令和５年度　　兵庫県立大学看護学部学校推薦型選抜試験問題

小　論　文　（１２０分）

受験番号								
氏　　名								

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次の英文を読んで設問に答えなさい。

Blood transfusion saves lives and improves health, but many patients requiring transfusion do not have timely access to safe blood. Providing safe and adequate blood should be an integral part of every country's national health care policy and infrastructure.

WHO recommends that all activities related to blood collection, testing, processing, storage and distribution be coordinated at the national level through effective organization and integrated blood supply networks. The national blood system should be governed by national blood policy and legislative framework to promote uniform implementation of standards and consistency in the quality and safety of blood and blood products.

In 2018, 73 % of reporting countries, or 125 out of 171, had a national blood policy. （ 1 ）, 66% of reporting countries, or 113 out of 171, have specific legislation covering the safety and quality of blood transfusion including, 79% of high-income countries, 63% of middle-income countries, and 39% of low-income countries.

About 118.54 million blood donations are collected worldwide. 40% of these are collected in high-income countries, home to 16 % of the world's population.

About 13300 blood centers in 169 countries report collecting a total of 106 million donations. Collections at blood centers vary according to income group. The median annual donations per blood center is 1300 in the low-income countries, 4400 in lower-middle-income countries and 9300 in upper-middle-income countries, as compared to 25700 in high-income countries.

There is a marked difference in the level of access to blood between low- and high-income countries. The whole blood donation rate is an indicator for the general availability of blood in a country. The median blood donation rate in high-income countries is 31.5 donations per 1000 people. This compares with 16.4 donations per 1000 people in upper-middle-income countries, 6.6 donations per 1000 people in lower-middle-income countries, and 5.0 donations per 1000 people in low-income countries.

Data about the gender profile of blood donors show that globally 33% of blood donations are given by women, although this ranges widely. In 15 of the 113 reporting countries, less than 10% of donations are given by female donors.

The age profile of blood donors shows that, proportionally, more young people donate blood in low- and middle-income countries than in high-income countries. Demographic information of blood donors is important for formulating and monitoring recruitment strategies.

There are 3 types of blood donors: voluntary unpaid, family/replacement, and paid.

An adequate and reliable supply of safe blood can be assured by a stable base of regular, voluntary, unpaid blood donors. These donors are also the safest group of donors as the prevalence of bloodborne infections is lowest among this group.

WHO recommends that all blood donations should be screened for infections prior to use. Screening for HIV*, hepatitis B*, hepatitis C*, and syphilis* should be mandatory. Blood screening should be performed according to quality system requirements. Of reporting countries, 10 are not able to screen all donated blood for one or more of the above infections.

99.8% of the donations in high-income countries and 99.9% in upper-middle-income countries are screened following basic quality procedures, as compared to 83% in lower-middle-income countries and 76 % in low-income countries. The prevalence of transfusion-transmissible infections in blood donations in high-income countries is considerably （　2　） than in low- and middle-income countries.

There are great variations between countries in terms of age distribution of transfused patients. For example, in high-income countries, the most frequently transfused patient group is over 60 years of age, which accounts for up to 76% of all transfusions. In low-income countries, up to 54% of transfusions are for children under the age of 5 years.

In high-income countries, transfusion is most commonly used for supportive care in cardiovascular surgery, transplant surgery, massive trauma, and therapy for solid and haematological malignancies*. In low- and middle-income countries it is used more often to manage pregnancy-related complications and severe childhood anaemia*.

The risk of transmission of serious infections, including HIV and hepatitis, through unsafe blood and chronic blood shortages brought global attention to the importance of blood safety and availability. With the goal of ensuring universal access to safe blood and blood products, WHO has been at the forefront to improve blood safety and availability, and recommends the following integrated strategy for blood safety and availability:

- Establishment of a national blood system with well-organized and coordinated blood transfusion services, effective evidence-based and ethical national blood policies, and legislation and regulation, that can provide sufficient and timely supplies of safe blood and blood products to meet the transfusion needs of all patients.
- Collection of blood, plasma and other blood components from low-risk, regular, voluntary unpaid donors through the strengthening of donation systems, and effective donor management, including care and counselling.

- Quality-assured screening of all donated blood for transfusion-transmissible infections, including HIV, hepatitis B, hepatitis C and syphilis, confirmatory testing of the results of all donors screen-reactive for infection markers, blood grouping and compatibility testing, and systems for processing blood into blood products (blood components for transfusion and plasma derived-medicinal products), as appropriate, to meet health care needs.
- Rational use of blood and blood products to reduce unnecessary transfusions and minimize the risks associated with transfusion, the use of alternatives to transfusion where possible, and safe and good clinical transfusion practices, including patient blood management.
- Step-wise implementation of effective quality systems, including quality management, standards, good manufacturing practices, documentation, training of all staff, and quality assessment.

Blood safety and availability, 26 May 2022, By World Health Organization より引用・一部改変

*注
HIV：human immunodeficiency virus の略。ヒト免疫不全ウイルス
hepatitis B：B 型肝炎
hepatitis C：C 型肝炎
syphilis：梅毒
solid and haematological malignancies：固形がんや血液がん
anaemia：貧血

問１．（　１　）に入る最も適切な単語を次の中から選び、記号で答えなさい。

　　　⑦ Because　　　⑦ However　　　⑦ Overall　　　⑤ Yet

問２．（　２　）に入る最も適切な英単語１語を書きなさい。

問３．WHO は、血液供給を国家レベルで調整することを推奨している。推奨している活
　　　動５つを日本語で書きなさい。

問４．血液センターにおける血液の供給と国の所得レベルとの関係について、日本語 60
　　　字以内で説明しなさい。

問５．次の A～C は、献血する人の特徴について記述している。誤った内容を記述してい
　　　る組み合わせをア～エから１つ選択し、その記号で書きなさい。

　　　┌───┐
　　　│　A．　高所得国では男性よりも女性の献血者が多い。　　　　　　　　　　│
　　　│　B．　全体でみると、献血の 33％は女性によるものある。　　　　　　　│
　　　│　C．　高所得国よりも低・中所得国の方が、割合的に若い人の献血が少ない。│
　　　└───┘

　　　　⑦ A と B　　　⑦ B と C　　　⑦ A と C　　　⑤ A と B と C

問６．安全で信頼性の高い血液は、どのような提供者から得られることが多いと考えられ
　　　ているか、提供者の３つの特徴を日本語で書きなさい。

問７．高所得国と低所得国における輸血を受ける患者の年齢の特徴について、日本語 80
　　　字以内で説明しなさい。

問８．本文で述べられている、WHO が推奨する安全で十分な量の血液供給を行うための
　　　統合戦略を１つ取り上げたうえで、その戦略の実現に向けた具体案について、あな
　　　た自身の考えを日本語 600 字以内で述べなさい。