 4. Relationship between Characteristic of Respondents and Family Behavior on Tuberculosis Examination in Pamekasan (n = 379).

Characteristic of Respondents	Family Behavior on Tuberculosis Examination
Age	*p*-value .242
Gender	*p*-value .133
Education Level	*p*-value .000
Occupation	*p*-value .065

Based on table 4, it found that there was no significant relationship between age, gender, occupation, and tuberculosis examination behavior in Pamekasan Regency (*p*-value .0242, *p*-value .133, *p*-value .065, respectively). For education level, it was significantly relationship with family behavior on tuberculosis examination in Pamekasan (*p*-value .000, α ≤ 0.05).

Examination of Correlation between Self-Efficacy on Their Ability Doing Health Behaviors and Family Behavior on Tuberculosis Examination in Pamekasan

Table 5. Relationship between Self-Efficacy on Their Ability Doing Health Behaviors and Family Behavior on Tuberculosis Examination in Pamekasan (n = 379).

	Family Behavior on Tuberculosis Examination
Self-Efficacy on Their Ability Doing Health Behaviors	*p*-value .000

According table 5, it found that there was a significant relationship between self-efficacy and tuberculosis examination behavior in Pamekasan Regency (*p*-value .000, α ≤ 0.05).

Examination of the Influences of Factors toward Family Behavior on Tuberculosis Examination by Logistic Regression

This multivariate analysis was used to examine the influence independent variable toward dependent variable and to determine which independent variables that have effect to dependent variable. The selecting variables included in the logistic regression used Crosstab testing with including dependent variable and independent variable together including age, gender, occupation, level of education and self-efficacy. The variables that were included in logistic regression should have *p*-value <.05.

Table 6. Examination of the Influences of Factors toward Family Behavior on Tuberculosis Examination (n = 379).

No	Variables	*p*-value	Note
	Modified factor		
1	Age	0.142	Not Significant
2	Gander	0.133	Not Significant
3	Occupation	0.065	Not Significant
4	Level of education	0.000*	Significant
5	Self-efficacy	0.000*	Significant

The data on table 6 showed that of 5 variables, only two variables (level of education and self-efficacy) that have significant relationship with family behavior on Tuberculosis examination. Therefore, these two variables were included in logistic regression analysis.

Table 7. Examination of the Influences of Selected Factors toward Family Behavior on Tuberculosis Examination (n = 379).

Variable	B	Sig.
Level of education		
- Elementary school	2.517	0.039
- Junior high school	2.724	0.025
- Senior high school	3.010	0.016
- University	4.983	0.000
- No school	Reference category	
Self-efficacy		
- High	1.812	0.000
- Low	Reference category	

Based on the data analysis above, it showed that level of education has significant relationship with family behavior on Tuberculosis examination. The higher level of education and self-efficacy, the higher effort of family to do examination for patient with Tuberculosis.

DISCUSSION

Descriptive analysis results showed that the most age groups, respondents involved in the study consisted of groups in the productive age. According to research conducted (Rasmin et al., 2000) states that based on age groups, the majority of tuberculosis cases occur in the age group of 15-54 years, namely the productive age group. This data is also supported by research by Simbolon (2006) which states that most risk groups for tuberculosis sufferers are in the productive age. Age is a predisposing factor for changes in behavior that is associated with physical and psychological maturity (Muaz, 2014). at a productive age someone is able to think of the risk of contracting if there are family members suffering from tuberculosis. This affects the decision someone to check themselves into the health center.

The results showed that the majority of respondents who did not do tuberculosis examinations aged> 50 years or entering the elderly, the probable cause was the reduced ability to access the distance to public health center. So that if not accompanied by other family members, the respondent does not go to exam.

The results of the descriptive analysis showed that almost half of the respondents were female. The number of respondents who do tuberculosis examination is slightly higher than women. This data is in line with data from the Triasfitri (2016) study which explains that men tend to do a little more tuberculosis examination, explained also in Wang's study (2008) that women are more often late in seeking health assistance, because of limited power factors in making decisions.

Statistical test results show no significant relationship between gender with tuberculosis examination behavior, meaning that there is no tendency for one of the sexes to be more dominant in conducting tuberculosis examination.

The results of this study are in line with the results of the study (Gharamaleki et all, 2017) which explains that in the same

demographic area there are no differences between men and women in conducting the examination. This also applies to disease prevention efforts as well treatment process. The results of this study are not the same as the research conducted by Susanti (2013) which states that men are more likely to conduct tuberculosis examinations than women. The results of the research in Pamekasan Regency revealed that most of the study respondents were women, because most tuberculosis sufferers were men, while the majority of respondents were wives, children, or parents of sufferers.

Based on observations it appears that the role of women in meeting the daily needs of families of tuberculosis patients in the Pamekasan area is more dominant than men. Women in the Pamekasan area in addition to their role as housewives, they also work as farm laborers, trade or pursue other jobs to help meet the needs of family life. Sometimes when the tuberculosis check-up that takes the patient to the health center is a family member of a man.

The division of informal roles in the family is one of the reasons there is no difference in the behavior of tuberculosis testing between male and female respondents because they both have the same rights and obligations in terms of decision making, even though the intensity of contact is more frequent for women than for male family members.

Descriptive analysis results show that almost half the level education of respondents in this study is junior high school equivalent. According to Palupi (2011), the level of education can affect one's knowledge. Level one's education has an effect on mindset and reasoning ability in dealing with problems. The level of one's knowledge is influenced by internal factors including intelligence, interests and physical conditions, as well as external

factors that are influenced by family, community, health facilities and infrastructure factors, and learning approach factors include learning strategies and methods (Notoatmodjo, 2010). Research conducted by Matebesi (2015) also found indications that the role of education in society is needed so that people know the signs and symptoms of tuberculosis, so that people immediately visit health facilities if they find these signs and symptoms.

The results of the bivariate analysis indicate that the level of education of respondents at tertiary institutions influences tuberculosis examination behavior compared to the level of education compared to the level of education below. This is reinforced by the results of statistical tests that indicate the significance of the level of education with tuberculosis examination behavior.

The results of this study differ from the results of a study conducted by Kristiono & Wardani (2013) which explains that there is no statistically significant relationship between the level of education and the pattern of disease screening into health services. The context of Madurese education can be seen from the proverbs of Madurese "Buppa, Babbu", Guruh, Ratoh "from these proverbs implied profound meanings as follows" Buppa, Babbu "Ladies and Gentlemen as role models in Madurese society. Whereas in the social context, the main figure as a role model is highly respected "Thunder" is a kiai. For Madurese Kiai are teachers who educate and teach religious knowledge that provides guidance and guidance in living the world and the hereafter. After the kiai, "Ratoh" the Government, health workers or state officials.

The majority of the people in the study area consider formal schools as an alternative to study after boarding schools,

therefore even though the formal education level of some people is still low, informally they have received higher education from junior high school, it affects community participation in tackling tuberculosis, because they are able to absorb the information they get from various sources.

Most respondents in the study area work as farmers, only a small percentage work as civil servants. A person's job is often an obstacle in conducting medical examinations. Types of professions such as teachers, highly educated medical officers have better creativity than lower workers (Wahyuni & Artanti, 2013). The results of the cross-tabulation analysis showed that the type of respondent's work did not affect tuberculosis examination behavior. This is evident from the results of statistical tests that indicate the absence of significance between types of work with tuberculosis examination behavior. Agriculture is one of the main occupations of most people in Madura. During the rainy season ordinary people grow corn, beans, and soybeans, while during the dry season, the Madurese community planted tobacco on a large scale to meet the needs of the cigarette industry. Agricultural businesses are carried out jointly by men and women. Heavy work such as plowing and hoeing is the responsibility of men. While planting, fertilizing, weeding, harvesting and other light work are generally carried out by women. During the growing season, Madurese people usually spend most of their time in the fields or tegal, these activities are carried out before sunrise until sunset, therefore during the daytime they are rarely found in their homes. Another livelihood of the Madurese community is fishing for people who live on the coast. The principle of Madura fishermen is abhantal 'smoke' sheep (padded omba 'and wind blanket) means that Madurese fishermen usually spend most of their time at sea. While the catch is taken by pangaddhang (deterrent) or pangamba' (pickup) who picks up in a small boat and then sold on land.

Madurese work that requires a long time turned out not to be an obstacle in the health examination in this case the tuberculosis examination, this happened because of the culture of mutual assistance of the Madurese community, which was very high, usually if one of their family members was sick, their family and neighbors around them in groups delivering patients to seek treatment at the health center, the group used to ride the pickup truck like a pick up. When in the Puskesmas they also listened to the appeals from officers regarding health programs. If one of them carries out an examination it is usually followed by another. 6.1.4. Relationship between Self-Efficacy with tuberculosis examination behavior. The analysis showed that the Self-Efficacy of most respondents in this study was at a high level. Statistical test results also showed a significant relationship between Self-Efficacy and tuberculosis examination behavior at the Puskesmas. The relationship between the two variables is positive, if the respondent's Self-Efficacy increases, there is a tendency for the efforts to examine tuberculosis to increase Self-efficacy is a belief that a person has in the ability to take the desired action. Self-efficacy becomes a reason for someone to take an action or control certain conditions (Bandura, 1977). Self-efficacy is also referred to as a factor related to one's motivation to take an action. So that if the self-confidence of the contact family in the tuberculosis examination is high, it will be easier to receive information and carry out instructions from health workers. The conclusion that can be drawn from the results of this study is that the self-efficacy of the respondents influences awareness to conduct tuberculosis

examination. Beliefs held by the community that encourage tuberculosis examination behavior include the ability to access health services, this belief includes the belief that individuals have enough money for examination fees, the ability to use vehicles to get to the health service, and the belief has enough time to do tuberculosis examination in health services.

CONCLUSION

The level of family contact education for tuberculosis patients in Pamekasan Regency is related to the behavior of family contacts in conducting tuberculosis examinations. The higher the level of education, the more it raises awareness for household contacts in the household doing a tuberculosis examination. Self-Efficacy of family contact with tuberculosis sufferers in Pamekasan Regency, will increase the efforts of family contact household behavior in tuberculosis examination.

SUGGESTION

Health workers are expected to be able to do active case finding, to find families at risk of transmitting tuberculosis. Health workers should organize health education programs, counseling on the importance of preventing tuberculosis transmission. Education provided by officers must put more emphasis on the benefits of tuberculosis testing and convince families that by carrying out tuberculosis examinations they are able to prevent the transmission of tuberculosis to themselves and other families. Further researchers are advised to conduct research not only using questionnaires but also with in-depth interviews or Focus Group Discussions (FGD) so that broader results are obtained and the root causes of the problems being investigated are currently being investigated.

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