

# "AKSI GERCEPS" training program to support nutritional knowledge of adolescent integrated health centre cadres in Sampang Regency

## Program pelatihan "AKSI GERCEPS" untuk mendukung pengetahuan gizi kader posyandu remaja di Kabupaten Sampang

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### Abstract

**Background:** After the covid-19 pandemic, adolescent Integrated Health Centre (IHC) activities in Sampang Regency decreased drastically, both in quantity and quality. Factors related to this problem are the lack of adolescent participation, accompanied by the lack of ability of adolescent IHC cadres to perform their duties. Adolescent IHC is preventive efforts to prevent incidents of stunting.

**Objective:** The study aimed to measure the effect of "AKSI GERCEPS" training on nutrition knowledge among adolescent IHC cadres in Sampang Regency.

**Methods:** Study quasi-experimental use one-group pretest-posttest design. The research was conducted in Sampang Regency in December 2023. The sample consisted of 72 people, selected using a purposive sampling method representing 12 locus villages stunting. The research variable is the effect of "AKSI GERCEPS" training on increasing the nutritional knowledge of adolescent IHC cadres. Data analysis used the T-test.

**Results:** Mean scores before and after training were significantly different ( $p=0,000$ ). At the end of the training, the participants' average score increased to 6,58, whereas before the training was 2,55. The knowledge of adolescent cadres who had previously received nutrition education was also significantly different from that of those who had never received nutrition education ( $p=0,000$ ). After the training, cadres who had received nutrition education had an average score of 1,78 higher.

**Conclusion:** Cadres knowledge of nutrition increased after the training. Nutrition training for adolescents needs to be carried out continuously, to be able to provide optimal service.

### Keywords

Knowledge, nutrition, cadre, IHC, adolescent.

### Abstrak

**Latar Belakang:** Pasca pandemi Covid-19, kegiatan posyandu remaja di Kabupaten Sampang menurun drastis, baik secara kuantitas maupun kualitas. Salah satu faktor yang mempengaruhi permasalahan tersebut adalah kurangnya partisipasi remaja dan ketidakmampuan kader posyandu remaja untuk melakukan tugasnya. Posyandu remaja merupakan salah satu upaya preventif untuk mencegah kejadian stunting.

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**Tujuan:** Penelitian bertujuan untuk mengukur pengaruh pelatihan "AKSI GERCEPS" terhadap pengetahuan tentang gizi pada kader Posyandu remaja di Kabupaten Sampang.

**Metode:** Penelitian *quasi-experimental* menggunakan *one-group pretest-posttest design*. Penelitian dilakukan di Kabupaten Sampang pada bulan Desember 2023. Sample berjumlah 72 orang, dipilih dengan metode *purposive sampling* yang merupakan perwakilan 12 desa lokus *stunting*. Variabel penelitian yaitu pengaruh pelatihan "AKSI GERCEPS" terhadap peningkatan pengetahuan gizi kader posyandu remaja. Analisa data menggunakan uji *T-test*.

**Hasil:** Rerata skor sebelum dan sesudah pelatihan berbeda secara signifikan ( $p=0,000$ ). Pada akhir pelatihan rerata skor peserta meningkat menjadi 6,58, yang sebelum pelatihan rerata skor adalah 2,55. Pengetahuan kader remaja yang sebelumnya pernah mendapatkan edukasi gizi juga berbeda nyata, dengan yang tidak pernah mendapatkan edukasi gizi ( $p=0,000$ ). Pada pasca pelatihan kader yang pernah mendapatkan edukasi gizi memiliki rerata skor 1,78 lebih tinggi.

**Kesimpulan:** Pengetahuan kader tentang gizi meningkat setelah dilakukan pelatihan. Pelatihan gizi kader remaja perlu dilakukan berkesinambungan untuk dapat memberikan pelayanan yang optimal.

#### Kata Kunci

pengetahuan, gizi, kader, posyandu, remaja.

## Introduction

**S**tunting or shortness remains a major problem in Indonesia. This problem arises because of a chronic lack of nutritional intake which results in irreversible growth and development of children so that they do not reach their maximum growth potential. The World Health Assembly (WHA) target is to reduce the prevalence of stunting by 40% by 2025 from 2013 (WHO, 2014) which is reinforced by the Sustainable Development Goals (SDGs) "zero hunger" target to eliminate malnutrition by 2030 and reduce the prevalence of stunting. by 50% in 2030 (UNICEF, 2017).

Based on the results of the 2021 Indonesian Toddler Nutrition Status Survey (Survei Status Gizi Balita Indonesia/SSGI), the prevalence of stunted (very short and short) is still 24,4% with a reduction rate of 2,4%. Since 2018, the East Java Province has had 18 districts/cities with a stunting prevalence of more than 20% (Munira, 2023). Data from the Sampang District Health Office showed that the prevalence of stunting in the Sampang Regency in 2021 is 17,2% and 12 stunting locus areas were found, which is still below the national target of 14% in 2024 (Satriawan, 2018). Therefore, efforts are needed to accelerate stunting reduction by a involving cross-sector penta-helix (Fauziah et al., 2022).

Adolescents in Indonesia are are face three forms of malnutrition, undernutrition, overnutrition, and micronutrient deficiencies. One in four adolescents aged 13-18 years was either stunted or short. One in four teenage girls experienced anemia. Nine percent of adolescents are malnourished or underweight, and sixteen percent are obese.

Nutritional problems are also related to gender, where the prevalence of anemia is higher in adolescent girls and the prevalence of wasting and stunting is higher in adolescent boys (UNICEF, 2021). Nutritional issues in adolescents have major consequences for the health and well-being of young people in the present and future generations. The nutritional condition of teenage females is linked to pregnancy outcomes as well as the health and survival of mothers and children (Al Rahmad, 2018). Nutrition interventions aimed at adolescents have the potential to interrupt the intergenerational cycle of hunger and poverty while also benefiting the country's economy and health. However, adolescent nutrition has been overlooked and has receive insufficient attention.

According to Minister of Health Regulation Number 25 of 2014, child health efforts are carried out through health services starting from fetuses, newborns, infants, toddlers, preschoolers, school-age children, and adolescents (Ministry of Health, 2014). The existence of adolescents is the focus of global policy to achieve development goals in 2030 (UNICEF, 2017). According to World Health Organization (WHO) adolescents are people aged 10-19 years (WHO, 2023). The world population of adolescents reaches 1,2 billion people (15,8%) out of a total population of 7,6 billion people. The population of adolescents in Indonesia is 46 million (UNICEF, 2021).

In Indonesia, the Adolescent Health Program was initiated using the Adolescent Care Health Service (Pelayanan Kesehatan Peduli Remaja/PKPR) approach in 2003. Adolescent IHC were developed in 2015. Adolescent IHC is a community-based health initiative managed and organized by, for, and with the community, including

adolescents, to empower and provide convenience in obtaining health services for adolescents to improve their level of health and healthy living skills (Ertiana et al., 2021). Adolescent health services at IHC are health services for adolescents that include promotional and preventive efforts such as Healthy Living Skills (Pendidikan Keterampilan Hidup Sehat/PKHS), adolescent reproductive health, mental health and drug abuse prevention, nutrition, physical activity, non-communicable disease prevention, and violence prevention in adolescents (Kumalasari & Nursanti, 2022).

AKSI GERCEPS (Gerakan Remaja Cegah dan Peduli Stunting) is an innovative stunting prevention program for adolescents through collaboration between the Madura State Polytechnic, and Sampang District Health Office. This action targets changing the behavior of groups of adolescents by revitalizing Adolescent IHC through by Sampang Regency Regent Regulation Number 2 of 2020 concerning the Implementation of Communication and Improvement of Community Behavior in Efforts to Prevent Stunting. The novelty of this research is that it was carried out in 12 stunting locus villages by making a letter of commitment together with village officials, screening for anemia and nutrition in adolescents who do not go to school in stunting locus villages, and revitalizing Adolescent IHC to provide training in organizing Adolescent IHC to Adolescent cadres. This research aimed to increase the nutritional knowledge of adolescent cadres through training in carrying out Adolescent IHC activities.

## Methods

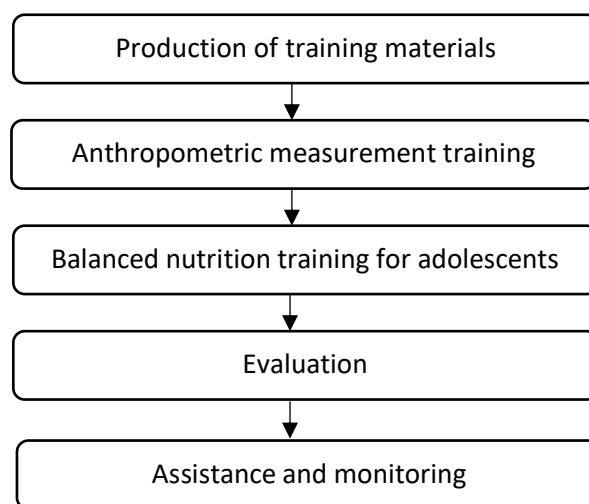
### Study Design

This was a quasi-experimental study with a one-group pretest posttest design with a focus on implementing adolescent nutrition training for adolescent IHC cadres in 12 stunting locus villages. The method of implementing these activities is based on a modification of Fatmah's study (2020) which is explained in the schematic shown in Figure 1.

The first stage of the activities was the production of training materials including training modules, pocketbooks, leaflets, and animated videos developed by the AKSI GERCEPS team. The tools used to practice anthropometric measurements were Mid-Upper Arm Circumference (MUAC) tape, microtoise, and digital scales. The training focused on

anthropometric measurement materials and balanced nutrition according to the nutritional needs of the adolescents, carried out by healthcare professionals. The training was carried out for two days and attended by 72 adolescent IHC cadre participants who were representatives of 12 stunting locus villages.

Preliminary and final tests were administered to all participants to evaluate the increasing knowledge of teenage cadres about nutrition in adolescent IHC services. After the training ended, the AKSI GERCEPS team assisted adolescent IHC cadres through monitoring and visits, one month after the training. Mentoring and monitoring are carried out by healthcare professionals to see the ability of adolescent cadres to carry out nutrition services at adolescent IHC.



**Figure 1.** The flow of activity implementation

### Study subject and location

A total of 72 adolescent cadres were selected using a purposive sampling method, representing 12 locus villages stunting, that had made a joint commitment (Figure 2). The participants came from the vilages of Robatal, Tolang, Masaran, Asem Jaran , East Jatra, Buker, Jrengik, Bajrasokah, Palenggiyan, Astapah, Sawah Tengah, Paopale Laok. The cadres for each village are represented by six adolescents who are trained to carry out service tasks at adolescent IHC in their respective villages. Training was carried out in each village for two days. The research was conducted in Sampang Regency in December 2023.

The training material was presented using theoretical and practical methods. Practice is carried out on materials regarding MUAC, height, and weight measurements. The theory is based on discussions and simulations of balanced nutrition for

adolescents, which includes prevention and treatment of anemia, practicing healthy food consumption (types and portions of food according to recommendations for the contents of my plate/Isi Piringku), and adequate body activity.

Primary data were collected through pre and posttraining assessments consisting of questions about measuring age in months and full years, measuring height in adolescents, measuring body weight in adolescents, normal MUAC measurements for women of childbearing age, symptoms of low Hemoglobin (Hb) levels, prevention of anemia in adolescents, treatment of anemia in adolescents, diversity of recommended food according to suggestions on the contents of my plate (isi piringku), portions of food recommended according to suggestions on the contents of my plate (isi piringku), activities sufficient to support adolescent health. The pre and post training assessment aimed to measure the increase in participants' knowledge about nutrition in adolescent IHC services.

The data were analyzed using SPSS version 23. Univariate analysis was used to obtain an overview of the distribution and frequency of respondents based on age, as well as the distribution of knowledge before and after receiving training. Data are presented descriptively in a table form. A bivariate analysis was performed using a paired t-test to determine the difference in average knowledge before and after training. The T-test were used to assess changes in knowledge after training according to participant characteristics, namely age and adolescent nutrition education that had been attended.

## Results

Table 1 shows the participants' sociodemographic characteristics. This training was attended by 72

participants consisting of representatives from 12 stunting locus villages. Most participants were aged 15-17 years, and 19 had previously received training or education about adolescent nutrition before participating in the training. All the training participants were all young women.

**Table 1.** Sociodemographic characteristic of subjects

| Variable   | Frequency distribution |      |
|--|------------------------|------|
|  | f                      | %    |
| Age:   |                        |      |
| 15-17  | 59                     | 81,9 |
| >17-19   | 11                     | 15,3 |
| > 19   | 2                      | 2,8  |
| Had ever or not participated in the health and nutrition training: |                        |      |
| Yes  | 19                     | 26,4 |
| No   | 53                     | 73,6 |

Ten questions were asked in the pre and post test questionnaires to be answered by the training participants (Table 2). In the pretest assessment, the question that most participants answered correctly was about symptoms of low Hb levels (anemia), that is 34,7% of participants answered correctly. Weight and height were measured in 33,3% and 31,9% of participants respectively. In the posttest assessment, the question most frequently answered correctly by the training participants was about the recommended portion of food according to the suggestions for the contents of my plate (Isi Piringku), 91,7% answered correctly. The variety of foods suggested according to my plate (Isi Piringku) content suggestions was 79,2% of the participants answered correctly. The weight measurement in adolescents was correct in 73,6% of the participants.

**Table 2.** Distribution of right answer at pre-posttest

| Question  | Pretest |      | Posttest |      |
|---|---------|------|----------|------|
|   | f       | %    | f        | %    |
| Measurement of full months and years in adolescents | 20      | 27,7 | 49       | 68,1 |
| Height measurement in adolescents                   | 23      | 31,9 | 49       | 68,1 |
| Weight measurement in adolescents                   | 24      | 33,3 | 53       | 73,6 |
| MUAC size is normal for women of childbearing age   | 18      | 25,0 | 50       | 69,4 |
| Symptoms of low Hb levels                           | 25      | 34,7 | 43       | 59,7 |
| Prevention of anemia in adolescents                 | 17      | 23,6 | 42       | 58,3 |
| Treatment of anemia in adolescents                  | 18      | 25,0 | 30       | 41,7 |
| The variety of foods suggested according to the     | 10      | 13,9 | 57       | 79,2 |

|   |    |      |    |      |
|---|----|------|----|------|
| suggestions on the contents of my plate (isi piringku)                              |    |      |    |      |
| Recommended food portions according to my plate contents suggestions (isi piringku) | 17 | 23,6 | 66 | 91,7 |
| Enough activity to support adolescent health  | 12 | 16,7 | 35 | 48,6 |

The differences in the mean test scores before and after training according to the participant characteristics are presented in Table 3. The pretest scores were significantly different from the posttest scores ( $p = 0,000$ ). Likewise, participants who had previously received adolescent nutrition education/training showed a significant difference in mean scores, compared to those who had never received education/training ( $p = 0,000$ ). Meanwhile, in terms of age characteristics, there was no significant difference ( $p=0,425$ ).

**Table 3.** Differences in average increase in knowledge level after training based on respondent characteristics.

| Variabel                                  | Mean+ SD    | P-value |
|---|-------------|---------|
| Pretest Value                             | 2,55 ± 2,31 | 0,000   |
| Posttest Value                            | 6,58 ± 1,66 |         |
| Have/did not receive nutrition education: |             |         |
| Yes                                       | 7,89 ± 1,04 | 0,000   |
| No  | 6,11 ± 1,6  |         |
| Age:                                      |             |         |
| 15-17                                     | 6,69 ± 1,63 | 0,452   |
| >17-19                                    | 6 ± 1,94    |         |
| >19                                       | 6,5 ± 0,73  |         |

## Discussion

Almost all participants knew about the symptoms of anemia in teenagers before training. This description is based on other research, which states that most adolescent IHC cadres have good knowledge about anemia (Podungge et al., 2022). Other research conducted by Nurasiah (2020) also stated that adolescent IHC cadres have sufficient knowledge of anthropometry, namely measuring the height and weight of adolescents.

In the posttest assessment, the question most frequently answered correctly by the training participants was about the recommended portion of food according to the suggested contents of my plate. These results are from previous research that shows an increase in adolescents' knowledge

about the types and portions of food based on suggestions for the contents of my plate. Visualization of food types and portions (suggestions for the contents of my plate/ Isi Piringku) is easy to follow and put into practice in everyday life (Kusumawardani et al., 2022).

Simulations and two-way communication discussions were used as the training methods. The simulation method using practical media such as MUAC tape, microtoises, digital scales, and leaflets is an effective medium for increasing the knowledge of training participants. The adolescent nutrition counseling pocketbook is a printed teaching material designed to be studied independently by training participants, while the discussion method involves learning through two-way communication so that it is easier for participants to understand, as well as the use of training modules and animated videos (Dinihari et al., 2019; Fadjri & Jamni, 2020). This training method provides different mean scores before and after training, which demonstrates the effectiveness of the training program.

Several studies have shown that the eyes are one of the body's senses that convey the most knowledge to the brain (75–87%). The remaining 13–25% are channeled through the five senses. The more senses are used to receive knowledge, the better the results are provided (Hutmacher, 2019). In this training, the material is presented theoretically and practically, so that it can form an optimal understanding of the training participants. The training material provided is the duties of adolescent IHC cadres in the field as nutrition and health educators. Frequent and repeated exposure to information and knowledge can increase an individual's knowledge both from their own experience and from the experience of others. Knowledge forms the basis for an individual to act (Rahmad et al., 2023; Lavin, 2013).

The findings of this study are from previous research which states that cadres who have experience participating in training have better knowledge than cadres who have never participated in training (Arini et al., 2023). Never having attended training can cause adolescent

cadres to lack basic knowledge and skills in organizing IHC, thereby encouraging cadres to not be active in IHC activities. The increase in cadres' abilities in this activity can be attributed to the guidance provided during training, apart from the fact that providing modules can help understand the material presented. Each cadre must practice all the knowledge and then be evaluated individually (Fatmah, 2020). Increasing cadre knowledge can improve nutritional services for to young IHC participants. It is hoped that this will have an impact on improving health status, especially adolescent health in the Sampang Regency.

This research has several limitations: 1) no comparison/control group, 2) the author cannot control external influences, both from mass media (print and audio-visual) and other sources that can influence the knowledge and skills of cadre adolescents. Further observations need to be made to ensure that this intervention is an effective tool in changing behavior and improving adolescent IHC services.

## Conclusion

Nutrition training programs can increase nutritional knowledge among adolescent post-university cadres. There was a significant difference in participants' knowledge scores before and after training. Participants' knowledge scores increased after the training program. Increasing the knowledge of adolescent cadres is expected to improve the quality of adolescent IHC nutrition services, so that it can reduce adolescent nutritional problems that occur, especially in the Sampang Regency. This study can support the government to better understand the real problems and overcome them effectively and efficiently.

## Conflict of Interest

The authors declare that they have no personal interests that may have impacted their work.

## Author Contributions

Conceptualization, Nuraini Fauziah; Methodology, Nindi P.V. Putri; Validation, Nadia D. Rosanti; Formal Analysis, Renidya A.M.D. Fani;

Investigation, Cucun S. Ferdina; Data Curation, Abdan Asyakura; Writing – Original Draft Preparation, Kristian T. Raharja; Writing–Review & Editing, Honesty Pujiyani; Project Administration, Ahmad Mustofa.

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