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Knowledge and Attitudes towards Premarital Screening among Adolescents: A study in a University Setting

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Abstract

Background: Premarital screening (PMS) is an action to prevent the occurrence of genetic and the transmission of infectious diseases. The screening has been recommended and promoted in Indonesia. This study aimed to assess the level of knowledge and attitudes towards premarital screening among teenagers in a university setting.

Methods: This study used a cross-sectional design, including 310 adolescents aged 18–21 years at obtained through a non-random consecutive sampling at Universitas Padjadjaran. The data was collected from October 2020 until January 2021 using a close-ended questionnaire, assessing knowledge and attitude towards the PMS. The frequency knowledge level was grouped as good, moderate, and poor. The attitude level was categorized as positive and negative.

Results: Most of the respondents (90.3%) had good knowledge of PMS. Respondents who had positive attitudes (79%) strong agreed that carrying out PMS was important, and 51% perceived that PMS needed to be a mandatory procedure before marriage. However, 59.6% had no idea how to deal if the result of the PMS was positive.

Conclusion: In general, adolescents at Universitas Padjadjaran have good knowledge and a positive attitude towards PMS. However, comprehensive information about PMS is still needed, especially on decision points that must be taken after getting the test results.

Keywords: Adolescent, attitude, knowledge, premarital screening

Introduction

Premarital screening (PMS) is a screening that needs to be done by couples before marriage. PMS can detect sexually transmitted infections (STIs) and genetic predisposition to disease.[1] Implementation of PMS can reduce the incidence of genetic diseases and also prevent the transmission of infections that have an impact on reproductive health. PMS consists of blood group, hepatitis B, toxoplasmosis, other agents, rubella, cytomegalovirus, and herpes simplex (TORCH), HIV/AIDS, blood sugar, and urine tests.[2] These tests are essential since there are still many incidences of genetic diseases and STIs in Indonesia. The Health Profile of Indonesia in 2019 has shown 46,064 HBsAg-reactive mothers and 6,439 HIV-positive pregnant women.[3] More than 90% of HIV-infected babies are affected by HIV-positive mothers.[4] Concerning infection diseases, 95% of hepatitis transmission occurred vertically, specifically from Hepatitis B-positive mothers to their babies.[5] As for genetic diseases, Indonesia is one of the countries at high risk of thalassemia since Indonesia has many thalassemia trait carriers.[6] It is estimated that around 3,000 babies with thalassemia are born each year.[7]

In many countries, PMS is a mandatory requirement for couples who want to marry. Only the tetanus toxoid (TT) immunization card has become mandatory before marriage in Indonesia.[8] The test of PMS is still in the form of a recommendation.[9] A previous study conducted in Yemen[10] shows that most medical students agree and have sufficient knowledge on each component of the premarital health test. However, a few students reject it, so they need education about PMS to increase

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knowledge and attitudes, especially those who reject it.[10]

Adolescence is the right period to increase knowledge because this period is full of biological, cognitive, emotional, and social changes, as well as ongoing brain development.[11] The long period in adolescence also allows for many changes that directly or indirectly affect attitudes. The views of the education obtained and where they live also affect differences in knowledge and attitudes towards PMS.[12] A group of university students is well-positioned to receive the appropriate information.[13] Therefore, this study aimed to describe the level of knowledge and attitudes towards adolescents' premarital screening in a university setting.

Methods

This descriptive study used a cross-sectional approach and was carried out from October 2020 to January 2021 at Universitas Padjadjaran. The inclusion criteria in this study were university students aged 18–21 years who had filled informed consent form voluntarily. The study excluded students who were married. The sample size was estimated using the descriptive sample size formula with estimated precision (95% confidence level).[14] The number of samples (n=310) was divided proportionally into 16 faculties. This study obtained approval from the Research Ethics Committee, Universitas Padjadjaran with no. 1015/UN6.KEP/EC/2020.

This study collected data using a close-ended questionnaire that assessed knowledge and attitudes towards the premarital test. The questionnare was obtained from the relevant literature with permission from the author. A certified professional English level (C2) translator translated the English components into Indonesian. Then, these components were developed into questionnaire statements. The questionnaire consists of 3 parts. The first part was about the socio-demographic data, including gender, domicile, faculty, academic level, and personal and family medical history. The second part measured knowledge comprising 15 statements about premarital screening, its purpose, availability in Indonesia, included tests, disease targets of premarital screening, and who need the test.

Measurements used the Guttman scale with two options: "true" or "false". In the third part, 25 statements were constructed to assess attitudes towards PMS. The measurement used a Likert scale with four scale options, "strongly agree", "agree", "disagree", or "strongly disagree", without providing a "neutral" option that can improve validity.[15] The questionnaire was tested for validity and reliability on 30 adolescents in Bandung. All of the attitude statements could be processed on the validity test. However, three statements on the knowledge questionnaire could not be

Table 1 Distribution of Respondent's Characteristics

Characteristic	Frequency (n)	Percentage (%)
Gender		
Male	77	24.8
Female	233	75.2
Domicile		
City	216	69.7
District	94	30.3
Faculty		
Health	75	24.2
Non-health	235	75.8
Academic level		
1–4	74	23.9
5–8	236	76.1
Personal history of diseases		
Yes	26	8.4
No	284	91.6
Family history of diseases		
Yes	35	11.3
No	275	88.7

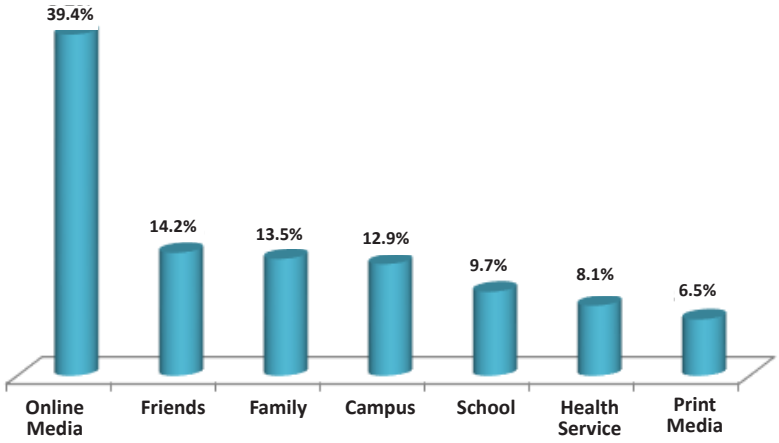

Figure Information Sources of Premarital Screening

processed on the validity test. Therefore, the translation of the statement was improved so the meaning was better understood and it was not ambiguous.[16] The knowledge and attitude had Cronbach's alpha values of 0.618 and 0.863, respectively.

The research questionnaire was uploaded to the Google form and shared via email and chat application (Line). The research data was entered into the SPSS version 15.0 data processing system. The correct answer in the knowledge questionnaire was scored as one and the wrong answer as 0. The maximum score of the knowledge questionnaire was 15, which then was presented into three categories. Knowledge was good if the score was ≥75%, sufficient if the score was 56–74%, and poor if the score was less than 55%.[12] While the maximum score for the attitude questionnaire was 100, which was categorized as positive if the value was 75%, and negative if the value was <75%.[17]

Results

In total, 382 responses were collected during three months of data collection. Then, 310 data were taken using consecutive non-random sampling, according to the sample size, and sufficed the proportions of each faculty. Most of the respondents (75.2%) were female, 69.7% of respondents lived in the city, and 75.8% of respondents were from non-health faculties. In addition, 8.4% of adolescents had a history of disease, and 11.3% had a family history of disease (Table 1).

The primary source of PMS information was obtained from online media (39.4%), from friends (14.2%), and only 8.1% of respondents received it from health workers, as shown in Figure.

Almost all adolescents at Universitas Padjadjaran (90.3%) had good knowledge of PMS and most of the respondents (75.5%) had a positive attitude towards the premarital

Table 2 Knowledge Level and Attitude towards Premarital Screening among Adolescents at Universitas Padjadjaran

Variable	Frequency (n)	Percentage (%)
Knowledge		
Good	280	90.3
Moderate	29	9.4
Poor	1	0.3
Attitude		
Positive	234	75.5
Negative	76	24.5

Table 3 Attitude towards Premarital Screening among Adolescents (n=310) at Universitas Padjadjaran

Attitude Description	Strongly Agree	Agree	Disagree	Strongly Disagree
	%	%	%	%
Carrying out PMS is important	79	20.3	3	3
Considering that PMS should be carried out in Indonesia	73.2	23.2	1.6	1.9
Convinced to carrying out PMS	53.2	40.6	5.5	0.6
Reasons for approval to carry out PMS				
Prevent transmission diseases to my children	73.5	23.2	2.9	0.3
Ensure my partner's health	71	25.8	2.9	0.3
Prevent transmission diseases to me	71	26.5	2.6	0
Ensuring my fitness for marriage	63.9	31	5.2	0
Reasons for refusal to carry out PMS				
do not want to interfere with God's will	0.6	3.5	31.0	64.8
the results may not be in favor of my choice	1.6	5.8	45.5	47.1
it can prevent my marriage if the results are positive	1.6	9.7	46.8	41.9
it may cause a family's declination of marriage continuance	1.6	7.7	42.9	47.7
the result will be an insult to me	1	2.3	41.6	55.2
I am willing to carry out PMS				
Despite the fact that my partner will not ask me to do so	43.5	44.8	8.1	3.5
If my partner asks me to do so	41.9	37.7	13.5	20.3
Perceive the appropriate time to take a premarital health test is:				
In engagement	24.2	44.5	24.8	6.5
Before marriage	52.3	39.7	7.1	1
After married	2.6	7.1	37.1	53.2
Response if the test results indicate that you will transfer the disease onto your offspring:				
Continue my engagement and marriage, because I believe in God	18.7	40.6	31.9	8.7
Cancel the engagement	5.8	33.9	43.5	16.8
My decision to continue marriage is based on the possibility of disease occurrence itself	24.2	45.8	21.3	8.7
Have no idea how to deal	21.9	37.7	28.4	11.9
Continue my engagement and marriage if there is a family compulsion	10.3	38.7	41.9	9.0
Continue to carry out engagement and marriage based on Emotional considerations	7.7	33.9	42.9	15.5
Perceiving that PMS test is necessary to be generated as a required procedure before marriage	51.0	36.5	10.3	2.3
Perceiving there should be laws and regulations to stop marriage with positive results in PMS	18.7	28.1	36.5	16.8

Note: PMS= Premarital Screening

medical test (Table 2). Most of the respondents (79%) strongly agreed that it was essential to do the PMS, 73.2% of respondents strongly agreed to consider PMS to be mandatory in Indonesia, and 53.2% of respondents strongly agreed that they were convinced to carry out a premarital screening.

Most of the respondents (73.5%) strongly agreed that preventing disease transmission to their offspring was the reason for conducting PMS. The majority of respondents did not agree with the reasons for refusing to do a PMS. The reason for refusing to do a PMS because a positive result might prevent marriage was agreed by 9.7% of respondents. As many as 44.8% of adolescents agreed they would carry out PMS even though their partners do not ask for it; 52.3% of adolescents also strongly agreed that the right time to carry out PMS was before marriage. If the results of PMS showed that they would transmit the disease to their offspring, 45.8% of adolescents agreed that

the decision to continue the marriage depends on how likely the disease was.

Attitude regarding the PMS policy, 51.0% of adolescents strongly agreed that PMS needs to be a mandatory procedure before marriage. Furthermore, 36.5% of adolescents did not agree to regulations and laws to stop marriage in PMS-positive cases (Table 3).

Discussion

This study showed that adolescents in Universitas Padjadjaran had good knowledge of PMS. Knowledge of PMS is all the learning outcome about PMS from information sources.[18] One's knowledge is continuously formed whenever a reorganization of new understanding occurs.[12] Adolescents who had good knowledge in this study meant a correct understanding of PMS. The majority of adolescents in this study had good knowledge because they were university students. This is consistent with a study in Jordan[19] that shows university students have good knowledge about mandatory premarital screening. The character of the respondents as university students affects the learning process. A person with higher education receives information from media or other people more quickly, which can increase knowledge. Likewise PMS information, the more people discuss or read the media about PMS, the more knowledge they will have.[12]

Generally, adolescents in Universitas Padjadjaran had a positive attitude towards premarital medical tests. This finding is consistent with the study in Yemen[10] that many of the respondents agreed to undergo a premarital screening program. The adolescent's reason for carrying out premarital health tests was to prevent the spread of disease to their offspring. *Do not want to interfere with God's will*, as a reason for refusing PMS was approved only by several adolescents in this study. This is in contrast to the study conducted in Yemen[10], those who do not conduct PMS regard taking the test as interfering with God's will. However, the adolescent's belief was not a reason for refusing to perform a premarital screening, which means that adolescents in the university understood the purpose of carrying out PMS.

The majority of adolescents agreed that the appropriate time to conduct PMS was before marriage. It reveals that adolescents are already aware that performing PMS can avoid disappointment after marriage if there are positive cases.[10] Besides that, the appropriate time to do PMS was when about to get engaged/ propose, which was only approved by some adolescents and was not approved by others. Determining the appropriate time to carry out premarital screening is very important because it will affect the implementation of the test.

Teenagers in this study agreed that if they received a positive result on PMS (which could transmit a disease to their offspring), the continuation of the marriage plans would depend on how likely the disease was. In contrast to the results presented in a study on medical students, the response is to cancel the marriage.[10] This study also showed that some adolescents did not know what to do if they got positive results when doing a premarital health test. It recorded that information about decision and continuation after getting the test results was needed to support adolescents' attitudes.

Most adolescents felt that PMS needed to be a mandatory procedure before marriage, meaning, that most adolescents agreed that all couples should do PMS. This is consistent with the findings of a study in North Jordan[19] that most respondents thought all future couples should perform PMS. Only a tiny proportion of adolescents feel the regulations and laws to stop marriage in positive cases during PMS are needed. This is very different from a study conducted in Yemen[10], which found that 62% of the respondents accepted these regulations and laws. Related to the appropriate time for PMS, the family has prepared for the marriage, so it is not easy for couples to leave each other. Canceling the engagement is also not easy; there will be a possibility of stigma on the couple and their families.[19] Therefore, providing appropriate information to couples who perform PMS is needed. Henceforth, adolescents who already know PMS well can have a more positive attitude.

The limitation of this study is that the current result only presented educated adolescents from a university; therefore, it is not representative of adolescents in Indonesia generally. It considers education as one of the factors that influence knowledge and attitudes.[12] Therefore, a similar study is needed to reach out to more respondents from various education levels .

To conclude, adolescents in Universitas Padjadjaran have good knowledge and positive attitudes towards PMS. However, some adolescents do not know what to do if they get a positive result on a premarital health test and continue their risky marriage. Therefore, it is

necessary to provide complete information about PMS for adolescents to increase their knowledge which will enhance positive attitudes,[20] especially on what decision they should make after receiving the results of the premarital health test.

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