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The effect of donor counselling on the decline in numbers of reactive-blood donor at Blood Donor Unit of Tangerang City

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Introduction: The Indonesian Red Cross Blood Donor Unit of Tangerang City collected 70,730 blood bags, and 1.70% of the total donations were reactive to transfusion transmitted infection (TTI) in 2016. Meanwhile, in 2017, 1.59% of the 72,531 blood bag donations were reactive to TTI. There was a decrease of around 0.11% in reactive results at donors in 2017. These data prove that the donor counseling process for reactive blood can reduce the presentation of reactive blood from donors. This data is in accordance with the regulation from Minister of Health (MoH) No. 91 of 2015 regarding TTI reactive donor notifications. It is stated that the Blood Donor Unit (BDU) must provide a notification letter with recommendations for counseling after donation and referrals for blood donors to the hospital to carry out a series of diagnostic examinations and further treatment. This study aims to determine the effect of donor counseling in reducing the amount of reactive blood obtained from donors at the Indonesian Red Cross Blood Donor Unit of Tangerang City.

Methods: The research was conducted at the Indonesian Red Cross Blood Donor Unit of Tangerang City by collecting data on the number of reactive results to TTI in donor blood in 2016-2017. This study uses total sampling methods, and the number of samples used was 2359.

Result: The number of samples reactive to TTI in donors at the Indonesian Red Cross Blood Donor Unit of Tangerang City in 2016-2017 shows that more reactive blood results were found before counseling in 2016, as many as 1204 samples (51%) compared to after counseling in 2017 as many as 1155 samples (49%).

Conclusion: Donor counseling reduces the amount of reactive blood obtained from donors at the Indonesian Red Cross Blood Donor Unit of Tangerang City. Therefore, it is recommended that the Indonesian Red Cross Blood Donor Unit in all regions of Indonesia should carry out a counseling process for their donors to reduce the number of reactive blood acquisitions.

Keywords: Blood donation, donor counseling, transfusion-transmitted infection.

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INTRODUCTION

In 2010, WHO 63.12 was issued, emphasizing blood products' availability, safety, and quality. For safe blood supply, one of the strategies developed by WHO is quality-assured screening tests for infections that can be transmitted through blood transfusions in all donated blood units. The screening test is aimed at HIV, hepatitis B, hepatitis C, and syphilis infections. An effective blood screen test can detect the presence of the most common TTI and can reduce the risk of transmitting infection to a very low degree.[1]

In accordance with MoH No. 91, 2015, which refers to the regulation of the Minister of Health No. 21 of 2013 concerning HIV and AIDS control, it is stated that BDU must carry out a re-examination of the initial reactive (IR) examination results and if the re-examination results remain reactive, BDU must provide a notification letter accompanied by a recommendation to counseling after blood screening. Furthermore, regulation No. 7 of 2011 concerning blood transfusion services emphasizes notifying donors of reactive blood screening results through counseling. Notification must be carried out through a certain mechanism so that the donor's confidentiality can be maintained, as well as providing referrals to blood donors to the hospital for follow-up diagnostic examinations and appropriate treatment.[2] Therefore, blood donor counseling must be carried out by competent and trained officers. The Indonesian Red Cross Blood Donor Unit of Tangerang City also has competent and trained officers to conduct counseling.

Regarding reactive screening results, confirmatory testing should be carried out to identify whether the donor is truly infected. This information should be shared with the donor through counseling. Likewise, donors who show recurrently reactive results on screening and negative results on confirmatory tests should be informed, reassured, counseled, and temporarily suspended until they are non-reactive on screening tests. After the result becomes negative, the donor

can be accepted again as a blood donor. Vice versa, if the results remain reactive positive, the donor cannot be taken as a permanent blood donor.

One of the implementations of blood donor counseling in Indonesia is at the Indonesian Red Cross Blood Donor Unit of Tangerang City. The following explains the flow of reactive donor counseling at the Indonesian Red Cross Blood Donor Unit of Tangerang City. Blood donation activities produce blood from donors. Next, the blood sample is given to the Aftap section for the TTI screening test, which includes HIV, hepatitis B, hepatitis C, and syphilis. If the blood screening test results show non-reactive results, then the donor status is not banned, and the blood components can be released and distributed to hospitals or hospital blood banks. If the TTI screening test results are reactive, the blood will be re-examined (Duplo). Suppose the results are NR (Non-Reactive) – RR (Repeated Reactive) and RR (Repeated Reactive) – RR (Repeated Reactive). In that case, the TTI section will notify the donor counseling section to provide a notification letter to reactive donors to carry out counseling with BDU doctors at the Indonesian Red Cross Blood Donor Unit of Tangerang City according to the agreed agreement. After that, the donor is referred in writing to the hospital to carry out diagnostic tests.

After a series of diagnostic tests and the results are non-reactive, the status is blocked, and the honor will be repealed. However, if the results remain reactive, the hospital will send written diagnostic test results to BDU as feedback on the results of diagnostic tests on blood donors and BDU. BDU will then determine the blood donor status related to blood donation by sending a letter to the positive donor to thank them for their blood donation so far and remind them that they cannot donate blood again permanently (permanently banned).

In 2016, the Indonesian Red Cross Blood Donor Unit of Tangerang City was able to collect a total of 70,730 blood bags. Of the total donations, 1.70% were reactive to TTI. Meanwhile, in 2017, the Indonesian Red Cross Blood Donor Unit of Tangerang City collected donations of 72,531 blood bags. Of the total donations, 1.59 % were reactive to TTI. From the comparison of presentations in 2016 and 2017, it is known that there is a decrease of around 0.11% in reactive results at donors. In accordance with MoH No. 91 of 2015 regarding TTI reactive donor notifications, it is stated that BDU must provide a notification letter accompanied by recommendations for counseling after donation and referrals for blood donors to the hospital to carry out a series of diagnostic examinations and further treatment. This proves that the donor counseling process for reactive blood can reduce the presentation of reactive blood from donors. Therefore, researchers will conduct research to know the effect of donor counseling on reducing the amount of reactive blood obtained from donors at the Indonesian Red Cross Blood Donor Unit of Tangerang City.

METHODS

Types of research

This type of research is an observational analytical study that compares the number of results reactive to TTI in donors before and after counseling at the Indonesian Red Cross Blood Donor Unit of Tangerang City.

Population and sampling technique

The population used to conduct this research is as many as 2359 samples of results reactive to TTI in donors at the Indonesian Red Cross Blood Donor Unit of Tangerang City in 2016-2017.

The sampling technique is the technique used to take samples from the population.[3] Sampling is the process of selecting a portion of the population to represent the population. The sampling technique of this study is total sampling, where all populations are used as samples.

Place and time of research

The research was conducted at the Indonesian Red Cross Blood Donor Unit of Tangerang City on Major General Sutoyo Street No. 15, Sukarasa, Tangerang, Tangerang City, Banten. This research was conducted on June 25, 2023, using sample data reactive to TTI in 2016-2017.

RESULTS

This research was conducted based on the number of samples that were reactive to TTI in donors at the Indonesian Red Cross Blood Donor Unit of Tangerang City in 2016-2017. From the results of the study, it was found that there was a comparison of the number of reactive results in donors before counseling as many as 1204 samples (51%) and donors after counseling as many as 1155 samples (49%) where the number of reactive results samples decreased after counseling on donors.

Based on Table 1, it is known that the number of samples that were reactive to TTI at the Indonesian Red Cross Blood Donor Unit of Tangerang City in 2016-2017 mostly came from donors with new

Table 1. Characteristics of the sample based on the status of the sample donation results reactive to TTI at the Indonesian Red Cross Blood Donor Unit of Tangerang City in 2016-2017

Donation Status	Frequency	Percentage (%)
New	2000	85
Repeat	359	15
Total	2359	100

(Source: Secondary Data 2016-2017)

Table 2. Sample characteristics based on sample examination parameters reactive to TTI at the Indonesian Red Cross Blood Donor Unit of Tangerang City in 2016-2017

Parameters	Frequency	Percentage (%)
Hepatitis B	1130	48
Hepatitis C	467	20
HIV	419	18
Syphilis	692	29
Total	2359	100

(Source: Secondary Data 2016-2017)

Table 3. Data on the number of samples reactive to TTI in reactive status before and after the counseling process at the Indonesian Red Cross Blood Donor Unit of Tangerang City in 2016-2017

Status	Frequency	Percentage (%)
Before Counseling	1204	51
After Counseling	1155	49
Total	2359	100

(Source: Secondary Data 2016-2017)

donation status of 2000 donors (85%) and a small portion came from repeat donation status of 359 donors (15%).

Based on Table 2, it is known that the number of samples that were reactive to TTI at Indonesian Red Cross Blood Donor Unit of Tangerang City in 2016-2017 were mostly reactive to hepatitis B as many as 1130 samples (48%), then reactive to syphilis as many as 692 samples (29%), then reactive to hepatitis C as many as 467 samples (20%), and a small portion then reactive to HIV as many as 419 samples (18%).

Based on Table 3, data on the number of samples reactive to TTI in donors at the Indonesian Red Cross Blood Donor Unit of Tangerang City in 2016-2017 shows that there were more reactive results before counseling in 2016, as many as 1204 samples (51%) compared to after counseling in 2017 as many as 1155 samples (49%).

DISCUSSION

Blood donation means carrying out humanitarian activities by donating the blood we have to others through tapping blood. The general definition of blood donation is donating blood voluntarily for many people who need blood transfusions. In the medical world, blood donation means donating blood to other people to save the lives of people in need.[4]

Transfusion action is not an action without risk. Various risks can occur, including the risk of infection through blood transfusion, for example, infection with HIV, hepatitis B, hepatitis C, human T-cell lymphotropic virus, syphilis, dengue, west Nile virus, and Chagas' disease. Screening for TTI screening to avoid the risk of transmitting infection from the donor to the patient is a critical part of ensuring that the transfusion is carried out in the safest way possible. Blood screening tests for infection must at least be aimed at detecting HIV, hepatitis B, hepatitis C, and syphilis. Infection transmitted through blood transfusion detection can be carried out against antibodies and/or antigens, such as the rapid test method, enzyme immunoassay and chemiluminescent immunoassay.[5] Blood donor counseling means a confidential two-way communication process between blood donors and trained counselors on issues related to the donor's health and the donation process.[2]

Based on the results of the study, it was found that the results were reactive to TTI in donors at the Indonesian Red Cross Blood Donor Unit of Tangerang City in 2016-2017, showing more reactive results before counseling in 2016 as many as 1204 samples (51%) compared to after counseling in 2017 as many as 1155 samples (49%). This number was obtained from the number of reactive samples to TTI at the Indonesian Red Cross Blood Donor Unit of Tangerang City in 2016-2017, which is sourced from data from administrators, which are inputted monthly and reprocessed by researchers based on inspection parameters and donation status. In accordance with MoH No. 91 of 2015 regarding TTI reactive donor notifications, it is stated that BDU must provide a notification letter accompanied by recommendations for counseling after donation and referrals for blood donors to the hospital to carry out a series of diagnostic examinations and further treatment.

Counseling is a professional relationship between a trained counselor and a client. This relationship is usually individual or one-to-one, although sometimes it involves more than two people. It is designed to help the client understand and clarify his views on the scope of his life to create a meaningful view for himself. Counseling has a broad meaning and is generally known as a form of consultation. Many professional fields use counseling to carry out the consultation process. In psychology, counseling is a process of interaction or communication by a psychologist with his client to help clarify and resolve the client's problems. This counseling activity supports clients in finding solutions to resolve problems or complaints they are experiencing. The support provided is objective and offers clients positive suggestions and input so they have a broader perspective to solve existing problems.[6]

Based on the definition above, counseling blood donation is a confidential two-way communication process between blood donors and trained counselors on issues related to the donor's health and the donation process. Blood donor counseling is an important tool for promoting a healthy lifestyle and making an important contribution to individual and community health, especially in blood services. In addition, it is useful in ensuring the safety of blood.

The process of counseling donors turns out to be able to reduce the risk of recurrence of reactive blood at a very low degree, the safety and quality of blood products well as able to prove the existence decrease in reactive number to TTI in donors in Indonesian Red Cross Blood Donor Unit of Tangerang City in 2016-2017.

CONCLUSION

It is proven that there is a decrease in the number of reactive donors before and after counseling. This is in accordance with the reviews listed in MoH No. 91 of 2015 regarding TTI reactive donor notifications, which emphasizes the importance of notification to donors of reactive blood screening results through counseling. It is recommended that every Indonesian Red Cross Blood Donor Unit in all regions of Indonesia carry out a counseling process for donors to reduce the number of reactive numbers for donors. Then, it is hoped that the counseling officers will have the competence as trained counselors so that they can make an important contribution to the health of individuals and society, especially in the field of blood services.

DISCLOSURES

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This research did not receive external funding.

Conflict of Interest
There are no conflicts of interest in this study.

Author Contribution
All authors contributed equally to this manuscript.

Ethical Considerations
Research publication ethics for this study complies with ICMJE and COPE protocols.

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