Check for updates

RESEARCH ARTICLE

Stakeholder perceptions of strategies to reduce fast food consumption in Cambodian adults [version 1; peer review: awaiting peer review]

Samphors Sim ¹, Pall Chamroen ^{2,3}, Rebecca S. Dewey⁴, Vong Pisey ³¹Chea Sim University of Kamchaymear, Prey Veng, Prey Veng, Cambodia²KHANA Center for Population Health Research, Phnom Penh, Phnom Penh, Cambodia³School of Public Health, The National Institute of Public Health, Tuol Kork District, Phnom Penh, Cambodia⁴University of Nottingham, United Kingdom, Nottingham, UK**v1** First published: 27 Sep 2021, 10:970
<https://doi.org/10.12688/f1000research.52209.1>Latest published: 27 Sep 2021, 10:970
<https://doi.org/10.12688/f1000research.52209.1>**Abstract**

Background: Fast food consumption is one of the major contributing factors effecting overweightness and obesity, leading to many non-communicable diseases. Therefore, the purpose of this study was to determine strategies for reducing the fast-food consumption of Cambodian adults.

Methods: This qualitative study was conducted among adults in Phnom Penh city, Cambodia, in 2018. 10 stakeholders were included from different institutions in Cambodia, mostly health institutions. The tools used in this study were a multidisciplinary meeting with stakeholders and the completion of observation forms. Using a semi-structured questionnaire, data were collected, and a thematic analysis was used.

Results: Stakeholders' viewpoints followed three identifiable themes with regard to approaches to reduce fast-food consumption among Cambodian adults. These comprised: (1) health education and health promotion (focusing on educational institutions), (2) reducing the availability and marketing impact of fast-food, and (3) implementing government policy.

Conclusions: Knowing the important contributors to reduce the consumption of the fast food among Cambodia adults was the first priorities for all policy makers and other stakeholders to take action. This study provided essential findings for improving the decision-making abilities of those preparing strategy and policy for reducing fast-food consumption.

Keywords

Stakeholders, fast food, strategies, qualitative study, Cambodia

Open Peer Review**Approval Status** Awaiting Peer Review

Any reports and responses or comments on the article can be found at the end of the article.

This article is included in the **Agriculture, Food and Nutrition** gateway.

This article is included in the **Food Policy** collection.

Corresponding author: Samphors Sim (simsamphors@gmail.com)

Author roles: **Sim S:** Conceptualization, Data Curation, Formal Analysis, Funding Acquisition, Investigation, Methodology, Project Administration, Resources, Software, Supervision, Validation, Visualization, Writing – Original Draft Preparation, Writing – Review & Editing; **Chamroen P:** Conceptualization, Methodology, Project Administration, Validation, Visualization; **S. Dewey R:** Conceptualization, Validation, Visualization, Writing – Original Draft Preparation, Writing – Review & Editing; **Pisey V:** Conceptualization, Data Curation, Formal Analysis, Methodology, Project Administration, Validation, Visualization, Writing – Original Draft Preparation, Writing – Review & Editing

Competing interests: No competing interests were disclosed.

Grant information: The author(s) declared that no grants were involved in supporting this work.

Copyright: © 2021 Sim S *et al.* This is an open access article distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

How to cite this article: Sim S, Chamroen P, S. Dewey R and Pisey V. **Stakeholder perceptions of strategies to reduce fast food consumption in Cambodian adults [version 1; peer review: awaiting peer review]** F1000Research 2021, 10:970 <https://doi.org/10.12688/f1000research.52209.1>

First published: 27 Sep 2021, 10:970 <https://doi.org/10.12688/f1000research.52209.1>

Introduction

Globally, food-related behaviors and nutrition habits of human have been rapidly changing with globalization.¹ Many people in Asia have maintained existing behaviors, traditional nutrition habits and dietary patterns, comprising consuming mostly rice and vegetables.² Specifically, much of the food consumed is low in animal products.³ Conversely, more modern lifestyles and eating habits in Asia are often influenced by westernized diets containing high energy-density foods, large amounts of sugar, and saturated fats.⁴ Specifically, the increased consumption of fast-food is considered the main contributing factor to the over-nutrition of the Asian population as opposed to under-nutrition.⁵ This has consequently been seen to increase rates of overweightness and obesity.⁶ However, the trend of continuing emaciation and increasing obesity is still a big challenge for developing countries.⁷ According to previous studies and literature reviews, the prevalence of overweightness is significantly higher in urban, compared to rural, areas.⁸

Cambodia enjoys continued vigorous economic growth. In 2015, the actual level of growth was estimated at 7%, compared to a level of 7.1% in 2014. The garment sector, together with the services and construction sectors, are the major drivers of the Cambodian economic development. Growth is estimated to have remained stable in 2016, due to recouping from the local need and high garment exports, stagnation in the agriculture industry, and less extreme development in tourism. Poverty is steadily falling in Cambodia, reaching a rate of 7.7% in 2012, signifying a population of approximately three million people below the poverty line, and a further 8.1 million being near the poverty line. Around 90% of these people live in countryside areas.⁹

Phnom Penh, the capital city of Cambodia, was selected as the location for the present study as it is a fast-food hotspot.¹⁰ With an area of 678.46 square kilometers (261.95 square miles), Phnom Penh is a municipality with status equal to that of Cambodian provinces. Phnom Penh comprises 12 districts, or Khans. Eight of these are considered to comprise the outskirts of the city, namely Dangkao, Meanchey, Porsenchey, Sen Sok, Russei Keo, Porsen Chey, Chroy Chong Var, and Prek Pnov. Phnom Penh is the administrative center of all 12 districts. These 12 districts are further comprised of 76 communes and 637 groups. Since 1979, the population of Phnom Penh has grown fourfold with population growth rate of 3.92%. Because of the city's growing population and economy, the metro system has been expanded to serve a larger area. Phnom Penh's population is estimated to contain 284,721 families, with a working-age population (18-59 years) of 864,310, representing 59.72% of the total population. An estimated 84.7% of these workers are in the service sector; 14% in the craft sector, and 10% in the agriculture sector.

Analyses have shown population increase and economic growth, along with significant expansion of the fast-food sector to be major underlying causes of death in Cambodia, with non-communicable diseases (NCDs) accounting for 52% of the total deaths. These comprise 24% cardiovascular diseases, 13% cancers, 4% chronic respiratory diseases, 2% diabetes, and 9% other NCDs. Reported incidence of risk factors such as raised blood pressure were 19.4% among adult males and 14.9% among adult females in 2008.¹¹ In urban populations, around 5.4% of people were reported as living with diabetes in 2010.¹² Little research has been conducted into the strategies and methodologies for reducing the consumption of fast-food, or into characterizing the perceptions of stakeholders. Therefore, the purpose of the study was to explore possible strategies for reducing fast-food consumption.

Methods

Key informants

A qualitative methodology was used in this study. Previously collected survey results were presented¹³ to relevant stakeholders including members of the working age population (18-59 years), both male and female; doctors, nurses, public health practitioners, community leaders, school leaders and social marketing experts. These roles were selected as these are the individuals who have sufficient knowledge and experience in the crucial issues. Individuals who were willing to participate were invited to attend a multidisciplinary meeting, and a participatory observation with a member of the research team. The aim of this phase of the study was to clearly define the problem and provide recommendations for measures aimed at reducing fast-food consumption among the working age population in Phnom Penh, Cambodia.

Sample size and sampling technique

A total of 10 potential key informants were selected, representing all the above key stakeholder groups. Potential key informants were contacted in advance and informed of the goal and the protocol of the research. Purposive sampling was used to select key informants, thereby enabling the researcher to select potential key informants who had an understanding of the researchers' expectations and could provide the necessary data. Following the initial purposive sampling, a snowball sampling method was used to expand the number of participants in the research. The 10 informants were selected thus: four individuals were recruited from the working age population, covering both men and women, and representing those who consume fast-food (a) regularly, (b) seldom, and (c) never. The rest were one doctor, one nurse, one public health practitioner, one community leader, one school leader, and one social marketing expert (see [Table 1](#)).

Table 1. Characteristics of key informants.

Participant	Age	Gender	Role
P1	45	Male	Medical doctor
P2	28	Female	Nurse
P3	33	Male	Public health Practitioner
P4	45	Male	Community leader
P5	47	Male	School leader
P6	36	Female	Social marketing expert
P7	27	Female	Working age group person
P8	31	Female	Working age group person
P9	42	Male	Working age group person
P10	34	Male	Working age group person

In cases where potential key informants were difficult to identify, a snowball sampling technique was used. Most of them are the experts in the field, therefore, all information was provided specifically.

Research instrument and data collection procedure

Validated qualitative data collection methods were used to collect data from the sources outlined above based on the triangulation principle. Methods included a multidisciplinary meeting and participatory observations at different levels to identify factors associated with fast-food consumption among the working age population, as well as the underlying causes of these factors. A multidisciplinary meeting was conducted with stakeholders, coordinated by an interviewer or facilitator, and observed by two note takers along with sound recorders. The multidisciplinary meeting took place in a room of a university in Phnom Penh in April, 2018. The duration of the meeting was around three hours. The meeting followed a semi-structured format, consisting of open-ended questions that would elicit personal opinions, perceptions, and experiences from key informants. The format for the meeting did not change during the course of the meeting and was based on three questions:

1. In your opinion, what government policies might reduce the fast-food consumption among working age adults in Phnom Penh, in the present day?
2. How could the diets be improved among working age group in Phnom Penh, in the present day?
3. Do you have any other ideas that you would like to express more?

Key informants were contacted in advance by telephone or email to be invited to participate in the meeting. A member of the research team played the role of interviewer/facilitator. The two note-takers were trained in the process of taking clear notes throughout the meeting two days beforehand.

Data analysis

Thematic analysis was used to interrogate the data obtained from the multidisciplinary meeting and participant observations to identify factors associated with fast-food consumption and potential solutions among the working age population. The underlying causes of the problem were fully characterized so that policy recommendations for the reduction of fast-food consumption could be developed. The thematic analysis followed a six-step procedure developed by Braun and Clarke (2006).¹⁴ The six steps were implemented after all data (i.e. transcriptions from the multidisciplinary meeting and participant observations) had been translated from Khmer to English. Following this, translated data were checked by a member of the research team for completeness and consistency. Following the data check, the six-phase thematic analysis was conducted. In the first step, the researcher became familiar with the data by reading the translated transcriptions word by word and line by line. In the second step, the researcher started to assign codes which were derived from the raw data alone, and not from their opinions or ideas. Coding was conducted manually by writing notes on the transcribed texts with colored pens. This produced an initial list of ideas about the concepts present in the data. The researcher identified the codes and matched them with the appropriate data extracts. In the third stage, themes were identified. The long lists of different codes that had been identified in the previous phase was analyzed, and the researcher considered how different codes could be combined so as to create an overarching theme, and if necessary, a subtheme

structure within each theme. The relationships between codes, themes, and subthemes were shown in an initial thematic map. Following this, in the next phase, the researcher reviewed the themes with the attached set of coded extracts. The initial thematic maps were then refined to reflect this phase. Further reviewing and refining of the coding was conducted by the researcher again and again until the researcher was satisfied with the coding process. The researcher then reviewed each theme individually and assigned it a name and description. Finally, the results of the thematic analysis were interpreted for report.

Validity and reliability

Validity and reliability of the qualitative data collection and analysis followed the approach suggested by Mays and Pope (2000),¹⁵ which comprised triangulation of the data across multiple sources, comparing results from multiple stakeholder interviews to the findings available. Their responses were considered. Addressing differences between individual informants' accounts formed a part of the error reduction process, in turn helping to generate further original data. A clear and definitive data collection procedure, including participant selection and data analysis procedure also contributed to the quality of the study.

Ethical approval and consent for participation

The study design was received and approved by Khon Kaen research ethics committee, the human research ethics committee at the authors' institution (Reference No. HE582071). All stakeholders/participants gave written informed consent prior to the commencement of the research process.

Results

Stakeholders' points of view regarding approaches to reduce fast-food consumption among adults in Cambodia were divided into three themes namely (1) health education and health promotion (with the primary focus on educational institutions), (2) reducing the availability and marketing impact of fast-food, and (3) implementing government policy (see Figure 1).

Health education and health promotion

Health education and health promotion were considered the most critical concepts in stakeholder feedback for reducing fast-food consumption in Cambodia. Stakeholders from several sectors highlighted the need to not only provide health education and health promotion, but also for health educators and health promoters to receive comprehensive training in the identification of target audiences or prospective customers. Some stakeholders expressed the opinion that the youth or teenagers should be targeted with educational and promotional material, owing to the popularity of fast-food among the youth and teenage population. Further, some stakeholders suggested promoting traditional Khmer food because it contains significantly less fat, salt, and sweet ingredients in comparison to western food.

"I think that mass media of fast food is a major challenge. Therefore, health educator and health promoters should study considerably for the contents of the campaigner education/promotion of fast-food company, fining out the tactics or tricks

Figure 1. Thematic map of the strategy to reduce fast food consumption among Cambodian adults.

which attract the customers in their advertising or promotion and whether their advertising or promotion have adverse impact to the health of the consumers.” (Social marketer).

“... motivating and promoting to the youth or teenagers to change their behavior from consuming fast food to local Khmer food which has less fatty, salty and sweet ingredients or deducing the tax on local Khmer food, in turn, increasing tax on fast food if possible.” (Community leader).

“Currently, the mass media and social media play important roles in information distribution. Therefore, the use of platforms such as Facebook, Line messages, and television was proposed to reach the target audience quickly; however, the contents of the message must be creative to achieve penetration.”

“If the campaign or promotion is attractive with a creative idea fitted with the needs of the target audiences, it will be able to catch the audience attention quickly.” (Public health practitioner).

“A short video clip which can be broadcasted on social media or television about nutrition should be produced where the messages of the short video clips informing the target audiences why they should not eat this food.” (Social marketer).

Specific focus on educational institutions

All stakeholders stated that educational institutions should engage in health promotion and health education related to nutrition, especially the impact of fast-food on health.

“... It will be effective if the target of education and promotion focusing on educational institution ... the schools are able to prepare the projects concerning to applying nutrition lessons in the classroom as well as practice the lessons which students have learnt to practice in their real life.” (School leader).

“... it is only the discipline or rules which force students to practice nutrition lessons in their real life; however, building an understanding about healthy diet along with teaching them how to be responsible in their own life.” (School leader).

Reducing the access to unhealthy food: marketing impact and obtainability

All stakeholders emphasized the necessity for the government to take a role in reducing the impact of fast-food. Stakeholders advocated controlling and limiting the advertisement of fast-food in the media, especially the youth and teenagers. It was also suggested to impose health standards on food manufacture and sale that must be met, in terms of maximum salt or sugar levels in foods, and limiting the number of fast-food outlets adjacent to educational institutions.

“The government should pay more attention to controlling the media advertising which revealed the meaning of unhealthy food to the people and also set or push the policy such as food labeling and food standard criteria.” (Social marketer).

“If possible, the government should set or push the policy on the fast-food restaurants or shops which are located next to the academic institution especially from primary school to high school.” (Community leader).

Implementing the government policy

Once government policy has been devised, the government must follow through to ensure that it is implemented and take measures to monitor and evaluate its impact. Only then will it be possible to determine whether it has achieved its goals, or whether it requires improvement.

“The government should have the willingness to take actions with the policy which has been set and implement it equally for all institutions and occasions.” (Medical doctor/Nurse).

“Monitoring during the implementing the policy is absolutely crucial in order for the aims of policy could be achieved.” (Public health practitioner).

Discussion

The findings of this study are in support of approaches proposed in internationally published literature.¹⁶ Health education and the use of promotional techniques were proposed as measures to reduce unhealthy diets.¹⁷ Children should be educated through school, and a number of suggestions were made for making educational access available to the adult population.¹⁸ Specifically, the food industry marketed the message “eat less” as part of recent policies

addressing dietary issues. However, the “eat less” message appears to directly conflict with the goals of the food industry, which are to have people eat more of their products.⁴

An approach of increased intersectional collaboration,¹⁵ the method of enlisting the civic society and forming a collaboration between government and other stakeholders assured that all stakeholders were working together (including sellers and food companies) to provide encouragement for people to seek out support for maintaining a healthy lifestyle and healthy diet. The Cambodian government needs to take action to improve the nation’s diet, specifically with a focus on addressing the energy-dense and micronutrient-poor diets of many Cambodian children. However, the government should consider the effects of its policies on people’s right to choose, and on the food industry, as it is difficult to find a balance between health, freedom of choice, and the economic viability of the food industry.² Moreover, the implementation of the chosen approach should avoid ambiguity and redundancy in the allocation of responsibility. The responsibilities for the implementation and monitoring of policy must specifically allocated to the relevant government agency or agencies to maximize intersectional collaboration between government agencies while ensuring the endeavors are given high priority. Stakeholders recommended the control of advertising on the television and internet to limit the marketing of fast-food to teenagers. This is a similar approach to the one recommended by some international organizations.³

Similarly, reducing the areas where fast food outlets are permitted, specifically in close proximity to schools, was a method mentioned in a forum in English related to health, whereby they advocated limiting permission for vendors of takeaway food to be placed within a given distance from schools in order to help influence the food choices students make on their way home from school.¹⁹ To mitigate the argument from the company of the fast food, new regulation must be evidence-based and provide scientific information on the importance of the relationship between public health and environmental factors such as food availability, diet, and nutrition. A similar argument was made during the introduction of a new food and nutrition policy in Norway, where the dairy and meat industry moved to support the production of low-fat milk due to the strong evidence base used in policy formation.²⁰ School-based policies have been demonstrated to be highly effective in improving students’ dietary intake.²¹ However, the finding of widespread support for restrictive food policies in schools, including from the food industry, was surprising. As such, openly supporting school-based policies may gain the food industry public trust or deflect attention from the marketing of other food products to children. The food industry has lobbied for policy agenda to become more “industry-friendly”.¹⁸ The government is required to show transparency amid a strong impact of challenging when seeking and gaining industry support for policy. Government departments and officials must adhere to strict ethical guidelines in dealing with the food industry.¹⁸ This area of the investigation would benefit from an understanding of the factors influencing members of several different age groups from their own perspective.

Limitations

There are only 10 key informants invited to join the multidisciplinary meeting. Therefore, there were some information missing. Also, the researcher had done the meeting only one time to get the information from the key informants.

Data availability

The raw data used in this study are comprised of sound, picture and video recordings of stakeholder participation. Due to confidentiality requirements stipulated in the ethical approval and consent processes, the authors are obliged to keep the identities of all stakeholders/participants anonymous, and the raw data associated with this article cannot be made publicly available. Access to the data will be considered on a case-by-case basis. Individuals who wish to access the data can contact the corresponding author Sim Samphors via mobile phone: Cambodia: (+855) 12 39 59 05/Thailand: (+66) 82 30 93 165, E-mail: simsamphors@gmail.com. Also, if you have further questions please feel free to contact Khon Kaen University Ethical Committee, Thailand. Tel: 043347057.

References

1. Popkin BM: **The nutrition transition in low-income countries: an emerging crisis.** *Nutr. Rev.* 1994; **52**(9): 285–98.
[PubMed Abstract](#) | [Publisher Full Text](#)
2. Kosulwat V: **The nutrition and health transition in Thailand.** *Public Health Nutr.* 2006; **5**(1a): 183–9.
[PubMed Abstract](#) | [Publisher Full Text](#)
3. Adair LS, Popkin BM: **Are child eating patterns being transformed globally?** *Obes. Res.* 2005; **13**(7): 1281–99.
[PubMed Abstract](#) | [Publisher Full Text](#)
4. Popkin BM: **The nutrition transition and obesity in the developing world.** *J. Nutr.* 2001; **131**(3): 871s–3s.
[PubMed Abstract](#) | [Publisher Full Text](#)

5. French SA, Story M, Neumark-Sztainer D, *et al.*: **Fast food restaurant use among adolescents: associations with nutrient intake, food choices and behavioral and psychosocial variables.** *Int J Obes Relat Metab Disord: J Int Assoc Study Obesity.* 2001; **25**(12): 1823–33.
[PubMed Abstract](#) | [Publisher Full Text](#)
6. Paeratakul S, Ferdinand DP, Champagne CM, *et al.*: **Fast-food consumption among US adults and children: dietary and nutrient intake profile.** *J. Am. Diet. Assoc.* 2003; **103**(10): 1332–8.
[PubMed Abstract](#) | [Publisher Full Text](#)
7. Kim SH, Hwang J-Y, Kim MK, *et al.*: **Dietary factors related to body weight in adult Vietnamese in the rural area of Haiphong, Vietnam: the Korean Genome and Epidemiology Study (KoGES).** *Nutr. Res. Pract.* 2010; **4**(3): 235–42.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
8. Mendez MA, Monteiro CA, Popkin BM: **Overweight exceeds underweight among women in most developing countries.** *Am. J. Clin. Nutr.* 2005; **81**(3): 714–21.
[PubMed Abstract](#) | [Publisher Full Text](#)
9. THE WORLD BANK: **Working for a World Free of Poverty 2016.** [cited 2016 August 24].
[Reference Source](#)
10. Canvassco: **Market Analysis For Fast Food Chain Market in Cambodia, Laos, Myanmar and Vietnam 2014.** [cited 2016 August 25].
[Reference Source](#)
11. An Y, Yi S, Fitzpatrick A, *et al.*: **Appropriate body mass index and waist circumference cutoff for overweight and central obesity among adults in Cambodia.** *PLoS One.* 2013; **8**(10): e77897.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
12. Cambodia NCDs [Internet]: 2014.
[Reference Source](#)
13. Sim S, LaoHaSiriWong W: **Fast Food Consumption, Overweight and Obesity among Working Age Persons in Cambodia.** *J. Clin. Diagn. Res.* 2019; **13**(7).
[Publisher Full Text](#)
14. Braun V, Clarke V: **Using thematic analysis in psychology.** *Qual. Res. Psychol.* 2006; **3**(2): 77–101.
[Publisher Full Text](#)
15. Mays N, Pope C: **Qualitative research in health care. Assessing quality in qualitative research.** *BMJ.* 2000; **320**(7226): 50–2.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
16. Phulkard S, Knai C, Lock K, editors: **Stakeholders' Perceptions of Factors Influencing Fast Food Consumption in Thai Adolescents.** 2012.
17. Waxman A **WHO global strategy on diet, physical activity and health.** *Food Nutr. Bull.* 2004; **25**(3): 292–302.
[PubMed Abstract](#) | [Publisher Full Text](#)
18. Lobstein T, Millstone E University of S, *et al.*: **Policy options for responding to obesity: evaluating the options: summary report of the EC-funded project to map the views of stakeholders involved in tackling obesity - the PorGrow project.** Brighton: SPRU. 2006.
19. Children, adolescents, and advertising: **Committee on Communications.** *American Academy of Pediatrics. Pediatrics.* 1995; **95**(2): 295–297.
20. Jaime PC, Lock K: **Do school based food and nutrition policies improve diet and reduce obesity?** *Prev. Med.* 2009; **48**(1): 45–53.
[PubMed Abstract](#) | [Publisher Full Text](#)
21. Nestle M, Jacobson MF: **Halting the obesity epidemic: a public health policy approach.** *Public Health Rep.* 2000; **115**(1): 12–24.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)

The benefits of publishing with F1000Research:

- Your article is published within days, with no editorial bias
- You can publish traditional articles, null/negative results, case reports, data notes and more
- The peer review process is transparent and collaborative
- Your article is indexed in PubMed after passing peer review
- Dedicated customer support at every stage

For pre-submission enquiries, contact research@f1000.com

F1000Research