

Enhancing Awareness on the Importance of Nutrition in Combating COVID-19 by Using Social and Behavior Change Communication (SBCC) Nutrition Materials: Nutrition Tanzania Experiences

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Abstract

Coronavirus (COVID-19) is a viral respiratory illness caused by the new coronavirus (2019-nCoV) that emerged in December 2019 in the city of Wuhan/China¹. The Tanzanian government is carrying out various public health efforts in response to an infection prevention and control the epidemic. These efforts include vaccination, supply of protective equipment for health care workers and raising awareness on the importance of nutrition in strengthening immunity. The Tanzania Food and Nutrition Centre (TFNC) have contributed to raising community awareness of the importance of good nutrition during the COVID-19 pandemic. The community needs enhancement on education about the importance of nutrition in response COVID-19 pandemic to reduce the effects of the disease. TFNC has developed nutrition education materials to inform the public about nutrition during the COVID-19 pandemic. A task force developed nutrition and COVID-19 messages to reach out to Tanzanians. Emergency activities require greater collaboration, commitment, and quick action to achieve the necessary goal. The use of media technology to share progress is essential to enhance communication.

Keywords: COVID-19 pandemic, Social Behaviour Change Communication (SBCC) Nutrition materials, enhancing awareness

1. INTRODUCTION

Coronavirus (COVID-19) is a viral respiratory illness caused by the new coronavirus (2019-nCoV) that emerged in December 2019 in the city of Wuhan/China (Zhu et al., 2020). The Tanzania Food and Nutrition Centre (TFNC) has contributed to raising community awareness of the importance of good nutrition during the COVID-19 pandemic.

Nutrition affects the development of the human body's immune system. Adequate and appropriate nutrition is required for all cells to function optimally and this includes the cells of the immune system (Hannigan, 1994). Poor nutrition may affect immune function and increase the risk of infection. Diet lacking in one or more nutrients can impair the production and activity of immune cells and antibodies. There is a two-way relationship between nutrition, infection and immunity: changes in one component affect another. Various micronutrients are essential for immunocompetence, particularly vitamins A, C, D, E, B2, B6, and B12, folic acid, iron, selenium, and zinc (Garrow JS, James WPT, 1999). People with infection experience various factors, including fever, loss of appetite, poor nutrient absorption, and changes in metabolic functions that accelerate the loss of proteins and micronutrients. Deficiency in vitamins such as vitamin A, C, folic acid and certain minerals (such as iron, zinc, and copper) can weaken the body's capacity to fight infection and cause malnutrition (Garrow JS, James WPT, 1999, Garrow, et al., 1999). A person who does not receive sufficient food with adequate protein, vitamins and minerals becomes susceptible to infectious diseases.

Evidence suggests that micronutrient deficiency is one of the main etiological factors involved in the global burden of diseases, where deficiencies in vitamins A, D, iron, zinc, and folate stand out as important public health problems, especially in developing countries (Andrade et al., 2020). Adequate nutritional status modulates the immune response and decreases the risk of infections (Andrade et al., 2020,). Micronutrients such as vitamin A, D, iron, zinc, and folate participate in several immune response stages, including differentiation, proliferation and functioning of innate immune cells; regulation of cytokine; and production/development of antibodies (Hannigan, 1994).

In acute respiratory infections such as COVID-19; vitamin A, B2, C, iron, zinc and copper levels are reduced in the bloodstream. The reduction in these nutrients reduces the body's capacity to

fight infections. During this time, an 'activated' immune system increases energy demand with higher basal energy expenditure, especially fever (Zhu et al., 2020). Maintaining nutritional status is associated with immune integrity. Undernutrition affects immune function. The extent of impairment depends on the severity of the deficiency, nutrient interactions, illness presence, and the subjects age (Chandra and Chandra, 1986, Marcos, 2021).

Nutritionally supports the functions of immune cells by allowing them to initiate effective responses against pathogens, resolve the response rapidly when necessary, and avoid any underlying chronic inflammation—the immune system's demands for energy and nutrients from particularly the diet. If dietary sources are inadequate, the body uses nutrients from an endogenous source that is body stores, resulting in loss of proteins and some micronutrients (Chandra and Chandra, 1986, Cunningham-Rundles et al., 2005; Marcos, 2021).

Certain micronutrients and dietary constituents have specific roles in developing and maintaining an effective immune system or reducing chronic inflammation throughout life. Proteins, for example, are essential for the generation of new cells; the micronutrients such as vitamin A, folic acid and zinc regulate cell division and so are essential for a successful proliferative response within the immune system (Cunningham-Rundles et al., 2005; Marcos, 2021).

A single nutrient can also exert multiple diverse immunological effects, such as in the case of vitamin E, it has a role as an antioxidant and an enhancer of the cell's activities within the immune system; resulting in the prevention of infections' onset of chronic inflammation. Therefore, optimal nutrition is essential for the best immunological results (Chandra and Chandra, 1986, Cunningham-Rundles et al., 2005).

2. DISCUSSION

The Tanzanian government amid COVID-19 carried out various public health efforts in response to an infection prevention and control epidemic. These include the supply of protective equipment for health care workers caring for the suspected or confirmed with COVID 19 Virus; Strict quarantine and control of COVID 19; creation of public awareness on Corona pandemic and its prevention measures and checks to all suspect cases. People we required to avoid unnecessary movements and stay at home to minimize the risk of virus transmission. Treatment of confirmed

cases to reduce lethality we are performed in the hospital. However, there is still a need to raise awareness on the importance of nutrition in strengthening immune function during COVID-19.

The goal of the education was to educate the community on COVID-19 prevention measures. During the COVID-19 pandemic, public education about the importance of proper nutrition to reduce the severity of COVID-19 was vital. The Ministry of Healthy, Community Development, Gender, Elderly and Children now known as the Ministry of Healthy, in collaboration with Tanzania Food and Nutrition Center raised community awareness of proper nutrition practices in COVID-19 by using SBCC messages. To educate mothers during the visit to the health center Child feeding practices in the context of COVID-19 related illnesses were brought to the attention of health care providers.

Before the activities, a work team was established to plan, implement and coordinate nutrition response activities during the COVID-19 outbreak at the Centre. The team comprised 14 TFNC staff from three departments: Nutrition Education and Training, Community Health and Nutrition, and Food Science and Nutrition. In particular, members of the nutrition community, UNICEF, WFP, GAIN and Michigan State University (MSU) Aspires also participated via WhatsApp group and e-mails.

To fast track the activities, the team subdivided into four groups where, group 1: developed a booklet providing detailed information on nutrition and COVID-19, group 2: developed various key messages on healthy eating tips during COVID-19, group 3: developed fact sheets in the form of Frequent Asked Questions (FAQs) and interview guide for media programs and group 4: was the communication group that linked the Centre to various media outlets.

2.1 Targeted deliverable process

The roadmaps used to achieve the ultimate outcomes were accompanied by the following activities: Formulating a task force; Key nutrition message development; Booklet development; Fact sheets and interview guide for media programs development; Developing jingles and video spots; Production of radio broadcasts for community radio; Conducting a media seminar for journalists; Production of a nutritional continuity plan.

2.2 Formulating a task force

To accomplish the process, TFNC established a committee to spearhead this initiative that was tasked to 1) identify relevant nutrition information that can be designed into print, audio and video, 2) design various materials and 3) oversee the printing and dissemination plan for all printed, audio and video materials. All SBCC nutrition documents were distributed primarily to various media and health institutions in rural and urban areas. Other public offices that could disseminate appropriate nutrition messaging during the COVID-19 pandemic were also considered.

Initially, the team established subgroups to fast-track the process of developing materials for each key message and print type. TFNC and members of the nutrition community team held regular meetings to discuss and agree on the materials to be developed and themes for each material. The proposed materials included a brochure, poster, and message calendar, booklet, standing banners, jingle, songs and video sports. Frameworks were created and discussions regarding the proposed content, format and layout were held. Several review sessions were held physically, by e-mail and WhatsApp until consensus on the design was achieved.

2.3 Key nutrition message development

All key nutrition messages were developed in audio, video and print formats. The developed messages covered 1) The use of fruits rich in Vitamin C, 2) The use of spices like garlic, cinnamon, ginger, lemongrass and honey, 3) Myths about food or diet in the management of COVID-19, 4) Exclusive Breast Feeding (EBF) during COVID-19, 5) Infant and Young Children Feeding (IYCF) in COVID-19, 6) Food fortification, 7) Elderly nutrition in COVID-19, 8) Nutrition for individuals with Noncommunicable Diseases such as Diabetes, Hypertension, Coronary Heart Diseases and Kidney disease during the COVID-19, and 9) General healthy eating and good lifestyle tips during COVID-19 (Tanzania Food and Nutrition centre, 2016, UNICEF, 2020, WHO, 2019).

After developing the key message's contents for nutrition and COVID-19 in Tanzania context; the task force started to deliver the specific nutrition messages in COVID-19 through radio,

television, social media and newspapers to ensure the public is aware of the importance of good nutrition in combating signs and symptoms associated with CORONA virus infections. Also, two songs of the choir and local music were produced by famous local famous artists using content developed from the key nutrition messages. The communication section at TFNC distributed songs and music to local media and through the TFNC website, the Facebook page and Twitter accounts, and WhatsApp.

2.4 Booklet development

A comprehensive booklet was developed from the concept note, and through information collected during the development of the key nutrition messages, issues raised during media sessions as well misconceptions circulating in the media. International documents guiding on various nutrition and lifestyle issues were reviewed and customized to meet local context needs such as those from UNICEF, WHO, and the Ministry of Health, Community Development, Gender, Elderly and Children now is known as Ministry of Health (UNICEF, 2020, WHO, 2020).

2.5 Fact sheets and interview guide for media programs development

A number of fact sheets in the form of Frequent Asked Questions (FAQs) were developed using international documents (UNICEF, WHO) and information circulating in local social media accounts and questions asked during media sessions. In addition, an interview guide has been developed to help reporters ask pertinent questions and obtain their answers.

2.6 Development of jingles and video spots

A jingle was developed to promote healthy eating practices by using all food groups in each meal. Firstly, a key message was agreed upon, and a script was developed, reviewed and modified to the team's satisfaction. Secondly, a video clip illustrating the key message as an actor reads the script was developed, reviewed, approved, and finally, the team approved the final clip. Furthermore, five cartoon clips were designed in the form of Nutrition classes to respond to five key themes of the importance of nutrition during the COVID 19 outbreak, namely, "EBF in the context of COVID-19", "Importance of fortified food in addressing micronutrient deficiencies,"

"The use of Vitamin C rich fruits in mitigating respiratory illness", "Complementary feeding for children 6-24 months" and "Importance of balanced meal in COVID-19".

2.7 Production of radio programs for community radio

Five key nutrition messages were developed as a classroom and distributed to several radio stations within the Tanzania mainland. The messages aired 2-4 times weekly for 25-28 days. A total of over 100 radio and television sessions was held with various media outlets to discuss the role of nutrition in response to COVID-19. During these sessions, during the development of key nutrition messages, information was gathered to address the many questions and questions raised. The commonest misconception was around the use of food in the treatment of COVID 19, COVID 19 transmission during pregnancy and breastfeeding and the use of citrus foods for individuals with gastric problems.

2.8 Conducting a media seminar for journalists.

A half-day media seminar was prepared for 30 journalists (15 day 1 and 15 days 2) to provide information on:

Session 1: Nutrition advice to the public in the COVID-19 pandemic context

Session 2: Nutrition advice to the people with coronavirus infection

Session 3: Nutrition advice to the pregnant and lactating women in Context of COVID-19

Session 4: Infant and Young child feeding in the context of COVID-19

Session 5: Nutrition advice to the people with chronic condition context of COVID-19

Session 6: The use of fruits and spices in minimizing signs and symptoms associated with COVID-19.

Generally, the seminar is intended to build awareness of nutrition and COVID 19 among press personnel. Over two consecutive days, the seminar followed the CoVID-19 prevention precautions to avoid crowds and facilitate social distancing. Masks and disinfectants were placed at the disposal of all participants. Various interactive facilitation methods were used during the media seminar to ensure that information, knowledge, and skills are shared in a participatory way and more conducive to adult learning. These was mainly interactive talks with presentations so as

to enhance participation, plenary discussion sessions, think-pair-share activities (posing a question to participants so that to individually think about their solutions and then discuss with a neighbour before settling on a final answer), one-minute write activities (write a response about a posed question in only one minute), one to one discussions, small and large groups discussions and presentations, demonstrations, brainstorming, energizers as well as questions and answers and sharing Individual experiences. Media interviews were carried out to provide information after the seminar. Subsequent to the media seminar, 50 articles in different magazines were published and delivered nutrition and COVID 19 messages through blogs. Also, some radio and TV stations participated in the airing of prepared nutrition messages and other SBCC materials.

2.9 Nutrition continuity plan development.

A nutrition continuity plan was developed to advise how nutrition services in the country should be delivered in light of the COVID-19 outbreak. The plan builds on the principles of emergency service delivery and builds on existing frameworks during these times. The plan's scope is broad to ensure that as emerging and re-emerging diseases occur, nutrition services continue to be provided while protecting the client and the healthcare provider. The document was reviewed by nutrition stakeholders and printed and distributed to health facilities offering nutrition services. Main collaborators were Tanzania Food and Nutrition Centre, Ministry of Health Community Development, Gender Elderly & Children (Directorate of preventive services - nutrition services unit and Health promotion Unit), President's Office-Regional Administrative and Local Government, United agencies, particularly United Children Funds (UNICEF) and World Health Organization (WHO), Development partners, Global Alliance In Nutrition (GAIN), Media houses and Journalists.

3. IMPLICATIONS FOR RESEARCH AND PRACTICE

Various media and channels were used to share information about the importance of nutrition in addressing the COVID-19 pandemic. Nevertheless, it is unknown which media and channels are the most popular for most people during the lockdown to fight the COVID-19 pandemic. We used print media to share information with the community about the importance of nutrition in

addressing the COVID-19 pandemic. Conversely, we were unsure if printed documents could accelerate the spread of the COVID-19 pandemic. The use of modern and traditional songs and music and comics is very helpful in communicating information on the importance of nutrition in addressing the COVID-19 pandemic. However, when composing and designing cartoon clips, you need to be very careful regarding the target of the messages you want to communicate, i.e., elders, youth, women, etc. There is a need to have a communication group when enhancing awareness to the community on the importance of nutrition in combating COVID -19 by using social and behavior change communication (SBCC) nutrition materials. This group facilitates coordination to ensure that all media invitations are accounted for during the COVID-19 outbreak. The team may also be responsible for identifying media and channels like TV stations, radio stations, etc. that will continue disseminating the various SBCC Nutrition materials developers. Sharing practices of developed Nutrition SBCC materials to other nutrition partners to support the dissemination process is very helpful for cost-effectiveness and sustainability.

4. LESSON LEARNED

- Any emergency activity requires good collaboration, strong engagement, and working as quickly as possible to achieve the required target.
- Using social media, particularly WhatsApp, to share progress, helps share messages.
- The design of printed documents requires the expertise of researchers and communications officers, so collaboration is very important.
- Good quality pictures that reflect the local context are needed to improve designs in our nutrition print media
- The use of various Internet search engines may provide easy self-study opportunities for print media design.
- Holding a media seminar for journalists is very cost-effective and essential to building community awareness in an emergency. In our case, we experienced strong demand for nutrition information from journalists after holding a media seminar.

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