



Research article

Choice Behavior of Consumers on Healthy OTOP Food Products in the Central Region

Pitiporn Traisirichok^{1*}, Rewadee Chongsuwat¹, Patcharanee Pavadhgul¹

¹Nutrition, Faculty of Public Health, Mahidol University, Bangkok

ABSTRACT

OTOP stands for 'One Tambon One Product' has been the Thai government's strategic approach for the community to identify a product that signifies the uniqueness of the community. With the increasing trend of health awareness, communities have produced health-related OTOP products as an alternative for consumers. The objective of this study was to examine consumer's knowledge, attitude, and personal factors in relation to the choice of OTOP healthy food products. A survey was conducted in five souvenir shops in central Thailand, and 381 persons were interviewed using a questionnaire. The results showed that the highest purchase was snacks, followed by processed foods and processed fruits. 92.7% of the consumers intended to buy healthy OTOP food products; among these, 22.6% used to buy OTOP healthy food products. The knowledge and attitude scores of the participants were moderate. There was no significant relationship between knowledge and behavior in choosing healthy OTOP food products ($p = 0.549$). All personal factors, namely, attitude, age, income, and occupation were significantly related to choosing healthy OTOP food products (p -values: 0.010, 0.014, 0.005, and 0.006, respectively). In conclusion, study participants who have a positive attitude towards OTOP products were more likely to purchase OTOP healthy food product(s). It showed that OTOP food products are accepted by consumers however the knowledge was not related to decision and frequency of choosing OTOP healthy food products. The frequency of healthy food choices was not related to the level of nutrition knowledge because they have no different levels of healthy food choices. The suggestion of this population indicated that healthy food products were not diverse, expensive, and difficult to access.

Key words: Behavior, OTOP food products, Health food

Received: 25 February 2020

Accepted: 11 October 2020

Available online: 23 November 2020

*Corresponding author's email: pitiporn.tri@student.mahidol.ac.th

<http://www.Nutritionthailand.org>

บทความวิจัย

พฤติกรรมทางเลือกผลิตภัณฑ์อาหาร OTOP เพื่อสุขภาพของผู้บริโภคในเขตภาคกลาง

ปิติพร ไตรศิริโชค^{1*}, เรวดี จงสุวัฒน์¹, พัชรานี ภาวัตกุล¹

¹ภาควิชาโภชนวิทยา คณะสาธารณสุขศาสตร์ มหาวิทยาลัยมหิดล กรุงเทพฯ

บทคัดย่อ

ในปัจจุบันผู้ประกอบการอาหารภายใต้โครงการหนึ่งตำบลหนึ่งผลิตภัณฑ์ (OTOP) ได้มีการพัฒนาการปรุงอาหารใหม่ เกิดเป็นอาหารเพื่อสุขภาพ เพื่อเป็นผลิตภัณฑ์ทางเลือกให้แก่ผู้บริโภคที่ต้องการดูแลสุขภาพ การวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาความสัมพันธ์ระหว่างความรู้ ทักษะและปัจจัยส่วนบุคคลที่เกี่ยวข้องกับการเลือกผลิตภัณฑ์อาหาร OTOP เพื่อสุขภาพ จากร้านจำหน่ายสินค้าของที่ระลึก 5 แห่งภายในเขตพื้นที่ภาคกลาง กลุ่มตัวอย่างจำนวน 381 คน เก็บข้อมูลโดยใช้แบบสอบถาม ผลการศึกษาพบว่ากลุ่มตัวอย่างส่วนใหญ่เลือกซื้อผลิตภัณฑ์อาหาร ชนิดขนม/อาหารว่าง รองลงมาคือ อาหารแปรรูปและผลไม้แปรรูป กลุ่มตัวอย่างร้อยละ 92.7 คิดว่าจะเลือกผลิตภัณฑ์อาหาร OTOP เพื่อสุขภาพ และมีกลุ่มตัวอย่างร้อยละ 22.6 ที่เคยซื้อผลิตภัณฑ์อาหาร OTOP เพื่อสุขภาพ ระดับความรู้และทัศนคติโดยภาพรวมของกลุ่มตัวอย่างอยู่ในระดับกลาง โดยระดับความรู้ไม่มีความสัมพันธ์กับพฤติกรรมการเลือกผลิตภัณฑ์อาหารเพื่อสุขภาพมีค่านัยสำคัญทางสถิติที่ 0.549 ในขณะที่ทัศนคติ อายุ รายได้และอาชีพมีความสัมพันธ์กับพฤติกรรมการเลือกผลิตภัณฑ์อาหารเพื่อสุขภาพอย่างมีนัยสำคัญทางสถิติที่ 0.010, 0.014, 0.005 และ 0.006 จากผลการศึกษาชี้ให้เห็นว่า ทัศนคติมีผลต่อการเลือกผลิตภัณฑ์อาหาร กลุ่มตัวอย่างที่มีทัศนคติเป็นบวกต่อผลิตภัณฑ์อาหาร OTOP มีผลต่อการเลือกอาหาร OTOP เพื่อสุขภาพ แสดงว่าผลิตภัณฑ์อาหาร OTOP ได้รับการยอมรับจากผู้บริโภค แต่ระดับความถี่ของการเลือกอาหารเพื่อสุขภาพไม่สัมพันธ์กับระดับความรู้ด้านโภชนาการ นั้นเพราะคนที่มีระดับความรู้แตกต่างกัน มีระดับการเลือกบริโภคอาหารเพื่อสุขภาพไม่แตกต่างกัน จากข้อเสนอแนะของกลุ่มตัวอย่างที่ศึกษานี้บ่งชี้ได้ว่าผลิตภัณฑ์อาหารเพื่อสุขภาพยังมีให้เลือกไม่หลากหลาย ราคาแพง และเข้าถึงได้ยาก

คำสำคัญ: พฤติกรรม, ผลิตภัณฑ์อาหาร OTOP, อาหารเพื่อสุขภาพ



Introduction

The main cause of Thai people with Non-Communication Diseases (NCDs) is unhealthy food consumption on a regular basis¹. The Department of Health recommends that normal people consume no more than 2,000 milligrams of sodium, 24 grams of sugar and 24 grams of fat or oil per day. In fact, Thai people received an average of 4,351 milligrams of sodium per day, which is almost 2 times more than the recommended amount², receiving an average of 114 grams of sugar from food and drink per day, which is almost 5 times more than the recommended³ and Thai people like to buy food which is cooked using oil such as deep fried food, fried food and stir-fried food, accounting for 50.47 percent⁴. High sodium, sugar, and fat intake from unhealthy food leads to high blood pressure, cardiovascular disease and diabetes¹.

The Nutrition Association of Thailand under the Patronage of Her Royal Highness Princess Maha Chakri Sirindhorn cooperation with the Department of Nutrition Faculty of Health Sciences, Mahidol University had created a project to promote the production and consumption of OTOP food products, supported by the Thai Health Promotion Foundation. The project had developed OTOP food manufacturers to develop and improve dietary recipes by reducing the addition of sodium, sugar, fat and increasing the amount of dietary fiber, which these healthy recipes will still taste delicious and can be produced for sale. The project had developed 32 types of OTOP food products for health⁵.

The objective of this study was to explore the relationship between knowledge and attitudes of consumers affecting OTOP food product choices

for health because today there are many health food products to choose from. The result from this study will help to promote the behavior of choosing OTOP food products for health which will reduce the risk of various diseases from eating foods that contain high sodium, sugar and fat.

Method

This study was a cross-sectional survey research which to study the knowledge, attitudes and factors that are related to choosing healthy OTOP food products. Use the formula to calculate the infinite population: $n = (pqZ^2)/E^2$ ⁶. There were 323 participants those who come to buy products in all 5 stores. The information was collected from 65 people per store with additional 15 persons per store in case of losses. There were 5 places to collect data from Suan Rim Khao store, Saraburi OTOP Complex at Phukeya store, Rin Kanom Thai store, Ekachai Salee Suphan store and Bann Kanom Nuntawan store. Participants must be 18 years of age or older, able to read and write Thai language and voluntarily. The data collection period was 3 months. The instrument of this study was a questionnaire developed by the researcher by reviewing literature and theory. The research and questionnaire have been accepted by the ethical review committee for human research faculty of public health, Mahidol University (MUPH 2018-138).

From literature reviews, studies from other researches and expert consultations, the questionnaire was created in 5 parts as follow: Part 1 General characteristics: 15 questions. Part 2 Behavior of food selection based on marketing mix factors: 10 questions. Part 3 Knowledge: 12 questions. Part 4 Attitudes: 12 questions.

Data were collected from 10 November 2018 to 15 January 2019. The research team made an appointment for the date and time to collect data at the store. They arrived at store at 9.00 am. The participants were chosen by random sampling, everyone who went to see the products in the store was in accordance with the selection criteria. Step 1 the research team explained research information which took about 5 minutes and invited to participate in research. Step 2 they must sign the consent form to participate in the research and finally, complete 1 set of questionnaires within 15 minutes. The questionnaires were coded and saved to my computer. The data were analyzed using the statistical software package.

The general characteristics were analyzed and presented as frequency, mean, percentage and standard deviation. Analytic statistics were used Pearson's Chi-square test and one-way ANOVA to analyze the relationships between general characteristics, knowledge and attitude with healthy OTOP food products. The significance level was set at 0.05.

Results

Total collected 404 questionnaires because the calculated 323 questionnaires and addition 25 percent prevent loss, there were 4 under the age limit and 19 incomplete questionnaires therefore 381 questionnaires were used for statistical analysis. From the data, there were 152 males and 229 females and the average age was 31.50 ± 10.37 years. Average body mass index was 23.19 ± 4.53 . They were single 63%, bachelor's degree 40.7%, employees 45.4%, and incomes 10,001-20,000 baht per

month 44.1%. For health status, 27 and 157 of them had NCDs and family history of NCDs, respectively. The most common disease was high blood pressure and followed by diabetes.

The participants were received information about nutrition from interne 67.7%. In the past 6 months, 363 people bought OTOP products, the popular respectively bought were snacks 68.9%, processed foods 49.3%, processed fruits 40.8% and healthy recipes 22.6% (**Figure 1**). The opinions of participants were "Choose healthy OTOP food products" 95.3%. There were reasons for useful, delicious, want to try, souvenirs and etc.

The overview knowledge of the participant had moderate level, average score 8.17 ± 2.19 points from 12 score. More than one third had knowledge of nutrition label in low level, about one third was high level and less than one third was moderate level. More than one third had knowledge of nutrition in low level and less than one third was high and moderate level respectively. Almost half had knowledge of OTOP project in low level and more than one fifth were moderate and high level.

The overview attitude of the participant had neutral attitude, average score of 28.30 ± 3.12 points from 36 score. About three fifth had the attitude of nutrition label in positive attitudes, about one fifth was neutral attitudes and about one tenth was negative attitudes. Almost half had the attitude of food selection positive attitudes, about one third was neutral attitudes and almost one fifth was negative attitudes. More than half had the attitude of OTOP food product in positive



attitudes, almost half were neutral attitudes and a small number were negative attitudes.

The food selection behaviors according to the marketing mix of the participant had moderate level, average score of 23.48 ± 3.08 points from 30 score. Gender of the participant had a different effect on food choices with the statistically significance at 0.010. At the details of the marketing mix consisted benefits, promotion, taste, recommendation and packaging had a different effect on food choices with the statistically significance at 0.042, 0.035, 0.003, 0.002 and <0.001 respectively. However, male and female were not different in the behavior of choosing healthy food products at the statistical significance level of 0.084.

The factors that differentiate the behavior of choosing healthy OTOP food products of the

participants were from personal factors and attitude. Including different age groups cause the consumption of healthy food differently at the statistical significance at 0.014; aged 40-49 years consumed healthy food more than other ages, different occupations lead to significant differences in the consumption of healthy food at 0.006; self-employed consumed healthy food more than other occupations, different incomes cause statistically significant differences in the consumption of healthy food at 0.005; consumption of healthy food of participants increased with increasing income and differences in attitudes lead to significant differences in the consumption of healthy food at 0.002; the consumption of healthy food of participants increased with a positive attitude.

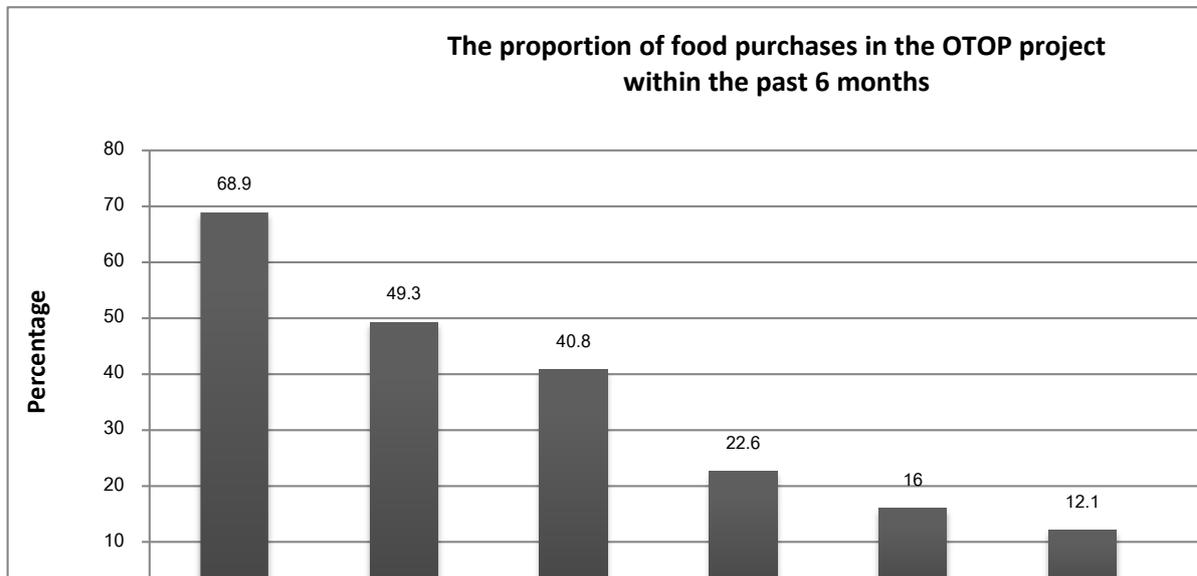


Figure 1. Proportion of food purchases in the OTOP project within the past 6 months (n= 381).



Discussions

Working groups with high income levels tend to choose healthy food more often than those with lower incomes, i.e. income is one of the factors determining access to food⁷. The groups with different nutritional status did not have different behaviors in choosing healthy food. But over-nutrition groups (BMI \geq 23) tend to choose healthy food more often in accordance with the increased nutrition levels, because people in this group know that they are at a higher risk of developing chronic illness than others, therefore increasing their diet⁸. The educational level of the participant is different but the behavior of choosing healthy food is not different because education level is not the limitation in choosing healthy food⁹. But healthy food selection behaviors are motivated by suggestions, receiving health information, promotions, prices or packaging¹⁰. The participant has a positive attitude will have a positive behavior towards choosing healthy food different from those with a negative attitude because those people do not see the importance and do not realize the need to choose food¹¹.

From the study, it was found that the participant with different levels of knowledge. However, the behavior of choosing OTOP food for health is not different. But different attitudes, ages, and incomes affect the behavior of choosing healthy OTOP food products, which is explained by knowledge, attitude and behavior theory (KAP). When a certain level of knowledge is combined with a positive attitude, behavior is expressed, but it is not always necessary to have both knowledge and attitude because in some cases, only positive attitudes

and supporting factors cause show that behavior, but the lack of knowledge can lead to the wrong results. Therefore, OTOP healthy food products are another food for consumers who want to take care of their health because it has low sugar, sodium and / or fat than the same food¹².

Conclusion

Healthy cooking requires limiting the amount of fat and seasonings. Limiting this affects the taste and texture of the food that makes some consumers dissatisfied with health-promoting foods. Today, cooking methods have been developed that can reduce the consumption of oil, but also the food taste like normal cooking, and modifications to the seasoning have reduced sodium and added sugars while keeping the food delicious. But food manufacturers lack knowledge of nutrition and cooking methods that can reduce sodium and sugar. Therefore, public and non-governmental agencies and independent organizations related to food and health should help entrepreneurs improve and develop healthy recipes to increase the diversity of healthy food for consumers. However, further studies on consumer needs, preferences, and healthy food accessibility. These are factors in food selection.

References

1. Institute for Population and Social Research, Mahidol University. Thai Health 2017: Non-communicable Diseases. Nonthaburi: Office of the National Health Commission; 2017.
2. Wantanee Kriengsinyos. Reduces sodium, prolongs life. Bangkok; 2012.



3. Hfocus news agency, The Phiwat Thai Public Health Foundation [homepage on the Internet]. Thai people eat very sweet, get too much sugar, risk disease [updated 2017 Aug 26; cited 2018 Mar 15]. Available from: <https://www.hfocus.org/content/2017/08/14479>.
4. Komin W, Subsing B. The situation of repeated frying oil usage in Thailand, the fact that you should know. Bangkok: Roadmap to dominate health consumers and Faculty of Pharmacy, Chulalongkorn University; 2011.
5. Thai Health Promotion Foundation (Thai Health) [homepage on the Internet]. Thai Health invites you to send happiness to the new year with OTOP for health [updated 2017 Nov 29; cited 2018 Feb 25]. Available from: <http://www.thaihealth.or.th>
6. Suriyachai N. Changes in healthy food consumption behavior among working people in Thailand and Malaysia. [Thesis]. Nakhon Pathom: Silpakorn University; 2015.
7. Hep S. Factor in deciding to purchase health foods in Nonthaburi province [Thesis]. Bangkok: Department of Economics, Siam University; 2014.
8. Chaitokkiey S. Factors affecting food consumption behaviors of adults in northeastern Thailand [Thesis]. Loei: Food and Nutrition Program, Faculty of Science and Technology, Loei Rajabhat University; 2015.
9. Nanthasin N. Factors affecting consumer's consumption behavior and loyalty toward health Food in Bangkok metropolis. Bangkok: Journal of Cultural Approach; 2015.
10. Ruangkalapawongse A, Ruangkalapawongse S. Factors related to decision making to buy functional food products for senior citizens in the Bangkok metropolis. SDU Res J 2015; 11(2):77-94.
11. The Food and Drug Administration, a government agency responsible for food and drug safe. Factors that affect the behavior of consumers to change the health product consumption at present. Nonthaburi: Ministry of Public Health, 2015.
12. Saengthong P. Title service user's attitude and behavior on transportation business and distribution of SUZUYO (Thailand) limited [Thesis]. Bangkok; Management, Srinakharinwirot University; 2008.