

Lack of Public Knowledge on Iodine Intake

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Abstract

Iodine deficiency disorder (GAKY) represents a significant micronutrient concern in Indonesia, with both direct and indirect implications for the survival and quality of the human resource base. The causes of iodine deficiency are low iodine intake which can lead to suboptimal excretion of thyroid hormones, exposure to environmental pollution and natural goitrogenic substances in foodstuffs. Children, teenagers and adults can also be affected by GAKY. GAKY covers all age groups, from the foetus in the womb, neonates, children and adolescents to adults, including women of childbearing age, pregnant and lactating mothers and the elderly. This study was designed to help the community understand the importance of achieving iodine intakes. The present study employed a systematic literature review. The method was employed to identify relevant national journal articles from the PubMed and Google Scholar electronic databases over the period 2019-2022. The process comprises four stages: identification, screening, eligibility and inclusion.

Article History:

Keywords:

Iodine deficiency disorder, micronutrient problems, thyroid hormones

1. Introduction

Iodine deficiency is closely related to topographical variables, such as hilly regions, which the humus layer of the soil as a put where iodine settles, not exists, due to ceaseless soil disintegration, dissolved by surges, magma, tropical rain on slanting arrive, calcareous soil and iodine broken up in water, which is carried to waterway mouths and oceans, as well as due to the nearness of woodland burning. A few of these geological conditions cause soil, water and nourishment to need iodine substance. An area that has characteristics that cause a reduction in the iodine content in the soil Consequences of Iodine Deficiency (IDD) (WHO, 2014).

Iodine is a vital nutrient for the human body, as it is a constituent of the thyroid hormone, specifically tetraiodothyronine (T4). or thyroxine and triiodothyronine (T3) which work to control body temperature, development and advancement of the apprehensive framework andneuromuscular work (Ibrahim et al., 2018). Thus, iodine lack can cause unsettling influences within the body's capacity to fulfill the work of the thyroxine hormone, coming about in cretins (midgets/dwarfs) with mental retardation and mental disarranges (Aakhiruddin, 2011). IDD could be a gather of indications that show up within the body due to a need of iodine admissions within the body, so it has an affect on all ages from fetuses to grown-ups (Zimmermann and Boelaert, 2015). The spectrum of IDD extends to all age groups, starting from fetuses in the womb, neonates, children and adolescents, adult groups including Women of Childbearing Age (WUS), pregnant and breastfeeding mothers, as well as elderly groups (Eastman and Zimmerman, 2018). Factors that can influence the occurrence of IDD are: level of iodine intake,

level of education, knowledge, employment and how to store and process iodized salt as well as environmental factors such as areas located in the highlands (Musalazimah and Asyanti, 2018). A person's level of knowledge about nutrition can describe the choice of food ingredients in their daily diet. If the level of knowledge is good then the choice of food ingredients and diet will also be better. Increased knowledge will increase a person's opportunities to better adopt and apply information related to nutrition and health attitudes and behavior (Liu et al., 2020).

According to Sudargo et al. (2018), iodine is used as an antidote so that the body's system is not damaged so that the thyroid gland is not affected). Apart from playing a role in human intelligence, pollutes the air and food, so that the thyroid gland absorbs radioactive substances and causes bad effects. According to the chemistry professor from ITB, Ismunandar, active iodine is quite capable of warding off radioactive poison. Pattola et al. (2020) said that in terms of danger, iodine deficit in the body has a wide spectrum ranging from metabolic disorders to brain development disorders, obstacles to mental, intellectual, motoric development, physical growth disorders to reproductive function disorders. Furthermore, Wijawati & Asiarini (2017) stated that various disorders caused by IDD (Iodine Deficiency Disorders) also have an effect on miscarriages, congenital abnormalities and increase the mortality rate of newborn babies.

2. Method

This ponder utilized a efficient writing audit plan utilizing the an evidence-based least set of things pointed at making a difference logical creators to report a wide cluster of orderly audits and metaanalyses, fundamentally utilized to survey the benefits and hurts of a wellbeing care mediation. This method was used to select national journal articles through pubmed and Google Scholar electronic databases during the period 2019-2022.

3. Results and Discussion

The salt utilization IKM improvement component in Pati Rule screens the stream of salt generation beginning from the stages in ranchers, makers (IKM), merchants, to buyers. Usually done so that the quality of crude materials, generation forms, and fortress materials can meet the built up guidelines. The direction includes nearby level government organizations of Pati Rule, to be specific Bappeda, the Marine and Fisheries Office, the Exchange and Industry Office, the Agreeable and MSME Office, and the Wellbeing Office. The Central Java Common Government that taken an interest within the advancement prepare was the Division of Industry and Exchange, the Marine and Fisheries Office, and BBPOM in Semarang. The direction moreover includes non-governmental organizations, specifically the NGO Nourishment Universal Indonesia and the Buyer Advancement and Assurance Organized (LP2K).

3.1 Results

The association of a few offices within the improvement and supervision of utilization salt SMIs has not been able to ensure the soundness and progression of the utilization salt created. The level of iodine fortress (KIO3) within the salt delivered, based on tests taken by the POM Center in Semarang, the Territorial Government of Pati Rule, and the NGO Nourishment Worldwide Indonesia appeared a disparity at 48.84% in 2021, whereas in 2022 the non-conformity come to 36.49%. In 2023, nonconformities will increment at 40.70%. Commerce performing artists have not been reliable in maintaining item quality, so it is vital to

extend mindfulness in inner supervision of their own products in arrange to deliver quality items reliably. Improvement arrangement within the salt utilization fortress program includes different related segments. The participation of a few parties within the usage, improvement, and overcoming of issues in a improvement program can be realized through the concept of collaboration. Connections between partners are shaped in a arrange through regulation plan. Measurements in regulation plan incorporate components of ground rules, cooperation, select gatherings, and straightforwardness.

3.2 Discussion

Health counseling is an educational activity carried out by spreading messages and increasing confidence, so that people are not only aware, know and understand but also want and are able to carry out a recommendation that has to do with health (Jaya & Pauzi, 2018). mother's education can affect the mother's level of knowledge which can change attitudes and instill new behaviors. We can see that indeed housewife education is very helpful to have a broader insight. The findings of this study are in alignment with those of Utamingtyas and Lestari (2020) on the effect of nutrition counseling on maternal knowledge about balanced nutrition, counseling increases with the results obtained there are differences in knowledge in mothers of toddlers who are given nutrition counseling. Based on the researcher's analysis, we can see that the level of change in the mother's use of iodized salt is because many of the mothers do not realize that the salt they consume does not contain iodine, so that when the iodized salt test is carried out most of the salt they consume does not contain iodine at all.



Figure 1



Figure 2

The success of an extension programme depends on the creativity of the extension worker in getting the message across. In this case, the extension worker strives to ensure that the message is accepted and integrated into everyday life. It can be seen that this knowledge is influenced by several factors, namely: occupation, education, age, environment and culture (Ridwan, 2020). The results obtained from researchers show that counseling conducted on housewives is very influential on increasing the knowledge of housewives.

In this activity it was found that the age range of WUS was mostly a group middle age with an age range of 36-45 years. In a more complete grouping, WUS with an age range of 15-25 years amounted to 3 people (3.4%), aged 26-35 years amounted to 28 (31.1%), aged 36-45 years amounted to 47 people (52.2%), and 12 people aged 46-49 years (13.3%). Because the targets taken were women of childbearing age, the overall age range ranged from 15 years to 49 years. WUS are a reproductive age group that has the potential to become pregnant women, who are very vulnerable to the incidence of pregnancy loss nutritional status, such as anemia, Chronic Energy Deficiency (CED), and IDD. Mutalazimah and Asyanti (2017) found that

96.2% of WUS had insufficient iodine intake. This research also found that there were differences in energy and iodine intake in WUS with and without thyroid function disorders.

The results of this outreach activity on local food sources and iodised salt indicated that, while knowledge levels increased following the dissemination of the outreach material, a proportion of residents retained limited knowledge. The results of the post-test, conducted after the counselling session on local food sources and iodised salt, yielded a statistically significant value of 0.020, with a p-value less than 0.05. This indicates that the knowledge gained by the participants before and after the counselling session on local food sources and iodised salt fell within the sufficient knowledge category, with a notable increase from 53.3% to 76.7%. This indicates that the provision of outreach on local food sources and iodised salt has resulted in an increase in knowledge.



Figure 3

Similarly, research conducted by Ekawanti et al. (2022) demonstrated that there was an increase in the knowledge of posyandu cadres with an increase in the average pre-test value from 31.25 to 83.75 at the time of the post-test. From this value, it can be concluded that there is an increase in knowledge in the counselling activities carried out. Furthermore, the activity was also enthusiastically followed by members, as evidenced by the various questions asked at the end of the activity. The activity concluded with a presentation on safe food preparation and counselling on the role of iodine as a source of nutrition for coastal communities affected by gold mine pollution.

It can be concluded that the extension activities resulted in an increase in information. The activity was also met with enthusiasm by the participants, who posed numerous questions at the conclusion of the event. The event concluded with a discussion of safe food handling and the role of iodine as a source of nutrition for coastal communities affected by gold mine pollution.

Moreover, research carried out by Sofiana et al. (2021) revealed through a pre-training questionnaire that 60% of participants possessed prior knowledge about functional food and processed marine products, while 40% recognized the nutritional advantages of fishery products, particularly emphasizing their high protein content and their rich supply of amino acids such as cystine and methionine, along with omega-3 and omega-6 fatty acids. The post-test, administered at the end of the activity, showed that 90% of participants acknowledged that consuming fish, shellfish, and seaweed can help prevent deficiencies in children, as well as in pregnant and breastfeeding women, and in individuals with nutritional deficiencies. Additionally, all participants (100%) expressed that this socialization activity could improve their knowledge and comprehension of functional food while diversifying the processing methods of seafood-based food products.

4. Conclusion

A correlation exists between the community's knowledge and attitude regarding the use of iodized salt and their subsequent actions. It is anticipated that further improvements in knowledge and awareness within the community regarding the importance of consuming iodised salt will facilitate the overcoming of GAKY. This may be achieved, for instance, through the implementation of counselling activities, which are expected to serve as the foundation for the reinforcement of both behavioural and knowledge-based practices in the utilisation of iodised salt.

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