

Adolescent nutrition program that is integrated and gender responsive through nutritional actions in the context of support government realize gold generation

Hariyono Hariyono ^{1,*}, Cenuk Widyatrisna Sayekti ¹, Candra Panji Asmoro ², Sri Pantja Madyawati ¹ and Shifa Fauziyah ²

¹ Postgraduate School Universitas Aielangga, Surabaya, East Java, Indonesia.

² Faculty of Nursing, Universitas Airlangga, Surabaya, East Java, Indonesia.

³ Doctoral Program of Medical Science, Faculty of Medicine, Univeristas Airlangga, Surabaya, East Java, Indonesia.

World Journal of Advanced Research and Reviews, 2024, 24(01), 2370-2378

Publication history: Received on 22 August 2024; revised on 19 October 2024; accepted on 21 October 2024

Article DOI: <https://doi.org/10.30574/wjarr.2024.24.1.3040>

Abstract

Children's health age schools and teenagers moment was determine the degrees generation nation in the future. We need prepare them to become a source power of quality human beings, such as through education health in order to increase their capability to avoid themselves from possible problems impact. Indonesian teenagers experience three burden nutrition which classified as short (25%), thin (8%), overweight body weight (15%) or obesity and about 10% of male teenagers and 23% of female teenagers were suffering from anemia. Teenager is half from source Power man for the future and a huge asset For growth economic and social especially teenager daughter who prone to suffer from anemia due to lost blood at the moment menstruation. Female teenagers who suffer from anemia are at risk experienced anemia at the time pregnant and will impact negative to growth and development fetus in content as well as potential give rise to complications pregnancy and childbirth, even cause death to mother and child. Anemia in children ages 5-14 years amounting to 26.8% and aged 15-24 years by 32%. Activity implementation action program dedicated to implement some programs, such as hemoglobin examination in students, strengthen supplementation of iron substance, and acid folate weekly or Fe table for female teenager, education multi-sectoral nutrition, and sharing and drinking with added tablets blood. Activity This need done monitoring and evaluation the extent of the effectiveness of this program in frame prevent occurrence of anemia in adolescents.

Keywords: Nutritional action; Anemia; Gold Generation; Pregnancy; Female Teenagers

1. Introduction

Teenagers in Indonesia are faced with three burden nutrition with co- existence between nutrition malnutrition advantages and disadvantages of micronutrient. Around quarter teenager aged 13-18 years experiencing stunting or short, nine percent teenager thin body or own index mass body low, while 16 percent teenager other experience overweight and obesity. Besides that around quarter teenager daughter suffer from anemia. Problem nutrition in adolescents own implications for serious for health race problem, which has impact on well-being generation moment present and future, as well economy and health of the country. By specifically, nutritional status teenager daughter related tightly with results pregnancy and health as well as continuity life mother and child. Problem nutrition is also related with gender issues, where there is greater prevalence of anemia high in teenagers daughters and a greater prevalence of wasting and stunting high in teenagers son (UNICEF, 2018^a).

Intervention specific and sensitive nutrition combined become response integrated multisectoral for achieve nutritional status optimal teenagers with mobilize support from various anemia sector in value through measurement internal Hb

* Corresponding author: Hariyono Hariyono

levels blood. Normal Hb levels in women which no pregnant or ≥ 15 years namely ≥ 120 gr/ L. Meanwhile in men ≥ 15 years normal Hb level ≥ 130 gr / gr l (WHO, 2017). Anemia is problem influencing nutrition millions of people in countries develop and persist become challenge big for health humans. The prevalence of anemia is estimated at 9 percent in developed countries, while in developing countries prevalence is 43 percent. Children and women age fertile is groups most at risk, with estimation prevalence of anemia in toddlers by 47 percent, in women pregnant by 42 percent, and in women who do not pregnant aged 15-49 years by 30%.

The World Health Organization (WHO) targets decline prevalence of anemia in WUS will be 50 percent in 2025 Problem health society still Lots occurs in teenagers namely anemia, this anemia problem No only occurs in developing countries but also in developed countries. Anemia can occur risky happens to everyone group age, and groups at risk tall For suffering from anemia is child age school, teenager, woman age fertile, and mother pregnant. Iron deficiency anemia (AGB) is the most common anemia occurs in teenagers. Prevalence biggest occurs in African and Southeast Asian countries.

Prevalence of anemia in Asia in women aged 15-45 years reached 191 million people and Indonesia occupied order 8th of 11 Asian countries after Sri Lanka, with The prevalence of anemia is 7.5 million people aged 10-19 years (WHO, 2018). According to Riskesdas 2018 has happen increased anemia in adolescents daughter that is from 37.1% in 2013 to 48.9 % in 2018 and according to Household Health Survey (SKRT) data states that prevalence of anemia in adolescents daughter aged 10 – 18 years amounting to 57.1%. Intake substance malnutrition, menstruation, disease infection, and lack of knowledge can causes anemia. Anemia in women age fertile is challenges in the field nutrition health reproduction. By general its height prevalence of nutritional anemia iron This is caused by several reasons, among other things factor that is lost blood in a way chronic, intake substance iron No enough and improvement need will substance iron

Children's health age schools and teenagers moment This determine degrees generation nation in the future. We need prepare they become source Power quality human beings, one of them through education health for them capable avoid self from possible problems impact bad to health through behavior life clean and healthy. Problems faced by children age schools and teenagers Enough complex. Many diseases Serious consequence initiated behavior since adolescence for example smoking, disease infectious sexual, less malnutrition and undernutrition sport. Availability will access to good and accurate information, as well knowledge For fulfil curiosity child age schools and teenagers, will influence Skills they in take decision For behave Healthy (Mulati, 2019).

Indonesian teenagers experience three burden nutrition that is their 25% short, 8% too thin, 15% overweight body weight or obesity and about 10% of teenagers sons and 23% teenagers daughter suffering from anemia. There are some contributing factors to malnutrition among teenagers in Indonesia, with social status economy become decider main. With increasing globalization and urbanization, hand in hand with development developed country economy rapidly, Indonesia is experiencing change pattern eating and activities physically fast. Called as ' transition nutrition ' or 'nutrition transition', food highly processed calories become obvious thing seen in consumption daily population this is temporary style less life move become more general, which causes prevalence excess more weight big and even obesity (Unicef, 2022).

Teenager is half from source Power man for the future and a huge asset For growth especially economic and social teenager daughter who prone to suffer from anemia due to Lots lost blood at the moment menstruation. Teenager daughters who suffer from anemia are at risk experienced anemia at the time pregnant and will impact negative to growth and development fetus in content as well as potential give rise to complications pregnancy and childbirth, even cause death mother and child. Anemia in children ages 5-14 years amounting to 26.8% and aged 15-24 years amounting to 32% (Riskesdas, 2018).

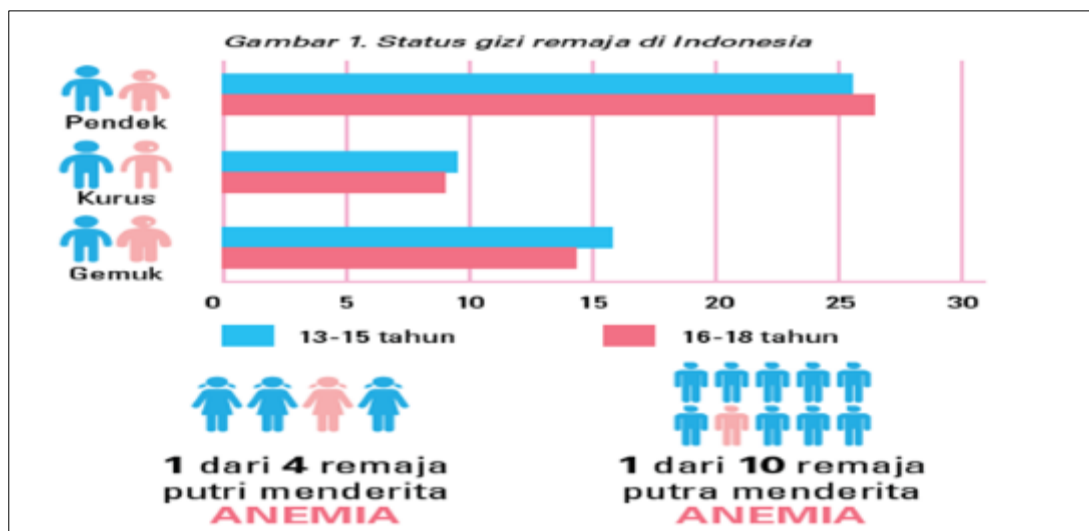


Figure 1 The Nutritional Status of Female Teenagers in Indonesia

Problem health society still lots occurs in teenagers namely anemia, this anemia problem No only occurs in developing countries but also in developed countries. Anemia can occur risky happens to everyone group age, and groups at risk tall For suffering from anemia is child age school, teenager, Woman Age Fertile, and mother pregnant. Iron deficiency anemia is the most common anemia occurs in teenagers. Prevalence biggest occurs in African and Southeast Asian countries (Anggreiniboti, 2022).

Nutrition is important components and have role important For achieving 13 of the 17 Sustainable Development Goals (SDG). Through repair nutrition, lots of it other possible purposes achieved For going to to repair something nation. Nutrition in adolescents Of course just is matter crucial, because Lots habits related nutrition someone who started at the time teenager, will happen until when they mature. Therefore that's intervention nutrition must started as early as Possible.

Three burden nutrition be marked with lack nutrition simultaneously with excess weight and obesity and also deficiencies substance nutrition micro, in the individual, home ladder and population as well as along cycle life. In level individual, more from One problem nutrition can happen in a way simultaneously. More from One problem nutrition can also be done happens at level House ladder when one member family Possible lack body weight or lack nutrition whereas other members have advantages body weight or obesity. Household with with three burden nutrition more general occurs in income countries middle experienced transition fast nutrition. Three burden nutrition There are also levels population when lack nutrition and excess weight, obesity or PTM and deficiencies nutrition micro common happens in the community. Lack nutrition and excess weight, obesity or PTM now life side by side in many countries, with affected women impact No proportional to the level population (WHO, 2017).

National Basic Health Research Survey (2018) shows that burden not enough Nutrition in Indonesia is sufficient big, with more from quarter population teenager 13-15 years old experience short or stunting (around 26 percent) and 9 percent underweight (underweight). Between teenager aged 16-18 years, 27 percent experienced stunting and 8 percent were underweight, while 2013 data shows prevalence of anemia in adolescents aged 13-18 years is 12.4 percent For teenager sons and 22.7 percent For teenager daughter.

2. Implementation Method

Nutritious Action designed through series consultation with holder multi- sectoral interests at the level national and sub- national including with the Ministry of Health, Ministry of Education and Culture, Ministry of Religion and Ministry of Home Affairs, government provinces and districts, and most importantly with teenager. Component main from Nutritional action is involvement youth throughout the process of program design, implementation, and monitoring discussion.

2.1. Enhancement capacity

Improvement strategy capacity designed as training targeted tiered employee government multisectoral at level district, officer health, teachers and supporters student peer. Approach tiered This possible more many teachers for trained, so increase amount schools and students who can join in as well as.

- **Facilitator district** : Facilitator regency own role important in quality and sustainable development of Nutritional action moment they continue For train teachers. First, facilitator regency identified from various sectors, such as the UKS/M Advisory Team, the Education Service, the Health Service and the Ministry of Religion Office at the level Regency and Province, as well power health from Public health center. Varied selection This intended For expand ownership multisectoral and program sustainability. Training facilitator regency done with objective For increase knowledge they about nutrition teenagers and problems health ; strengthen Skills facilitation participatory they especially For problem sensitive ; and develop plan follow carry on For facilitator district so that it can train teachers.
- **Teacher** ; Teacher training includes knowledge and skills shared by the facilitator district, with focus detailed on various topic Specific with strong emphasis on approach fun interactive For learn, compare with school style instructional normal traditional. The teacher is given module facilitator, and school provided tool education nutrition.
- **Supporter Peers / Students** : Involvement teenagers and students is the main pillar in Nutritional Action. Member group support peer selected by the teacher based on characteristics student or students who become volunteers and assessed by teachers. School given choice For apply method their selection consider accordingly, while pushed For register amount student balanced sons and daughters. Between objective training supporter peer is : strengthen Skills communication them, incl use of social media and production of short videos For promote and socialize Nutritional action messages with interesting ways for colleagues they ; make plan action level school For activity mobilization ; and build agreement about role support Friend peer sons and daughters at school.

2.1.1. Mobilization school

Activity mobilization school designed For spread the message Action Bergizi message with component school and the surrounding community. Activity This driven teenagers supported by teachers and management school. Activity covers various intra and inter competition school, for example race cooking, competition dancing and sports. Student requested make planning For related activities with prevention of anemia, promoting Eat healthy and active physique. One of from activity the must involve parent. Students are also encouraged For make changes to the canteen school them to provide more food Healthy.

2.1.2. Advocacy

Advocacy level district and province addressed For sensitize the makers policy to issues common around nutrition teenager through use effective local evidence, as well For get commitment they. UNICEF is taking the lead effort advocacy through partnership with holder interest other. Interaction For involvement in a way special done with the Regent and Governor, Education Service, Health Service, Religious Office and Bappeda at the level district and province. Advocacy done through regular communication with holder interest main and through various meeting official. Result of activity mobilization school furthermore works as tool advocacy and communication regarding Nutritional action. Activity This can witnessed by officials regency as proof direct application knowledge gained student through this program

2.1.3. Coordination multisectoral

Various level advocacy above accompanied with effort development coordination strong multisectoral power throughout service district and province related For support the program. Multi- sector coordination This facilitate agreement together regarding the strategy, implementation and evaluation of Nutritional action in various areas sector.

2.1.4. Monitoring and evaluation

There are two levels monitoring the nutritional action process – districts and schools. This matter supported by evaluation programmed. First, facilitator regency together monitor implementation activity activity intervention through visit school in a way regular, offering suggestions and alternatives to experienced school obstacles and shows appreciation to executor best. They also visited canteen school For ensure facilities and management appropriate food. At level school, Nutritional action teacher given a list of records For track receipt and consumption of blood increasing tablets tablets among teenager daughter during session weekly blood increasing tablets supplementation, as well for

activity moment session education nutrition. School required For report activity This in a way regular to facilitator district, preferably every month. Evaluation impact of Nutritional action focused on measurement change behavior teenager. This includes evaluation changes in knowledge, attitudes and practices (Knowledge Attitude Practice or KAP) of participating adolescents related with behavior Eat healthy and active physical, before and after the program is launched.



Figure 2 Implementation Strategy for Nutritional Improvement

3. Implementation Results Community service

Implementation activity Community service at MTS Al Urwatul Wustqo held on 28-19 May 2024 with a number of activity between other :

- Coordination with head of Madrasah, midwife villages and UKS managers activity implementation community service



Figure 3 Coordination with head of school

- Do hemoglobin examination in students For now adequacy nutrition and there is anemia or no



Figure 4 Sampling Activity



Figure 5 Sampling Activity

- Strengthen supplementation substance iron and acid folate weekly Blood Addition Tablets for teenager daughter. This is a given together breakfast brought from House For facilitate absorption and reduction effect side from BLOOD INCREASING TABLETS. This also helps set habit breakfast, where? teenager No can do in a way regular.



Figure 6 Socialization of Anemia



Figure 7 Socialization of Anemia

- Education multi- sectoral nutrition

This is session enhancement knowledge about nutrition and health are carried out in a way interactive and fun a week once, usually done quick after teenager daughter take additional tablets blood

- Distribute and drink with additional tablets blood



Figure 8 Socialization of Anemia

- Monitoring and evaluation

Schools, and action teachers nutritious given a list of records for track receipt and consumption of added tablets blood between teenager daughter during session additional tablet supplementation blood weekly, as well For activity moment session education nutrition. School required for report activity This in a way regular to facilitator district, preferably every month. Evaluation impact of Nutritional action focused on measurement change behavior teenager. This includes evaluation changes in knowledge, attitudes and practices (knowledge, attitude practice or KAP) of participating adolescents related with behavior eat healthy and active physical, before and after the program is launched.

4. Conclusion

Implementation activity action nutritious in frame for prevent anemia in teenagers is with method invite student For breakfast together with method fill my plate with nutrition balance, exercise together before lesson First Starting, check hemoglobin regularly periodically, additional tablet distribution blood and drink together in class with teacher monitoring, as well Health and nutrition education teenager in a way periodically suffering needs to be monitored and evaluated How effectiveness implementation activity action nutritious already held.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

References

- [1] ACC/SCN (2000). Fourth Report on the World Nutrition Situation – Nutrition across the Life Cycle, Geneva: ACC/SCN in collaboration with IFPRI, 2000. (<http://www.unsystem.org/scn/Publications/4RWNS/4rwns.pdf>)
- [2] Achadi, E and Sardjunani, N (2016). Experience of the SUN Movement in Indonesia.
- [3] Ambardi, K et al (2014). Mapping digital media: Indonesia – A report by the Open Society Foundation. February 2014.
- [4] BAPPENAS (2018). National Action Plan for Food and Nutrition 2017-2019 (Adolescent Nutrition Summary). Power Point Presentation.
- [5] BAPPENAS (2017). Voluntary National Review Review: Poverty alleviation and welfare improvement in a changing world. Republic of Indonesia.
- [6] Barker, M, et al (2018). Intervention strategies to improve nutrition and health behaviours before conception (Third in the Preconception Health series). Lancet, 2018; 391: 1853-64, 16 April 2018.
- [7] Global Alliance for Improved Nutrition (GAIN) (2017). Beautiful and Selective Campaign. Power Point Presentation.
- [8] Heidrich, G (2018). Communicating for Promising Development Practices – Examples from Cambodia, Malaysia, Philippines and Vietnam. UNICEF Regional Office for East Asia and the Pacific: Bangkok, Thailand.
- [9] Human-Centered Design for Digital Adolescent Health (2018). Final Report on Co-ideation, Prototyping and Concept Testing g. UNICEF: Jakarta, Indonesia.
- [10] International Center for Research on Women [ICRW]. (2010). Monitoring Toolkit: How to develop a monitoring system for community rights worker programmes. Washington, DC: International Center for Research on Women.
- [11] Infoas (2012). Indonesian Media and Telecommunication Landscape Guide.
- [12] Ministry of Health of the Republic of Indonesia (2019). Guide for Facilitators: Nutrition Action, Healthy Living Now for Today's Youth
- [13] Lansdown, G and C. O'kane (2014). Child Participation Monitoring and Evaluation Toolkit. Book 4: A ten-step guide to monitoring and evaluating child participation. Save the Children in partnership with World Vision, Plan International, The Concerned for Working Children and UNICEF
- [14] Initial Behavior Change Communication to address the double burden of malnutrition among adolescent girls and boys in Indonesia: School-based pilot, September 2018. UNICEF Indonesia
- [15] Rah, JH, Roshita, A, Sugihantono, A and D Izwardy (2017). New horizons for a forgotten generation: Improving adolescent nutrition in Indonesia. Vision and Life, Vol. 3 (2), 84-90 Rahman, A.A, Lamis Jomaa, L, Lara A Kahale Pauline Adair Cynthia Pine (2017). Effectiveness of behavioral interventions to reduce sugary drink intake in children and adolescents: a systematic review and meta-analysis. NutritionReviews, Volume 76, Issue 2, 1 February 2018, Pages 88– 107. Published: 21 December 2017.
- [16] Reality Check Approach (RCA) Plus and UNICEF (2016). Adolescents' perspectives and experiences of eating, drinking and physical activity. Jakarta, Palladium Group and UNICEF Indonesia.
- [17] Rose, T, Barker, M, et al (2017). A systematic review of digital interventions to improve adolescents' eating patterns and physical activity behaviors. Journal of Adolescent Health December 2017, Vol. 61, Issue 6, 669-677

- [18] Savage, A, Februhartanty, J and Worsley, A. (2017). Adolescent girls as the primary target population for community nutrition education programs in Indonesia. *Asia Pacific Journal of Clinical Nutrition*, 2017; 26 (3): 484-493.
- [19] Samdal et al (2017). Effective behavior change of physical activity techniques and healthy eating patterns in overweight and obese adults; a systematic review and meta-regression analysis. *International Journal of Behavioral Nutrition and Physical Activity*, 14:42 DOI 10.1186 /s12966-017-0494-y.
- [20] Sammon, E, et al (2017). How do you know what's good for me? A guide to planning and measuring promising practices in adolescent well-being programming in Indonesia. Technical report prepared for UNICEF and Oxford Policy Management, Jakarta, Indonesia.
- [21] Save the Children (2015). Adolescent nutrition: Policies and programmes in SUN+ countries. Save the Children Fund, London.
- [22] Savica (2014). Adolescent and maternal nutrition landscape report in Indonesia. For the Global Alliance for Improved Nutrition (GAIN).
- [23] Scaling Up Nutrition (SUN) (2014). Social mobilization, advocacy and nutrition communication.
- [24] Shreya Bhatt (2017). Using mobile technology for nutrition programmes: a practical guide for implementers and practitioners. *Vision and Life*, Vol. 3 (2),
- [25] Smitasiri S, Sangobwarchar K, Kongpun ya P, Subsuwan C et al (1999). Sustaining behaviour change to improve micronutrient status through community-based and women-based interventions in North-Eastern Thailand. *Food Nutrition Bulletin*. 1999; 20: 243-51 (<http://www.Unu.edu/unupress/food/fnb20- 2.pdf>)
- [26] Soekarjo DD, Roshita, A, Thow, A, Li, M, and Rah, JH (2018). Strengthening nutrition-specific policies for adolescents in Indonesia: A qualitative policy analysis. *Food and Nutrition Bulletin* 1-12; Sage Publications.
- [27] Sood, S, Cronin, C and Kostizak, K (2018). Participatory Research Toolkit. Rain Barrel Communications: New York, November 2018