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## **A Healthy Start: Development of nutrition education for newly resettled immigrants and refugees living in Norway**

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### **Abstract**

*Newly resettled refugees can meet challenges in their encounter with a new food environment. Culturally sensitive nutrition education resources can promote communication about food and health at an early phase of the migration process and facilitate the transition to a new food environment. In Norway refugees have the right and obligation to participate in an Introduction Program. The aim of this article is to describe the development of nutrition education resources (Healthy Start) to be used in the Introduction Program and how by program advisors evaluated its use.*

*Healthy Start was developed by an interdisciplinary team using an Intervention Mapping (IM) approach. Health and food literacy and culture sensitivity were the guiding concepts throughout the development of the nutrition resources. Independent raters evaluated the curriculum using the suitability assessment method Suitability Assessment Method (SAM) for written materials. The final version of Healthy Start was pilot-tested in four introduction programs and qualitative interviews were conducted with program advisors to evaluate the pilot testing.*

*The final curriculum was divided into ten modules, based on the Nordic Nutrition Recommendations. It contained culturally-adapted nutrition education about food and health in a new food environment. It consisted of a PowerPoint presentation, teachers' manual, teachers' template, and an activity booklet for participants. Program advisors and teachers found Healthy Start useful, and suitable for participants and easy for them to use.*

*Healthy Start was developed for use in the Norwegian Introduction Program, but it may be suitable for other settings that involve nutrition education and health promotion with immigrant populations.*

**KEYWORDS:** NUTRITION EDUCATION, DIETARY ACCULTURATION, REFUGEES, TEACHING RESOURCES, INTRODUCTION PROGRAM

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## Introduction

### Background and aim of the study

Nutrition is an important determinant of an immigrant's health status (Hemminki, 2014). Post-migration diet deterioration has been reported (Gilbert & Khokhar, 2008; Holmboe-Ottesen & Wandel, 2012), and some immigrant groups are more likely to develop non-communicable diseases (Diaz et al., 2017). Although changes in dietary composition described as the nutrition transition occur worldwide, migration can be a situation in which the nutrition transition happens very quickly (Garnweidner, Terragni, Pettersen, & Mosdøl, 2012). Previous studies have shown that resettled immigrants and refugees experience challenges in their encounters with a new food environment (Mannion, Raffin-Bouchal, & Henshaw, 2014). Unavailability of food used in traditional diets, limited knowledge of or information on shopping and cooking options (Terragni, Garnweidner, Pettersen, & Mosdøl, 2014), together with economic constraints, may lead to poorer diets (Gilbert & Khokhar, 2008; Hadley, Patil, & Nahayo, 2010; Sellen, Tedstone, & Frize, 2002). Nutrition education for immigrants and refugees focusing on challenges related to the transition to a new food environment may facilitate the adoption of healthier diets (Eyles et al., 2008; Gunnell, Christensen, Jewkes, LeBlanc, & Christofferson, 2015; Lee, Sulaiman-Hill, & Thompson, 2013; Mannion et al., 2014; Martinez et al., 2013; Renzaho, Halliday, Mellor, & Green, 2015).

In Norway, refugees, persons granted humanitarian status, persons who have collective protection, and those who immigrate to be reunited with family members and have been granted permanent residence permit, have the right and obligation to participate in an Introduction Program run and funded by Municipal Public Authorities (Kavli, Hagelund, & Bråthen, 2007). The Introduction Program can last for up to two years and is intended to teach participants basic skills in Norwegian, to provide insight into Norwegian society, and to prepare them for an active working life. In addition to regular school days (run by trained teachers), participants in the Introduction Program attend additional school days run by program advisors. In 2015, 17,900 individuals participated in the Introduction Program, 22% more than in 2014. Most of the participants (69%) were from Eritrea, Somalia, and Syria; 56% were men, and 44% were women. In Oslo, 1,270 participated in the program (Statistics Norway, 2015).

In 2013, a new law on public health aiming to achieve equality in health among immigrant population came into force (Helse- og omsorgsdepartementet, 2013). Because of this, the Oslo health authorities promoted a series of initiatives targeting immigrants' health. One of the initiatives was to introduce topics related to health in the additional school days run by the program advisors. The Oslo Municipality's Centre for Migration Health (RMA) that, among others, has the task to provide health information to immigrant population, was given the responsibility for developing health and nutrition education resources to be used by program advisors.

The aim of this article is to describe the development of nutrition education resources (*A Healthy Start*) for newly resettled refugees and immigrants participating in the Introduction Program organised by Norwegian authorities. More specifically, the article will focus on the development of the nutrition resources, how aspects related to cultural sensitivity, health and food literacy were addressed and to how program advisors experienced the use of *Healthy Start* in a pilot-implementation.

### Theoretical approaches and key concepts used in the development of the educational resources

Culture is a key component of health maintenance and health promotion (Asad & Kay, 2015; Helman, 2007; Napier et al., 2014). Culture has been defined as a set of guidelines that individuals inherit as members of a particular society, and that tell them how to view the world, how to experience it emotionally and how to behave in relation to other people, to supernatural forces or gods (Helman, 2007). Ideas about health vary widely across societies. According to Napier, "If the role of cultural value systems in health is ignored, biological aspects can be emphasised as the only types of measures on wellbeing, and the potential for culture to become a key component in health maintenance and promotion can be eroded" (Napier et al., 2014, p. 1607).

For this reason, to meet the needs of immigrant groups, nutrition resources need to be culturally sensitive and adapted (Foronda, 2008; Kreuter & McClure, 2004; Lagisetty et al., 2017). As suggested by Foronda (2008), cultural sensitivity addresses aspects of intercultural communication by focusing

on consideration, understanding, respect, and tailoring in encountering a diverse group or individuals. Cultural adaptation aims to enhance the effectiveness of interventions by grounding them in the lived experience of the participants (Castro, Barrera, & Holleran Steiker, 2010). As Resnicow et al. (2002) pointed out, cultural adaptation needs not only to include 'surface structure' of interventions but also reach its 'deep structure'. Surface structure refers to observable characteristics, such as language, while deep structure encompasses cultural, social, environmental and psychological factors.

Previous studies have indicated that refugees are likely to have low health literacy (Gele, Pettersen, Torheim, & Kumar, 2016; Wångdahl, Lytsy, Mårtensson, & Westerling, 2014;) and can have limited food skills, particularly when dealing with a new food environment.

Therefore, health and food literacy are important components in the development of educational resources. Health literacy refers to an individual's ability to understand and apply health information "in ways which promote and maintain good health" (Nutbeam, 2008, p. 2074). Low health literacy coupled with poor language proficiency are main barriers to understanding basic health messages and making healthier choices among newly resettled immigrants (Gele et al., 2016; Van Son, 2014; Wångdahl et al., 2014). Together with use of plain language and visualisations (Houts, Doak, Doak, & Loscalzo, 2006; Peregrin, 2010; Van Son, 2014), strategies aimed at meeting the needs of populations with low literacy include having realistic objectives: focus on behaviours, relate new information to the context of patients' lives, break interactions into easy to understand topics, and include interactions after each session (Doak, Doak, & Root, 1985). Food literacy is defined as a collection of inter-related knowledge, skills, and behaviours required to plan, manage, select, prepare, and eat foods consistent with nutrition recommendations (Vidgen & Gallegos, 2014). Nutrition resources addressing food literacy include budgeting, practical cooking skills, recipe modification, learning activities, and embedded topics such as food hygiene, food storage, food security, and portion-sizing (Fordyce-Voorham, 2011).

*Healthy Start's* development followed the Intervention Mapping (IM) approach (Eldredge, Markham, Ruiters, Kok, & Parcel, 2016). Intervention mapping consists of six steps: the logic model of the problem, the program outcomes and objectives, the program design, the program production, the program implementation plan and the evaluation plan. The purpose of IM is to provide health education program planners a framework for effective decision making at each step in the intervention development process (Eldredge et al., 2016).

## **The development of the curriculum**

### **Mapping of needs and aims definitions**

The curriculum was planned by an interdisciplinary team with a project manager from the Resource Centre for Migration Health. The team included three program advisors from three of Oslo's districts, representatives of the Norwegian Diabetes Association, and three researchers and four to six students in public health nutrition from the OsloMet—Oslo Metropolitan University. The team met regularly (every 15 days for a period of time of two months) to assess needs of program advisors, state aims and to discuss first drafts of the nutrition education resources. Program advisors provided information on the characteristics and needs of the population who participated in the courses and about contextual aspects of the teaching sessions. The teaching session usually took place in a classroom without resources for cooking and with a variable time-frame. The curriculum needed to be in Norwegian, as it was the language used in the Introduction Program. Advisors reported they had limited knowledge on nutrition and that it was difficult to bring up issues concerning food and health, so they expressed the need for teaching material that was ready to use and easy to communicate. As part of the need assessment, previous research among newly resettled immigrants conducted by members of the team was used, in addition to updated literature. In addition, participants in the Introduction Program with different backgrounds were involved in the evaluation of different drafts of the curriculum (as described further on). Following the first step of the IM approach, the working group stated that the goal for the curriculum was to facilitate the transition to a new food environment and promote the adoption of healthy food choices. This goal was to be achieved by communicating about nutrition and health in a way that was culturally sensitive, understandable by a population with limited knowledge of the Norwegian language, low health, and food literacy, suitable to be taught in a classroom, and easy to use by program advisors with limited nutrition knowledge. Topics should include the variety of food and food types available in Norway, food

purchasing and food preparation in a new context, relevant nutrition recommendations, basic information on nutrition and health.

### **The design and production of *Healthy Start***

*Healthy Start* was designed as consisting of modules based on the ten recommendations of the Norwegian health authorities (Nordic Council of Ministers, 2013), simplified and adapted to the participants' literacy and food culture. The modules were the following:

1. Have a varied diet;
2. Eat Fruit, Berries, and Vegetables;
3. Minimize the Use of Sugar;
4. Use Oil or Vegetable Margarine;
5. Eat Fish and Seafood;
6. Eat and Drink Dairy Products with a Low Fat Content;
7. Eat Lean Meats;
8. Eat Whole-Grain Products;
9. Minimize the Use of Salt;
10. Drink Water.

A module on the importance of physical activity was developed as well. Each module was provided with (a) teacher instructions; (b) a detailed template that stated the sub aims of each module, the text to be used by instructors, and additional information about the topic of the submodule; (c) a PowerPoint presentation to help the program advisors go through the material during the course and to provide the participants with visual information; and (d) an activity book for participants with tasks to perform during and after the course to enhance comprehension and learning (Figure 1). Consistently, the PowerPoint presentation encouraged interactivity among participants and a dialogue between the advisors and the participants. Figure 2 shows the content of some of the PowerPoint slides used to discuss consumption of fruit and vegetables.

To meet participants' literacy levels, the material used a simple sentence structure and limited the use of multisyllabic words. Words and phrases were chosen from books used in the Norwegian course for beginners. A designer ensured a clear layout that would capture interest and attention. Cartoon characters illustrating people from various ethnic backgrounds performing familiar situations were created. Pictures were extensively included in order to illustrate important concepts. Particular efforts were made to adapt the recommendations to participants' food cultures by using foods and meals formats familiar to them. For instance, the plate model typical in the Norwegian recommendations was adapted to meal structures based on several courses or stews. The "five a day" recommendation was exemplified by using also fruit and vegetables from the participants' country of origin. Information about "wholegrain products" included not only the wholegrain bread commonly used in Norway but also wholegrain products (such as rice or bulgur) available in ethnic shops. In addition, suggestions on how to add wholegrain flour when making chapatti or Naan bread were provided. Similarly, information about sugar consumption included examples of sweets and spreads common in the participants' country of origin (and available in Norway). Information about halal food was also provided. In addition, healthy food that was unfamiliar to participants was introduced, such as cod, salmon, and berries. Given the weather conditions in Norway, the importance of eating foods rich in vitamin D was emphasised and pictures of food products rich in D vitamins were used.

Practical exercises on food literacy were included in the curriculum in order to enhance comprehension and promote use in daily life, for example, on planning of weekly meals, and suggestions on how to prepare easy meals with fish and vegetables.



Figure 1 Illustration of the different components of “Healthy Start” nutrition education material

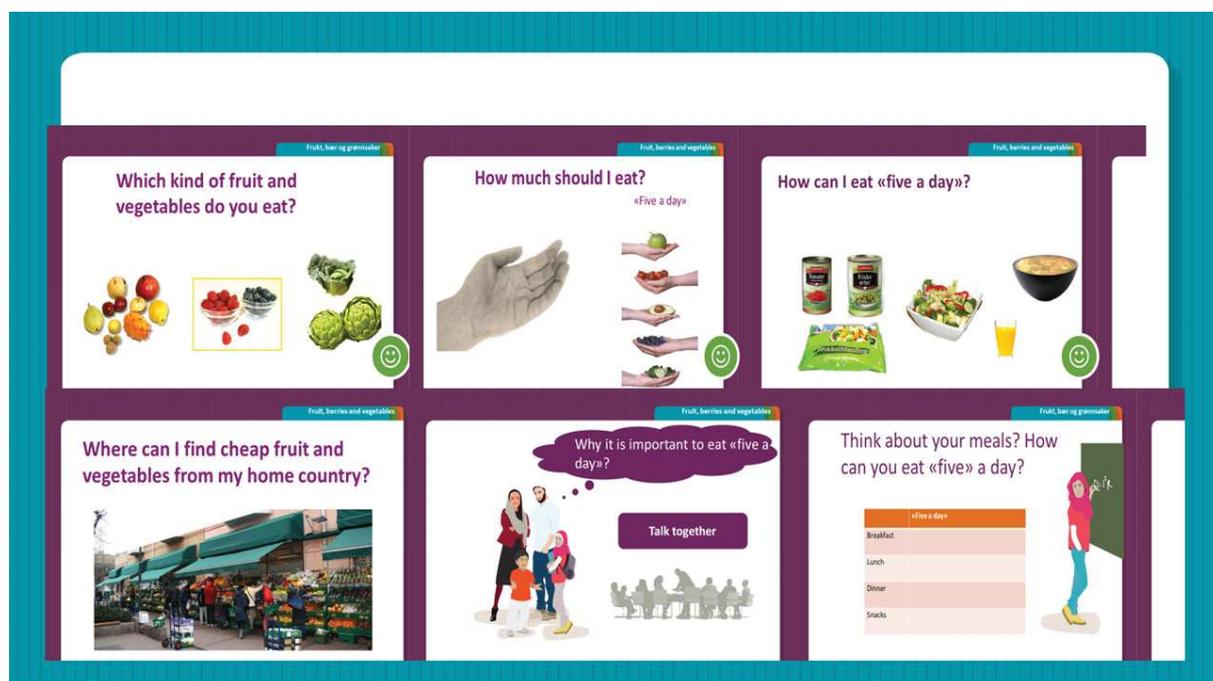


Figure 2 Illustration of teaching material regarding the topic of “Eat 5 a day”

### **The pilot testing of the curriculum**

The three program advisors who participated in the working group used the curriculum in their teaching sessions. The curriculum was pilot tested three times between February and April 2015. Each session lasted an ordinary school day (8:30-14:00). In each session, there were between 20 and 30 participants, women and men, of different nationalities and length of stay in Norway. The most represented countries of origin were Somalia, Syria and Eritrea.

The project leader, students and researchers participated as observers during the pilot testing and qualitatively evaluated how the curriculum was presented by instructors and received by participants.

After each session, program advisors were interviewed by researchers to evaluate the teaching session and the user-friendliness of the curriculum. Similarly, a group of between six and ten participants of different nationalities from each session was asked to evaluate the comprehensibility and utility of the nutrition education session. This was done by using a qualitative interview asking simple questions about the relevance of the content, its comprehension, its cultural appropriateness and its usefulness.

Observations during the teaching sessions indicated that there was a high heterogeneity among participants in terms of age, nationality and mastering of the Norwegian language. Those with better language skills tended to help others when something was unclear. Contrary to the regular Introduction Program school days, where participants are divided into classes according to their Norwegian fluency and previous education, participants to these additional days organised by the program advisors were blended. The program presented the content of the nutrition education resources in an interactive way, frequently asking questions and making sure that the content was understood. Students participated actively, and many expressed surprise, for instance when being informed about the content of sugar in food items such as fruit yogurt and soda.

In the interviews after the pilot-testing, program advisors indicated that the teaching material was suited to the target group, but proposed relevant changes. The cartoon characters were seen as not fully integrated in the education materials and not fully representing program participants. Course leaders mentioned that the focus on halal food could reproduce the stereotype that all participants from Muslim countries wanted to follow halal traditions. In addition, the focus on halal was also perceived as excluding non-Muslim participants. The program advisors indicated more flexibility was needed in the modules to better fit with time constraints and participants' literacy, needs, and interests. Interviews with participants indicated that the teaching material was useful and understandable. However, the interviews also indicated that the curriculum in some instances did not meet the needs and expectations of all participants. Basic information about where to purchase food was seen as superfluous, as most of the participants to the Introduction Program have been living in Norway for a while. It was mentioned that some concepts were too abstract (such as fibre), while other participants expressed the need for more advanced information about diet and health, for instance on how diet is related to diabetes. Both program advisors and participants stressed that food pictured in the nutrition resources had to consider the economic constraints of newly resettled immigrants avoiding, for instance, the use of pictures of organic products—usually more expensive—and suggest cheaper, yet healthy alternatives. In addition, it was suggested to add more food and dishes from the participants' country of origin.

Following those suggestions, the cartoons were better integrated in the material and represented a more heterogeneous population. Information about halal food was removed from the main modules but remained available if needed. The curriculum was given a more flexible structure so program advisors could more easily pick and choose topics, and more advanced information about food and health was made available as an option. Pictures of less expensive healthy food were used and more pictures portraying the food of immigrants' countries were added.

The revised curriculum was tested by two of the program advisors involved in the previous pilot testing. The new evaluation indicated that the material better suited the heterogeneity of participants and was easier to use. Four to six participants were also asked to evaluate the revised curriculum and found the message of the pictures and slides to be clear and informative.

### Suitability assessment of the final material

The suitability assessment of materials (SAM) instrument is a validated method for evaluating written health-related education materials (Doak et al., 1985). It is used to assess printed materials in terms of categories and factors known to enhance people's understanding of health information (Garnweidner-Holme, Dolvik, Frisvold, & Mosdøl, 2016). The SAM method rates written materials on 22 factors grouped into six categories: content, literacy demand, graphics, layout and typography, learning stimulation and motivation, and cultural appropriateness. Each factor is rated as superior (2 points), adequate (1 point), or not suitable (0). SAM evaluation was used throughout the development of the curriculum by team members.

Before the curriculum was made available, a SAM assessment was undertaken by four independent raters with different professions and ethnic backgrounds: a teacher in health economics; a researcher, expert in health literacy with Somali background; a nurse with experience in health communication with immigrants; and a nutritionist with experience in researching food habits among immigrant populations. In addition, two Norwegian teachers working in the Introduction Program were also asked to go through the material to make sure that words and expressions used in the nutrition education resources were suitable for participants with low literacy.

When assessing a large amount of materials, scholars suggest selecting only some materials for evaluation. In this case, the four investigators evaluated and independently scored the PowerPoint presentation and participants' activity booklets for two modules (*Eat Fruits, Berries, and Vegetables* and *Eat and Drink Less Sugar*). The material was rated as superior in all factors. An exception was the cultural appropriateness of the *Eat Fruits, Berries, and Vegetables* PowerPoint presentation, which scored 58% (counting 100% as maximum score). The raters commented that suggested adding more fruits and vegetables from other food cultures. This change was made in the final version of the curriculum.

### Pilot implementation of *Healthy Start*

All Oslo program advisors in the Introduction Program who did not participate in the development of *Healthy Start* were asked to pilot-implement the curriculum in April and May 2016 and to participate in a follow-up interview to evaluate the use of the nutrition education resources. Four Introduction Program advisors responded positively, and five respondents participated in the follow-up interview (two instructors attended the same teaching session). For the purpose of this follow-up a semi-structured interview was used. Detailed questions were asked on the use of the different parts of the nutrition resources and more open questions about how they evaluate the users' friendliness of the material and its suitability for participants. The interviews with the program advisors were tape-recorded and transcribed verbatim. Interviews were analysed using a template analytic technique (Crabtree & Miller, 1999). Analysis of the text was guided, but not confined, by preliminary themes based on the interview guide. During the coding of transcripts, inductive codes were assigned to segments of data that described a new theme observed in the text.

Program advisors participating to the interview were all women and their experiences in the Introduction Program ranged from 2 to 14 years. Classes ranged from 15 to 60 participants from multiple nationalities between the ages of 16 and 53. The gender distribution of participants was approximately equal, and Norwegian skills varied.

In the interviews conducted after pilot-testing emerged that program advisors and welcomed having teaching material suitable for the Introduction Program.

I am very satisfied. You can just use it, everything is ready and you just have to print it. You do not need to "reinvent the wheel" yourself. By using this [*Healthy Start*] you avoid having [homemade] material that is different in each introduction program (program advisor 2)

I was so happy! You have no idea ... (laugh) ... I've been looking for something like that for 15 years. When I read the material I thought: this is very good, this is really something I can use (program advisor 1).

The program advisors felt that the material did not require much time for preparation and had a nice flow and good structure.

That we could just use *Healthy Start* without much preparation ... Our 'business' goes so fast that if the material is not user friendly we just put it aside (program advisor 2).

The pictures and illustrations were deemed clear and easy to understand. One specifically mentioned the *Eat Five a Day* picture illustrating five hands each holding a portion of fruit, vegetables, or berries:

This was very useful. 'What is a serving'? It is a handful. Good to know. One does not go around with a scale (program advisor 3).

They also said the booklet worked well with the PowerPoint presentation and promoted greater participation and understanding

Program advisors said the teaching sessions gave the opportunity to discover that many participants were not aware of the content of food.

There was, for instance, a woman who said, 'I do not eat macaroni. I have diabetes. But I eat pasta.' And no one reacted and said, 'Hello! Macaroni and pasta are the same' (program advisor 2).

The topics that generated the most interest varied. Informants highlighted that the parts related to making a food budget were important for participants and that the cost of food was a recurring theme. High commitment emerged when participants recognized food from their own food culture. Healthy labels captured the participants' interest. Tasks such as planning a weekly menu were popular as well. Based on the dialogues and activities performed with the participants, the program advisors stated that key information about healthy eating was mostly understood by the participants.

It was clear that this theme was relevant for them. They were involved and participated (program advisor 4).

When asked for suggestions for improvement, program advisors focused mostly on teaching aspects, such as the opportunity of having more groupwork activities in the classroom and indications on how to organise the classroom (around a table or horseshoe).

A relevant aspect that emerged during the interview was the great variation in the time used for the teaching sessions. One program advisor used all the *Healthy Start* education resources in ten teaching sessions of three hours each. Two had a half-day session and presented in one case, two modules and in another, five modules. One used all the *Healthy Start* modules in a half-day day session. Preparations before the teaching session(s) varied between three to fifteen hours. Some expressed that they would have liked to have more time to go through the teaching material beforehand but that they experienced the material easy to use also without much preparation.

## Discussion

This study described the development of a nutrition education curriculum for newly arrived immigrants and refugees to be used by program advisors with limited knowledge on nutrition. The curriculum was developed in cooperation with program advisors, experts in the field of health promotion, students and researchers in public health nutrition and a designer. The program advisors contributed to the development of the education resources by providing information about their own needs and advice regarding the setting, and gave feedback on how participants to the Introduction Program responded to the information provided. Researchers and experts in public health contributed by providing advice on how to develop culturally-sensitive nutrition education resources and conduct the evaluation; students contributed to the development of the content, participated as observers to the pilot-testing and conducted interviews with program advisors and participants in the teaching sessions. The education resources were pilot-tested five times by members of the research team and subsequently pilot-implemented four other times by program advisors that did not participate in the development of the teaching material. In total, some 200 participants in the Introduction Program attended the teaching sessions. The SAM evaluation rated the material as superior, with high scores for each of the categories under evaluation. The high scores could be due to the fact that raters could choose only among three categories (*not suitable*, *adequate* and *superior*); more variation in the scale could have produced more nuanced results. However, the feedback provided by program

advisors indicated that *Healthy Start* was easy to use and that the information provided was useful and easy to understand for participants. Also the observation during the pilot-testing and the interviews with small groups of participants indicated that the information provided was relevant.

The nutrition education resources can be adapted to suit different participants' characteristics and teaching sessions as the teaching material consists of several modules that can be used independently from each other and include additional information on food and health to meet needs of both program advisors and participants with higher health literacy.

Although the flexibility has been proposed by program advisors, the variation in the time allocated for the teaching sessions emerged in the final pilot-test raises some concerns. To promote interaction with participants and assure comprehension of key messages, it may be useful to suggest not to go through all the teaching material in just few hours.

As it was not expected that the schools have kitchen facilities or that there is time allowed guided visits to grocery shops, the education sessions were developed to be performed in a classroom. As previous studies have shown, cooking workshops and visits to shops improve food skills and increase familiarity with a new food environment. The nutrition education resources, particularly the participants handbook, contain a large variety of activities that can be performed outside the classroom.

Studies on the development of nutrition education for immigrants and refugees tend to focus on immigrants coming from a specific country (Gunnell et al., 2015; Lee et al., 2013; Mannion et al., 2014; Martinez et al., 2013; Renzaho et al., 2015) and the importance of cultural targeting in health promotion programs has been emphasized (Kreuter, Lukwago, Bucholtz, Clark, & Sanders-Thompson, 2003). The participants to the Introduction Program include, instead, multicultural population, a factor that increases the complexity of the cultural adaptation of educational materials for multicultural populations emerged. In accordance with Gunnell et al.'s (2015), *Healthy Start*, instead of focusing on diversity, addressed common challenges and food-related health problems experienced by newly arrived immigrants. The knowledge about these challenges derives from previous work with migrant populations previously conducted by researcher members of the team that developed the nutrition education resources (Garnweidner et al., 2012; Terragni et al., 2014; Wandel et al., 2016). These challenges included encountering an unfamiliar food environment, economic constraints, and the main health risks faced by the immigrant population, such as diabetes, heart disease, and health challenges related to the climatic conditions of Norway.

The process of transferring the knowledge about these challenges into nutrition education resources is not uncontroversial, however. Although well-intentioned, nutrition education programs can emphasise the position of migrants as subjects in need of being provided such education. As reported by Minkoff-Zern & Carney (2015), historically, many public health campaigns and interventions have "served as media for legitimising the stigmatisation of certain population segments who are assumed to be noncompliant with social norms and expectations concerning hygiene, health and sanitation" (Minkoff-Zern & Carney, 2015, p. 464). For these reasons, it is of great importance that nutrition education incorporates aspects of cultural sensitivity as indicated, for instance, by Foronda (2008). These include: avoid stereotyping, understand others' values and experiences, and respect the cultural richness of participants' origin. It is a limitation of this study that, at this stage, extensive research on how participants in the Introduction Program experienced the provision of *Healthy Start* has not been conducted. However, a systematic follow-up and evaluation of its use by program advisors and participants is planned.

An important contribution of this education material is that it specifically addressed the needs of program advisors and provided teaching material they felt comfortable using. A barrier to providing effective nutrition education is health workers' and other professionals' limited knowledge of nutrition (Islam, Paddock, & Dollahite, 2015; Kris-Etherton et al., 2014). Providing nutrition education resources that are suitable for, and personnel working with, newly resettled immigrants can promote communication on health and nutrition at an early stage of the migration process. Castro et al. (2010) have commented that researchers may spend years developing, refining, and testing the efficacy of a theory-based and structured intervention. However, if an intervention lacks relevance and fit with the needs and preferences of users, its implementation can be compromised. Program advisors' positive responses to the user-friendliness of the curriculum and relevance for participants

may encourage them to talk about food and health in the Introduction Program and contribute to facilitate the transition to a new food environment.

## Conclusions

Assuring good health for immigrant population is of great importance. Nutrition education resources that are culturally sensitive promoting communication about food and health at an early phase of the migration process can facilitate a healthy transition to a new food environment. This is the first study documenting the development of nutrition education in Norway and, to our knowledge, in the Nordic Countries. *Healthy Start* was developed for use in the Norwegian Introduction Program, but it may be suitable for other settings that involve nutrition education and health promotion with immigrant populations. It goes beyond the scope of the nutrition resources to assess its impact on the nutritional status of newly resettled immigrants. However, we expect that through this program participants could find it easier to orient themselves in a new food environment and know more about healthy food alternatives available. This can support the capability of making healthier food choices.

## Biographies

Dr Laura Terragni has a PhD in Sociology. She works at the Oslo and Akershus University College of Applied Sciences (HiOA) at the Unit of Public Health Nutrition, where she teaches Sociology of food consumption and qualitative methods. Her main research interests include changes in food habits after migration, food security and nutrition communication towards minorities. She is also interested in how people cope with dietary changes in daily life and in ethical food consumption. She is currently leading a study on food security among asylum seekers in Norway.

Dr Lisa Garnweidner-Holme has a PhD with focus on culture-sensitive nutrition communication. She is currently associate professor at the Oslo Metropolitan University and has experiences in the development and testing of culture-sensitive nutrition communication tools. Her main research interests are nutrition communication during pregnancy and among vulnerable groups as well as integrated care of patients with chronic diseases

Thea Vingmark Næss has a degree in Public Health Nutrition.

Dr Aysha Hussain has PhD in nutrition. Her research has been focused on obesity and non-communicable diseases. She has previously done research on nutrition among immigrants in Norway and on food intake during pregnancy.

Aud Marit Eriksen M.Sc has a master degree in Public Health and is currently working at the Agency of Health, Oslo Municipality with topics regarding migration health. She is currently leading a project aimed at implementing health educational tool in different settings.

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