



The effectiveness of blood donation counseling in increasing blood donation knowledge in high school students in Garut, West Java

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ABSTRACT

Blood donation is a voluntary practice of donating blood to be stored in a blood bank and then used for blood transfusions. In Indonesia, blood donation is still a seasonal practice as it is only conducted during certain events. Therefore, health promotion such as counseling is needed to increase public knowledge about blood donation. This study aimed to evaluate the difference in knowledge of donors before and after receiving counseling at SMA Negeri 16 Garut, West Java. This research used a Pre-Experimental method and has not yet become an actual experiment as external variables still affect the formation of dependent variables. The research design used was a One Group Pretest-Posttest Design. The sample was selected using Simple Random Sampling technique with a total of 75 students as respondents. The results showed that before receiving counseling, only 4 respondents had inadequate knowledge of blood donation (0-55%), while 71 respondents had sufficient knowledge of blood donation (56-75%). However, after receiving counseling, knowledge of blood donation increased significantly where all respondents had good knowledge of blood donation (76-100%). The Wilcoxon test showed a significant value of 0.000 ($P=0.000<0.05$), indicating the influence of blood donation counseling on donor knowledge in SMA Negeri 16 Garut, West Java.

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INTRODUCTION

Blood transfusion services are health services that use human blood as a basic material for humanitarian purposes, not commercial ones. Blood is prohibited from being traded for any reason. Blood transfusion services really need the availability of blood or blood components that are sufficient, safe, and easily accessible to the community as part of health efforts in healing diseases and restoring health (Ministry of Health, 2015). Blood donation is the process of taking blood from a person voluntarily to be stored in a blood bank and then used in blood transfusions. Blood donation activities are usually carried out at local blood donation centers, but can also be done in public places such as shopping centers, schools, universities, large companies, or places of worship. This is done to make it easier and attract people to donate blood without having to go to a blood donation center (Government of Indonesia, 2011).

According to World Health Organization (WHO) standards, the minimum amount of blood needs in Indonesia is around 5.1 million blood bags per year (2% of Indonesia's population) (Al-Hindi et al., 2018). In December 2019, there was a global pandemic of SARS-CoV-2, which is a betacoronavirus belonging to the Sarbecovirus subgenus. On March 12, 2020, the World Health Organization declared a coronavirus pandemic (COVID-19) due to the global spread of SARS-CoV-2 and thousands of deaths caused by the disease (Ciotti et al., 2020), while in 2020, while the production of blood and its components only reached 4.1 million bags from 3.4 million donations. The shortage of blood supply in Indonesia is caused by the COVID-19 pandemic (Puspita, 2016).

A person who has a good knowledge of blood donation is likely to donate blood. Therefore, knowledge and information about blood donation is needed (Wardati et al., 2019). The knowledge that people have has a positive impact on their behavior when it comes to donating blood. Adequate

knowledge about blood donation is very important in increasing public participation in blood donation activities. The more knowledge the community has about the benefits and procedures of blood donation, the more likely it is that people will be interested and motivated to carry out blood donation humanitarian actions (Hartini et al., 2022). To increase students' knowledge about blood donation in the school environment, a planned and continuous effort is needed. One effective way is to organize regular counseling on blood donation in schools. Counseling can be carried out by health workers from PMI or the school in collaboration with local health agencies. In addition, schools can promote blood donation activities and facilitate students who want to donate blood by cooperating with the nearest blood donation center. In this way, it is hoped that students can understand the importance of blood donation and feel motivated to participate in this humanitarian action (Puspita, 2016).

The results of a preliminary study at PMI Garut Regency, the age of blood donors is dominated by donors over 25 years old with a percentage of 73.6%. Adolescent donors under 18 years old only reached 26.4% in blood donation participation, while the participation of donors over 18 years old was 73.6%. Based on the results of interviews with 15 students of SMA N 16 Garut showed that students' knowledge about blood donation was still lacking, where 60% of students got 25% knowledge results and 40% of students got 50% knowledge results. Students obtain information about blood donation through brochures, social media, and friends, but blood donation events at school have not been held for the past 2 years due to the COVID-19 pandemic, so students lose sources of information about blood donations. Education and counseling efforts about blood donation in schools by health workers from PMI or educational institutions are important to increase the number of blood donors in Garut Regency and increase public awareness about blood donation.

Based on the background described above, it can be concluded that increasing public knowledge about blood donation, especially among high school students, is very important in increasing participation in blood donation activities. Therefore, researchers are interested in conducting research on the effectiveness of blood donation counseling in increasing the knowledge of high school students in Garut, West Java in 2022.

METHOD

This research uses a type of quantitative research with a pre-experiment approach and research design using the One Group Pretest - Posttest model. The study population was 215 students in grade 12 science at SMAN 16 Garut, while the sample was taken as many as 75 respondents using the simple random sampling method. Primary data were obtained using questionnaires that have been tested for validity and reliability. Counseling is carried out offline while still complying with health protocols determined in the school area. Data analysis was carried out with a normality test using One Sample Kolmogorov-Smirnov, if the data was normally distributed the paired sample T-Test test was used, while if the data was not normally distributed the Wilcoxon test was used with the same interpretation of results as the paired sample T-Test. The purpose of this analysis is to determine the effect of blood donation counseling on student donor knowledge.

RESULTS AND DISCUSSION

Characteristics of Research Respondents

This study involved grade 12 science students at SMAN 16 Garut, West Java as respondents. Data characteristics of respondents taken include:

Table 1
Frequency Distribution of Respondents' Sex

Gender	Frequency (F)	Percentage (%)
Male	8	10,7
Woman	67	89,3
Sum	75	100

The results of the study in table 1 showed that the majority of respondents in this study were women with a total of 67 respondents (89.3%). According to (Pohl et al., 2005), that gender can influence a person's behavior patterns, where women tend to show a higher orientation towards relationships with others, are more empathetic, and are able to control emotions. Therefore, the results of this study concluded that female respondents may have a higher level of empathy than men. These findings provide further understanding of the characteristics of the respondent group and provide the basis for further research considering the role of sex in behavior and knowledge about health.

Table 2
Age Frequency Distribution of Respondents

Age	Frequency (F)	Percentage (%)
17	56	74,7
18	19	25,3
Sum	75	100

Based on table 2, there were 75 respondents who participated and all (100%) were aged 17 or 18 years. More than three-quarters (74.7%) of respondents were 17 years old, while the rest (25.3%) were 18 years old. This finding shows that the most age in the respondent group is 17 years. In accordance with research (Maseda et al., 2013), adolescents generally have high curiosity, especially at the age of 17 years. Therefore, it is more likely that respondents who are 17 years old in this study are more likely to have an interest in seeking new experiences and exploration.

Table 3
Characteristics of Respondents based on Blood Donation Status

Donor status	Frequency (F)	Percentage (%)
Already a donor	0	0
Not a donor yet	75	100
Sum	75	100

Based on table 3 studi conducted at SMAN 16 Garut involving 75 students as respondents and showed that all respondents had never donated blood. However, each individual has different reasons for maintaining regular blood donation behavior. In research o (Hartini et al., 2021), the attitude to donate blood regularly is associated with benefits for others, benefits for oneself, and honorable and appreciated. The motivation to obey the referent also had a significant influence on respondents' decision to regularly donate blood. Factors influencing respondents' decision to donate blood regularly included competent attendants, referrers, peers, figures and mothers. In addition, control factors such as monitoring of infectious diseases,

competent resources, merit and individual activity also played a role in respondents' decisions. In this overall study, it can be concluded that there are several factors that influence a person's decision to become a regular blood donor and it is important to consider these factors in an effort to increase public participation in blood donation.

The results of the study (Rahmatullah et al., 2021) show that factors such as lack of public understanding of the conditions for blood donation and the benefits of blood donation, fears and

concerns felt by the community, as well as the distance of migrant workers far from home, busy work, and health problems affect people's interest in becoming blood donors.

Blood Donation Knowledge Before and After Counseling

The results of the study on grade 12 science students at SMAN 16 Garut showed an increase in knowledge about blood donation after attending counseling as follows:

Table 4
High school students' knowledge of blood donation

Knowledge	Pre-Test		Post-Test	
	Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
Good	0	0	75	100
Enough	71	94,7	0	0
Less	4	5,3	0	0
Sum	75	100	75	100

Based on the results of the study, the majority of respondents in the sufficient category (71%) in the blood donation knowledge questionnaire before being given counseling, as seen in table 4. This is in line with the view (Makiyah, 2016) which states that knowledge is the result of sensing an object, as well as health counseling. Therefore, health promotion through counseling is very important to increase public knowledge about blood donation.

From the results of the recapitulation of the blood donation knowledge questionnaire answer data after counseling, all questionnaire statements are classified as Good, with an achievement rate of 100%. This finding indicates that blood donation counseling received a positive response and had an impact on donor knowledge. The results of this study support the view (Iyong et al., 2020) which emphasizes the importance of dialogical shared learning processes in the success of health counseling, which can increase awareness, knowledge, and new skills in changing the behavior of individuals, families, and communities towards better activities and lives. These findings can be used as a basis for developing strategies and programs that are more effective in increasing public knowledge and awareness about blood donation. The results of this study are expected to make a positive contribution in improving the quality of public health.

Effectiveness of Extension

The results of research on the effectiveness of blood donation counseling on 75 grade 12 science students at SMAN 16 Garut, West Java with thereseach esain One Group Pretest-Posttest and conducted offline by complying with school health protocols showed an increase in blood donation knowledge after counseling as follows:

Table 6
High school students' knowledge of blood donation

Treatment	Mean	P-Value	N
Pre-Test	67,2	0,000	75
Post Test	96		

Based on table 6, it is known that there was an increase in the mean knowledge of respondents after counseling. The results showed an increase in knowledge about blood

donation in students after they received counseling. Counseling is considered an effective way to increase knowledge about blood donation, as well as an educative means that can increase one's knowledge. The main purpose of counseling is to encourage behavior change in an educative way. It is hoped that with counseling, people can understand how important blood donation is and thus, they will be willing to follow the existing norms. Education and knowledge are considered indirect factors that influence a person's behavior. Therefore, the knowledge gained is inseparable from education. According to (Notoatmodjo, 2017), states that the lecture method is one effective way to explain an idea, understanding, or message orally to the target group so that it is easily understood. In this study, researchers used the lecture method to provide information to potential donors so that it was easily understood by students of SMA N 16 Garut, West Java.

According to the results of the normality test using One Sample Kolmogorov-Smirnov, it can be concluded that the Pretest and Posttest values do not meet the normal distribution. Therefore, the Pretest and Posttest knowledge comparison test uses the Wilcoxon test. The Wilcoxon test results showed an average Pretest score of 67.2 and an average Posttest score of 96. In addition, the P-value of the test is 0.000 or $P < 0.05$, which indicates that H_0 is accepted, namely the influence of blood donation counseling on donor knowledge in students at SMAN 16 Garut, West Java.

This research is in line with other studies, such as research (Sugesty et al., 2019) which shows that providing information both through brochures and lectures can affect the interest of beginner blood donors in schools with a value of $P = .000$ ($P < 0.05$).

In this study, the effectiveness of blood donation counseling to increase blood donation knowledge in students of SMA N 16 Garut, Central Java has been proven. The results of this study are expected to make an important contribution in efforts to increase public awareness and participation in blood donation programs, especially among students. In its implementation, effective and programmatic blood donation counseling can increase students' knowledge and interest in voluntary and routine blood donation, so as to help reduce the shortage of blood stock in the community. For future research, it is expected to be carried out using more varied methods and approaches, as well as taking samples from the wider population to produce more representative findings and

stronger generalizations in increasing public participation in blood donation programs.

CONCLUSIONS AND SUGGESTIONS

Based on the results of research that has been conducted, it can be concluded that the blood donation counseling method using the lecture method is effective in increasing blood donation knowledge in students of SMA N 16 Garut, Central Java. The results of the Wilcoxon test showed that there was a significant difference between students' Pretest and Posttest knowledge scores after receiving counseling, with the average Posttest score higher than the average Pretest score. Based on these findings, the suggestion that can be given is the need to involve the school in efforts to increase blood donation knowledge in students. In addition, it is also recommended to develop more creative and innovative extension methods to increase the effectiveness of counseling, such as by using audio-visual media or interactive games.

Further research can be done involving larger samples and using more robust research designs, such as randomized controlled trials (RCTs) or quasi-experimental designs, to ensure more accurate results and broader generalizations.

ETHICAL CONSIDERATIONS

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