

LEGAL PROTECTION ON FOOD SAFETY FOR PUBLIC HEALTH IN MYANMAR*

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Abstract

Food safety refers to the conditions and practices that preserve the quality of food to prevent contamination and foodborne illnesses. Foodborne illness is a major public health issue in worldwide because it affects human health and causes significant economic loss. Myanmar is still weak in its functional capacity to address growing international concerns about the safety of food products being imported from countries like China. Therefore, legislation is needed to ensure that the food supply to consumers meets safety standards. This study aims to explore the legislative requirements for food safety, and to protect and promote public health relating to food safety from a legal aspect. According to the findings, inadequate food safety knowledge and attitudes among consumers leads to not only a negative impact on food safety practices but also health problems and a shorter life expectancy among them. Therefore, this study will inform the public to the importance of food safety and how food safety is protected and public health is promoted by national laws. Moreover, it will help the State government effectively implements the Sustainable Development Goals (SDGs) especially in Goal 2 for achieving food security and improved nutrition and Goal 3 for good health and well-being among the 17 Goals of SDGs; promotes economic development of the State; and reduces poverty among the public by protecting public health in Myanmar.

Keywords: Food safety, public health, legal protection, knowledge, attitudes, practices

Introduction

Food is one of the most essential human needs. However, the consumption of contaminated foods can cause diseases and even death. Getting safe food is the right for all consumers, as recognized by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO). Consequently, ensuring food safety and preventing foodborne disease outbreaks among the public continue to be of high priority in both developed and developing countries. Therefore, Myanmar formulated the National Comprehensive Development Plan (NCDP) (Health Sector) (2010-11 to 2030-31) in order to effectively conduct food safety as a public health programme across the country. Moreover, as Myanmar is an active participant in the ASEAN Codex Committee, food control activities in Myanmar are conducted in line with the Codex guidelines and standards. Actually, to protect and promote food safety, the enactment and proper enforcement of food legislation are essential. The objectives of this research are to check whether the consumers get or not the rights given by law and whether the entrepreneurs are responsible or not for their duties prescribed by law; to review the relevant existing laws and regulations and food safety cases together; and to find out the weaknesses and necessities of the legal system that are needed to amend the old laws and add new legal provisions for ensuring that all food produced in Myanmar are in line with quality standards and effectively protecting food safety. In this study, the legal provisions and case analysis relating to food safety are presented by observing through the Myanmar existing laws and regulations, and food complaints settled by the Department of Consumer Affairs; and the knowledge, attitudes, and practices of the teachers

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and students at Naypyitaw State Academy through the descriptive analysis and multiple linear regression from their answers to questionnaires about food safety.

Research Questions

1. How do Myanmar existing laws protect food safety?
2. What are the weaknesses and necessities of a legal framework to effectively protect food safety?
3. How can food safety knowledge and attitudes impact on food safety practices of consumers?

Research Methodology

In this study, a mixed method research design was used. The qualitative research design was used for studying the legal provisions relating to food safety. The case studies and analysis were conducted on the food complaints settled by the Department of Consumer Affairs. Data was collected from the answers to questionnaires of the respondents, about 100 persons who are the teachers and students of Naypyitaw State Academy because they are one of six target groups for consumer education under the National Consumer Protection Programme (NCP) of Myanmar (2021-2025). The questionnaires consist of four parts: socio-demographic characteristics; 13 questions for the assessment of knowledge about food safety; 10 questions to identify the attitude level of respondents; and 10 questions to access the practices of respondents. Five points Likert scale method was used, and the answers were coded into Strongly Agree = 5, Agree = 4, Neutral = 3, Disagree = 2, Strongly Disagree = 1 for attitude statements, and Always = 5, Often = 4, Sometimes = 3, Rarely = 2, Never = 1 for questions of food safety practices. The results in the questionnaire forms were checked and entered into the computer by Microsoft Excel software, 2010. Then, the recorded data was transferred to the IBM SPSS Statistics 27 software program. The quantitative research designs such as descriptive analysis and multiple linear regression methods were also conducted in this study.

Definitions relating to Food Safety

Food

Food means thing that human may eat and ingredients included therein or food additives except drug, tobacco and cosmetic. This expression also includes thing determined as food by the Ministry of Health by notification from time to time with the approval of the Union Government.¹

Food Safety

Food safety refers to the conditions and practices that preserve the quality of food to prevent contamination and foodborne illness.²

Foodborne Illness

Foodborne illness is an infection or irritation of the gastrointestinal (GI) tract caused by food or beverages that contain harmful bacteria, parasites, viruses, or chemicals. Common foodborne illness symptoms include vomiting, diarrhea, abdominal pain, fever, and chills.³

¹ Section 2(a), The National Food Law, 1997. (The Law Amending the National Food Law, 2013)

² Omar A, Oyarzabal & Barbara B. VanRenterghem, (2020) "The Meaning of Food Safety", Food Safety Magazine, <https://www.food-safety.com/articles/6545-the-meaning-of-food-safety>.

³ National Institutes of Health (2012), Foodborne Illnesses, Department of Health and Human Services, the United States, P- 1.

Legal Framework for Food Safety

Food safety is one of the most essential things in public health. Therefore, to protect and promote food safety for consumers, Myanmar has enacted the Public Health Law, 1972, the National Food Law, 1997 and the Consumer Protection Law, 2019. The Public Health Law, 1972 protects the public health by controlling the quality and cleanliness of food; the National Food Law, 1997 seeks to ensure the availability of genuine quality, safe, and hygienic food and check them to meet the prescribed and required standards; and the Consumer Protection Law, 2019 ensures the fulfillment of consumers' rights, raises comprehensive awareness on consumer protection, and guarantees the high quality of goods or services on safety and health. The legal provisions relating to food safety are presented in detail as follows.

Quality Assurance of Food Safety

Food safety control in Myanmar is regulated by the Department of Food and Drug Administration (FDA). The FDA controls the quality and safety of all imported food and local food production. Moreover, the FDA analyzes imported food to check whether it complies with its specifications or international standards. Therefore, food safety activities are conducted in line with the National Food Law, the Consumer Protection Law, and the Public Health Law and also aim to comply with Codex guidelines and standards. These laws provide the following provisions for quality assurance.

The entrepreneur shall inform the facts about the potential changes in the nature of the selling goods that are normally invisible to the consumer by stating explicitly them.¹ The entrepreneur shall cause to include the following facts in the guarantees of goods:

- (a) having the quality that can be accepted and used by the consumer;
- (b) correcting the quality, measure and weight of goods;
- (c) safety;
- (d) suitability for the need of consumers;
- (e) the same goods as the sample represented;
- (f) availability of spares part, repair or replacement during the guaranteed period or the period that can be used; and
- (g) conforming with the information on labelling and the description in advertisement, offering or promotion.²

Additionally, a person who produces, imports, exports, stores, distributes or sells food shall strictly abide by the order, directive and conditions issued by the relevant Government department or organization or Board of Authority in respect of quality assurance of food, labeling and advertisement.³

Furthermore, the affairs concerned with food manufacturing of local people are provided for (a) registering food manufacturing industry, repeating registration and cancelling from registration; (b) selling the hygienic food to local people; (c) protecting the adulteration of foods intended to be sold, contamination with other disqualified substances, extraction from existing ingredients; (d) making the factory, workshop and working environment which produce food to

¹ Section 22, The Consumer Protection Law, 2019.

² Section 23, Ibid.

³ Section 18, The National Food Law, 1997.

be hygienic; (e) cleaning the buildings or sites where the food are manufactured and sold; (f) protecting from appointing the employee who suffered from infected diseases in the sites of manufacturing and selling foods; (g) seizing and destructing the harmful foods; (h) sending the materials concerned with food to government laboratory in order to test if it is necessary; and (i) performing the food quality up to government standardization.¹

According to Myanmar Standards (or) Codex Standards, it must include the following elements in the brand of ready-to-eat food, apart from food that needs to be separately indicated by namely: (a) The name of the food; (b) List of ingredients; (c) Net Content, Quantity and Drained weight; (d) Name and address; (e) Country of origin; (f) Lot identification; (g) Date marking; and (h) Instructions for use.²

Food manufacturing enterprises must indicate the date marks, such as the manufacturing date or packaging date in the food produced in accordance with the specifications described in Notification on the Labelling of Ready-To-Eat Packaged Foods, 2022.³ Moreover, changing the name of the general category of food manufacturing ingredients to the specified group name and the descriptions of food additives must also be stated in accordance with the specifications described in Notification on the Labelling of Ready-To-Eat Packaged Foods, 2022.⁴

In the exercise of power conferred under Section 83 (b) of the Consumer Protection Law, 2019, the Department of Consumer Affairs, Ministry of Commerce issued the Directive on Recalling the Hazardous Goods or Temporary or Permanent Prohibition on the Distribution of Hazardous Goods and Services, 2022; and the Directive on Handling and Taking Action related to Consumer's Complaints, 2022 in order to implement the process of handling and taking action related to consumer complaints and follow the business entrepreneurs in mentioning Myanmar language (or) Myanmar language and one or more other languages together on goods.⁵

In studying quality assurance of food safety in Myanmar, the issues of food safety and food control systems typically face challenges in strengthening around the five key components and priorities of (i) food legislation; (ii) food control management; (iii) inspection services; (iv) laboratory services; and (v) information, education, communication, and training. Moreover, it can also be found that there is still weak point in infrastructure such as food testing laboratories; shortage of qualified manpower; and functional food testing equipment in food laboratories; and referral laboratories resulted in deficient testing of food samples. Therefore, the relevant departments need to regularly inspect the place of food production; review the list of food products; more expand laboratory services throughout country; give timely information to consumers and education since school-aged children; and revise and add the necessary legal provisions for food safety.

Rights and Duties of the Consumers for Food Safety

Any consumer in Myanmar can enjoy the fundamental rights such as: (a) the right to satisfaction of basic needs; (b) the right to safety; (c) the right to know information correctly and completely; (d) the right to choose; (e) the right to explain and complain the consumer damage

¹ Section 3(2), The Public Health Law, 1972.

² Paragraph 5, The Notification on the Labelling of Ready-To-Eat Packaged Foods, 2022.

³ Paragraph 12(f), Ibid.

⁴ Paragraph 7 (p), Ibid.

⁵ The Directive on Recalling the Hazardous Goods or Temporary or Permanent Prohibition on the Distribution of Hazardous Goods and Services, 2022.

matters; (f) the right to remedy for damages; (g) the right to study the knowledge, and required information; and (h) the right to live in a healthy environment.¹

Furthermore, the consumers have the following duties:

- (a) complying with the information and guidelines regarding goods or services;
- (b) paying the agreed price in purchasing the goods or services;
- (c) avoiding the false accusation and act intended to the detriment of entrepreneurs; and
- (d) avoiding the false statement in the form of saying, writing and acting in order to cause the detriment of relevant entrepreneurs by means of the social media or by other means while settling the consumer dispute.²

The consumers should also have due diligence not to consume the food unfit for health. Furthermore, the instructions for food safety should be strictly followed as the prescriptions mentioned on the food.

Duties of the Entrepreneur for Food Safety

The entrepreneurs in Myanmar are responsible for the liability of goods or services they provided when consumers suffer from damages. These responsibilities are as follows:

- (a) providing the simple and correct information regarding the guarantee and requirements of goods or services;
- (b) treating consumers honestly and properly without discrimination;
- (c) acting the business honestly and properly in accordance with the business ethics and regulations;
- (d) guaranteeing goods or services for trading or manufacturing based on the quality and standardization stipulated by the relevant government departments and government organizations;
- (e) providing the opportunity to test on goods for consumers which is required to test quality before purchase;
- (f) expressing the additional costs of goods or services to be known by the consumer before purchase;
- (g) avoiding the direct or indirect selling goods or services that are likely to cause damage or loss to consumers;
- (h) taking responsibility for goods or services that are inconsistent with the guarantee;
- (i) avoiding threatening, false statements in the form of saying, writing and acting in order to the detriment of consumers by means of the social media or by other means while settling the consumer dispute;
- (j) notifying timely to the Department and consumers by means of the social media or by other means if he knows the hazard of the produced goods or services by himself or by any other way; and

¹ Section 19, The Consumer Protection Law, 2019.

² Section 20, Ibid.

- (k) complying with the settlement and decision made by the relevant Committee if the disputes related to goods or services arise.¹

Apart from the above duties, the entrepreneur should keep the place of food business in a clean and sanitary condition. Moreover, the employees shall be supervised to maintain personal cleanliness for food safety. The vehicles for transportation of food should also be kept in a state of cleanliness and good condition to prevent any risk of contamination of the food.

Prohibitions and Restrictions for Food Safety

The existing laws relating to food in Myanmar provide the following prohibitions and restrictions for food safety.

No one shall produce, import, export, store, distribute or sell the food that may be poisonous, dangerous or injurious to the health of the consumer; food wholly or partly substituted or adulterated so as to affect or endanger the quality of food; and food containing food additive is used in excess of the prescribed limit and agricultural chemicals in excess of the maximum permissible level under Section 22. No one who produces, imports, exports, stores, distributes or sells food shall fail to abide by the order, directive and conditions issued by the relevant Government department or organization or the Board of Authority under Section 25.²

No one shall act dishonestly to injure any consumer or entrepreneur under Section 62. No entrepreneur shall advise the fraudulent advertisements; and the advertisement including the false information related to the quality, quantity, ingredients, mode of use, price, rate of service and time needed to deliver the goods or services under Section 63. No entrepreneur shall mislead the goods or services traded by selling the goods after modifying or altering, selling the expired goods, mixing the goods that are of the same type but lower quality under Section 65.³

In addition to the above legal provisions, Myanmar should enact legal provisions for persons with infectious diseases not to carry on food business, like Singapore. The authoritative body may require any entrepreneur or any assistant or employee to submit certificate of immunization against infectious diseases.

Remedies for Damages of Food Safety

Any consumer who is dissatisfied with unsafe goods or services that do not meet the prescribed quality or condition can make a complaint to the Head Quarter Office in Nay Pyi Taw or through the Departments of Consumer Affairs in Regions or States to settle the consumers' damages. The law authorizes the Department of Consumer Affairs to settle consumer disputes and impose administrative measures. These administrative measures are prescribed in below.

The Township Food and Drug Supervisory Committee may pass a temporary or permanent prohibitory punishment on the person who commits any of the following acts: (a) production, storage, or sale of food under unhygienic conditions; (b) causing a person who has contracted a food-borne infection or who is a carrier of the germs of the said infection to enter or work on the premises for production, storage, or sale of food under Section 13. If a person who has obtained a licence violates or is considered to have violated any order, directive, condition, or any condition of the licence issued by the relevant government department or organization, the

¹ Section 21, The Consumer Protection Law, 2019.

² The National Food Law, 1997.

³ The Consumer Protection Law, 2019.

government department or organization which is authorized to issue the licence may revoke the licence temporarily, subject to a time limit, or cancel it under Section 14. The Board of Authority may direct the relevant State/Divisional, District, and Township Food and Drug Supervisory Committees to seize the food produced and distributed by a person whose licence has been cancelled due to infringement of any condition relating to quality assurance under Section 15.¹

The relevant office may pass one or more of the following administrative orders to any entrepreneur who fails to comply with the duties of the entrepreneur under Section 21 or fails to provide the rights claimed by the consumer: (a) warning; (b) ordering to remedy; (c) ordering to provide substitute; (d) ordering to refund the value of damage under Section 52. The Committee may pass one or more of the following administrative orders to any entrepreneur who violates any provision of this law and the prohibitions in Chapter XXIII: (a) ordering to provide the prescribed compensation for damage; (b) imposing a fine; (c) prohibiting the sale of the disputing goods or services for a limited period; (d) coordinating with the relevant government department to revoke the business licence temporarily or permanently under Section 53. The Committee shall deposit the fines imposed under sub-Section 53(b) to the Union budget and State or Region budget as prescribed by the Commission under Section 54.²

Case Studies and Analysis

After analyzing the food complaints settled by the Department of Consumer Affairs, comparison on the number of food complaints from January, 2017 to October, 2023 was shown in the following table in detail.

Table 1. Comparison on the number of food complaints in Myanmar (January 2017 - October 2023)

Years	Jan - Dec 2017	Jan – Dec 2018	Jan – Dec 2019	Jan – Dec 2020	Jan – Dec 2021	Jan – Dec 2022	Jan - Oct 2023
Number of Food Complaints	32	42	52	68	15	15	11

Source: Data of the Department of Consumer Affairs, 2023

According to the above Table 1, the rates of food complaints increased year by year until 2020. After the new Consumer Protection Law, 2019 had been enacted to provide more protection and take action on the violations of consumer rights, the Consumer Affairs Committees were also formed to settle the disputes between the consumers and entrepreneurs and make the decisions on them. As these committees and the Department of Consumer Affairs are settling the disputes and taking action effectively, it is found that the rates of food complaints are gradually decreasing after 2020.

The cases of consumer complaints relating to food safety are studied as follows:

When the bakery (A) in Nay Pyi Taw was inspected by an inspection team on 24-1-2018, it was found that making bread on the ground floor inside; the presence of rat holes next to the bread machines; kneading and making bread without wearing shirts by the bakers, dirty and bad

¹ The National Food Law, 1997.

² The Consumer Protection Law, 2019.

smelling around the place where the bread is made. When these grounds were presented at the (1/2018) meeting of the Consumer Dispute Settlement Bodies in Nay Pyi Taw, an investigation team was formed, and this team inspected again on March 19, 2018. It was found that applying for registration as a small enterprise had been certified as suitable for consumption and the baking workshop had been systematically revised and modified. It was decided that the entrepreneur would be given a severe warning and signed a pledge under Section 19(b) of the Consumer Protection Law to strictly follow the consumer protection procedures and to conduct responsible behavior in the operation of the business in the (2/2018) business coordination meeting of the Consumer Dispute Settlement Bodies held on May 17, 2018.¹

A complainant who resided in Mawlamyine Township, Mon State, complained that Brand (A) - dried lemon flats were being sold without the approval of the relevant departments. Thus, on December 14, 2020, when the manufacturer of dried lemon flats of the brand (A) was called and negotiated regarding the complaint, he agreed that dried lemon flats of the brand (A), which are being distributed and sold in the market without a recommendation, would be voluntarily retaken, and the retaking process would be completed during from December 14, 2020 to December 31, 2020.²

As a complainant who resided in Pyay Township, Bago Region, complained that Brand (A) - the dry cake had a bad smell and bad taste when he bought and consumed it from a dry cake bakery in Pyay Township. The officials of the Chief Officer's Office of Pyay District conducted a field visit to the bakery (A) on the North Slope Road on July 21, 2022. That afternoon, the complainant and the respondent were called for discussion and negotiation. After negotiating, the owner of the bakery said that he would apologize to the complainant's family and that the purchased dry cake pack would be exchanged for a new one. On that day, July 21, 2022, the owner of the bakery and three members of his family apologized to the complainant's family in front of the officials of the Chief Officer's Office of Pyay District, and the complaint was withdrawn as both sides were satisfied.³

A complainant who resided in Katha Township, Sagaing Region, purchased Brand (A) - evaporated milk can from a grocery store and complained that the evaporated milk can was not fresh and foamy to the Chief Officer's Department of Sagaing Region on 23-6-2023. Regarding the complaint, the inspectors from the Chief Office of Katha District analyzed and found that the complainant requested to exchange the evaporated milk can to the store where he bought it, but the store owner said that the company is currently out of stock of the evaporated milk cans and will exchange it when the company sends them. Then, the complainant wanted to get back the value of his damages. There is no need to return the item for replacement. Moreover, it was also found that the complainant filed the complaint not to suffer similar losses for others in the future. The responsible persons from the Chief Officer's Department of Katha District explained to the complainant that he needs to carefully read the labels on the product before purchasing the product, and issued a warning letter to the store owner who was complained about not to sell the product that would cause consumer damage under Section 52(a) of the Consumer Protection Law, and withdrew the complaint.⁴

¹ Data from the Department of Consumer Affairs, www.doca.gov.mm.

² Ibid.

³ Ibid.

⁴ Ibid.

According to the case studies and analysis, it was found that most of the food complaints indicated food is unclean and not fresh to consume. Other food cases are found that the manufacturers do not register their food production, distribution and sale to the relevant departments in accordance with the existing laws.

Data Analysis of Respondents' Socio-demographic Characteristics, Knowledge, Attitudes, and Practices for Food Safety

This study was conducted by 100 respondents from Naypyitaw State Academy. The respondents' knowledge, attitudes and practices towards food safety were collected by answering the prepared questionnaires. The records taken for this study were as follows.

Socio-demographic Characteristics of the Respondents

This section covers the characteristics of the respondents, such as gender, age, education level, and kinds of respondents.

Table 2. Socio-demographic characteristics of the respondents

No.	Variables	Characteristics	Frequency (n= 100)	Percentage (100%)
1.	Gender	Male	18	18%
		Female	82	82%
2.	Age	18 – 25 years	54	54%
		26 – 35 years	33	33%
		36 – 45 years	7	7%
		46 – 65 years	6	6%
3.	Education Level	University Education	50	50%
		Graduate	7	7%
		Post Graduate	43	43%
4.	Kinds of Respondents	Teachers	50	50%
		Students	50	50%

In Table 2, respondents included the teachers with 50 numbers and the students with 50 numbers from Naypyitaw State Academy. In this study, most of the respondents are females with 82%. By the age analysis on the respondents, Table 2 showed that there are 54 respondents with age level 18 – 25 years, 33 respondents with age level 26 – 35 years, 7 respondents with age level 36 – 45 years and 6 respondents are above 46 years old, respectively. Further, when education levels of respondents are analyzed, 50 respondents have university education level, seven are graduate level and forty-three are post-graduate level, respectively.

Reliability Test of the Variables

In this study, Cronbach's Alpha values were utilized to check the reliability of the variables. Cronbach's Alpha values of this study were shown in Table 3.

Table 3. Reliability test of the variables

Variables	Numbers of Items	Cronbach's Alpha
Food Safety Knowledge	13	0.683
Food Safety Attitudes	10	0.609
Food Safety Practices	10	0.836

In this study, regarding the reliability test, the Cronbach's Alpha values were 0.683, 0.609 and 0.836. Pallant (2001) stated that Cronbach's Alpha value above 0.6 is considered reliable and acceptable. Thus, the alpha values of all variables for this study are the acceptable level.

Background Knowledge Test about Food Safety

This section explained the level of respondents' knowledge based on their answers to yes/no questions in Table 4. A total of 13 questions were included in this knowledge test.

Table 4. Respondents' knowledge about food safety

No.	Questions	Right Answers		Wrong Answers		Don't Know	
		Frequency (n= 100)	Percent (100%)	Frequency (n= 100)	Percent (100%)	Frequency (n= 100)	Percent (100%)
1.	Does unsafe food not only cause danger to people's health but even lead to death?	98	98%	2	2%	0	0%
2.	Can you tell whether food is safe or not just by looking at its external appearance?	70	70%	23	23%	7	7%
3.	Can we do laboratory tests to know whether food is safe or not in our country?	61	61%	21	21%	18	18%
4.	Is imported food safer than domestically produced food?	70	70%	13	13%	17	17%
5.	Are expensive foods safer than cheaper foods?	59	59%	30	30%	11	11%
6.	Can you protect yourself from foodborne illnesses if you buy and eat food that is properly packaged?	62	62%	29	29%	9	9%
7.	Can you confidently eat foods that are advertised on television and in the media?	66	66%	18	18%	16	16%
8.	Is there remedy for damages arising out of the purchasing and consuming of food?	35	35%	38	38%	27	27%
9.	Is there law for protecting consumers in Myanmar?	42	42%	25	25%	33	33%
10.	Do consumers have the right to choose and buy food in the market?	93	93%	6	6%	1	1%

No.	Questions	Right Answers		Wrong Answers		Don't Know	
11.	Can you complain foodborne illness symptoms to the relevant authorities if you suffer from them?	59	59%	22	22%	19	19%
12.	Are they perfect for eating at any time if you store leftovers in the refrigerator?	84	84%	13	13%	3	3%
13.	Have separate investigators been appointed to investigate consumers' complaints about food safety in Myanmar?	32	32%	36	36%	32	32%

From the information in Table 4, it was found that 65% of the respondents cannot correctly answer about the question “Is there remedy for damages arising out of the purchasing and consuming of food?”. Moreover, about 60% don't know “Is there law for protecting consumers in Myanmar?”. Only 32% of respondents answered correctly “Have separate investigators been appointed to investigate consumers' complaints about food safety in Myanmar?”. Again, as a result of the analysis, respondents were not clear on the statement “Can you complain foodborne illness symptoms to the relevant authorities if you suffer from them?”.

Table 5. Distribution of respondents according to total knowledge score percent on food safety

Percentage of Knowledge Scores	Frequency (n= 100)	Percentage (100%)
0% - 25%	27	27.0%
26% - 50%	50	50.0%
51% - 75%	21	21.0%
76% - 100%	2	2.0%

The following Figure 1 showed the overview of the correct answers of respondents who answered the knowledge questions concerning food safety.

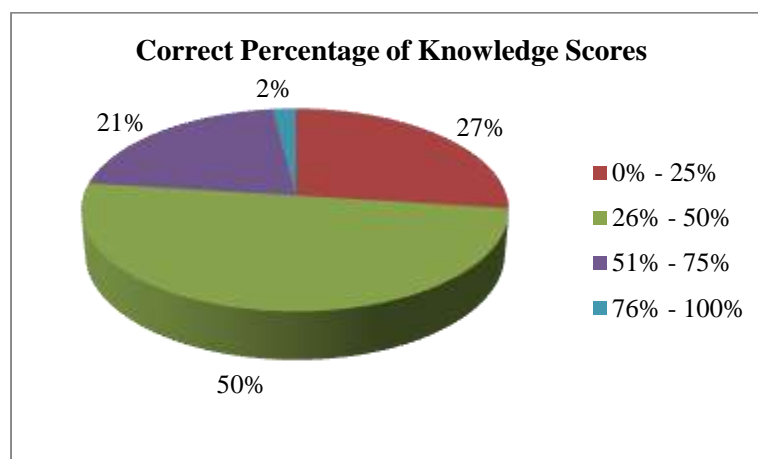


Figure 1. Knowledge level of respondents to food safety

This pie chart shows the group of people being indicated by the percentage of answering right among 13 knowledge questions about food safety. 50% of respondents had a median level

of knowledge. The minimum scores (0% - 25%) of the respondents were 27%. As shown in Figure 1, 2 respondents (2%) achieved 76% - 100%, 21 respondents (21%) gained between 51% - 75% and 50 respondents (50%) got 26% - 50%. Only 23% of the respondents graded above 50% of the total knowledge scores. However, none of the respondents obtained the full of the total knowledge scores.

Attitude Statements Among Respondents

Table 6. Descriptive analysis of respondents' attitudes to food safety

No.	Statements	Mean	Standard Deviation	Number
1.	In all domestic and foreign foods, the ingredients, allergens, and how to store them are mentioned in Burmese.	3.7600	1.01623	100
2.	All domestic and foreign food products are attached to the date of manufacture and expiration date.	4.1300	0.97084	100
3.	Now, you can safely eat locally produced food.	3.0600	0.82658	100
4.	All ingredients in food are exactly the same as described on the label.	2.9300	0.97706	100
5.	Consumers have full rights regarding food.	3.0300	1.02942	100
6.	The entrepreneurs in Myanmar are selling food with full quality assurance.	3.0100	0.94810	100
7.	The entrepreneurs take responsibility and accountability for the promise if it is not compatible with the guarantee they made for the food.	2.9200	0.89533	100
8.	Eating in restaurants and buying locally produced food are full of satisfaction.	3.2100	0.70058	100
9.	You can easily get the necessary information about food in Myanmar.	3.0300	0.95827	100
10.	In order to ensure food safety, the public is often informed by the relevant departments through the media.	3.3600	0.96943	100
Overall Mean		3.2418	0.59809	

Table 6 illustrated the analysis of respondents' attitudes to food safety that is computed with five points Likert scales methods from the agreement of the respondents. From the respondents' attitude scores, the minimum attitude score was 2.9200 for the statement "The entrepreneurs take responsibility and accountability for the promise if it is not compatible with the guarantee they made for the food" and the maximum score was 4.1300 for the statement "All domestic and foreign food products are attached to the date of manufacture and expiration date". Among the ten questions, the mean values for the higher mean score of 3.7600 agreed with "In all domestic and foreign foods, the ingredients, allergens, and how to store them are mentioned in Burmese". The overall mean score of the respondents' total attitude scores was 3.2418.

According to the results of attitude questions, it was found that the answers of the respondents to the attitude questions are neutral.

Food Safety Practices Among Respondents

Table 7. Descriptive analysis of respondents' practices for food safety

No.	Questions	Mean	Standard Deviation	Number
1.	Do you store food at the recommended temperature or cool time for various foods?	3.4848	0.81270	100
2.	Do you read the allergens and ingredients carefully before consumption?	3.9293	1.03266	100
3.	Do you check the expiration date mentioned on the food before consuming it?	4.8384	0.44509	100
4.	Do you read the reference labels for various foods carefully?	4.1313	0.93292	100
5.	Are oil cans reheated to the recommended temperature before consumption?	3.7172	1.26201	100
6.	Have you heard of foodborne illnesses in your environment?	3.7576	0.78365	100
7.	Do you know and follow food safety regulations?	3.7273	1.00831	100
8.	Do you often visit Internet websites for lists of foods that the relevant Ministry has announced should not be consumed?	3.1818	1.23192	100
9.	Do you consider the safety and cleanliness of food before buying and consuming it?	4.2323	0.99825	100
10.	Have you ever eaten food with no reference labels or expiratory dates?	2.4343	1.07059	100
Overall Mean		3.7459	0.46444	

Table 7 illustrated the analysis of respondents' practices to food safety that is computed with Likert scales from the habits of the respondents. The mean values for the higher mean score of 4.84 showed respondents always check the expiration date mentioned on the food before consuming it. Moreover, respondents often read the reference labels for various foods carefully and consider the safety and cleanliness of food before buying and consuming it. The overall mean value for food safety practices of respondents was 3.7459. This suggested that the major respondents often follow and apply the food safety practices.

Correlation Analysis of Food Safety Knowledge and Food Safety Attitudes with Food Safety Practices

This section revealed whether there was a relationship between dependent variable as food safety practices and independent variables as food safety knowledge and food safety attitudes. The results were mentioned in Table 8.

Table 8. Results of correlation matrix

Variables	Food Safety Practices	Food Safety Attitudes	Food Safety Knowledge
Food Safety Practices (P-value)	1	0.381 (0.000)	0.300 (0.003)
Food Safety Attitudes (P-value)	0.381 (0.000)	1	0.112 (0.268)
Food Safety Knowledge (P-value)	0.300 (0.003)	0.112 (0.268)	1

***. Indicate the significant level at 0.01.

Based on the results presented in Table 8, there was a positively weak correlation between the food safety attitudes and knowledge and the food safety practices for all variables.

Multiple Linear Regression Analysis of Food Safety Practices

Multiple linear regression model was applied independent variables as food safety knowledge and food safety attitudes and dependent variable as food safety practices. This analysis determined the effect of food safety knowledge and attitudes on food safety practices. These results were shown in Table 9.

Table 9. Results of multiple linear regression analysis

Model	Unstandardized Coefficients		Standardized Coefficients	Test Statistic (t)	Significance (Sig.)	Variance Inflation Factor (VIF)
	Beta (β)	Std. Error	Beta (β)			
(Constant)	1.874	0.393		4.767	0.000	
Knowledge	0.435	0.153	0.260	2.845	0.005	1.013
Attitude	0.277	0.071	0.356	3.897	0.000	1.013
F	13.034 (P-value=0.000)					
R	0.464					
R ²	0.215					
Adjusted R ²	0.199					

***Indicate the significant level at 1%.

According to Table 9, the values of VIF for all independent variables were 1.013, indicating that there was no multicollinearity. The coefficient of determination (R^2) is 0.215. The overall model was significant at the 1% level.

Research Findings

This study conducted a comprehensive analysis using both descriptive and multiple linear regression methods to investigate the factors influencing food safety practices. The descriptive analysis was observed on fifty teachers and fifty students at Naypyitaw State Academy. Among 100 of the respondents, all of the respondents have heard about the food safety. Most of the respondents answered that they received the knowledge of food safety from media and newspapers. Moreover, this study found that about 50% of the respondents had a low level of knowledge. Because about half of the respondents cannot correctly answer about the questions “Is there remedy for damages arising out of the purchasing and consuming of food?”, “Is there law for protecting consumers in Myanmar?”, “Have separate investigators been appointed to investigate consumers’ complaints about food safety in Myanmar?”, and “Can you complain foodborne illness symptoms to the relevant authorities if you suffer from them?”. These results may be explained by the fact that although most of the respondents have heard about food safety, they do not clearly know the role of law in food safety. Therefore, these findings suggest that the legislature needs to effectively notice to the public about the legal protection and rights relating to food safety.

According to the attitude statements, most of the respondents agreed that the statement “In all domestic and foreign foods, the ingredients, allergens, and how to store them are mentioned in Burmese”. This result may explain that the respondents have relatively good attitudes towards the information given by the entrepreneurs. Other attitude statements were answered as neutral. The results of this study seem possible because they were not satisfied with the responsibility, accountability and quality assurance of the entrepreneurs. The multiple regression analysis revealed that the food safety knowledge and attitudes had a significant positive impact on food safety practices. Therefore, it can be concluded that all independent variables have a significant positive effect on food safety practices. This means that improving the food safety knowledge and attitudes can lead to higher levels of food safety practices among the public. According to the standardized coefficient (β), food safety attitudes are more influential on food safety practices than food safety knowledge.

Conclusion and Recommendations

As Myanmar is a signatory to the ASEAN Trade Protocol, Sanitary and Phytosanitary Measures (SPS), and Technical Barrier to Trade (TBT) agreements, the Food and Drug Administration (FDA) operates as the contact point for Center band Only Detection of Exchange (Codex). At present, although illegal cross-border trading is excessive, FDA is weak in the resources required to adequately inspect food products in the local market. The secondary sources of information show that approximately 70% to 80% of food sold on the market is not safe to eat. Most of the foods contain fake colourings and chemicals which are very harmful to consumers’ health. This problem of substandard food products being available on the market is exacerbated by the imports brought into Myanmar illegally. This is due to weak awareness of food safety issues and international standards; weak enforcement of existing laws; illegal imports; weak coordination and information sharing between Ministries. Therefore, although

Myanmar has the laws relating to food safety, the enforcement has been weak. Moreover, food safety compliance is now weak and great efforts are required to strengthen the system. Under the National Food Law and the Consumer Protection Law, it is mandatory for procedures and manufacturers to attach labels to food products, indicating their constituents and expiration dates. However, it has been found that these procedures are not abided by in practice. Therefore, food safety inspection should be regularly conducted by the inspectors in the food production, distribution and sale.

Based on the results and findings of the study, some recommendations can be given to enhance food safety practices for public health. Firstly, legal knowledge should be enhanced by giving information from media in order to protect public health and the rights of consumers. Secondly, food safety attitudes can be promoted by providing guarantee for the quality and security of food. Lastly, legal enforcement of food safety must be improved, and action must be effectively taken against the producers, suppliers, and the distributors of food products who fail to abide by the laws, rules, and standards related to food safety. Additionally, the Food Safety Law should be enacted like India in order to fully protect the food safety, to promote public health and to effectively implement the Sustainable Development Goals (SDGs) especially in Goal 2 for achieving food security and Goal 3 for good health among 17 Goals of SDGs in Myanmar.

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