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# Evaluation of Blood Supplement Tablet Distribution at Community Health Centers (Puskesmas) in Sleman Regency

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## ABSTRACT

**Background**: Anemia is a condition often found in adolescent girls and pregnant women in developing countries. The government has made efforts to reduce cases of anemia through a program that provides blood supplement tablets to teenage girls and pregnant women. However, the distribution coverage in Sleman is still 85%.

**Objectives**: This study aimed to determine how to distribute blood supplement tablets from the community health center.

**Methods:** This research used a qualitative approach, data collection techniques with interviews, and observation of the document distribution process in 2022. The study was conducted using purposive sampling, and 35 respondents were health workers, teachers, pregnant women, and female students. The interview results were analyzed using content analysis.

**Results:** The results of the observation document show that only one of the five indicators is still below standard: TOR, at Puskesmas A is 0,72 times, and at Puskesmas B is 0,44 times. The availability in Puskesmas B is 27 months. The supporting factors in the distribution are regulations, educating pregnant women, and the availability of blood supplement tablets. The inhibiting factors in the distribution process are the need for more budget for distribution to schools, the lack of schedule for distribution and taking blood supplement tablets together in schools, and the lack of education of health workers for teachers and female students.

**Conclusion:** The process of distributing blood supplement tablets at the community health center in Sleman Regency is efficient and according to the guidelines for administering blood supplement tablets to pregnant women and female students.

**Keywords: anemia; blood supplement tablets; community health center; distribution; female student**

## INTRODUCTION

Anemia is a condition where a person's red blood cell count is insufficient to meet the body's physiological needs, resulting in a reduced capacity to carry oxygen throughout the body. Anemia is mainly caused by iron deficiency but can also be caused by deficiencies in other nutrients such as folic acid, vitamin B12, and vitamin A, acute and chronic inflammation, parasitic infections, and diseases that disrupt hemoglobin synthesis and red blood cell production.[1] Anemia usually occurs in pregnant women because the iron requirement of pregnant women triples due to an increase in the number of red blood cells to meet the needs of placenta formation and fetal growth.[2] Teenager girls have a ten times greater risk of suffering from anemia than young men due to iron loss during menstruation, exacerbated by a lack of iron due to dietary habits. According to WHO, in 2019, 37% of pregnant women experienced anemia globally, and 30% of women of productive age also experienced anemia.[3] Data from Riskesdas in 2018 showed the prevalence of anemia in Indonesia was 23.7%, in adolescent

girls was 32%, and in pregnant women was 37.1%.[4] The prevalence of anemia in pregnant women in D.I.Yogyakarta Province in 2017-2021 continues to increase; in 2021, there were 16.5% cases of anemic pregnant women,[5] while in Sleman Regency, the prevalence of pregnant women in 2019 was 10.46%.[6] Based on WHO recommendations, the Government of Indonesia intensified the prevention and control of anemia in adolescent girls by giving blood supplement tablets through schools[2] and blood supplement tablets at least 90 during pregnancy to pregnant women.[7] During pregnancy, pregnant women should have a minimum of 6 (six) pregnancy checks, namely 1 (one) time in the first trimester, 2 (two) times in the second trimester, and 3 (three) times in the third trimester.[7]

With this commitment, the government has provided a blood supplementation tablet program distributed through community health centers and forwarded to their sub-service units to assist in distributing blood supplementation tablets to reach the target, namely pregnant women and adolescent girls. The results of Riskesdas 2018 also show that not all teenage girls and pregnant women have received blood supplement tablets, where 23.8% of adolescent girls have not received blood supplement tablets and 26.8% of pregnant women have not received blood supplement tablets. The distribution of blood supplement tablets is one of the indicators used to monitor and evaluate the management of blood supplement tablets. The research results at the Puskesmas Pasar Rebo, Puskesmas Air Bangis, and Puskesmas Anak Air in Padang said that the distribution of blood supplement tablets to adolescent girls has not yet been by the guidelines for overcoming anemia in teenage girls.[8–10] Research at the Puskesmas Gedongtengen said that the distribution of blood supplement tablets to pregnant women does not follow the guidelines.[11] Community health centers must have a sound drug management system as a healthcare facility. One of the drug management systems is distribution; distribution at community health centers aims to meet the needs of pharmaceutical preparations in the service sub-unit by type, quality, quantity, and the right time of distribution.[12] The distribution of blood supplement tablets involves sending them from the district to the community health centers and to the other health center facilities, where they are given to the target receiver.[7] This study aims to obtain an overview of the distribution of blood supplement tablets at community health centers in the Sleman Regency area and to determine the supporting and inhibiting factors in distributing blood supplement tablets at community health centers. To the best of the researcher's knowledge, there has been no similar research, so the result of this research can be used as input to improve the process of distributing blood supplement tablets.

## METHODS

### Study Design

This research uses a qualitative case study approach to describe the process, supporting factors, and inhibiting factors in distributing blood supplement tablets.

### Population and Sample

The study was conducted at two community health centers in Sleman Regency in October - November 2023. The subjects in the study were selected as samples by purposive sampling with the criteria of the highest and lowest cases of anemia. The research subjects were divided into two criteria, namely health workers consisting of pharmacists, coordinator midwives, nutrition officers, integrated healthcare center (Posyandu /Pos Pelayanan Terpadu) officers, drug officers at auxiliary health center (Puskesmas Pembantu), drug officers at village health pos (Poskesdes/Pos Kesehatan Desa), and village midwives, and the community consisting of school medical room teachers, pregnant women, and female students. Inclusion criteria for health workers are those who work in public health care, who have anemia prevalence <5% and >15%, health workers who have been involved in the distribution process for at least two years, and who are willing to be respondents. Exclusion criteria are health workers who do not know how to distribute blood supplement tablets properly.

### Data Collection Methods

Data was collected for two months for both interviews and document observation. Qualitative data collected by conducting in-depth interviews with respondents about the distribution of blood supplement tablets using interview guidelines and observation of the retrospective data of blood supplement tablet distribution documents, including LPLPO (Lembar Pemakaian dan Pemintaan Obat), stock cards, SBBK (Surat Bukti Barang Keluar), and community health center distribution records. Data analysis of the results of observation of blood supplement tablet management was assessed based on 5 (five) indicators of the drug management system, namely the accuracy of the distribution of blood supplement tablets to the pharmaceutical service sub-unit, the

availability of blood supplement tablets, the percentage of damaged/expired blood supplements tablets, the percentage of conformity of blood supplements tablets with stock cards, turnover ratio of blood supplements tablets.

### Data Analysis

The results of in-depth interviews were analyzed using content analysis, which converted them into interview transcripts manually, assigned codes, and presented them narratively.

### Interview Guidelines

Interview guidelines for health workers and school medical room teachers were adopted and modified from the research data.[13] The research data were used to determine the distribution process, supporting factors, and inhibiting factors for the distribution of blood supplement tablets. Interview guidelines for pregnant women were adopted from the research data,[14] and for female students were adopted from research data as well.[10] Interviews were conducted with pregnant women and female students to determine their acceptance of and habit of taking blood supplement tablets.

## RESULT AND DISCUSSION

### Research Respondents

The study results obtained 35 respondents, including health workers and community respondents. The health workers are eleven respondents, and twenty-four community respondents consisting of four school medical room teachers, ten pregnant women, and ten teenage girls taken from female students in high schools (table I). The selection of health worker respondents was based on the selection from community health centers, which had the highest and lowest cases of anemia among pregnant women. Data on pregnant women's anemia cases were obtained from the Maternal and Child Health Program of the Sleman District Health Office. School medical room teacher respondents and female students were based on recommendations from the nutrition officers of the selected community health centers. Interviews with medical room teachers and female students in the medical room school. Pregnant women respondents were obtained using an accidental sampling technique for patients who came to the health center for pregnancy checkups. Interviews with pregnant women were conducted in front of the pharmacy room, while the patient was waiting for medicine.

### Analysis of health workers' perceptions

The results of the analysis of interviews with health workers at the Community Health Center, the perception of health workers regarding the distribution of blood supplement tablets is influenced by the management of blood supplement tablets starting from planning, procurement, receipt and storage, availability, stock taking, the absence of damaged or expired blood supplement tablets, and distribution coverage (Table II).

### Observation of Blood Supplements Tablet Management

Based on Table III, the results of observations of five indicators of the distribution of blood supplement tablets found that the availability of blood supplement tablets at Puskesmas B does not meet the indicators. The turnover ratio (TOR) indicator is still below standard; It is 0.72 times for Puskesmas A and 0.44 times for Puskesmas B. The availability of blood supplement tablets in Puskesmas B exceeds the standard by 27 months. From the results of interviews with Puskesmas B pharmacists, that situation was caused by distribution to schools that were directly given for two months, usually only one month, and the LPLPO formula, which automatically made the number of requests for the following month significant.

"*If it is excessive, the LPLPO formula is automatic; it multiplies by 2, so, for example, this month, I want to divide it by two months so that I will ask for two months. Next month, I should not ask for it, but the formula is automatic, so there is an excess in the next month, but after that, it will be used again, so it is like piling up for one month's stock, but it would never be expired*." (Pharmacist 2).

The cause of the low TOR value at the community health center is the inaccuracy at the previous stage, which could be in the planning, request, and acceptance stages, which causes excess drug stock at the community health center, this is the same as the research results [15] at Surabaya. In planning at the community health center, the average monthly usage at the community health center is multiplied by 18 months, of which 6 months are used as reserves or buffer stock. The number multiplied by 18 produces a reasonably high planning amount. Then, when receiving medicines at the community health centers, the community health centers often receive

**Table I. Characteristics of Research Respondents**

| No | Respondent | Age | Duration of work at the community health centers |
|---|---|---|---|
| 1 | Pharmacist 1 | 37 | 11 years |
| 2 | Pharmacist 2 | 33 | 6 years |
| 3 | Nutrition Program Officer 1 | 35 | 7 years |
| 4 | Nutrition Program Officer 2 | 39 | 17 years |
| 5 | Midwife Coordinator 1 | 57 | 13 years |
| 6 | Midwife Coordinator 2 | 50 | 12 years |
| 7 | Health Promotion Program Officer 1 | 32 | 5 years |
| 8 | Health Promotion Program Officer 2 | 34 | 2 years |
| 9 | Village Midwife 1 | 48 | 16 years |
| 10 | Village Midwife 2 | 57 | 27 years |
| 11 | Pustu Pharmacist 1 | 33 | 4 years |
| | | Age | Duration of work as school medical room teacher |
| 1 | School medical room teacher 1 | 55 | 10 years |
| 2 | School medical room teacher 2 | 30 | 3 years |
| 3 | School medical room teacher 3 | 35 | 6 years |
| 4 | School medical room teacher 4 | 25 | 3 years |
| | | Age | Grade |
| 5 | Junior High student 1 | 13 | VIII |
| 6 | Junior High student 2 | 13 | IX |
| 7 | Junior High student 3 | 14 | IX |
| 8 | Junior High student 4 | 14 | VIII |
| 9 | Senior High student 1 | 15 | X |
| 10 | Senior High student 2 | 17 | XII |
| 11 | Senior High student 3 | 16 | XI |
| 12 | Senior High student 4 | 15 | X |
| 13 | Senior High student 5 | 17 | XI |
| 14 | Senior High student 6 | 16 | XI |
| | | Age | Pregnancy's number |
| 15 | Pregnant mom 1 | 23 | First |
| 16 | Pregnant mom 2 | 22 | First |
| 17 | Pregnant mom 3 | 34 | First |
| 18 | Pregnant mom 4 | 27 | First |
| 19 | Pregnant mom 5 | 36 | Third |
| 20 | Pregnant mom 6 | 40 | Second |
| 21 | Pregnant mom 7 | 41 | Forth |
| 22 | Pregnant mom 8 | 29 | Second |
| 23 | Pregnant mom 9 | 23 | First |
| 24 | Pregnant mom 10 | 28 | Second |

medicines in larger quantities than requested. This can cause medication buildup in the health center's medicine warehouse.

Based on the result of the previous research,[16] the availability of blood supplement tablets in the District Health Office in East Java province has excess stock availability because the blood supplement tablets are delivered based on the calculation of the proportion of drug distribution, which the central government or Provincial Health Office determines.

### Overview of the process of distributing Blood supplement tablets in the Community Health Center (Puskesmas) in Sleman Regency

Distribution of blood supplement tablets is the process of sending blood supplement tablets from the state level, province, and district to the health service location where the blood supplement tablets reach the target. Distribution lines are divided into government lines and private/independent lines. The distribution of blood supplement tablets through the government line is from the Health Office to the community health center pharmacy installation and then to the sub-units of health services, which include pharmacies, auxiliary health centers, village health posts, village midwives, and integrated health centers.[17] Schools are distribution channels to reach the target of young women through community health center nutrition program officers.[2] The

**Table II. Perception of health workers**

| No | Perception of health workers |
|---|---|
| 1 | **Planning blood supplement tablets**<br>Planning for additional blood tablets at the Community Health Center has involved other health workers and cross-sectors.<br>Quotation example<br>*"Yes, it involves other programs. Before the annual planning, we collected related programs, the prescriber, the prescriber, the doctor, and the midwife, we summarize everything." (Pharmacist 1)*<br><br>*"Usually, we collaborate with the school medical room. We ask how many female students there are, and then they set a target, so later, we distribute according to the number of female students in each school." (Nutrition 2)* |
| 2 | **Procurement, receiving, and storage**<br>The installation pharmacy district procures blood supplement tablets, and the community health center installation receives and stores them.<br>**Quotation example**<br>*"Procurement from the installation pharmacy district, we will receive it monthly by the LPLPO. There are certain months for requests for blood supplement tablets for nutritional activities. "The one gate policy is already in operation here, which receives and stores medicines at the pharmacy." (Pharmacist 1)*<br><br>*"Yes, pharmacy, when we want to distribute it, ask for the amount that will be distributed and then get it." (Nutrition 2)* |
| 3 | **Availability of blood supplement tablets**<br>The availability of blood supplement tablets at the Sleman District Health Center is sufficient.<br>**Quotation example**<br>*"The blood supplement tablets from the government are always sufficient; we never buy them ourselves, just according to our needs. Blood supplement tablets are never slow-moving; in fact, here they are fast-moving because they are also for pregnant women. "There are also quite a lot of pregnant women here, there can be 20-25 pregnant women a day." (Pharmacist 1)*<br><br>*"In all my time here, there has never been a vacancy." (Nutrition 2)*<br><br>*"Available, even in excess. (coordinating midwife 1)* |
| 4 | **Stock opname**<br>The community health centers routinely check stock at the end of every month and enter it in the monthly report; the stock card does the physical count.<br>**Quotation example**<br>*"Routinely, every month. "Blood supplement tablets are included in the LPLPO, so they are included in the stock-taking report." (Pharmacist 1)* |
| 5 | **There are no damaged or expired blood supplement tablets.**<br>The results of observations at the Community Health Center found no damaged or expired blood supplement tablets, and the percentage of expired/damaged blood supplement tablets was 0%<br>**Quotation example**<br>*"There has never been a blood supplement tablet that was damaged or expired." (Pharmacist 2)* |

distribution of blood supplement tablets is one of the guidelines for monitoring and evaluating the program and has become an indicator of success in administering blood supplement tablets. The results of interviews with health workers at the community health centers show that blood supplement tablets are distributed only through pharmacies at community health centers, auxiliary health centers, and schools. There is no medical examination for pregnant women at the integrated health posts, so there is no distribution of blood supplement tablets.

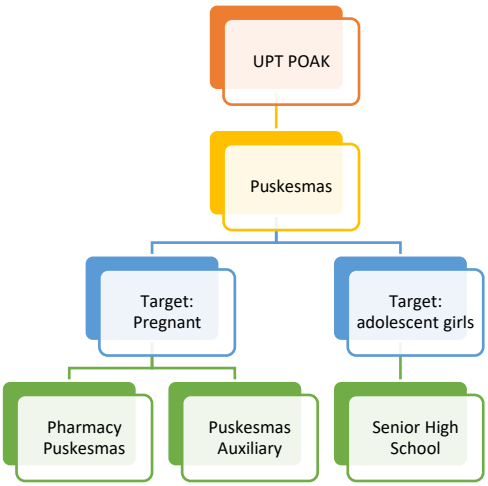


**Figure 1. Distribution route for Blood supplements Tablets**

*Note: UPT POAK is a drug and medical equipment procurement installation at the Sleman district health office.*

**Table III. (Continued)**

| No | Perception of health workers |
|---|---|
| 6 | **Distribution Coverage** |
| | Distribution coverage of blood supplement tablets for young women is 100%, and for pregnant women is 70%<br><br>*"Distribution to young women is 100%." (Nutrition 1)*<br><br>*"Now it is around 600; the percentage, sis, is already 70% because if you get all that coverage, sis, it is 100%. "The target of achieving 70% is 881; we have reached 700 people, divided by how much, but giving tablets increases the blood volume by 100%." (coordinating midwife 1)* |

**Table III. Analysis Results of Blood Addition Tablet Distribution Indicators**

| No | Indicators | Puskesmas A | Puskesmas B |
|---|---|---|---|
| 1 | Accuracy of blood supplement tablet distribution amount to pharmaceutical service sub-units | 100% | 100% |
| 2 | Blood supplement tablet availability | 16.72 Month | 27.29 Month |
| 3 | Percentage of damaged blood supplement tablets or expired | 0% | 0% |
| 4 | Percentage of blood supplement tablet conformity with stock cards | 100% | 100% |
| 5 | TOR blood supplement tablet | 0.72 times | 0.44 times |

*"If for this, pregnant women are more to what, there is no physical examination like that, ANC (antenatal care) does not exist, so they just like maybe measuring what it is like measuring upper arm like that, why seeing this is a bit risky right, then later they can report it to the* community health centers.*"(integrated health posts officer 1).*

There were no village health posts in the sampled community health centers. Village health posts in Puskesmas A have become one with the auxiliary health center near the village office. Village midwives are midwives placed in one village within the working area of the community health center as a network of community health center services. The placement of village midwives aims to accelerate the improvement of maternal and Child Health and improve the community's health status. Village midwives have the authority to provide family planning, promotive, preventive, and community blessing services, as well as early detection and treatment related to maternal and child health.[18] Village midwives who are respondents do not carry out their duties as midwives who provide health services.

The study's results showed that the distribution of blood supplement tablets followed guidelines. Community health centers distributed them only through pharmacies and auxiliary health centers to target pregnant women in the Sleman district. Pregnant women who do pregnancy checkups at the community health centers will be given a prescription for blood supplement tablets, and pregnant women who have not been to the community health centers can get blood supplement tablets at the auxiliary health centers until after they do pregnancy checkups at the community health centers. The distribution of blood supplement tablets to students through nutrition programs has been carried out routinely. Puskesmas A did it every three months, and Puskesmas B did it every month. The distribution of blood supplement tablets to schools should be done on a scheduled basis and carried out based on the schedule that has been made, as well as monitored at the school to ensure that the blood supplement tablets given by the community health centers have been given to female students.

### Supporting factors for the distribution of tablets added blood in the District Health Center Sleman

### Regulation

The government has made many regulations regarding giving blood supplement tablets to pregnant women and teenage girls. Minister of Health Regulation No. 51 of 2016 contains standards for nutritional supplementation products; Minister of Health Regulation No. 88 of 2014 contains standards for blood supplement tablets for women of childbearing age and pregnant women, and Minister of Health Regulation No. 21 of 2021 contains health services during pre-pregnancy, pregnancy, childbirth, the postpartum period, contraceptive services, and sexual health services.

The head of the Sleman Regency Health Office supports the blood supplement tablet distribution program by making technical instructions for the implementation of the Stunting Toddler Acceleration Program in Sleman Regency through Instruction Letter Number 183/53/2020 year 2020 by the head of the Sleman Regency Health Office. In the Technical Guidelines, there is an innovation program to prevent the incidence of Stunting babies, namely Getar Thala (movement to overcome juvenile anemia and thalassemia). The technical guidelines include the distribution of blood supplement tablets for young women and the initiative to take blood supplement tablets together at school once a week. The nutrition program manager at community health centers has distributed blood supplement tablets according to the technical guidelines because there are no decrees or technical guidelines on distributing blood supplement tablets from community health centers.

*"There is no authorization letter, but the technical guidelines exist from the health office and the ministry. From the health center, there is nothing; follow the technical guidelines of a superior level" (Nutrition 1).*

### Providing education from health workers to pregnant women

Health workers responsible for maternal and child health programs (KIA/Kesehatan Ibu dan Anak) also provide education on the importance of blood supplement tablets for pregnant women during ANC examinations and in the classes for pregnant women. The Class of Pregnant Women is a group learning about health for pregnant women that aims to improve the knowledge and skills of mothers about pregnancy, childbirth, puerperal care, and newborn care through the practice and use of maternal and child health books facilitated by health care officers.[19] One of the materials presented is a guide on how to take blood supplement tablets.

*"Now there are pregnant women classes; the purpose of pregnant women classes is to provide education; in maternal and child health books, there is detailed information about pregnancy, but not everyone reads and understands. So, we will explain the contents of the maternal and child health book."(Auxilliary Health Center 2)*

According to the study[20,21] Knowledge affects pregnant women's compliance with taking blood supplement tablets, so the role of health workers in providing education on the benefits of blood supplement tablets for pregnant women is vital.

### Availability Of Blood Supplement Tablets

The availability of blood supplement tablets is also a supporting factor in their distribution because the installation pharmacy district always fulfills their availability. Community health centers never purchase blood supplement tablets using their funds. Instead, they request drugs through LPLPO (Lembar Pemakaian dan Lembar Permintaan Obat) every month to installation pharmacy districts to ensure the availability of blood supplement tablets at the community health centers. This is in line with the research results.[22] Drug procurement planning using the Department of Health formulas can improve procurement and ensure drug availability.

*"Tablets from the government are always enough, and we never buy them ourselves. According to our needs only. Blood supplement tablets are never slow-moving items, even fast-moving because here, the patient is quite a lot of pregnant women; in one day, it can be 20-25 patients. Because our requests through LPLPO (Lembar Pemakaian dan Lembar Permintaan Obat)are sent to the office every month, it is more regular because it can be evaluated monthly."(Pharmacist 1)*

Based on the observation of the management of blood supplement tablets in the community health centers, the availability of blood supplement tablets for more than 12 months is sufficient to meet the needs of blood supplement tablets in the community health centers. Good planning by the target at the beginning of the year is essential to avoid excessive procurement that can cause overstocking and potentially expired tablets.

*"So this depends on our coordination and planning at the beginning of that year. The installation pharmacy district will follow our request; how much quantity do we need? We must be clear; for example, the office asked for the high school's target quantity of 1,000 people. Well, it is clear that 1000 a month, they are told to take how many times, and we multiply the number. Later, we also make the buffer stock, for example, about 10% or 20%; it depends on us. So far, that has never been a problem. A pharmacist is committed to ensuring the availability of drugs, so as much as possible to avoid drug shortages"(Pharmacist 2).*

### Factors inhibiting the distribution of blood supplement tablets in the community health center (Puskesmas) at Sleman Regency

#### There is no budget for distributing blood supplement tablets

The results of interviews with health workers at the Community Health Center revealed that there was no particular budget for distributing blood supplement tablets to schools and supporting community health centers. At Puskesmas A, blood supplement tablets are distributed by a health center ambulance, and at Puskesmas B, they use their vehicles to distribute blood-added tablets to schools. The results of this research align with the research[8] more funds are needed to distribute blood-added tablets to female students. Meanwhile, research results[9] show a special budget for distributing blood supplement tablets using APBN funds at the Puskesmas Anak Air, APBD, and other sources based on needs. In the Action Plan for the Activities of the Directorate of Management of Public Medicines and Health Supplies for 2020 and 2024, distribution costs are one of the points in assessing the quality management of City Regency pharmaceutical installations.[23]

#### There is no schedule for distributing and taking blood supplement tablets together at school regularly

The next inhibiting factor in the distribution of blood supplement tablets is the failure to take blood supplement tablets together at school. This is not by the Technical Guidelines from the Head of the Sleman District Health Service. The results of interviews with school medical room teachers showed that only one school routinely took blood supplement tablets every week, and three other schools did not routinely take blood supplement tablets together.

This is also in line with the research[8–10] the distribution of blood supplement tablets to female students has not been effective because there is no schedule for taking blood supplement tablets together at school. There is no monitoring. from the teacher; the female student had already drunk the blood supplement tablets. So, commitment is needed from health workers and *school medical room* teachers to be able to distribute blood supplement tablets on time to female students, accompanied by monitoring whether the female students regularly take the blood supplement tablets that have been given.

#### There is a lack of outreach from health workers to school medical room teachers and female students, and there is no monitoring of distribution to female students

Another inhibiting factor is the need for more socialization between community health center health workers, school medical room teachers, and female students, causing a lack of knowledge about the benefits of blood supplement tablets for female students. Nutrition officers only distribute blood supplement tablets to schools but do not provide information to school medical room teachers and female students. They do not monitor and evaluate whether school medical room teachers have distributed them to female students.

The results of the research[24–26] show that providing education can increase knowledge and compliance with consuming blood supplement tablets in young women. If female students know the benefits of blood supplement tablets and how to take them correctly, the incidence of anemia in young women can be prevented.

## CONCLUSION

The distribution of blood supplement tablets for government programs in Sleman Regency came from district pharmacy installation or what is called UPT POAK (Unit Pelaksana Teknis Pengelolaan Obat dan Alat Kesehatan), distributed to community health centers, then distributed to community health centers pharmacies facility and auxiliary health centers, and high schools for young women as targets and is following government guidelines. The supporting factors in distributing blood supplement tablets in community health centers are regulation, educating pregnant women, and the availability of blood supplement tablets. Inhibiting factors in the distribution of blood supplement tablets were the need for a budget and schedule and the lack of outreach from health workers to school medical room teachers and female students.

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## STATEMENT OF ETHICS

This research received ethical clearance from the Faculty of Medicine UGM ethics committee, KE/FK/1502/EC/2023, on September 20, 2023.

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