

SIGNIFICANCE OF EDUCATION INTERVENTION TO COMBAT IRON DEFICIENCY ANEMIA

Abstract

Background: Anemia is a major nutritional problem among adolescent girls which affects the growth and development of their lifecycle. Nutritional anemia is highly prevalent and iron deficiency is one of the prime causes.

Objective: To perform a literature review on the prevalence of anemia among adolescent girls, its associated risk factors, ongoing interventions by the Government and to emphasize the significance of education intervention to combat anemia.

Method: Published studies on the prevalence of anemia and its associated factors among adolescent girls in India were included in this paper. Research papers meeting the inclusion criteria (adolescent, anemia and education intervention) were selected and evaluated according to the study objective.

Conclusion: preventive action is required regarding iron deficiency anemia. A gap in nutritional knowledge and improper practice can affect the inter generation approach. Behavioral, physiological and socio-economic limitations must be handled capably. Nutrition education intervention is the best way to combat anemia in the long term aspect.

Keywords: Iron Deficiency Anemia, Adolescent Girls, Education Intervention, Nutritional, Inter-Generation.

Introduction

Anemia is currently one of the global public health problems that affect both developing and developed countries. It also affects social and economic development. (World Health Organization, 2011). Nutritional anemia is highly prevalent and iron deficiency is the prime cause of anemia. Iron deficiency anemia among non-pregnant and pregnant women is estimated to occur 50% of all-cause of anemia and 42% in children under 5 years of age globally (World Health Organization, 2017).

The adolescence age group has been addressed as a critical window and a gateway to enter into an intergenerational cycle of nutrition (Gonete et al., 2018). Adolescence is considered a rapid phase of growth and development because of the higher requirement of nutrition and micronutrients. Adolescent girls are more vulnerable to suffer from an iron deficiency anemia, for several reasons i.e. blood loss occurs due to the menstrual cycle which demands a higher need for iron. Moreover, due to higher growth and development body demands a continuous and higher level of iron. (Hurrell & Egli, 2010). If correct intervention is done during the phase of adolescence,

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a future ramification of nutritional deficiency can be prevented. (Siva et al., 2016)

Anemia can cause negative consequences in disease progress. Along with the growth of adolescents, attentiveness, school performance, remembrance, and school attendance also get affected. If any anemic girl enters into a phase of pregnancy, it may increase the risk of fetal morbidity and mortality, increased risk of low birth weight and risk of Maternal mortality rate and Infant mortality rate (World Health Organization, 2011).

Method and Materials

Published studies on the prevalence of anemia and its associated factors among adolescent girls in India were included in this paper. Several databases were searched electronically. Research papers meeting the inclusion criteria (adolescent, anemia and education intervention) were selected and evaluated according to the study object

Global Targets To Combat Anemia

1. Global Target 2025

In 2012 World Health Assembly (WHA) declared an in-depth strategic plan in resolution 65.6 on the

nutrition of infant, young child and maternal, which stated six global nutrition targets of 2025. "To achieve a 50% reduction in anemia in women of reproductive age" is the second target of policy (World Health Organization, 2014)

2. Sustainable Development Goals (SDGs)

SDGs are directly or indirectly connected with health and wellbeing.

To achieve, Target 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture and Target 3: Ensure healthy lives and promote well-being for all SDGs, emphasizing on the prevalence of anemia is significant.

Interventions By Government To Combat Anemia

Nowadays to reduce the prevalence of anemia, weekly iron-folic acid program (since 2000) and National Iron plus initiative (since 2013) are in action in India. Since 2018 Poshan Abhiyan is launched in India with the vision of malnutrition free India by 2022. Anemia Mukh Bharat (Intensified national iron plus initiative) strategy has been implemented under the roof of Poshan Abhiyan (Jani, 2019).

Figure 1 : Six Interventions in Anemia Mukh Bharat

1. Prophylactic iron and Folic acid supplementation
2. Deworming
3. Intensified year-round Behavior Change Communication Campaign
4. Testing and point of care treatment
5. Mandatory provision of Iron and Folic acid Fortified foods in government-funded health programmes.
6. Addressing non-nutritional cause of anemia such as malaria, hemoglobinopathies.

Source : Poshan Abhiyan, N.D.

Prevalence of Anemia and Significance of Education Intervention

Toteja et al., (2006) assessed prevalence of anemia among 4,337 adolescents of 16 districts of India. 90.1 % prevalence of anemia (hemoglobin <120 g/L) was existing in respondents and 7.1 % were having severe anemia (hemoglobin < 70 g/L). A study suggested a need for an intervention strategy to address anemia. Siva et al. (2016) conducted a cross-sectional study of 257 adolescent girls to assess the prevalence of anemia and its associated risk factors. 21 % of the prevalence of anemia was found. Worm infestation and usage of numbers of pads per day during the menstrual cycle were addressed as risk factors of anemia. Hand washing after toilet, hand washing before intake of food, usage of footwear, jaggery consumption were addressed as protective measures of anemia. Mann et al. (2002) revealed that low intake of iron is not an only major reason for iron deficiency, but low iron absorption which may due to insufficient consumption of enhancer such as Vitamin C.

Malhotra, A. and Passi (2004) examined hemoglobin status of adolescent girls in rural region of Rajasthan, Delhi and Uttar Pradesh. A study found a 50% incidence of mild anemia, 44.4% incidence of moderate anemia and 2.8 % incidence of severe anemia. Kamalaja et al. (2018) conducted a study among 300 adolescents to assess the effectiveness of health and nutritional education intervention. In this study, 57% moderate and 37% mild anemia was addressed. Lack of information regarding health, food, and nutrition was found among respondents. Kanani S (1997) stated an important relationship between knowledge and behavior of nutrition consumption. The study suggested that detailed knowledge on certain topics i.e. food purchasing, preparation of food, balanced diet, the importance of green leafy vegetables, consumption of vitamin c can bring a change in the long term aspect to combat anemia. Gupta (2007) identified 58.08% moderate, 33.85% mild and 5.77 % severe anemic girls. The majority of subjects were from the low-income group in both early and late adolescent age groups. Nutritional awareness and dietary intake can play a significant role to prevent anemia. (RWIC, N.D.) conducted a baseline survey about

dietary behavior patterns among adolescents regarding the prevention of anemia. 58 % of girls were found anemic and 1.3% was severely anemic. Participatory nutrition education can help to maintain a proper diet and iron status. Promotion of key food pattern behavior-changing messages i.e. consumption of three or more meals, green vegetables, daily lemon or other vitamin c rich foods, etc can become a significant strategy.

Savita et al. (2015) conducted a descriptive cross-sectional study to study the impact of an education intervention on knowledge of iron deficiency. The study revealed the significance of nutrition education program as a long term strategy to combat nutrient deficiencies. There is a need to create change through basic schools, collages for adolescent girls such as eating habits. (Monika Singh, Om Prakash Rajouri (2019) conducted a cross-sectional study to find anemia related knowledge, attitude, and practice. Out of 210 respondents, 28.5% (60) had heard the anemia terminology and 83.3% (50) perceived anemia as a health problem. Fewer numbers of respondents were aware of symptoms, prevention, and treatment of anemia. A lack of attitude and practice was seen in this study.

Discussion

Anemia is the major nutritional deficiency which is the underline cause of many health conditions. Along with low intake of iron, numbers of factors are responsible for the prevalence of anemia i.e. insufficient intake of enhancers, worm infestation, eating behavior.

The Government of India has launched many programs to reduce the prevalence of anemia. However, the prevalence of anemia is still high among vulnerable groups. Lack of knowledge regarding health, food, and nutrition is revealed in many studies.

Action Plan To Achieve Education Intervention

- To change behavior or to initiate new behavior, constant key messages in a repetitive manner are required and as a result of this changed behavior or new behavior can become a practice.

- Various activities should be done regarding awareness of anemia i.e. organization of quizzes, informative talks in various seminars, meetings with school teachers, parents, administration, panchayat leaders.
- Community response is mandatory for acceptance of IFA supplements, for that leader from the community should be involved.
- A need-based communication strategy should be implemented i.e. continuous broadcasting of posters and advertisements in regional language should be done through mass media and social media (WhatsApp and twitter) and text messages.
- Anemia is an underline cause of many health conditions. It is observed that hence anemia is not a fatal disease; the community is not a concern for its prevalence. Effective promotion should be done to persuade people regarding the consequences of anemia.
- Still, certain taboos are existing among community i.e. not the consumption of tangy things with IFA tablets. A positive attitude must be developed for iron enhancers (vitamin C rich food).

Future Scope of Study

Nutritional knowledge assessment is a significant step before doing a blueprint of nutrition education intervention. Even though the population knows nutrition, lack of positive attitude and fare practice is evident in many studies. Assessment of knowledge, attitude, and practice for the use of iron intake are suggested for the future scope of the study.

Conclusion

Anemia is considered a major public health problem that also affects the social and economic development of the country. Preventive action is required regarding iron deficiency anemia. Prevalence of anemia among adolescent girls can be addressed in elementary schools and the community level through nutrition education. A gap in nutritional knowledge and improper practice can affect the intergeneration approach.

Behavioral, physiological and socio-economic limitations must be handled capably. Nutrition education intervention is the best way to combat anemia in the long term aspect.

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