

AWARENESS AND ADOPTION OF MAINTAINING QUALITY STANDARDS: A CONFECTIONERIES PRODUCERS' PROSPECTIVE

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Abstract

Confectionary sector is one of major sub sector of Sri Lankan food marketing. But, many occasions, consumers ignore the food quality information due to lack of awareness. Quality is becoming increasingly important to all entrepreneurs. Therefore, this study was conducted to identify the producers' awareness and adoption towards maintaining of food quality standards. *Beliatta* DS division was selected purposively as study area of this investigation. Randomly selected 40 producers were used in order to find out the relevant information such as awareness and adoption towards maintaining of food quality standards. Primary data was collected through pre tested interview schedules with the systematic observation. Significant numbers of producers' were not aware about quality standards viz, SLS, ISO or HACCP. Fateful condition was that they did not know even the name of the quality standards. However, 68% of producers were aware about GMP because they had participated to training programme which were organized by *Vidatha* centers and Industrial Development Board. They were further encouraged to fulfill the GMP practices in their production line. Further, producers' attempts to maintain the GMP was observed as very low due to producers' negative attitudes and negligence, lack of skill and low investment ability etc. Therefore, relevant private and public institutes have to pay grate attention on this matter, and also they should give their service to improve the quality standards of the confectionary food sector.

Keywords: Quality standards, Awareness and adoption

Introduction

With the growing global competition, quality is becoming increasingly important to all entrepreneurs as well as cooperate sector as rapid evolution in markets is fueled by changing customer needs (Senaweera, 2013). Good quality products has been man's main endeavor from the earliest days of human existence products 'quality can be considered as a complex characteristic of food which determines the value or acceptability by consumers (Singh and Sharma, 2013). Quality movement's origins can be traced back to W. Edward Deming, Joseph M Juran and Philip B Crosby and even further back, to Frederick Taylor in the 1920 (Senaweera, 2013). In Sri Lanka, not only confectionaries marketing systems but also whole food marketing systems are not well organized and developed based upon the quality maintaining as compared to other developed nations. Therefore, Sri Lanka Standards Institute (SLSI) introduced 'national quality week' during 14-20 October 2013 throughout the country in order to raise the awareness of the importance of 'Quality towards nation's and an organization's growth and prosperity. Kupiec and Revel (2001) stated that a "quality

attributes” can be defined as tangible or intangible product features which influence quality perception directly upon consumption. Dimara and Skuras (2003) stated that the importance of certification as extrinsic quality cues varies among consumers and thus the use of such quality cues targets specific segments of the market.

On many occasions, consumers ignore the food quality information due to lack of awareness. Grunert (2002) pointed out that quality logos can give consumers another means of inferring experience and credence characteristics of food products. Sanchez *et al.*, (2001) has been reported a positive relationship between presence of quality standards and aspects related to food safety.

Confectionary sector is one of major sub sector of Sri Lankan food marketing. Confectionary is the set of food items that are rich in sugar. Confectioneries are somewhat low in nutritional value but rich in calories. Specially, formulated chocolate has been manufactured in the past for military use as a high density food energy source. Traditionally confectionary is one of the key sectors of the snack foods market. With the increment of demand for “food on the go” that can be consumed at any time of day, new alternative snacks are emerging on the market such as cereal snacks, meat snacks, and dairy snacks and fruit snacks. (Senevirathna, 2010).

Regarding the confectionary industry in Sri Lanka, it shows satisfactory growth and it will be the sector that has least affected from the global financial recession. The growth of the confectionaries in the Sri Lankan market can be shown as; 10% growth in biscuit, 10% growth in chocolate and 20% growth in cake (Liyanaage, 2010). There are few large scale confectionary industries available in Sri Lanka. Their market share is around 50% for the local market. Around 20% of total market supply comes from micro, small and medium scale producers and rest of the 30% are imported (Jayantha, 2009).

Since there are many producers in the country, there is a big competition among them too. Therefore, consumers would be able to purchase the quality confectionaries from the market. However Jayantha, 2009 pointed out that when purchasing the confectionaries, consumer consider about price, appearance, packaging material, taste, quality. Therefore, producers should attempt to produce good quality confectionaries for the market. Therefore, producers have to follow the introduced certain quality standards for producing confectionaries

Sri Lankan quality standard authority call SLSI has introduced “Sri Lankan Standards” (SLS) and Good Manufacturing Practices (GMP) quality certifications to maintain good quality standards in food production industries including confectionary. This certification is for all small, medium, large scale food manufacturing industries including confectionary. Before obtaining SLS certification, GMP certification should be obtained. GMP certifies that the manufacturing process is conducted by following suitable and proper hygienic methods. Most of small, medium scale confectionary industry owners attempt to obtain GMP quality certification and by that they expect to explain their market space by providing high quality fine confectionary products to consumers (Liyanaagama, 2008).

GMP refers to the Good Manufacturing Practice Regulations promulgated by the US Food and Drug Administration under the authority of the Federal Food, Drug, and Cosmetic Act. These regulations, which have the force of law, require that manufacturers, processors, and packagers of drugs, medical devices, some food, and blood take proactive steps to ensure that their products are safe, pure, and effective. GMP regulations require a quality approach to manufacturing, enabling companies to minimize or eliminate instances of contamination, mix-ups, and errors. This in turn, protects the consumer from purchasing a product which is not effective or even dangerous. Failure of firms to comply with GMP regulations can result in very serious consequences including recall, seizure, fines, and jail time (Potter *et al.*, 1995).

GMP regulations address issues including record-keeping, personnel qualifications, sanitation, cleanliness, equipment verification, process validation, and complaint handling.

Most GMP requirements are very general and open-ended, allowing each manufacturer to decide individually how to best implement the necessary controls. This provides much flexibility, but also requires that the manufacturer interpret the requirements in a manner which makes sense for each individual business (Potter *et al.*, 1995). GMP regulations are as follows.

Building and Facilities

Floors, walls and ceilings are constructed of smoothly.

Placement of equipment, orderly storage of materials, sanitary operation, and proper cleaning and maintenance are ensured.

Lighting and ventilation are sufficient for the intended operation.

Water supply, floor drainage and sewage system are adequate for sanitary operation and cleaning of facilities, equipment and utensils.

Equipment

Equipment and utensils are of appropriate design.

Utensils, transfer piping and cosmetic contact surfaces of equipment are well-maintained and clean.

Cleaned and sanitized portable equipment and utensils are stored and located, and contact surfaces of equipment are covered, in a manner.

Raw Materials

Raw materials and primary packaging materials are stored and handled in a manner which prevents their mix-up, contamination with microorganisms or other chemicals.

Containers of materials are closed, and bagged or boxed materials are stored off the floor.

Containers of materials are labeled with respect to identity. Lot identification and control status should be labeled.

Personnel hygiene

Persons coming into direct contact with cosmetic materials, finished products in bulk or cosmetic contact surfaces, to the extent necessary to prevent adulteration of cosmetic products, wear appropriate outer garments, gloves, hair restraints.

Production process

Only approved materials are used.

Weighing and measuring of raw materials is checked by a second person.

Labels are examined for identity before labeling operations to avoid mix-up.

Packages of finished products bear permanent code marks.

Returned cosmetics are examined for deterioration or contamination.

Laboratory Controls

Raw materials, in-process samples and finished products are tested or examined to verify their identity.

Determine their compliance with specifications for physical and chemical properties, microbial contamination, and hazardous or other unwanted chemical contaminants.

Reserve samples of approved lots or batches of raw materials and finished products are retained for the specified time period.

They stored under conditions that protect them from contamination or deterioration, and are re-tested for continued compliance with established acceptance specifications.

The water supply, particularly the water used as a cosmetic ingredient, is tested regularly for conformance with chemical-analytical and microbiological specifications.

Labeling

In addition to the name of the product, the statements of identity and net contents.

The name and address of the product manufacturing firm is compulsory.

The list of ingredients (only on outer container) if intended for sale or customarily sold to consumers for consumption at home (Potter *et al.*, 1995).

At least GMP other than Food quality standards (SLS) and food safety systems (ISO, HACCP) and Halaal certification must be managed throughout the food chain from farm to fork to achieve food safety phenomenon. However, large scale firm have already adopted to maintain advance quality standers. On many occasions small and medium scale producers ignore the maintaining of quality standard of confectionary food items due to a lack of awareness and many other briars. Further, less number of investigations has been done to identify the producers' awareness and adoption of maintaining quality standards on confectioneries. Therefore, it is a necessary to conduct a systematic study to fill this gap. So, this study was conducted to identify the producers' awareness and adoption towards maintaining of food quality standards.

Methodology

There are large numbers of small and medium scale confectionary food producers in *Beliatta* divisional secretariat (DS) area of *Hambantota* district southern Sri Lanka. Therefore, *Beliatta* DS division was selected purposively as study area of this investigation. There are various confectionary product were reported in selected area. *Sesame roll, Milk toffee, Jujubs, Boondi, Dodol, Marshmellow, Asmee, Sugar coated bite, Kokis* and *Oil cake* are the major products of selected area. Randomly selected 40 producers were used in order to find out the relevant information such as awareness and adoption towards maintaining of food quality standards. Primary data was collected through pre tested interview schedules with the systematic observation. To measure the response on producers' awareness and adoption towards maintaining of food quality standards, Likert scale was used in subjective form based upon the important dimension of GMP viz., building and facilities, equipment, raw materials, personnel hygiene, production process, laboratory controls and labeling. A scale with five levels (5 = very high, 4 = high, 3 = neutral, 2 =weak, 1 = very weak) for awareness on different GMP practices and 3 levels scale (2 = always 1 = sometime 0 = never) was used for determine the adoption level. In addition important factors such as gender, age, religion, occupation, income, education, family background, (age, education and income of the family members) information sources (interpersonal and mass media) business registration, nature of business, place of business, and mode of production were also collected. The Pearson product movement correlation test was performed to ascertain the relationship between the different variables.

Result and discussion

With regard to the age distribution of the producers', it was varied from thirty five to seventy seven with the mean of 32. Majority (70%) of producers have registered their business while majority (70%) is doing this business as their major livelihood. There were several common confectionary products in *Beliatta* Divisional Secretariat. However, the most popular confectionary product was *sesame roll*. The highest proportion of producers (38%) in the sample were producing sesame roll because higher profits readily available of row materials such as sesame and juggery. In addition to sesame rolls, there were other popular confectionary products as well. They were *asmee, boondi*, coconut toffee, marshmellow, jujubs, sugar coated bite (batto), *kokis*, oil cake.

Important point was that small scale producers have not achieved even minimum requirement for register their business. Other pathetic situation was that they were not monitored by the relevant authority for maintaining even minimum requirement of quality

standards. It was observed that quality consciences by small scale producers on their production line were very low. However, most of the producers who have registered their business have attempted to maintain quality of their products.

Further, 80% of producers were rural producers while 45% of producers are manufacturing confectionaries using human labour and others use machines. Out of the many common confectionary products, the most popular confectionary product was sesame roll. The highest proportion of producers (60%) in the study area produced sesame roll because profit margin form sesame roll was very higher as compared to other confectionaries. Addition to sesame rolls, *asmee*, *boondi*, *coconut toffee*, *marshmallows*, *jujubs*, *sugar coated bite (batto)*, *kokis*, *oil cake* were reported as popular confectionaries among the respondents.

With regard to the producers' awareness on quality standards viz, SLS, ISO or HACCP, 85% of producers were not aware about those quality standards. Fateful condition was that they did not know even the name of the quality standards. However, 68% of producers were aware about GMP because they had participated to training programme which were organized by *Vidatha* centers and Industrial Development Board (Fig 1). They were further encouraged to fulfill the GMP practices in their production line.

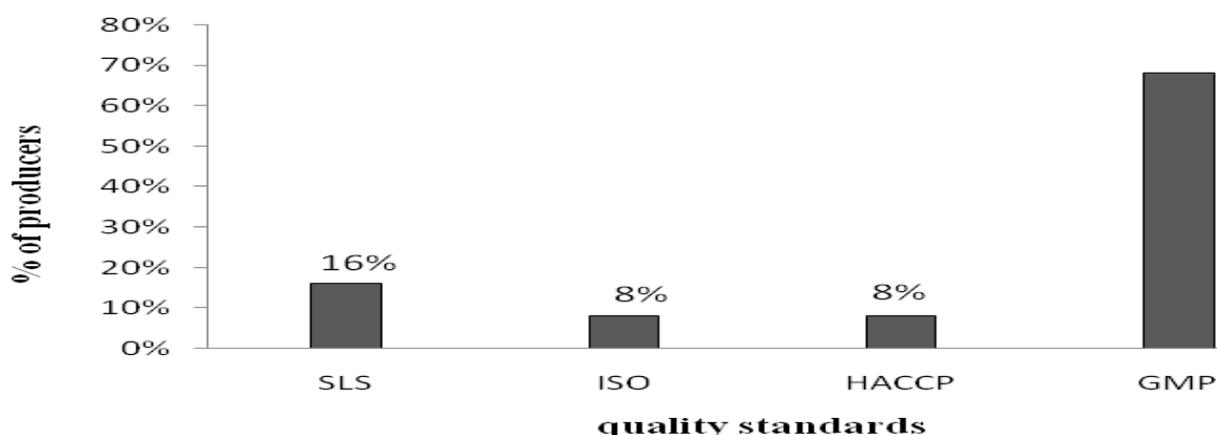


Figure 1: Awareness on each quality standards

However, producers' adoption level to GMP was observed as very low due to many reasons. Foremost reason was producers' negative attitudes and negligence to maintain the quality standards while others were lack of skill, low investment ability etc. Attempt was made to observe the producers' adoption to each important points of the GMP such as building and facility conditions, production condition, labeling condition, and personal hygiene conditions. Situation illustrated that practicing individual points were also very poor. Similar result was found by the Jevšnik et al, (2009). They found that sauerkraut growers possess a rather good level of knowledge concerning food safety, although some gaps were discovered (e.g., record keeping and the feeling that recording data was an unnecessary burden, inadequate acquaintance with health status requirements, insufficient knowledge of the cabbage production process of food safety professionals, etc.). Some differences were found when comparing the results of the qualitative and quantitative studies. The qualitative analysis highlighted some contradictions (e.g., an attitude toward the production process: "We do not need the HACCP system"; a feeling concerning product safety: "Why the need for data recording?") and differences between the sauerkraut growers and a professional understanding of good practice guidelines for sauerkraut production. All other determinations concerning food safety knowledge and practices are presented and discussed. The findings can be used as a guide for reorganizing current education programs aimed to improve safe and hygiene practices at the farm level.

Most of the producers were unable to increase investment for improving building, used machineries or new technology because of their poor knowledge and lack of capital.

Therefore, majority of producers engage on with available space of their own houses or built small tents behind the houses. Conditions of the production unit and equipment were therefore not satisfactory. In the concern of mode of production, only 40% of producers used simple machinery. All of them were *sesame roll* producers and they used only sesame grinding machine and sesame cleaning machine. Fifteen percent use several equipments such as beaters for marshmallows and homemade equipments for *boondi* production.

With regard to the production condition, raw materials and production process were observed as satisfactory. However, all of the respondents have still not reached to GMP level. Medium scale producers have fulfilled however basic requirements of the GMP because it is compulsory for the registration of the business. Main issue was majority of confectionary producers have not adopted to GMP requirements.

All producers have their own labeling because it is illegal to sell food item without proper label in Sri Lanka. Therefore, all have their own brand name. Label contain generic name of the product, brand name, manufacture date, expiry date, ingredients, weight, price, producer's name and address. Therefore, labeling of the confectionary product was observed as satisfactory level.

Maintaining personal hygiene and labour sanitation was very important factor to be considered to achieve high level of quality of any kind of food products. Most of the producers have used family labour to reduce cost of production. Pathetic situation was, maintained of personal hygiene and sanitation was observed as very unsatisfactory level.

On this background, this pathetic situation should be taken in to consideration by the relevant authorities to upgrade them to reach minimum requirement. Wilcock at el., (2004) have pointed out based upon their study that there exists the need for professional assistance for consumers regarding food safety issues.

According to Wilcock at el., (2011) the main motivating factors were the likelihood of future regulation, the value of HACCP for marketing, and avoiding food safety problems. Further they pointed out that management commitment was the most commonly cited element of successful implementation. Wilcock at el., (2011) further pointed out that food safety managers or coordinators faced the greatest variety of challenges during implementation.

Empirical evidence of the study clearly illustrates that there was a positive relationship between quality standards and personal factors of the producers. Males had high knowledge about HACCP and GMP ($p = 0.04$) than females because, males search more relevant information than females. Other important point was there was a positive correlation between income and awareness of the SLS ($p = 0.00$). It can be further simplified as producers' awareness of SLS increases with income. It means that producers attempted to acquire more information about SLS from mass media and various sources when increasing the income. Moreover, producers' awareness on SLS has increased with the experience of the producers ($p = 0.03$). However, there was no any significant relationship between producers, personal factors with the GMP.

Conclusion

Significant numbers of producers' were not awareness on quality standards viz, SLS, ISO or HACCP. Fateful condition was that they did not know even the name of the quality standards. However, considerable number of producers was aware about GMP because they had participated to training programme which were organized by *Vidatha* centers and Industrial Development Board. Further, producers' attempts to maintain the GMP was observed as very low due to producers' negative attitudes and negligence, lack of skill and low investment ability etc. Therefore, relevant private and public institutes have to pay grate attention on this regard, and also they should give their helping hand to improve the quality standards of the confectionary food sector.

Scope for future research

Future research can be done by collecting data from other areas of Sri Lanka with larger samples in order to have more comprehensive study related to confectionary food producers. At same time, similar research can be done for other types food products too.

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