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Using Formative Research to Increase Purchase Intention of Fortified Foods to Prevent Micronutrient Deficiencies in Vietnam

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Abstract

Objectives: Despite a period of rapid economic growth, poverty reduction and improved nutrient intakes, Iron deficient anaemia in pregnant women and malnutrition among children in Vietnam is a continuing problem with one of the most cost-effective interventions being iron fortification and supplementation. The objective of this study was to examine knowledge, attitudes and perceptions of mothers and fathers of young children, as well as program stakeholders in Vietnam, toward a logo developed for the national fortification program.

Methods: A rapid assessment and response method was utilized involving semi-structured interviews with stakeholders and focus group discussions with program beneficiaries from four locations in Vietnam. Discussion agenda addressed key program issues including attitudes toward a food fortification logo. Grounded theory supported data analysis.

Findings and discussion: Key findings explored general awareness, knowledge, attitudes and perceptions of fortified foods, including the fortified food logo, resource allocation, policies and partnerships. Benefits from the demand side was the importance by consumers identifying quality food products as opposed to counterfeit or substandard products, the need for a simple, easily recognizable logo, and product source credibility through government certification. However, barriers identified the relatively low awareness of the logo, and the potential confusion with other similar logo designs. Other barriers included the lack of endorsement by health authorities in promotional activities and the perceived lack of engagement in the fortification program by a number of private sector partners. Policy issues emphasised the need to support the promotion, distribution and endorsement of private sector fortified foods through a logo; and the need for greater engagement by private sector partners on the evolution and promotion of the logo and food fortification program generally. Recommendations include the development of a social marketing strategy, the establishment of a Micronutrient Marketing Board and the potential to scale-up to a regional approach.

Keywords: Malnutrition; Social marketing; Qualitative research; Formative approaches; Behaviour change

Introduction

The 2016 Global Nutrition Report [1] identifies that the world is not doing enough to tackle the worldwide epidemic of malnutrition that now affects a third of humanity, and is leaving more and more people suffering from diet-related conditions such as stunting, anaemia, heart disease and diabetes. This situation is most acute in low and middle-income countries (LMICs), where the majority of malnutrition cases occur, including Vietnam which has to contend with the double burden of disease caused by undernutrition, coupled with the added burden of obesity caused by over nutrition [2].

Over the last decade, Vietnam has experienced a period of rapid economic growth and a reduction in poverty from 37.4% in 1998 to 13.4% in 2008. Additionally, during this period, nutrient intakes, especially vitamins, have also increased significantly [3]. However, despite these gains, malnutrition among Vietnamese children is still a continuing problem [4] Iron deficiency anaemia is also a considerable problem with pregnant women in a number of regions of Vietnam [5], with one of the most effective interventions to prevent these conditions being iron fortification and supplementation [6]. Results from the National Nutrition Survey [4] showed that 9.1% of children suffered from anaemia, 12.9% from iron deficiencies and 51.9% from zinc deficiencies [1]. In addition, 14.2% had subclinical vitamin A deficiency with micronutrient deficiencies adversely affecting the growth and development of all children [7].

Fortification of food staples has been identified as one of the most cost-effective approaches to deliver micronutrients to large segments of populations [8] where consumption of a balanced diet that is adequate in every nutrient is not achievable. This is often the case in many low- and middle-income countries (LMICs), including Vietnam. Fortified foods have been available since the 1920s in Switzerland and in the US, and have also been implemented in the Asian region for almost 40 years [9,10]. Fortification has the dual advantage of being able to deliver nutrients to large segments of the population without requiring changes in food consumption patterns [11].

However, one of the main barriers to the purchase of fortified foods is the cost [8]. Because staple foods are consumed frequently and in large quantities, small variations in price, particularly with price sensitive consumers, can defer purchase intention to non-fortified products in the same category, as these may be cheaper. Given these cost considerations and the nutritional benefits of increased micronutrient intake, mandatory regulations for food fortification can provide 'best buys' to support positive nutrition outcomes in LMICs. However, where mandatory fortification laws are unlikely to occur within the near future, as is the case in Vietnam, alternative approaches, including social marketing of nutrition commodities and programs, may be desirable. Even with mandatory fortification, the need to raise awareness and increase purchase intentions is critical.

Social marketing (SM) has been defined as a process which seeks to develop and integrate marketing concepts with other approaches to influence behaviours that benefit individuals and communities for the greater social good [12]. The process considers the “four Ps” of the marketing mix-the “product” or service provided as part of the marketing program, the “place” where the product or service is being provided, the “price” which can be the financial or psychological cost of purchasing the product or service; and the “promotion” or range of approaches, including branding, utilised to market the product or service [13]. The approach is seen to also incorporate socially marketed commodities such as nutrition products that are effective, efficient, equitable and sustainable as part of any social change program [11]. Commodities are defined as an article of trade or commerce, especially a product as distinguished from a service. Something of use, advantage, or value [14] and this can also include socially marketed commodities such as nutrition supplements and micronutrient fortified foods.

The National Institute of Nutrition (NIN) of the Ministry of Health (MOH) Vietnam has been supported by the Global Alliance for Improved Nutrition (GAIN) to implement a comprehensive raft of initiatives for food fortification. The program includes an advocacy component which supports the adoption of mandatory legislation, including official standards and regulatory guidelines. However, until the mandatory legislation is ratified, the program is working with major food manufacturers in Vietnam to fortify a range of soya and fish sauces, and condiments such as spice powders and edible oils. Given the voluntary nature of the program, NIN/GAIN have adopted a public private partnership SM approach, working directly with the private sector in supporting these agencies to fortify existing food products commonly available through retail stores.

One aspect of the program designed to increase engagement in fortification by manufacturers and consumers is the development of a logo to highlight which products have been fortified, thus increasing purchase intention of consumers toward micronutrient fortified foods. The logo was to be adapted as part of the micronutrient program fortification strategy for multiple vehicles, with these activities synergised through a population level, social marketing campaign [15].

Evidence on front-of-pack nutrition labelling formats from high income countries identify mixed results on what are the optimal designs according to consumer friendliness and usage intentions [16,17]. This includes a number of simple designs such as healthy choice ticks, smiley faces and stars, as well as more complex designs such as multiple traffic lights, wheel of health and GDA-Guideline Daily Amounts-scores [18].

As part of needs assessment to operationalize social marketing approaches in Vietnam a formative research study was conducted of stakeholder and consumer knowledge, attitudes and practices (KAP) in relation to micronutrient supplements and fortified foods [12]. More specifically, a research objective of this component of the study was to examine attitudes and perceptions of mothers and fathers of young children, as well as program stakeholders, toward a logo developed for the national fortification program, and the potential for the logo to increase consumer purchase intentions when applied and promoted on a range of food staples. The approach could determine whether front of pack nutrition labelling using a common logo in Vietnam is an effective way to add-value, and increase consumer recognition and demand for fortified food products. An outline of the study method used, as part of the needs assessment, follows.

Method

The formative research stage comprised of a Rapid Assessment and Response (RAR) methodology involving consultations with stakeholders and discussions with program beneficiaries from four geographic locations-Hanoi, Hai Phong (North Viet Nam), An Giang, Ho Chi Minh City (South Viet Nam). The approach, which is growing in popularity in resource constrained settings of developing and transitional countries, is seen as a cost-effective, pragmatic method of public health research [19,20]. The strengths of utilising RAR qualitative approaches are that they can generate a richness of data, when the study participants’ perspectives and experiences are the goals [21].

Formative research for the nutrition social marketing program involved discussions with 157 participants. Semi-structured interviews (SSIs), were used as these are commonly accepted qualitative research approaches [22] and most appropriate for RAR. Stakeholder consultations included interviews with 77 key informants from the Public Sector including: Health Program Managers, Policy Makers, allied health agency Managers and Technical Staff (Viet Nam Food Administration, Public Health Institute), District and Commune Health Centre Managers, Province, District and Commune Health Workers, Health Collaborators (front line field staff), and International NGOs, and Private Sector-Drug and Food manufacturing company Managers and sales staff.

Selection of stakeholders was based on program management advice on intervention sites and the program staff responsible for implementing the program. Additionally, a snowballing approach was used, where stakeholder referrals to new prospects were considered where the prospects were likely to provide additional insights on new and emerging issues [23].

SSI discussion agenda were developed to cover a range of key issues emanating from the literature review and consultations with NIN and UNICEF program managers. Discussion agenda was adapted to cater to the different issues under investigation with public sector and private sector stakeholders. Research questions for stakeholders included: knowledge about anaemia and programs addressing micronutrient deficiencies, attitudes and perceptions about the nutrition SM program including specific nutrition products: micronutrient fortification, retail items fortified with micronutrients; including spice powders, soya and fish sauces, and edible oils; and multiple micronutrient powders used to supplement home meals for infants and young children. Additionally, probing was conducted around price elasticity of products with various target audiences,

existing and potential distribution networks, and promotional approaches. Discussions with policy makers focussed more specifically on policy issues designed to facilitate nutrition program objectives, whilst discussions with private sector partners also included additional investigation around coordinating mechanisms and communication channels to build more effective partnerships. Barrier and benefit analysis was also conducted through questions related to program challenges and achievements.

Additionally, 80 program beneficiaries, from the four urban and rural locations, were consulted on aspects of the SM program and commodities. The sampling frame for the program beneficiaries included segmentation by gender-7 female groups and 1 male (reference) group, aged 18-34 years (the reproductive age range for respondents with children 1-5 years), geographic location (urban, peri-urban and rural areas), and socio-economic status (low/medium, and medium/high, income groups demarcated according to national census income classifications). Final selection of beneficiaries was supported through the use of a participant screener with items covering the various segmentation criteria as well as exclusion criteria to exclude health professionals, Government and NGO staff, and people working in advertising, market research or public relations, from the groups. Additional exclusion criteria included participants who recently attended a focus group discussion, and screening for articulation: *feeling comfortable expressing myself in a group, find it easy to put my ideas into words, find it easy to talk to almost anyone*, etc. Other beneficiary classifications examined included occupation of the head of the household, child and pregnancy status. As part of the screening process all eligible participants were required to also sign an ethics clearance form identifying that they understood the discussion topic and were prepared to take part in the focus groups to provide advice on this important government initiative. A small per diem was also provided to each participant to cover travel expenses to and from the venue.

Discussion agenda topics for program beneficiaries were supported by findings from interviews conducted with key stakeholders from NIN, UNICEF and GAIN, who provided a number of insights on a priori issues for investigation. Program beneficiaries were interviewed using focus group discussions (FGDs), as the approach has been found to encourage participation from people who may be reluctant to be interviewed on their own or who feel they have nothing to say [24]. FGDs have also been shown to have advantages for researchers in the field of health and medicine, as they do not discriminate against people who may not be literate [24]. Key questions for beneficiaries focussed on recall of any nutrition interventions or products, knowledge and attitudes regarding malnutrition and micronutrient deficiencies for women and children, existing and preferred communication channels, and purchase intentions regarding the range of nutrition products including micronutrient supplements, micronutrient powders, and fortified retail products.

An important component of all discussions was to examine the efficacy of an existing micronutrient fortification logo developed by NIN and displayed on a number of retail food products. Prompt cards featuring the micronutrient logo as well as micronutrient powders and fortified food products developed by NIN were provided to aid participant recognition and perceptions of the logo and the food products with which it may have been identified. Following review of the discussion agenda by the field team, final amendments were made and the instruments were translated into local language to ensure easy facilitation of the interviews and group moderation.

Fieldwork approach

SSIs were conducted individually with management stakeholders due to their professional status and busy schedules. Additionally, discussions were conducted with affinity groups of 3-7 respondents comprising front line field staff including Provincial, District and Commune Health Workers, and Health Collaborators, which number over 90 thousand staff across the country. Each interview lasted between 30-90 min. Given the fact that a component of the study involved capacity building of various staff within NIN and GAIN, different teams were despatched to the North and South of the country. Two female moderators were trained to facilitate the groups in North and South locations, while the same note-taker recorded all responses provided through interpreters in the various locations. This ensured a degree of consistency in the data collection.

Each FGD of program beneficiaries consisted of 7-12 participants with group moderation taking approximately 60-90 min, per group. Two groups each were conducted in the four field locations. Data collection involved compiling of notes in Word format directly onto a laptop computer by a note-taker working closely with interpreters during each session. Notes were compiled in a question-by-question format to capture what the individuals had to say in regard to each topic. To reduce the potential for any ambiguous responses, on-site summaries were supplemented through dialogue between team members, immediately following discussions. Additionally, all beneficiary and stakeholder discussions were digitally recorded for more in-depth analysis by program management, at a later date. Fieldwork notes from the SSIs and FGDs totalled 65 single spaced pages.

Data analysis

Analysis of the data was carried out in two iterative stages: individual and group responses (in the case of SSIs), and within-group responses (in the case of FGDs). All data collected was qualitative with elements of grounded theory utilised to explore cross-case patterns both within and across groups and individuals [25]. Grounded theory has been found to provide a systematic way of examining qualitative data from the perspective of those who are actually experiencing the phenomena [26]. The first stage of analysis focussed on identifying key issues emanating from both the stakeholders and beneficiary groups. The use of open, axial and selective coding assisted in identifying and categorising, to explore the inherent categories and how they related. Once core categories were identified, selective coding was utilised to identify other categories which may be part of that core category. As well as providing identification and exploration of specific themes and core concepts, triangulation of the data was conducted across stakeholder and beneficiary groups, against secondary data sources. Assessment included reviewing comments against a priori social marketing criteria of the "four Ps" with an additional "two Ps"-policy and partnerships-merging as important determinants to the future continuous improvement of the program. A priori categorisation through barrier and benefit analysis also assisted in illuminating the study findings and tabulation [27].

Results

A number of key themes and core categories emerged from the data analysis including KAP indicators: General awareness and knowledge of the fortification logo, attitudes toward the logo design elements and micronutrient terminology used, perceived logo source credibility,

messaging and promotional approaches, and respondent perceptions of behavioural outcomes. Emerging issues were examined in relation to barrier and benefit categories, to support continuous improvement of the micronutrient logo when used with fortified foods.

Benefits of the micronutrient logo identified by beneficiaries included the importance of identifying quality food products as opposed to counterfeit or substandard products. Other identified benefits was the pleasant design of the logo, the familiar feature of the lotus flower symbol and the "source credibility" [28] afforded through NIN certification of the fortified food products. Additionally, although there was some confusion over the use of the term 'micronutrients', a number of respondents acknowledged that the term added a scientific aspect to the program.

"*There is one thing, the awareness of the logo to educate the consumer. They should know what this logo is for and what benefit they can get. We could do more to instruct the consumer on how they can better recognise it*"-Brand Manager, International Food Manufacturer, HCMC.

Other potential benefits identified by stakeholders were opportunities for the private sector to engage more fully in promoting fortified food products, and the potential for the logo to gain more traction with consumers following broader promotion of the program (Table 1).

Criteria	Program Beneficiaries/Stakeholder Feedback
Awareness	"*The logo is important for us to distinguish between the real products and the counterfeit products*"-Woman Beneficiary 18-34 yrs, Vinh Bao District, Hai Phong Province
Design Criteria	"*It seems like a lotus flower; it's nice, colourful, talking about health field because it has the image like a healthy human raising his or her hands up*"-Male Beneficiary 18-34 yrs, (peri-urban), Bình Chánh District, Hồ Chí Minh City
Micronutrient Terminology	"*It has a small size but being essential to body, a good substance like zinc, iron making the body stronger. Micronutrients are the small particles inside of meat, fish. Micronutrients are substances inside our body*"-Male Beneficiary (peri-urban), 18-34 yrs, Tân Quý Tây Commune, Bình Chánh district, HCMC
Source Credibility	"*If I saw this logo on a product I would buy that product over other ones on the shelf if it shows that it has been certified by NIN*"-Female Beneficiary 18-34 yrs, Vinh Bao District, Hai Phong Province
Messaging	"*I didn't know that the logo was approved by the MoH or that the product tastes good, so we need to educate people more about the benefits of the logo*"-Female Beneficiary 18-34 yrs (urban), Ha Noi
Promotion	"*It takes a long time to educate people about the logo and perhaps next year we will see a better future*"-Coordinator of the Large Scale Food Fortification (GAIN Project), National Institute of Nutrition (NIN), Ha Noi

Table 1: Perceived benefits of nutrition fortification logo.

Conversely, barriers identified under the same categories included the relatively low awareness of the logo currently with consumers and some stakeholders, and the potential confusion with other similar logos, given the popular lotus motif.

"*I used to recall another logo having a lotus flower like this. I mean the wording is different; it's not-'Vietnam micronutrients'-it's the logo of a sheet metal company*"-Male Beneficiary (Rural) 18-34 yrs, Tân Quý Tây Commune, Bình Chánh District, Hồ Chí Minh City.

Other barriers to assimilation of the logo included; the perceived complex design elements and colours of the logo, and the lack of general consumer understanding of the term micronutrients, despite the understanding of this term by health workers.

"*Vit Chat (micronutrients)-It's a bit weak for understanding by mothers-Change it to Chat Dinh Duong (nutrients) and identify what body function: heart for growth, respiratory system. Try "Cac Chat Dinh Duong" (a collection of vitamins and minerals)*"-Female Beneficiary (Rural) 18-34 yrs, Phu Lam Commune, Mekong Delta.

Other barriers to assimilation of the logo included the lack of acknowledgement that it derived from a government agency. The lack of endorsement by health authorities hindered product source credibility, and opportunities for broader promotion of the fortification program through the private sector. Furthermore, a number of private sector partners thought there could be greater engagement by the manufacturing and retail sector in the development and promotion of the logo and the food fortification marketing program generally (Table 2).

Criteria	Program Beneficiaries/Stakeholder Feedback
Awareness	"*I have a grocery store but I have not paid attention to this logo*"-Female Beneficiary (Rural) 18-34 yrs, Vinh Bao District, Hai Phong
Design Elements	"*My view is it's too complicated. I don't understand what it is trying to tell the consumer. I think you need something very simple to understand that this product has something good for it*"-Chief R&D Officer, National Food Manufacturer, Hồ Chí Minh City
	"*The colour is very weak. It does not make people remember*"-Female Beneficiary (Rural) 18-34 yrs, Phu Lam Commune, Mekong Delta
Micronutrient Terminology	"*Actually health staff have introduced this term but it is not the common term that's used*"-Female Beneficiary 18-34 yrs, Vinh Bao District, Hai Phong Province
	"*Is it like microbacteria, like small microbiology? Small particles? Small things? But "Vi" is bigger, not small. I like "Du Chat" (full of nutrients)*"-Female Beneficiaries (Rural) 18-34 yrs, Binh Thanh Dong Commune, Mekong Delta
Source Credibility	"*NIN is the very first agency by the local health workers and the population. The product is trusted, the channel is trusted, so we can scale-up*"-Coordinator of large scale food fortification project, Government of Vietnam, Ha Noi
	"*The logo does not say anything about an organisation but I think it would be better if it was owned by NIN or a public health organisation*"-Female Beneficiary 18-34 yrs (rural), Vinh Bao District, Hai Phong Province
	"*It should add the name of the owner and the exact name of fortified micronutrients. If we know, we will use and eat it. If we do not know anything about products, we will not buy and eat*"-Female Beneficiary 18-34 yrs (urban), Ho Chi Minh City
Messaging	"*If you added the food pyramid...although you should also add the specific ingredients in the product*"-Female Beneficiary 18-34 yrs, Vinh Bao District, Hai Phong Province

	"*It all makes me think of Vietnam, but the negative is that I don't get that this product will make me healthier and that's where the name needs to convey that*"-Director, International Social Marketing NGO, Ha Noi
	"*For me it needs more about the benefit, the reason to believe, good for my children, good for my family a simple hook that gives a mum a reason to believe*"-Chief R&D Officer, National Food Manufacturer, Hồ Chí Minh City
	"*For toothpaste they say that dentists recommend this product. That's why people buy it*"-Female Beneficiary (Rural) 18-34 yrs, Vinh Bao District, Hai Phong
Promotion	"*They should know what this logo is for and what the benefit they can get. We could do more and instruct the consumer on how they can recognise it more*"-Brand Manager, National Condiments Manufacturer, Ho Chi Minh City
	"*If you can educate that it is a good product then people may use it more. It needs a big poster with the logo in retail outlets so people will buy it. TV ads are better to advertise about the benefits of the logo*"-Female Beneficiary (Urban) 18-34 yrs, Ha Noi

Table 2: Perceived barriers of nutrition fortification logo.

Barriers and benefits to the fortification logo were also examined against two important categories that emerged from the data analysis, which were policy and partnerships. Barriers to branding under these categories included the current policy environment which did not support the promotion, distribution and endorsement of private sector fortified foods using a logo or brand; particularly one that associated a government agency like NIN with private sector food products. The other major barrier related to the relatively low engagement and support of private sector partners, which possibly resulted from a lack of government endorsement of the micronutrient logo and subsidies on fortification products, and instead resulted in higher costs for these products with price sensitive consumers.

"*Some of the key challenges are that we require a good policy environment that facilitates the contribution of health workers in the distribution network, and we need a good legal environment for the health network to develop it further for the target populations*"-Nutrition Program Officer, International NGO, Ha Noi.

Potential benefits to these categories was the greater levels of engagement achieved by working closely with key policy partners at the Vietnamese Food Administration (VFA), a department of MOH in charge of the regulation of food products registration and promotion, as well as with private sector partners.

"*So how can we fund it so that consumers have a NIN recommendation? How can we join hands with NIN and get 1+1=3 rather than 1+1=2*."-R&D Director, National Food Manufacturer, Ho Chi Minh City.

This was due to improved dialogue between the agencies in achieving MOH nutrition objectives, as well as the willingness of some partners to engage more fully in the fortification program, including the provision of funding for advocacy and promotion of micronutrient fortified products (Table 3).

5th-6th Ps	**Barriers**
	Program Beneficiaries/Stakeholder Feedback
Policy	"*It's hard to convince companies to include fortified foods unless the government endorses the product*"-Coordinator of large scale food fortification project, Government of Vietnam, Ha Noi
	"*For example for the 'Made in Vietnam' logo they made a picture of Vietnam so people can think it is certified by a government agency, so it can build trust by consumers*"-Vice Director, National Condiments Manuafacturer, Ho Chi Minh City
Partnerships	"*One of the challenges is that there are products that are cheaper but not in compliance so women, especially low income groups, will select these other products*"-Senior Stakeholder: MicroNutrient Department, Government of Vietnam, Ha Noi
	"*I would like to feed my children with other foods but our income is limited so we can't always do that*"-Female Beneficiary (Rural) 18-34 yrs, Phu Lam Commune, Mekong Delta
5th-6th Ps	**Benefits**
	Program Beneficiaries/Stakeholder Feedback
Policy	"*Before there were different ideas but now we are trying to go along together to get the final targets so that's why we are cooperating closely with NIN to get the decree and we understand that NIN has much knowledge on food fortification*"-Senior Manager, Viet Nam Food Administration (VFA), Ha Noi
Partnerships	"*We are pioneers for food flavouring companies with 60% of market share covered by flavouring powder so this is quite a good result, but for edible oil and soy sauce we are still trying to engage with the industries*"-Coordinator of large scale food fortification project, Government of Vietnam, Ha Noi

Table 3: Perceived barriers and benefits of butrition fortification logo by policy and public private partnership issues.

Discussion

Findings from this study confirm findings from other studies which indicate that the use of front-of-pack nutrition labels or logos does influence consumer choices toward healthier food products [29] Furthermore, the graphic design elements of such a logo can also enhance consumer interaction with fortified food products, depending on a range of features. These included recommendations for a simple, strongly coloured design, acknowledging that consumers require significantly less time to evaluate simple, front-of-pack labels, compared to more complex logos or label formats. As such, simple design and message elements are likely to be more effective in shopping environments where quick decisions are made [13]. The inclusion of nationalistic characteristics such as a country map, flag or symbols, and the size and location of the logo on the front of the pack may also be important considerations when reassessing designs to build consumer appeal and assimilation. Additional considerations could include stipulation of the micronutrient(s) included in the product and how much each micronutrient contributes to the recommended daily allowance. A change in terminology could also be considered to the better understood terms of "vitamins" and "minerals" rather than the continued use of the term "micronutrients".

In line with previous studies an endorsement or certification by a leading national or international health organisation does seem to provide a highly credible message source to influence product purchase intentions [13]. This is despite the current challenges by government agencies being able to endorse products produced and sold by the private sector. As such, greater dialogue and advocacy with VFA may be required to modify policies which currently do not allow for endorsement of fortified food products in the marketplace. As well as policy opportunities through improved dialogue with the VFA, come opportunities for lobbying for other nutrition policy changes. More effective advocacy could be achieved through improved public private partnerships (PPPs) via the establishment of a commercially focussed "Micronutrient Marketing Board" comprised of public and private sector partners to create a national micronutrient fortification alliance. This may place the program on a more commercial footing to ensure greater sustainability as well as synergise advocacy and promotional approaches in the resource constrained settings of Vietnam. Feedback from a number of private sector food manufacturers indicated their interest in greater engagement in promoting food fortification, if they could add-value and stimulates purchase intention of these products.

Survey findings identified that one of the current major barriers to consumers purchasing fortified foods was the low awareness of the logo and resultant low motivation by consumers to purchase fortified foods over less expensive, non-fortified products. More effective PPPs would provide access to a broader range of marketing skills as well as the funds available within these national and multinational companies, enthusiastic to build greater market share of their fortified food products with consumers. Membership to the board could include major food manufacturer sales and marketing managers, as well as representatives of NIN, VFA policy makers, and key NGO partners in nutrition-UNICEF and GAIN.

Additionally, regional meetings with neighbouring country Ministries of Health or multinational partners should also be undertaken to support a regional approach to food fortification in ASEAN (Association of Southeast Asian Nations). A multisectoral, micronutrient marketing board could also help to clarify the broader stakeholder agenda and expectations, as well as the existing constraints to be overcome through judicious planning, cooperation and effective demarcation of tasks by all partners. A more sustainable approach which included cost sharing among key stakeholders and a fund generated from sales could support the implementation and evaluation of population level, social marketing campaigns. This would assist in building the evidence base for programming of best practice approaches in the future.

In line with more effective advocacy and coordination on policy initiatives for marketing of micronutrient fortified foods, advocacy should continue to support policies for mandatory food fortification. This has already been achieved with a number of food staples in neighbouring countries of Cambodia and the Philippines.

In conclusion, as well as the need for scaling up of social marketing activities for nutrition commodities, there is a concurrent need to also develop more academically rigorous, consumer focussed research programs to support food fortification and good nutrition generally in the region. This is due to the considerable and growing dual burden of disease caused by under nutrition, as well as more recent challenges with over nutrition, including anti-obesity drugs abuse [30], which is on the rise as a result of dietary and lifestyle changes [2]. With the need to scale-up initiatives there is also a case for the development of social marketing strategic plans which could include a regional approach to the development and assessment, of an efficacious micronutrient fortification, front-of-pack, and logo design. This will ensure a synergised, cost effective, consumer focussed nutrition program is developed in the resource constrained settings of South East Asia.

The approach should include well planned, pre-tested and piloted, social marketing programs which could be easily adapted for the range of countries in the region. An example from HICs of how the branding component of the program can operate at a regional or global level can be seen through the National Heart Foundation's Healthy Tick program which generates considerable revenue for this NGO across a number of countries. This, in turn, funds consumer and health professional's education about the Tick and its role in good nutrition, as well as supporting further nutrition research and program interventions [31].

Limitations

Limitations of the study approach relate to the reduced level of academic rigour applied to some aspects of the fieldwork method, data collection and analysis as a result of human and financial resource limitations. This included the lack of time for back translation of discussion agenda and the need to conduct data analysis from field-notes rather than digital recordings. However, the RAR approach does have benefits in allowing researchers to directly observe and simultaneously manually record the discussions which can lead to greater insights than analysis of recorded transcripts from a researcher operating within another cultural setting. The scope of the study was also limited to the extent that consideration of a broader range of multifactorial issues which may also impact on purchase intentions of fortified foods could not be considered in the short time span allocated for this study. As such, future research could explore other factors such as taste and texture of fortified foods, nutrition literacy or other socio-demographic factors which may impact on the uptake of micronutrient fortified foods.

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Conflict of Interest

None of the authors declares any perceived conflict of interest or industry ties, in relation to this article.

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