



Empowering Cadres by Processing Tomatoes as Nutrition to Prevent Anemia in Pregnant Women



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Abstract

The prevalence of anemia or a shortage of blood in pregnant women in Indonesia remains rather high, at 48.9%. This disease demonstrates that anemia is quite common in Indonesia, reaching a significant public health hazard with a prevalence of more than 40%. In 2021, Blitar Regency offered TTD of roughly 60%, which was still lower than the attainment target, therefore supplementary food was provided in the form of processed tomatoes, one of which being tomato juice and pudding. This community service project promoted health education to reduce anemia in pregnant women through discussion, films, and training on the usage of tomatoes by producing tomato fruit extract, which was then processed into tomato juice and pudding. The sample was 72 posyandu cadres from Seragi village, Talun sub-district, Blitar Regency, taken by total sampling technique. The result showed that respondent's knowledge before being given education was in the good category of 75%, whereas knowledge about anemia in pregnancy after being given education was in the good category of 94%. Further empowerment can encourage cadres to process tomatoes into commodities that can be sold so that they have benefits for improving the economy and preventing anemia, especially for pregnant women.

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INTRODUCTION

Anemia is a public health concern since it increases the risk of morbidity and mortality after childbirth (Rohmatika & Solikhah, 2021). According to the World Health Organization (WHO), anemia affects 45% of women in poor countries and 13% in industrialized nations, with iron deficiency and severe bleeding accounting for 40% of maternal deaths in underdeveloped countries. Indeed, the two frequently interact with one another (Rohmatika & Solikhah, 2021). Anemia in pregnant women can cause postpartum hemorrhage and, indirectly, maternal mortality. Anemic conditions can increase the risk of maternal death during childbirth, giving birth to kids with low birth weight, making fetuses and mothers more prone to infection, miscarriage, and early births (Subratha, 2022). The prevalence of anemia or a shortage of blood in pregnant women in Indonesia remains rather high, at 48.9%. This situation demonstrates that anemia is quite common in Indonesia, approaching a significant public health problem with a prevalence of more than 40% (Hijriani et al., 2023). According to the East Java Health Service (2021), to prevent anemia in pregnant women, TTD (Blood Addition Tablets) were given with an achievement target from 2017 to 2021, with 2021 already meeting the target of around 81%, but in 2021, Blitar district gave TTD at around 60%, indicating that it is still below the achievement target (Dinkes Jatim, 2021). To fulfill the aim of the program, additional food is provided in the form of processed tomatoes, including tomato juice and pudding.

Tomatoes contain 24.6 mg of vitamins, 0.49 mg of iron, and 27 mcg of folic acid (Fitriani et al., 2020). According to Wijayanti's research in 2021, pregnant women in the third trimester at the Hilir Community Health Center also showed a significant relationship between the average hemoglobin levels of pregnant women before and after being given tomato juice. The average value of the difference in hemoglobin levels after giving tomato juice was 1.106 (Wijayanti et al., 2021). Additional research from Dewisari, et al in 2022, based on the results of statistical tests, the value of $p=0.000$ was obtained, implying that there was a significant difference in respondents' HB levels before and after being given tomato juice at the UPT. Toboali Community Health Center in 2022 (Dewisari et al., 2023). Posyandu cadres are in charge of providing and training pregnant women to be effective, as they are the front line in preventing anemia.

The involvement of cadres as a community where pregnant women live is certainly very necessary in efforts to prevent and treat anemia in pregnant women. One effort to improve the quality of life of pregnant women is to provide support from the community. Thus, the contribution of families as providers of care and strengthening the capacity of health cadres is very important (Yunadi et al., 2020). Sragi Village, Talun subdistrict, has 80 active cadres divided into 8 posyandu, has MSMEs that have been produced by the PKK and cadres. In addition, the use of tomatoes can become a new commodity in Sragi village to prevent anemia in pregnant women. Sragi village has 21 pregnant women with anemia. Therefore, cadres as the front guard can provide information about the use of tomatoes to prevent anemia in pregnant women.

METHOD

This community service project promoted health education through discussion, films, and training on the usage of tomatoes by producing tomato fruit extract, which was then processed into tomato juice and pudding. This program was carried out over two days, on December 15 and 16, 2023. The population was 72 posyandu cadres in Seragi village, the sampling technique used was total sampling so that the number of respondents was as large as 72 posyandu cadres from Seragi village, Talun sub-district, Blitar Regency, participated in the community service.

This project was carried out by seven lecturers with assistance by four students, with duties including: resource person, public relations, documentation, organizing community service events, making proposals, questionnaires, results and discussions. The media used to provide education include: Knowledge questionnaire about anemia, LCD, laptop, leaflets, educational videos. Analisis statistic used distribution frequency. The media used for the demonstration of making tomato powder included: 1 kg of tomatoes, aluminum baking pan, blender, oven and portable stove. The focus of this community service activities included: 1) Preparation for service by equalizing perceptions with the Seragi village head and Village Midwife, 2) Fill out a questionnaire about anemia in pregnant women, 3) Providing education about anemia in pregnant women to cadres, 4) Training to make tomato powder using simple equipment and ingredients, 5) Filling out a questionnaire to evaluate the results of the education provided to cadres.

RESULTS

This community service activity aimed to empower cadres to increase knowledge about anemia in pregnant women and to improve the skills in preventing anemia with processing tomatoes as the nutrition. This community service activities included counseling and demonstrations on making tomato powder. The activities were held in two days. The first day was an outreach activity which starts from 8 to 11.00 WIB. The activity began with an opening by the Head of Seragi Village, then an opening by the Village Midwife and continued with the distribution of questionnaires for a pre-test about anemia. The activity continued by the presentation of material about pregnancy anemia by the service team who first introduced themselves so that there was "trust" between the presenters and the participants.



Figure.1. The Process of Materials Presentation

The picture above is the process of presenting the material which lasted for 60 minutes, ice breaking for 5 minutes and continued with questions and answers. During the presentation of the material, the participants were very enthusiastic in asking questions so that after the ice breaking it was continued again for a question and answer session for 30 minutes.



Figure.2. Tomato Processing Stage

The community service activity on the second day was a demonstration of making tomato powder, after which the tomato powder was made to make pudding and tomato drink. The demonstration lasted for 2 hours. After that, an evaluation was carried out by giving a questionnaire about anemia to pregnant women.

Table 1 The Frequency Distribution of Participants' Knowledge Before and After Providing Education. (n: 72)

| Category | Before | | After | |
|----------|----------|-----|----------|-----|
| | Σ | % | Σ | % |
| Good | 54 | 75 | 68 | 94 |
| Fair | 10 | 14 | 4 | 6 |
| Lack | 8 | 11 | 0 | 0 |
| Total | 72 | 100 | 72 | 100 |

According to the table above, knowledge prior to education is in the good category for up to 75%, with fair at 14%. Cadres' understanding of anemia in pregnancy following instruction is 94% good, with 6% fair.

DISCUSSION

This community service activity involved 72 posyandu cadres in Seragi Village. The Head of Seragi Village received this community service program and give appreciation to all of the team members. Therefore, the community service team, assisted by the Village Head and Village Midwife, gathered 72 cadres. This activity lasted 2 days, the first day provided education, then continued with questions and answers. The activities on the first day of the service participants (cadres) were extremely enthusiastic as evidenced by the active discussions that lasted beyond the allotted time. The second day was carried out by providing skills in making tomato powder and the processed tomatoes were used to make tomato juice and tomato pudding. The strength on the second day was also attended by 72 posyandu cadres and they were very enthusiastic. Then proceed with an evaluation to find out the results of educational activities about anemia in pregnant women.

The result showed that, education of anemia in pregnant women raised knowledge by 68 (94%). This is because group discussions perform better than interactive lectures. Facilitators, resources, participant conditions, implementation process, and media employed can all have an impact on counseling success. Interactive lectures are used to educate pregnant women about anemia. The question-and-answer lecture style can considerably boost cadres' knowledge. The contacts that occur during counseling have the potential to pique the target's interest in participating in extension activities. According to Skinner's theory, the stimulus presented can influence a person's response, and within these boundaries, the manner a person gains knowledge and the extent to which a person's level of knowledge can influence that person's attitudes and even behaviors (Goni et al., 2019).

The educational media in this community service activity used leaflets and educational videos. Video as a learning tool can provide positive learning so that it can be imitated and used with the aim of increasing knowledge, cultivating cognitive, psychomotor and affective formation. This is in accordance with research from Sayuti et al in 2022, which stated that based on the results of the study, of the 72 respondents after being given health education via video media, there were 53 (74%) respondents who increased their knowledge, 11 (15%) respondents who remained knowledgeable and 8 (11%) respondents whose knowledge decreased (Sayuti et al., 2022). In accordance with research from Fatimah et al in 2019, it was stated that the results of the research showed that providing audiovisual media in the form of videos in Community Groups in RW 05 of the Perumnas II Health Center Work Area there was an increase in knowledge and attitudes with a p

value of (0.000) which was very significant after it was carried out. intervention (Fatimah et al., 2019). The increasing knowledge is also influenced by leaflet media. This is in line with research from Wantania in 2018 which stated that the results of univariate analysis showed that the knowledge of PHBS cadres had increased after being given intervention in the form of counseling and training through leaflet media. The results of the t - test statistical test show that there is a difference in the average frequency of knowledge of PHBS cadres after the counseling and training intervention with a value of p Value = 0.000 (Wantania et al., 2018). Leaflet and video media are effective educational tools that can increase cadres' knowledge.

CONCLUSION

Cadres' knowledge about anemia in pregnant women increased with the help of leaflets and educational videos. The increase in knowledge after providing education was 94% in the good category. Then cadres can also make tomato powder in which the processed product is used as the basic ingredient for making tomato juice and pudding.

SUGGESTION

Further empowerment can encourage cadres to process tomatoes into commodities that can be sold so that they have benefits for improving the economy and preventing anemia, especially for pregnant women.

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CONFLICTS OF INTEREST

The community service member states that there is no conflict in this service and publication.

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