

Factors Associated with PHBS Practices for Prevention of Pulmonary TB among Islamic boarding school students in Tegal Regency (Study at Attholibiyah Islamic Boarding School Bumijawa)

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Submitted:1/7/2021 **Conference:** 17/10/2021 **Accepted:** 12/1/2022 **Published online:** 7/3/2022

Abstract: A Clean and Healthy Lifestyle can be primary prevention of pulmonary TB transmission that can be done in Islamic boarding schools. This study, analyzed the factors related to the practices of PHBS for preventing pulmonary TB on Islamic boarding school students in Tegal Regency. This quantitative research used *cross-sectional* study design. Population is all students as many as 886, with 268 sample using the *Lemeshow* calculation, proportion of sample is 130 male and 138 female students and used *simple random sampling* technique. Collecting data by filling out questionnaires. Analysis was performed by univariate, bivariate, using *chi-square* test with 95% significance, and multivariate using *binary logistic regression* test. This research has received approval from the ethics commission No: 90/EA/KEPK-FKM/2021. The results showed that 47% of respondents had poor PHBS behavior to prevent pulmonary TB. The related variables were gender ($p=0.000$), education level ($p=0.028$), knowledge ($p=0.0002$), attitude ($p=0.000$), availability of facilities ($p=0.000$), availability of information ($p=0.000$), access to health services ($p = 0.000$), regulations ($p = 0.000$), kyai attitudes and behavior ($p = 0.000$), teacher attitudes and behavior ($p = 0.000$), management attitudes and behavior ($p = 0.000$), friend's attitude and behavior ($p=0.000$). The unrelated variable was age ($p=0.051$). The most influenced variable was gender (OR = 5,815). The results of the study are expected to be the basis for Islamic boarding schools as educational institutions to improve the implementation of Clean and Healthy Behavior in preventing pulmonary TB transmission by increasing the performance of Poskestren and other components that support Islamic boarding schools both materially and socially for all students.

Keywords: Pulmonary Tuberculosis, Clean and Healthy Lifestyle, Islamic Boarding School

Introduction

Tuberculosis (TB) is an infectious disease caused by the bacterium *Mycobacterium tuberculosis*. Based on data from the WHO, Indonesia ranks the 2nd most TB cases in the world after India, at 8.5%. (World Health Organization, 2020) In the last three years, TB cases in Indonesia have increased; namely 420,994 cases in 2017, 566,623 cases in 2018 and 543,874 cases in 2019. 45% of cases were contributed by the provinces with the largest population, namely West Java, Central Java and East Java. (Kementerian Kesehatan Indonesia, 2019)

According to the Central Java Provincial Health Office, many TB cases were identified in Islamic boarding schools, mainly because life in Islamic boarding schools is communal and

lacks environmental hygiene and health. (Zulfa & Alawi, 2015) TB transmission occurs because the life of students is simple and what it is, especially in Islamic boarding schools with *salafi* education methods. (Fauzi et al., 2020)

Environmental hygiene is a determining factor in the transmission of TB – roofs, floors, and walls that are rarely even cleaned are breeding grounds for the bacteria that cause TB. (Fitriani, 2014) In addition to environmental factors, behavior is a contributor to TB transmission in Islamic boarding schools, TB transmission prevention behaviors such as opening windows in the morning to evening, carrying out physical activities, consuming nutritious food, using clean water, washing hands with soap and running water are often ignored by *santri* (Islamic boarding school students). (Musadad, 2006) Based on the results of basic health research, public PHBS behavior is still low, including washing hands properly only 49.8%, smoking (28.8%), lack of physical activity (33.5%), lack of consumption of fruits and vegetables (95.5 %), littering (5.9%), draining the bathtub once a week (33.48%). (Kementerian Kesehatan Republik Indonesia, 2018)

Clean and Healthy Lifestyle (*Perilaku Hidup Bersih dan Sehat/PHBS*) is an effort that can be done to prevent TB transmission in Islamic boarding schools. However, in reality the practice of PHBS in Islamic boarding schools is still lacking. Lack of awareness of students, limited knowledge and insight are factors that cause TB transmission in Islamic boarding schools. (Guna & Amatiria, 2015) Basically, students are aware of PHBS, but this knowledge is only limited to understanding which has not been optimally implemented. Therefore, it is necessary to increase awareness as the basis for making PHBS practices in Islamic boarding schools by the students. (Susanto et al., 2016)

The purpose of this study was to determine and analyze the factors related to the practice of PHBS prevention of pulmonary TB among students of Attholibiyah Bumijawa Islamic Boarding School in Tegal Regency, especially the relationship between factors and which have the most dominant influence on the practice of PHBS prevention of pulmonary TB. Thus, it can be seen that PHBS practices are carried out for the prevention of pulmonary TB disease in the Islamic boarding school environment.

Methods

This research has been approved by the ethics commission No: 90/EA/KEPK-FKM/2021. The researcher informed the Head of the Bumijawa Health Center and the caregivers of the Islamic boarding school about this research. The researcher also informs the Islamic boarding school students as respondents about the details and implementation of the research and socializes the informed consent that is distributed if they agree to become respondents. After obtaining approval, data collection was carried out.

This is a quantitative research. Used study *cross-sectional* design. Population is all student of Islamic boarding school as many as 886 student. Sampling using *Lemeshow* formula and obtained 268 student, that is 130 male and 138 male students. The sampling technique was simple random sampling by means of lottery and the names that came out were chosen as samples.

Data were collected using a structured questionnaire which was filled in by the students directly in the hall of the Islamic boarding school on holidays, the researcher accompanied the filling and explained how to fill it out before it was distributed. The independent variable in this study was the facilitation factor (age, gender, education level, knowledge, attitude).

enabling factors (availability of facilities, availability of PHBS information on pulmonary TB prevention, access to health services, boarding school regulations), reinforcing factors (kyai's attitudes and behavior, asatidz attitudes and behavior, management's attitudes and behavior, friend's attitudes and behavior). The dependent variable in this study is the practice of PHBS to prevent pulmonary TB at the students of the Attholibiyah Islamic Boarding School in Bumijawa. Data analysis was carried out univariately, bivariate using the chi-square test with a significance of 95%, univariate analysis was carried out to determine the percentage and distribution of each variable, bivariate analysis was carried out to determine the relationship between variables. And multivariate analysis using binary logistic regression test to determine the most dominant variable among the independent variables on the dependent variable.

Result

1. Overview of Research Locations

The Attholibiyah Islamic Boarding School is located in Mobok Karsih Hamlet, Muncang Larang Village, Bumijawa District, Tegal Regency, Central Java Province. The Islamic boarding school was founded in 2006. Currently, the total number of students reaches 886 students, namely 430 male students and 456 female students. Islamic boarding schools include salafiyah boarding schools, and there are also public schools from the elementary, junior high, and high school levels that were built in the boarding school environment.

Table 1. Analyzed result

Variable	PHBS Practice						P-value	Odds ratio
	Poor		Good		Total			
	F	%	F	%	F	%		
Age								
a. Early teens (12-16 years old)	97	51,0	94	49,0	191	71,3	0,051	-
b. Late teens (17-25 years old)	29	38,0	48	62,0	77	28,7		
Gender								
a. Male	104	80,0	26	20,0	130	48,5	0,000	5,815
b. Female	22	16,0	116	84,0	138	51,5		
Level of education								
a. Low education (\leq junior high school)	114	49,8	115	50,2	229	85,4	0,028	2,458
b. Higher education ($>$ junior high school)	12	30,8	27	69,2	39	14,6		
knowledge								
a. Poor	73	57,0	55	43,0	128	52,2	0,002	1,829
b. Good	53	38,0	87	62,0	140	47,8		
Attitude								
a. Support	48	29,0	117	71,0	165	61,6	0,000	2,275
b. Unsupport	78	75,7	25	24,3	103	38,4		
Availability of facilities								
a. Complete	49	30,0	113	70,0	162	60,4	0,000	1,985
b. Uncomplete	77	73,0	29	27,0	106	39,6		
Availability of information								
a. Adequate	63	32,5	131	67,5	194	72,4	0,000	2,726
b. Inadequate	63	85,0	11	15,0	74	27,6		
Access to health service								
a. Easy	81	33,0	92	67,0	137	51,1	0,000	1,365

b. Difficult		61,8	50	38,0	131	48,9		
Islamic boarding school regulations								
a. Yes	53	30,0	121	70,0	174	64,9	0,000	2,818
b. No	71	77,2	21	22,8	92	35,1		
Kyai's attitude and behaviour								
a. Support	59	32,6	122	67,4	181	67,5	0,000	0,884
b. Unsupport	67	77,0	20	23,0	87	32,5		
Asatidz's attitude and behaviour								
a. Support	40	24,7	122	75,3	162	60,4	0,000	1,486
b. Unsupport	86	81,0	20	19,0	106	39,6		
Management's attitude and behaviour								
a. Support	86	38,6	137	61,4	223	83,2	0,000	1,372
b. Unsupport	40	89,0	5	11,0	45	16,8		
Friend's attitude and behaviour								
a. Support	55	30,2	127	69,8	182	67,9	0,000	1,708
b. Unsupport	71	82,6	15	17,4	86	32,1		

(Primary data, 2021)

2. Characteristics of the Respondents

The majority of respondents in this study are early teens (12-16 years old) i.e. 71.3%, 51.5% are female and the majority (85.4%) have low education (junior high school graduates or lower). The discussion of other variables is as follows:

2.1 Practices

As many as 47% respondents are in the "not good" category of prevention of pulmonary TB PHBS practice. 43.3% of respondents did not brush the walls to keep the ablution place clean. 80.2% of respondents do not clean the cottage environment once a week. 40.3% of respondents do not clean the kitchen. 39.2% of respondents did not attend counseling, 77.6% of respondents did not become health cadres. 7.1% of respondents smoke in Islamic boarding schools. 44.4% of respondents share the same utensil with their friends and 45.9% of respondents share the same utensil with their friends.

2.2 Knowledge

As much as 47.8% of respondents have poor knowledge. 86.2% of respondents know that pulmonary TB is an infectious disease. 70.5% of respondents answered that the symptoms of pulmonary TB were coughing that lasted for more than 2 weeks. However, respondents do not know that behaviors that can transmit TB include: throwing phlegm carelessly (65.3%), not opening windows from morning to evening (68.7%), using shared toiletries (69.4%), eating together from the same container (56.0%), not washing hands after eating (58.2%). The rest are unknown factors causing TB, such as: room occupancy density (54.9%), lighting (86.6%), ventilation (70.9%), floor conditions (63.1%), and behavior (71.3%). Respondents do not know that caregivers, asatidz, and administrators can transmit pulmonary TB. However, respondents know that their friends (94.8%) can transmit pulmonary TB.

2.3 Attitude

38.4% of respondents did not support the implementation of PHBS to prevent pulmonary TB in Islamic boarding schools. As many as 29.5% of respondents will apply PHBS after being

infected with pulmonary TB, where they maintain regular body hygiene every day (98.9%), keep clothes clean regularly (98.5%), exercise regularly (98.1%), use clean water for bathing (98.1%), maintain environmental cleanliness (98.9%), pay attention to nutritional intake (94.4%), open windows from morning to evening (92.2%), and refrain from lending clothes to friends (63.1%).

2.4 Availability of facilities

In terms of the availability of facilities, 39.6% are incomplete because there is no ventilation in each room, no sink or soap for washing hands in each complex. However, the availability of other facilities is quite complete, such as: bedding (97.0%), clean water (96.6%), brooms (94.4%), trash cans (98.5%), windows (96.6%), treatment rooms (97.4%), *poskestren* (98.1%), medicines/first aid (97.8%).

2.5 Availability of information

The availability of information at 27.6% Islamic boarding schools is inadequate, because there are no banners and posters from community health centers (*puskesmas*) or Islamic boarding schools. However, the availability of other information is in adequate category, such as: counseling from *poskestren* regarding PHBS (92.5%), counseling from health workers (92.9%).

2.5 Access to health services

As many as 48.9% of respondents stated that they have difficulty accessing health services at Islamic boarding schools, and feel that the distance traveled to health services outside Islamic boarding schools is in the far category, so that it takes a long time to go to the nearest health service. However, respondents stated that medical expenses were affordable (86.9%), transportation facilities were easy to find (86.6%), and transportation costs were affordable (84.0%).

2.6 Islamic boarding school regulations

35.1% of respondents stated that there are no regulations such as periodic health checks carried out by Islamic boarding schools for santri. However, there are other regulations regarding PHBS prevention of pulmonary TB in Islamic boarding schools, as stated by respondents regarding *ro'an* as one of the implementations of PHBS in Islamic boarding schools (87.7%), rules for maintaining room cleanliness (95.5%), and giving sanctions to students who do not carry out PHBS (88.1%).

2.6 Kyai's attitude and behavior

32.5% of respondents stated that the attitudes and behavior of the kyai were not supportive, such as not checking the implementation of PHBS directly and not giving sanctions to students who did not implement PHBS in the boarding school. However, respondents answered that the kyai reminded (98.9%), reprimanded (90.3%), checked (82.5%), gave examples (95.9%) about the implementation of PHBS in Islamic boarding schools.

2.7 Asatidz attitude and behavior

39.6% of respondents stated that the attitude and behavior of *asatidz* did not support PHBS prevention of pulmonary TB, because *asatidz* did not directly check the implementation of

PHBS nor gave sanctions to students who failed to maintain cleanliness. However, Asatidz also reminded (88.1%) and gave an example of PHBS to students (89.6%).

2.8 Management's attitude and behavior

16.8% of respondents stated that the management did not support PHBS for pulmonary TB prevention. However, respondents stated that the management gave sanctions (90.7%), reminded (96.6%), reprimanded (92.5%), did checks (90.3%), gave examples of PHBS prevention of pulmonary TB (92.9 %).

2.9 Friend's attitude and behavior

32.1% of respondents stated that the attitudes and behavior of their friends did not support PHBS to prevent pulmonary TB. 67.9% of their friends were not helpful in understanding PHBS information for preventing pulmonary TB. However, respondents stated that their friends provided information (82.5%), reminded (89.9%), reprimanded (84.7%), and got used to a clean and healthy lifestyle (91.0%).

Discussion

1. PHBS Practices for Prevention of Pulmonary TB among Attholibiyah Islamic Boarding School students

The results showed that 47% of respondents had poor pulmonary TB prevention PHBS practices. The cleanliness of the ablution area has not been carried out optimally, because the ablution place was not cleaned thoroughly, and the walls of the ablution area were not regularly brushed by the respondent. 80.2% of respondents do not clean the environment in Islamic boarding schools once a week, but one of the activities in Islamic boarding schools such as ro'an or community service is carried out every Sunday. The students do not clean the environment in the Islamic boarding school if there is no ro'an supervision by the caregivers or administrators at the Islamic boarding school. 40.3% of respondents do not clean the kitchen; this is natural because the kitchen can only be accessed by female students, so male students were unable to enter and clean the kitchen at the Islamic boarding school.

There are 34 Husada students in the Islamic boarding school. Not many students become health cadres, so the presence of Husada students is very helpful, especially in primary prevention and health education in the boarding school. This number is too small if we look at the large number of students in Islamic boarding schools.

Students in Islamic boarding schools are prohibited from smoking in the environment, but there are still students who smoke, especially male students. Smoking in the men's cottage environment is considered normal by their friends, despite smoking ban. Male students can smoke outside the huts like local people's stalls without the knowledge of the administrators and caregivers.

The use of eating and bathing utensils in Islamic boarding schools is still not good-santri still share toiletries and eating utensils in Islamic boarding schools, which can pose a risk of transmission of pulmonary TB, but awareness of such prevention is still lacking. Santri also don't mind sharing eating utensils or bathing with their friends at the Islamic boarding school. *L. green's theory* explains that there are 3 factors that influence behavior, namely the facilitation factor consisting of the respondent's characteristics (age, gender, education level), knowledge, and attitude. Facilitating factors (availability of facilities, information, access to

health services, boarding school regulations). Reinforcing factors (attitudes and behavior of kyai, asatidz, administrators and friends).

2. Relationship between Age and PHBS Practices for Prevention of Pulmonary TB

The results showed that poor PHBS practice among early teens (12-16 years) was greater, namely 51%, compared to late teens (17-25 years). The results of hypothesis testing show *p-value* $0.051 > 0.05$, so it can be concluded that there is no relationship between age and the practice of PHBS prevention of pulmonary TB.

This study is in line with Lili's research which showed that there was no significant relationship between age and PHBS in boarding students ($p = 0.5440$). (Ariani, 2018) A theory by *L. Green* explained that age is a facilitating factor that shapes people's behavior. Based on the research, there is no difference between early and late adolescents, because the implementation of PHBS in Islamic boarding schools applies to all age categories of students in Islamic boarding schools.

3. Relationship between Gender and PHBS Practices for Prevention of Pulmonary TB

The results showed that the practice of PHBS prevention of pulmonary TB that was not good was found in men (80.0%) compared to women. The results of hypothesis testing show *p-value* $0.000 < 0.05$, so it can be concluded that there is a relationship between gender and the practice of PHBS in preventing pulmonary TB in students.

The results of Zulfa's research on differences in knowledge and attitudes of clean and healthy living behavior (PHBS) between male and female students showed that the female group was better than the male group in implementing PHBS in Islamic boarding schools. (Khumayra & Sulisno, 2012) *L. Green's theory* states that gender is a facilitating factor that shapes people's behavior. Gender has an influence on the practice of PHBS prevention of pulmonary TB. In practice, men are less concerned about PHBS prevention of pulmonary TB because they often smoke. They also don't take much care of the cleanliness of their room.

4. Relationship between Education Level and PHBS Practices for Prevention of Pulmonary TB

The results showed that the practice of PHBS prevention of pulmonary TB was generally found in respondents with low education (\leq Junior high school), as many as 49.8%. The results of hypothesis testing showed *p-value* $0.028 < 0.05$, so it can be concluded that there is a relationship between the level of education and the practice of PHBS prevention of pulmonary TB in students.

The results of the study are in line with Zaraz's research that there is a relationship between the level of education and the practice of PHBS. Education level has an important role in public health. The low level of public education makes it difficult for respondents to be informed about the importance of personal hygiene and environmental sanitation. (Adliyani et al., 2017)

Based on the theory of *L. Green*, education level is a facilitating factor that shapes people's behavior. Education is one of the community organizing efforts to increase knowledge, including health knowledge. The better the level of education, the more mature the public's understanding of health knowledge, including the application of PHBS principles. In the

education curriculum, there are materials that explain the importance of maintaining health, for example not littering, eradicating mosquito larvae and so on, so that the higher the level of education, the more understanding is obtained, and the better the implementation of PHBS practices to prevent pulmonary TB.

5. Relationship between Knowledge and PHBS Practices for Prevention of Pulmonary TB

The results showed that PHBS prevention of pulmonary TB that was not good was found in respondents with poor knowledge category (57.0%). The results of hypothesis testing showed *p-value* 0.002 <0.05, so it can be concluded that there is a relationship between knowledge and PHBS practice in preventing pulmonary TB in Islamic boarding school students.

Abdul's research results show that there is a relationship between knowledge and positive attitudes towards PHBS practices. (Lewa & Ramadhan, 2015) Based on *L. green's theory*, knowledge is a facilitating factor because knowledge is the trigger, basis or motivation to act. Knowledge has a relationship with behavior, because individuals with good knowledge are able to distinguish good and bad for themselves and the environment, so individuals with good knowledge will act based on what they know and understand, especially regarding the implementation of PHBS prevention of pulmonary TB.

6. Relationship between Attitude and PHBS Practices for Prevention of Pulmonary TB

The results showed that the poor practice of PHBS for preventing pulmonary TB was found in respondents with an unsupportive attitude category (75.7%). The results of hypothesis testing show *p-value* 0.000 <0.05, so it can be concluded that there is a relationship between respondents' attitudes and the practice of PHBS prevention of pulmonary TB in students.

This study is in line with Fanny's research which shows a relationship between attitudes and PHBS practices for pulmonary TB prevention in Islamic boarding schools, that respondents with a supportive attitude on average perform PHBS for pulmonary TB prevention better than respondents with a non-supportive attitude. (Putri et al., 2017)

This is in accordance with the theory of L. Green stated that attitude is a facilitating factor that influences individual behavior. Attitudes that underlie a behavior: with a positive attitude, the adoption of the behavior will be lasting. Attitude is not yet an action, but readiness and predisposition to act. Attitudes are derived from knowledge-good attitudes shown by accepting, responding, appreciating and being responsible for individual behavior and PHBS practices to prevent pulmonary TB. Moral instilling among students, that cleanliness is part of the faith that supports the implementation of PHBS for better prevention of pulmonary TB.

7. Relationship between Availability of Facilities and PHBS Practices for Prevention of Pulmonary TB

The results showed that the practice of PHBS prevention of pulmonary TB was not good in many respondents who did not have access to qualified facilities (73.0%). The results of hypothesis testing show a *p-value* of 0.000 <0.05, so it can be concluded that there is a relationship between the availability of facilities and the practice of PHBS in preventing pulmonary TB in students.

Linda's research results show that there is an influence between facilities and PHBS practices. The availability of qualified facilities will encourage individuals to implement PHBS. (Suryani, 2018) This is in accordance with *L.Green's theory* that the availability of facilities is an enabling factor in influencing individual behavior. This factor supports the realization of individual health behavior. The availability of facilities such as trash cans, places for washing hands and soap, and bathrooms will have a good impact on behavior compared to the absence of facilities, because they can encourage individuals to behave in a healthy manner.

8. Relationship between Availability of Information and PHBS Practices for Prevention of Pulmonary TB

The results showed that respondents' poor PHBS practices were often found if the availability of information was inadequate (85.0%). The results of hypothesis testing showed a *p-value* of $0.000 < 0.05$, so it can be concluded that there is a relationship between the availability of information and the practice of PHBS prevention of pulmonary TB in students.

The results of this study are in line with Murniani's research which shows a significant relationship between sources of information and PHBS practices in household arrangements in the working area of the Melintang Health Center. (Murniani, 2018) Based on *L. green's theory*, the availability of information becomes an enabling factor in an individual's healthy actions or behavior. The availability of information can influence and increase knowledge in individuals. A lot of health information is broadcast through the media that can provide an overview of the implementation of PHBS.

9. Relationship between Access of Healthcare Services and PHBS Practices for Prevention of Pulmonary TB

The results showed that respondents' poor PHBS practices were found when access to health services was difficult (61.8%). The results of hypothesis testing show a *p-value* of $0.000 < 0.05$, so it can be concluded that there is a relationship between access to healthcare services and the practice of PHBS prevention of pulmonary TB in Islamic boarding school students.

The results of this study are in line with that of Kusumaningrum, namely that there is a significant relationship between the distance of health services and the utilization of healthcare services (*p-value* = 0.000). (Nugroho & Kusumaningrum, 2018) Accessibility is the affordability of healthcare services. Considerations of distance and cost also influence a person in practicing PHBS. This is in line with *L.Green's theory* which explains that access to health services is an enabling factor that influences individual behavior. Facilities that are easily accessible will be widely used by the community. Affordability affects many aspects, such as financing, ease of transportation and timesaving. Easy access will attract more people.

10. Relationship between Islamic Boarding School Regulations and PHBS Practices for Prevention of Pulmonary TB

The results showed that poor PHBS practices were found if there were no regulations in Islamic boarding schools (77.2%). The results of hypothesis testing show a *p-value* of $0.000 < 0.05$, so it can be concluded that there is a relationship between the rules of the boarding

school and the practice of PHBS in preventing pulmonary TB among Islamic boarding school students.

The results of this study are in line with Fanny's research which shows that there is a relationship between the regulations of Islamic boarding schools and the practice of PHBS prevention of pulmonary TB with a *p-value* of $0.007 < 0.05$. (Putri et al., 2017) This is in line with *L. green's theory* that regulation is an enabling factor of a person's behavior. Through regulations, a person can instill good character and character and form good habits. Regulations force individuals to behave. In Islamic boarding schools, getting ta'ziran sanctions is considered a humiliation. Therefore, the stricter and better the rules of the boarding school, the better the behavior of students there.

11. Relationship between Attitude and Behavior of Kyai and PHBS Practices for Prevention of Pulmonary TB

The results showed that respondents with poor PHBS practices were found if the kyai's attitudes and behavior were not supportive (77.0%). The results of hypothesis testing show a *p-value* of $0.000 < 0.05$, so it can be concluded that there is a relationship between the attitude and behavior of the kyai and the practice of PHBS in preventing pulmonary TB in Islamic boarding school students.

This is in line with Fanny's research which shows a relationship between kyai's support and PHBS practices. (Putri et al., 2017) The leadership of the kyai who adheres to noble values makes the kyai a role model and is respected by his students. Santri are always obedient and obedient to the orders of the kyai, so that every order given by the kyai will be carried out by the students. Based on *L. green's theory*, the attitude and behavior of the kyai is a reinforcing factor in influencing behavior. Kyai as teachers and decision makers in Islamic boarding schools are the main components that control, encourage and influence the formation of attitudes that can affect the health behavior of students in Islamic boarding schools.

12. Relationship between Attitude and Behavior of Asatidz and PHBS Practices for Prevention of Pulmonary TB

The results showed that the respondent's PHBS practice was not good if the attitude and behavior of asatidz was unsupportive (81.0%). The results of hypothesis testing show *p-value* $0.000 < 0.05$, so it can be concluded that there is a relationship between asatidz attitudes and behavior with PHBS practices to prevent pulmonary TB in Islamic boarding school students.

This research is in line with Martinus' research that there is a significant effect ($p=0.001$) between the role model of the teacher as a role model on the motivation of students in implementing PHBS in the Brothers Middle School in Parepare. (Jimung, 2019) This is in line with *L. green's theory* that there are 3 factors that influence behavior, including reinforcing factors, namely teacher attitudes and behavior. Teachers or in Islamic boarding schools called asatidz/ustadz are a social component that can influence the attitude of students. His role as a teacher can provide support by providing knowledge, information about the importance of maintaining personal hygiene and the environment of the Islamic boarding school.

13. Relationship between Attitude and Behavior of Management and PHBS Practices for Prevention of Pulmonary TB

The results showed that poor PHBS practices were found if the attitude and behavior of the management did not support (89.0%). The results of hypothesis testing show a *p-value* of $0.000 < 0.05$, so it can be concluded that there is a relationship between the attitudes and behavior of boarding school administrators and the practice of PHBS in preventing pulmonary TB in students.

The results of the study are in line with Fanny's research which shows a relationship between management support and PHBS practices to prevent pulmonary TB. (Putri et al., 2017) The administrator is an enforcer of regulations, and as such their role is to influence the behavior of students. This is in accordance with *L. green's theory* which explains that reinforcing factors, namely the attitudes and behavior of the boarding school administrators, are also one of the factors that influence individual behavior. Boarding school administrators as enforcers of regulations that provide policies and sanctions for students are one of the factors that encourage students to behave in a healthy manner. Its role as a controller can remind, encourage and mobilize students in practicing PHBS in Islamic boarding schools.

14. Relationship between Attitude and Behavior of Friends and PHBS Practices for Prevention of Pulmonary TB

The results showed that the respondent's PHBS practice was not good if the attitudes and behavior of friends was unsupportive (82.6%). The results of hypothesis testing show *p-value* $0.000 < 0.05$, so it can be concluded that there is a relationship between attitudes and behavior of friends with PHBS practices to prevent pulmonary TB in students.

The results of this study are in line with Novi's research which shows a significant influence on PHBS practices with the influence of peers with a *p-value* of 0.000. (Berliana, 2016) Friends with good clean and healthy living behavior will have a positive impact compared to those who lack clean and healthy living behavior. This is in line with *L. green's theory*, where a person's behavior is influenced by 3 factors, one of which is a reinforcing factor. Friends are a social component that has an influence in the formation of behavior. Students' activities that are often carried out together make friends a reinforcing factor in the formation of behavior. Thus, it affects the implementation of PHBS prevention of pulmonary TB in Islamic boarding schools.

Conclusion

Research conducted on 268 students, with a composition of 130 male students and 138 female students, showed that the practice of PHBS prevention of pulmonary TB among students at the Attholibiyah Islamic Boarding School was in the "good" category, at 53.0%. The majority of respondents fall into the category of early teens (12-16 years), female and have low education, and have good knowledge, supportive attitude, availability of complete facilities, adequate information, easy access, existence of cottage regulations, support from kyai, asatidz, administrators and friends in the implementation of PHBS prevention of pulmonary TB in Islamic boarding schools.

Variables related to the practice of PHBS prevention of pulmonary TB were knowledge ($p=0.0002$), education level ($p=0.028$), and variables with *p-value* 0.0001 (gender, attitude, availability of facilities, availability of information, access to health services, cottage regulations, kyai's attitudes and behavior, asatidz attitudes and behavior, administrators' attitudes and behavior, friend's attitudes and behavior). The unrelated variable was age ($p =$

0.051). The variable that most influenced the practice of PHBS in preventing pulmonary TB was gender ($p= 0.0001$) with an OR value of 5.815.

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