

Q&A Session: NIPN Webinar on Adolescent Nutrition and Anemia

Presenter: Ms Kesso Gabrielle van Zutphen-Küffer, MSc, Knowledge and Research Manager, *Sight and Life*, Switzerland and PhD Candidate, Wageningen University & Research, the Netherlands

Panelists: 1. Dr. Sisay Sinamo, PhD in Nutrition, Senior Program Manager, Seqota Declaration Federal Program Delivery Unit
2. Dr. Abdulziz Adish, PhD Nutrition, Nutrition International, Africa Region Deputy Director

Question	Answer
Can anemia due to genetic hemoglobin disorder be improved with nutrition intervention?	It is not recommended to provide iron to people with genetic hemoglobinopathies because they tend to have iron overload. But for sure, carefully monitoring nutrition interventions (e.g., iron fortification and supplementation) would be a first step to avoid any risk of iron overload. We need to do more to collect nationwide data on the frequencies of hemoglobin disorders and develop cheaper and simpler methods of screening and management.
Which intervention is better, weekly iron-folic acid (IFA) supplementation or fortification to avert such huge iron deficiency anemia (IDA)?	I am not sure that one intervention is better than the other. I think both are important, and both may be warranted in the case of high levels of IDA. One choice would depend on a variety of elements, such as the target population and the availability of food fortification programs. Weekly IFA supplementation effectively prevents IDA in populations with at risk of anemia, such as children, pregnant women, and menstruating women. Food fortification, on the other hand, can effectively reach a large population and has been shown to be successful in reducing the prevalence of iron deficiency anemia, especially when implemented in staple foods consumed by the population.
Usually, anemia is targeted via iron folic acid supplementation, but at times iron deficiency anemia might not be due to low iron levels in the body but instead due to lack of iron absorption. The lack of iron absorption may be due to over-reliance on a cereal-	Absolutely, many inhibitors limit the absorption of iron. However, this does not mean that diet is not important. There are enhancers of iron absorption, vitamin C, for instance, helps with absorption. Limiting coffee and tea during a meal can also help with better absorption and limiting calcium as well. Animal source foods are more readily absorbed, so consuming these

<p>based diet with high phytate content. In this context, how do you think diets can play an important role in improving iron levels?</p>	<p>can also help. It would also be important to look at new innovations, for instance: introducing phytase in foods to break down phytate and enhance absorption.</p>
<p>Some papers suggest giving IFA on a daily basis and others on a weekly basis, especially for low and middle income countries (LMICs). What would you suggest for countries like Ethiopia with high anemia prevalence?</p>	<p>In countries where anemia is frequent, such as Ethiopia, daily and weekly IFA supplementation can improve iron status and reduce anemia. The choice of daily and weekly supplements may depend on various factors such as population, available resources, and the logistics of the programme. Daily IFA supplements are more effective in the rapid rehabilitation of IDA and have been shown to be beneficial to pregnant women and children. Weekly IFA supplementation is a more sustainable and cost-effective method for preventing long-term anemia, especially in resource-limited environments requiring fewer visits and supplies. In general, daily and weekly IFA supplementation plays an important role in reducing anemia in Ethiopia, and the best approach should be based on a comprehensive assessment of the specific context and available resources.</p>
<p>Which medium is best for iron fortification; (flour, edible oil)? And is there any practice with coffee, fruit juices and other liquid forms?</p>	<p>The most important thing is to look at the penetration of each food item we discussed. For example, we are currently trying to start double fortified salt rather than only iodization in Ethiopia. We are trying to add folate with it. So, as you know, the penetration of salt is so high over 90% of communities or households have salt. The cost of fortification is so cheap that anybody who can afford salt can afford fortified salt. So, that is the best for any fortification because of the high penetration. Then oil is better penetrated in the market and households than flour. But we also have to look at the target group we are addressing. Is it adolescents or children? Do children eat wheat and oil? So I think those are the kind of calculations one must make. But one thing that is really important to Ethiopia is that we are very far from causing toxicity because of multiple fortifications in addressing the problem. So, I think we have to promote multiple approaches for our problems or etiology at this stage. But at one stage, when we reach, we can discuss the probability issue of toxicity but otherwise we have to decide on</p>

	<p>the target group. What age group are we planning to address, then what food items penetrate highly? Issues, for example, vitamin A and D are both oil-based. So if we use oil-based with oil, I think those have a good marriage made in heaven for fortification. Technical issues have to be addressed when deciding on fortification.</p>
<p>Are we really confident about the causes of anemia among adolescents, and what is the % contribution of each cause?</p>	<p>The causes of anemia in adolescents worldwide vary depending on factors such as geographical location, socio-economic status, and individual characteristics. As anemia often interacts and overlaps, it is impossible to determine the precise percentage contribution of each cause; however, the main cause would be iron deficiency.</p>
<p>Why should construction of schools have an impact on adolescent girls? Staying at School for a girl is not determined by physical buildings?</p>	<p>Research, again and again, shows that education is a critical contributor to maternal as well as child nutrition outcomes. Adolescents, if they get married early, the risk of school drop; and risk of malnutrition is high. In addition, for the Seqota Declaration (SD) woredas, one risk factor for early marriage and pregnancy is the lack of primary schools or very far schools. That is why we prioritized school construction especially primary schools. The global and national conceptual frameworks were also identified as key interventions.</p>
<p>I appreciated that you pointed out what adolescent girls are interested in learning more about menses and menstrual hygiene management - and are not so turned on by iron supplementation. It would be very strategic to tap into that interest! So curious if you are looking at the potential impact of the distribution of hormonal pills to adolescent girls to reduce blood flow?</p>	<p>This is exactly the topic of my dissertation. Instead of the hormonal pill, however, I am testing out the effect of NSAID (ibuprofen) to reduce menstrual blood loss volume. There has not been much data on this, mostly because it is very difficult to measure menstrual blood loss objectively. There has only been 1 study looking and the cause of menstrual blood loss to IDA conducted in Nigeria. They found the contribution of heavy menstrual blood loss to cause 30% of IDA. I am interested in ibuprofen because it can reduce menstrual blood loss up to 25-35%, is more acceptable in some contexts, and significantly reduces period cramps, so again appealing for adolescent girls.</p> <p>Important links for adolescent nutrition https://www.ennonline.net/ourwork/adolescentnutrition</p>

	https://www.advancingnutrition.org/resources/adolescent-resource-bank/orientation
<p>Could you update us about the nutritional assessment indicators' cut-off value including Stunting, wasting, and underweight? Another question is that, there is a controversial idea about the economic strengthening of Adolescent's since the productive safety net program (PSNP) may not include them in a labour work or income generating activity (IGA) related to their age (under18yrs) and also these may contradict with a child labour policy?</p>	<p>Kindly refer to the WHO guidance for Stunting, wasting, and underweight cutoff. For PSNP there is soft conditionality which exempts from public work. No worry about child labor.</p>
<p>What are the common causes of heavy Menstrual bleeding in adolescent girls? I mean 40% of them are suffering with?</p>	<p>There are structural causes and non-structural causes. The structural ones are mostly around Polyp, adenomyosis, and fibroids; and the non-structural ones are more related to ovulatory dysfunction. Approximately 40% of adolescent girls experience heavy menstrual bleeding; however, the majority of this data is based on self-perceived menstrual blood loss. We need more studies that look into objectively quantifying menstrual blood loss.</p>
<p>What specific implementation from Seqota Declaration is planned to alleviate the problem among adolescent married girls because it is double problem?</p>	<p>To alleviate the early marriage of adolescents wide range of interventions are being implemented. Early Marriage free villages initiative with local bylaw support is one good example.</p>
<p>The Seqota Declaration project is very impressive and life-changing, but to increase the program's effectiveness, how much is the project owner doing on social behavioral change communication activities.</p>	<p>One of the strategic focuses of SD is SBCC called First 1000 days plus public movement.</p>
<p>Are there any African/other country experiences that worked to improve the food environment of Adolescent girls to limit unhealthy food choices and improve dietary diversity?</p>	<p>Regarding the African experience in the food delivery environment and for diversity, Yes, we did work; in all our institutional support grants, we include food diversity as part of our program and don't only concentrate on supplementation. Through our education, we always</p>

<p>What special intervention exists for multi-sectoral strengthening from the Nutrition International (NI) side? Because it is not such strong at the grass root level.</p>	<p>provide a comprehensive program that includes food diversity. But specifically, in our work in Senegal, we had a program at a municipal level. The adolescent program included sex and gender issues in nutrition. So, it was comprehensive and included all nutrition components, which was received quite well. In this program, we had good use of social media, and the social media use by adolescents was really high. So I think because of that delivery platform and our approach to the problem, that program really did quite well, and still, it's ongoing in Senegal, and we are working in the municipality. That kind of program has to be comprehensive and address all the psychosomatic issues of adolescent girls, sexuality issues, and also nutrition in general. So I think that is a very good example. But the challenges in Africa are usually when we discuss adolescent health, the moment you raise the issue of sexual education in urban areas, the issue of religion, the issue of misunderstanding, and also the issue of targeting girls arises because they don't want them to get pregnant. It's an indirect way of sterilizing adolescent girls. So those are issues that come to the front in Africa that we have to address. If your school education program, the moment it includes sex education, then religious clergies jump in and say no; this will make students promiscuous. So the suggestion is never to raise the issue of sexuality. The fact that you denied it would not solve the problem. So they encourage you to deny it exists rather than tackling and improving. So, that's one challenge that we face in Africa.</p> <p>The other biggest challenge is one of our challenges in Tanzania also is why supplementation, why don't we give food-based solutions. So, especially even from the medical side, this is the challenge. African countries are very green; if we feed our community the right way, we don't need supplementation. For every problem, when you go to policymakers and discuss issues of supplementation, one that is an excuse for inaction, rather than saying okay the government will call to liberty in supplementation, the alternative they give you is no we have enough</p>
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	<p>fruits and vegetables which do we teach our people to eat the right way as if teaching is easy. They consider presentations or show into two or three TV change the attitude of the whole community. This has been part of also in Ethiopia. When discussing fortification, people say, “Oh, we will teach people to eat right. We don't need any supplementation or fortification”. So I think this is a challenge we have in most African countries, which are reflected in Tanzania and Ethiopia. So I think these are the three important issues but the important thing is as we have seen in our conceptual approach for anemia, it's not only one solution that you have to look at. It's a comprehensive solution that addresses the problem at all levels, including at policy level, intermediate, and immediate levels. So unless there is a comprehensive and multi-sectoral response, adolescent malnutrition will not be addressed.</p> <p>We are working with multisectors. We work with the Ministry of Education; it's a new Ministry for us, but we have to do a lot of lobbying and policy work and make sure that every Ministry involved is participated. I think this is reflected very well in Ethiopia. The Seqota declaration is the lead to ensuring that every institution at Ministry involved in nutrition takes part in the National Dialogue. So that kind of approach would have to be very important.</p>
<p>To every presenter, do you have any updated evidence on a possibility to catch up brain development which was lost during child hood period at the adolescent stage?</p>	<p>This is a great question. I am not aware of a specific study; I would need to look this up. However, I know of research from the Young Lives study in Peru, Vietnam, Ethiopia and India found that 40 percent of height deficits among girls at age 12 was recovered by age 19, with the largest proportion of catch-up growth occurring between the ages of 12 and 15 years, it would be really important to conduct studies which specifically look at catch-up brain development since it is well known that the adolescent brain is a second window of opportunity. It would also be interesting to better understand the role that nutrition plays in making this catch-up possible.</p>
<p>What are the quantifiable achievements in Ethiopia, due to the</p>	<p>I have indicated in my presentation, of course, the Seqota Declaration focuses on maternal as</p>

<p>interventions?</p>	<p>well as also children less than two years of nutritional outcomes. Jointly with Ethiopian public Health Institute (EPHI) we did the baseline for the Seqota Declaration, and currently, with the African Development Bank, a follow-up study in terms of nutrition outcome was conducted. We have also demonstrated in terms of impact on the stunting reduction as well as other key parameters. But specifically for adolescents, we have not measured the impact. But considering the number of stunted cases averted as well as the number of deaths prevented from the impact study which we did using both the LiST method as well as also household survey; we believe that adolescent nutrition could also be improved because they were a wide range of interventions targeting the schools. Of course, considering the level of investment and the high burden of stunting in the innovation phase woredas, we believe we need to do more. But if some interested researchers want to conduct studies in terms of what were the contributions of Seqota Declaration interventions for adolescent nutrition. This is something that will help us to understand the contribution towards adolescent nutrition.</p>
<p>Very interesting challenge to move toward a focus on menstruation rather than supplementation, but your slides seemed focused on the management of menstrual flow. Are there any strategies being discussed and considered to reduce flow?</p>	<p>Unfortunately, there are absolutely no focus/no strategies that look into reducing iron deficiency anemia through a reduction of menstrual blood loss. Strategies exist however, and include the hormonal contraceptive pill, NSAIDs, tranexamic acid, and others. This is a major research gap that our research group at Wageningen University and Research is looking into.</p>
<p>Is there any direct relationship between Menstrual hygiene and Adolescent nutrition?</p>	<p>This is a great question and something that we are also interested in and looking into. Adolescents who experience poverty or lack access to menstrual products or know little about menstrual hygiene may experience shame, embarrassment, depression and subsequent poor school attendance, which can affect their overall well-being but also their nutritional status. We do need a lot more evidence on this, particularly more robust Randomized Controlled Trials (RCTs), as most of this evidence relies on qualitative and anecdotal evidence. Thankfully there are an increasing number of trials that are assessing some of these outcomes.</p>

	<p>We are also interested in finding out to what extent poor menstrual hygiene practices can lead to vaginal infections and to what extent these may limit iron absorption.</p>
<p>Which formulation of Weekly IFAs are you using to supplement adolescent girls?</p>	<p>Currently, the formulation of Weekly IFAS outlined in the WHO guideline (60 mg elemental iron and 2.8 mg folic acid) is not included in the 22nd WHO Model List of Essential Medicines, though the new formulation is available in the UNICEF catalog. As this model WHO EML list is what many countries base their national essential medicines lists on, this formulation is unlikely to be on national essential medicines lists, which guide a country's procurement and supply of medicines. In addition, a market scoping found that there are limited manufacturers globally currently making the WHO-recommended supplement (60 mg iron and 2.8 mg folic acid).</p> <p>Prenatal IFA (60 mg elemental iron plus 0.4 mg folic acid) supplement is safe and widely used because it contains the same weekly iron dose (60 mg) as recommended for anemia reduction. Although this dose of folic acid (0.4 mg) is lower than that recommended by the WHO for neural tube defects (NTD) prevention, it will not have equal benefits for NTD prevention.</p> <p>For further details, the revised Weekly IFAS FAQs NI developed in 2022 is available on NI website or contact via ephi.nipn@gmail.com. The document has over 30 frequently asked questions with their detailed explanation and, interestingly, the results and implications of new evidence around WHO recommended Weekly IFAS formulation containing 2.8 mg folic acid and its association with a lower risk of neural tube defects compared to 0.4 mg folic acid. Here is the link to access this and other important documents in NI's Knowledge Library.</p> <p>https://www.nutritionintl.org/learning-resource/nutrition-internationals-work-improve-nutrition-adolescent-girls/</p>

<p>How much is Weekly IFAS program accepted by the government in Ethiopia and in other African countries, is it really going well? Since it is one of the best interventions we have now.</p>	<p>Yes, Weekly IFAS is one of the cost-effective high-impact interventions to redress anemia among adolescent girls. In Ethiopia, the Weekly Iron Folic Acid Supplementation for Adolescent Girls program has been implemented since 2016, starting as a demonstration and later as an extended pilot project. The program is implemented in more than 120 Woredas in close coordination with the Ministry of Education and developmental partners. The Ministry of Health has developed expertise in implementing the Weekly Iron Folic Acid Supplementation for Adolescent Girls through capacity building and technical guidance from development partners. As a result, the Ministry has incorporated WIFAS in the National Food and Nutrition strategy under the strategic initiative as one of the public health programs relevant to anemia reduction and improving adolescent/women's health and nutrition. Through the School, community, and health facility delivery platforms, the Ministry aims to reach 50% of adolescent girls in Ethiopia with the recommended annual dose of WIFAS in the next 5 years.</p> <p>For more information, refer to the AWHN program overview (i.e., Adolescents' and Women's Health and Nutrition (AWHN) Program supported by Nutrition International in 8 countries of Asia and Africa (2015-2021)) that might be important to read further. Here is the link to access this and other important documents in NI's Knowledge Library.</p> <p>https://www.nutritionintl.org/learning-resource/nutrition-internationals-work-improve-nutrition-adolescent-girls/</p>
<p>On food regulation as it is related to nutrition, how to strengthen the food safety regulation?</p>	<p>The government has a food regulatory body and a policy; and is trying to enforce the regulatory actions. However, more work must be done to improve public participation and fully enforce food safety actions. There have been reports on adulteration, mixing food with non-food items, and other issues requiring public education and preventive measures from all stakeholders.</p>