

Original Article

DEVELOPMENT OF PRODUCTION PLACES OF PRE-PACKAGED PROCESSED FOODS FOLLOWS THE PRIMARY GOOD MANUFACTURING PRACTICE (PRIMARY GMP) IN NAKHON RATCHASIMA PROVINCE: A PRELIMINARY STUDY

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Received: 19 June 2014 Revised and Accepted: 20 Jul 2014

ABSTRACT

Objective: The aim of this study was to develop the production places of pre-packaged processed foods follows the Primary GMP.

Methods: The population was 103 entrepreneurs of pre-packaged processed foods in Nakhon Ratchasima province with non-permitted status of Primary GMP that surveyed in 2013. Study period start from 1 October 2013 to 31 May 2014. Initially, Food entrepreneurs improved their production places follows the Primary GMP standard and for the Primary GMP evaluation at Nakhon Ratchasima Provincial Public Health Office. After that, provincial and district food standard team visited food production places and evaluated followed the Primary GMP standard.

Results: During 1 October 2012 to 31 May 2013 and 1 October 2013 to 31 May 2014, 104 and 103 non-permitted food entrepreneurs were observed, respectively. Furthermore, during 1 October 2012 to 31 May 2013 and 1 October 2013 to 31 May 2014, 4 (3.85%) and 5 (4.85%) food entrepreneurs passed the Primary GMP standards, respectively. Thus, Nakhon Ratchasima province had only 9 food production places that passed the Primary GMP standard. In 1 October 2013 to 31 May 2014 study period; the total score of passed entrepreneurs was 89.09±6.12%. The scores for each category were 89.52±5.46, 95.56±9.94, 89.32±8.47, and 88.51±12.68% for category 1-4, respectively. This development project was not effective to improve the number of applied and passed food entrepreneurs.

Conclusions: The number of food entrepreneur that passed the Primary GMP standard increased. However, Nakhon Ratchasima province had only 9 food production places that passed the Primary GMP standard. In addition, the number of passed food entrepreneurs was further improved.

Keywords: Primary GMP, Pre-packaged processed foods, Nakhon Ratchasima province.

INTRODUCTION

Recently, traditional Thai food and One Tambon One Product (OTOP) food products are very popular souvenirs in Thailand. Furthermore, food enterprises are rapidly grown to supply the food need of consumers. These rapidly grown may cause poor food manufacturing practice. In addition, nowadays, food production places are lack of goal standard that use for decrease risk during food production and food products does not have food directory number, it just show the labels follow the Notification of Ministry of Public Health no. 194 (2000): Labelling [1]. However, many entrepreneurs require to apply the food directory number for improve customer confident for their food products.

Thai Food and Drug Administration (Thai FDA), the government sector that protect the consumer about food and drug, had a policy to develop the production place of pre-packaged processed foods follows the Notification of Ministry of Public Health no. 193 (2000): Production Processes, Production Equipment, and Foods Storages [2] in order to improve the food quality for Thais and foreigners. Furthermore, this policy is harmonized with government policy that requires the same food quality both for export and consume in the country especially for ASEAN Economic Community.

The General Good Manufacturing Practice (GMP) is an appropriately practice for food production. However, the General GMP not presently appropriate for pre-packaged processed foods because it may be affect the food entrepreneur that unprepared their production place for General GMP. Initially, Thai FDA notify the Notification of Ministry of Public Health no. 342 (2012): Manufacturing Procedures, Production Equipment and Appliance, and Food Storage of Pre-package Processed Foods [3] in order to use as guideline for develop the production place and evaluation criteria follow Primary GMP. The Primary GMP standard contain six

categories including location and building, production equipment and appliance, processing control, sanitation, maintenance and cleaning, and personnel and sanitary operation [4]. In addition, this notification are guide the food entrepreneur for prepare the production place before General GMP will be used in the future.

In 2012, Nakhon Ratchasima province has 104 non-permitted production places of pre-packaged processed foods. The aim of this study was to develop the production places of pre-packaged processed foods follows the Primary GMP. This study was expected to improve the food production places that would produce the qualified food products for enhance consumer confidential and increase the number of permitted food production places.

MATERIALS AND METHODS

Population and study period

The population is 103 entrepreneurs of pre-packaged processed foods in Nakhon Ratchasima province, Thailand with non-permitted status of Primary GMP that surveyed in 2013. Study period start from 1 October 2013 to 31 May 2014.

Methods

There are six steps of work;

(1) Initially, the provincial and district food standard team was set up and meeting to explain the project of pre-packaged processed foods standard improvement in three topics; type of pre-packaged processed foods, evaluation criteria of pre-packaged processed foods, and deliberate about improvement of pre-packaged processed foods standard.

(2) District food standard team surveyed the non-permitted food production places in responsive area.

(3) Food standard team met with food entrepreneurs to explain the standard of pre-packaged processed foods production in order to apply for the Primary GMP evaluation.

(4) District food standard team set up the district Primary GMP clinic for control, monitor, and counsel to food entrepreneurs to improve the food production quality.

(5) Food entrepreneurs improved their production places follows the Primary GMP standard and applied for the Primary GMP evaluation at Nakhon Ratchasima Provincial Public Health Office.

(6) Provincial and district food standard team visited food production places and evaluated that follow the Primary GMP standard. The food production places that failed the Primary GMP standard might be improve their place within 30 days after the first visit, if not they will re-applied the Primary GMP evaluation. Conversely, the food production places that passed the Primary GMP standard will be apply to receive food directory number or FDA number afterward.

The results of step (1)-(2) were reported in other publication [5]. This publication would scope only for the result after the food entrepreneurs apply for the Primary GMP evaluation to the Nakhon Ratchasima Provincial Public Health Office.

Study tools

The evaluation form of Thai FDA (2012) [3] was used to evaluate food production places. This evaluation form contained six categories including location and building (13 topics) with total 11 points, production equipment and appliance (4 topics) with total 6 points, processing control (6 topics) with total 15 points, sanitation (5 topics) with total 13 points, maintenance and cleaning (3 topics) with total 5 points, and personnel and sanitary operation (4 topics) with total 10 points. Score was separated into 3 levels for each topics; good = 2 points, moderate = 1 point, and might be improve = 0 point. Each topic had different weight; the score must be multiply by weight. Total score of this evaluation was 60 points, if evaluation scores (only category 1-4) more than 60% (36 points) and the score for each category must be more than 60%, the evaluation was reported as pass the Primary GMP standard.

RESULTS AND DISCUSSION

This study start from 1 October 2013 to 31 May 2014, however, the data at the same period of former year was compared. During 1 October 2012 to 31 May 2013 and 1 October 2013 to 31 May 2014, 104 and 103 non-permitted food entrepreneurs were observed, respectively. Furthermore, during 1 October 2012 to 31 May 2013 and 1 October 2013 to 31 May 2014, 4 (3.85%) and 3 (4.85%) food entrepreneurs passed the Primary GMP standard, respectively (Table 1). Thus, recently, Nakhon Ratchasima province had only 9 food production places that passed the Primary GMP standard. The activation of food entrepreneurs to apply for the Primary GMP evaluation was necessary.

Table 1: Number and percentage of non-permitted and permitted food entrepreneurs

Status	Number (percentage)	
	1 Oct. 2012 to 31 May 2013*	1 Oct. 2013 to 31 May 2014**
Non-permitted	4 (3.85%)	5 (4.85%)
Permitted	100 (96.15%)	98 (95.15%)

* n = 104, ** n = 103

From the evaluation results follow the Primary GMP standard, only passed food entrepreneurs that found during 1 October 2012 to 31 May 2013; the total score was 85.49±5.27%. The scores for each category were 79.91±11.30, 88.54±6.02, 85.22±13.39, and 88.14±10.12% for category 1-4, respectively. In study period, 1

October 2013 to 31 May 2014; the total score was 89.09±6.12%. The scores for each category were 89.52±5.46, 95.56±9.94, 89.32±8.47, and 88.51±12.68% for category 1-4, respectively (Table 2). Total score of the evaluation was more than 60% as well as each category score.

Table 2: Primary GMP evaluation score of permitted food entrepreneurs

Evaluation categories	Percentage	
	1 Oct. 2012 to 31 May 2013*	1 Oct. 2013 to 31 May 2014**
Category 1: location and building	79.91±11.30	89.52±5.46
Category 2: production equipment and appliance	88.54±6.02	95.56±9.94
Category 3: processing control	85.22±13.39	89.32±8.47
Category 4: sanitation	88.14±10.12	88.51±12.68
Total	85.49±5.27	89.09±6.12

* n = 4, ** n = 5, all data were represented as mean±standard deviation

The number of passed food entrepreneurs during 1 October 2012 to 31 May 2013 and 1 October 2013 to 31 May 2014 was not different. This development project was not effective to improve the number of passed food entrepreneurs; the lack of budget to improve the food production place is still important factor [5]. The importance and useful of Primary GMP should be continually give to the food entrepreneurs to enhance the applying rate for the Primary GMP evaluation.

CONCLUSION

This project could improve the standard of production places of pre-packaged processed foods follows the Primary GMP standard. The number of food entrepreneur that passed the Primary GMP standard was increased, 5 food entrepreneurs in 2014 and 4 food entrepreneurs in 2013. However, the number of passed food entrepreneurs was further improved.

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