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RESEARCH ARTICLE

PRACTICE OF SCHOOL CANTEEN POLICY IN THE SCHOOL CANTEENS IN THE RATHNAPURA DISTRICT, SRI LANKA

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ABSTRACT

Background: School Health policy in Sri Lanka aims at improving nutritional status of school children of all ages. Ensuring the health of school children is essential to get the maximum from educational opportunities and to have healthy and productive adulthood. **Objectives:** To study the practice of school canteen policy in Rathnapura district by identifying the current situation of school canteens in relation to school canteen policy, to assess the level of monitoring of the practice of school canteen policy by the public health staff and to assess the knowledge of school canteen service providers on the issues in the school canteen policy. **Method:** Institutional based descriptive cross sectional study was conducted in all schools with functioning school canteens in Rathnapura district in Sabaragamuwa province; using a check list and interviewer administered questionnaires; by trained volunteers. Practice of components of canteen policy was assessed in percentages. Associated factors were assessed using chi square test for significance. **Results:** Among 583 schools in the district, 179 (30.7%) have functioning school canteens, of which 167 participated in the study (93%). Only 9 (5.4%) schools have less than 200 students. 148 (88.6%) have school health clubs and school food committees. All have school development committees. The PHI has inspected in 122 (73.9%) schools while only 25 school canteens (15%) have completed H 800. Satisfactory levels were seen in relation to environment & building in 57%, hygiene & sanitation in 82.6%, food storage in 24.6%, food handling in 71.3%, availability of food varieties in 79.6%, food safety activities in 35.3%, knowledge of canteen owners in 25.7%. Significant association was seen between practice of school canteen policy with type of school being category AB (p=0.003), school zone being Rathnapura (p=0.001), Adherence to administrative criteria (p=0.000), Knowledge of canteen owners (p=0.001), availability of school food committee (p=0.001) and Grading of food handling establishments - H 800 (p=0.002). **Conclusions:** Implementation of school canteen policy requires involvement of both health and education sectors.

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INTRODUCTION

Sri Lanka is a country in the South Asian region in which education is completely free of charge and is considered as a must by law until 14 years of age. Over 95% schools are government schools under the Ministry of Education. According to the Population Survey conducted by the Department of Census and Statistics, School population consists of 4,165,964 studying in 10194 schools of two categories under the government sector; as schools with less than two hundred (5161) and more than two hundred students (5033)[1]. Further administratively schools in Sri Lanka are categorized into 4 types named Type 1AB, Type 1C, Type 2 and Type 3 based on the grades of a particular school and the availability of different streams in advanced level classes. Type 1AB is schools with Advanced Level science streams while type 1C is schools non science advanced level classes. Type 2 is schools with year 1-11 and without advanced level classes. Type 3 is schools with year 1-8 or 1-5 classes. In order to address the needs of school children and to strengthen them to have the maximum outcome from the education, school health programme has been practiced from the very beginning of the 20th century. The history of School Health Programme (SHP) in Sri Lanka dates back to 1918. It was started with one medical officer by the Colombo Municipal Council. He used to examine school children in schools within the municipal council and to give medications as well. In the same year, another five medical officers had been appointed for school health services in Jaffna, Galle and Kandy. It was integrated with Health Unit (later known as Medical Officer of Health)

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System in 1926 with the establishment of health unit system at Kalutara as the first health unit in Sri Lanka as well as in the South East Asia. Further it was expanded to other areas in 1935 with establishment of health units or Medical Officer of Health (MOH) divisions in other parts of the country. School dental service was initiated in 1949 with one dental surgeon and current service provision through school dental therapists was established in 1953. Later with the establishment of Family Health Bureau and initiation of the Family Health prgramme in 1980, SHP was incorporated into it as a part of primary health care concept. The concept of Health Promoting Schools (HPS) was introduced in 2007 with gradual transformation of all schools into HPSs. School health programme is one of the components of the Family Health programme which is practiced at the field level by the staff of the MOH, under the guidance of Deputy Director General, Public Health Services 1 of the Ministry of Health[3].

At the moment the country consists of 370 MOH divisions. The in - charge is a qualified medical officer with special training on public health system practiced in the country named MOH. The number of medical officers in one MOH division depends on its population. Usually one medical officer is to provide preventive services for 60,000 populations with an additional MOH for each increasing 30,000. Under the administrative and technical guidance of the MOH, school health activities are assigned to a field officer called Public Health Inspector (PHI). A PHI serves a population of 10,000 and all the schools within his assigned area should be cared by him. Apart from school health activities, the PHI is responsible for ensuring food & water safety, environmental safety & occupational safety of the assigned population. Further, he has to assess all food outlets before issuing license[4]. The goal of the SHP is to ensure that children are healthy, capable of promoting their own health and health of the family & community, and are able to optimally benefit from educational opportunities provided. SHP consists of Medical Services including Counseling, Healthy School Environment; Life skills based Health Education, School Community Participation and Health Related School Policies. SHP bears 10 objectives of which 6th aims at protecting children from communicable diseases and non-communicable diseases including vaccine preventable diseases while 8th aims at improving nutritional status of school children by continuous monitoring and appropriate interventions[3].

School children spend 14 years of their life (from age 5 to 19 years) in schools and each day for 6 hours within week days. Health and nutrition has a direct impact on the development and performance of school children in achieving educational as well as life targets. Obtaining healthy food prevents over weight & obesity, dental diseases as well as osteoporosis and non communicable diseases (hypertension, diabetes & ischemic heart diseases) in later life. Nutritional status of school children has been identified as a main health indicator. The type of food available in the school premises exerts a direct effect on the food habits of school children. It also affects the nutritional values of consumed food as well as their safety status. Among school children 20.6% suffers from wasting, 7.9% from stunting and 2.4% from obesity, while 10% of urban students suffer from obesity. It also indicates that diabetes among school population is increasing and the current level is 10%.

Since many of them are in their secondary growth sprut, lack of adequate nutrition leads them to miss the last chance of gaining adequate height. Further, low and high Body Mass Index (BMI) also leads to many adverse health outcomes when these adolescents grow older. Simultaneously, prevalence of dental caries also indicates the health and well being of school children. Improper dietary practices and poor oral hygiene are the leading causes of dental caries in Sri Lanka[2]. Many challengers have been identified that prevents school children having healthy food in school canteens such as non availability of legal background for healthy food because food Act practicing in Sri Lanka doesn't address this, preference of children on more tasty food even though unhealthy. It is also affected by the high cost for healthy food which cannot be afforded by the canteen owners as the income of many Sri Lankans are very low and they can't pay that high cost.

As a remedial measure to overcome nutritional problems among school children, new school canteen policy was introduced to the national health services in 2007. Both the Ministry of Education and Ministry of Health are responsible for implementation, monitoring & evaluation of the programme. However, the application of this policy should be monitored to ensure its sustainability in order to achieve the stated objectives[5,6]. The school canteen policy should be practiced to ensure ten healthy practices. They are establishing a school canteen in every school, ensuring the cleanliness of the place and utensils used, ensuring the health and safety of food provided according to the food act, providing opportunity to obtain different kinds of healthy food, promotion of safe food practices, prevention of selling unhealthy and harmful food items, maintaining of cleanliness within and around the canteen, maintaining the surrounding of the canteen methodically with provision of safe water, storing of food correctly & maintenance of the temperature in refrigerators, using flavors and colorings with no allergic effects[5]. Further, it also emphasizes provision of healthy food (grains and grain products, pulses, fruits & vegetables, foods high in proteins, natural healthy drinks) and prevention of harmful food items like food prepared only with wheat flour, food with high salt & sugar, fatty food, food fried in deep oil, junk foods and zero calorie food.

Monitoring and evaluation of the practice of school canteen policy is the responsibility of the school health promotion committee. The school can have a subcommittee for this and it needs to submit a report every term to the zonal health promotion committee. It also requires obtaining a report from the PHI every term assessing the quality of the canteen[5]. The last revision of this policy took place in 2015. Main objective of this policy is to ensure the availability of high quality food in adequate amounts for school children while preventing harmful dietary practices to maximize their health and well being. However, the application of this policy should be monitored to ensure its sustainability in order to achieve the stated objectives. The current study was conducted to assess the extent of implementation of school canteen policy of 2015 within govemment schools in Rathnapura district of the Sabaragamuwa province, Sri Lanka in the year 2018. Thus, assessing the practice of school canteen policy in schools would facilitate the health and educational authorities to identify gaps and to take necessary steps to improve as required.

MATERIALS AND METHODS

This was an institutional based descriptive cross sectional study conducted in government schools in Rathnapura district. Study population consisted of all schools with an established and a functioning school canteen (actively being conducted) at the time of survey as revealed in school health survey conducted by the PHI in the first quarter of the year 2018. The total number of schools in the district is 583, which are belong to 4 educational zones; Rathnapura, Balangoda, Nivithigala and Embilipitiya. Among them, 276 (47.3%) have more than 200 students while 307 (52.7%) have less than 200 students. Among 583 schools in the district, 179 (30.7%) have functioning school canteens. Out of schools with less than 200 students, only 17 (5.5%) have school canteens while those with more than 200, 162 (58.6%) schools have canteens. Out of them 179 schools were having functioning school canteens according to data available at the beginning of the year 2018. Thus the study population consisted of 179 schools which were having function school canteen and all of them were included in the study[7].

The three study instruments used for the survey were prepared based on Canteen Policy of 2015 of the government of Sri Lanka and the existing instrument, the form H 800 (document used for Grading of Food Handling Establishments) used to evaluate food safety as there was no specific tool to evaluate canteen policy in 2018. The content validity of the study instruments was ensured by the research team by gaining thorough knowledge on the subject by literature review. The consensual validity of the indicators was ensured by the group of experts in the relevant field for all the instruments[8]. All three study instruments were prepared in English and then translated into both Sinhala & Tamil languages to ensure comprehensive data collection from all the study population. First of the three was an Interviewer administered structured questionnaire (IAQ - 1) to gather information in relation to the administrative information of the school; to be collected from the principal or any responsible teacher nominated by the principal. The second was a check list to assess the level of practices by the person in charge of canteen workers & monitoring of the practice of school canteen policy by the PHI; prepared based on the canteen policy and the existing instrument used to evaluate food safety (Grading of food handling establishments - H 800) as there was no specific tool to evaluate school canteen policy. The third was an Interviewer Administered structured Questionnaire (IAQ -11) to assess the knowledge on how to adhere to the school canteen policy.

Within the district, a team of health volunteers who have passed General Certificate of Education, Advanced Level (GCE A/L) was available and they had engaged in data collection in many other research projects as well. A team of 25 data collectors was selected; representing all the 4 educational zones (Rathnapura, Balangoda, Embilipitiya and Nivithigala). All the members of the team were trained adequately to perform their expected tasks prior to data collection in a 3 day training programme by the investigator to ensure uniformity of collecting information, to ensure completeness of data, to develop a friendly atmosphere during data collection and build up a good rapport with the respondents. They were provided with the interviewers' guide with detailed instructions on data collection. The data collection was carried out with the permission of both health and education sectors of the Sabaragamuwa province and the Rathnapura district. Data collection was conducted from November 2018 to March 2019. Practice of School Canteen Policy in each its components was assessed in percentages according to the marks obtained from check list and they were categorized as good (100-75%), satisfactory (74- 50%) and poor (<50%). The associations of practice of school canteen policy was assessed in relation to the type of school, zone that the school belongs, number of students in the school, being a Health promoting school, availability of school health club & school food committee, adherence to administrative criteria by canteen owners, inspection by PHI with the availability of H 800 and the level of knowledge among canteen owners; using chi square test for significance with level of p value less than 0.05. The questions in the knowledge component are given marks; five per each correct response and the percentage was calculated. Incorrect answers were not given marks. According to the observed percentage, they were categorized as low, average and excellent. Thus the total knowledge score was assessed. The study was conducted with the agreement and approval of the authorities of Provincial Ministries; Ministry of Education and the Ministry of Health in Sri Lanka. Informed consent was a must to participate for the study. The study was conducted with the approval of Ethical Review Committee, National Institute of Health Sciences, Kalutara, Sri Lanka.

RESULTS

Among 179 those who have canteens, 167 participated in the study (93%). The representation of each zone in the study group was as follows; Rathnapura 60(35.9%), Balangoda 33(19.8%), Nivithigala 35(21%) and Embilipitiya 39 (23.4%). Participated schools were Type 1AB; 38 (22.8%), type IC; 61(36.5%), type 2; 53 (31.7%) & type 3; 15(9%). Only 9 (5.4%) schools have less than 200 students. 148 (88.6%) have school health clubs and have school food committees. All have school development committees. The PHI has inspected 122 (73.9%) schools while only 25(15%) school canteens have completed H 800 (Table 01). In relation to practice of school canteen policy, satisfactory levels above 50% were seen in relation to environment & building (57%), hygiene & sanitation (82.6%), food handling (71.3%), availability of food varieties (79.6%) However the study revealed that 76% of canteens had poor performance in relation to food display and storage while 65.3% had poor performance by the health sector in ensuring food safety. The overall practice of school canteen policy was satisfactory in 54.5%. Considering the knowledge of canteen owners on the application of school canteen policy, satisfactory levels could be observed only in 25.1%. (Tables 02 and 03). Significant association was seen between practice of school canteen policy and type of school (x^2 =18.007; df=3; p=0.001), school zone being Rathnapura (x^2 =16.350; df=3; p=0.001), Adherence to administrative criteria by the school administration(x^2 =23.505; df=2; p=0.000), Knowledge level of the canteen owner being satisfactory (x^2 =14.342; df=2; p=0.001), availability of School food committee (x^2 =19.318; df=1; p=0.000) and availability of H 800 issued by PHI (x^2 =12.44; df=2; p=0.002). No significant association with the number of children in the school (x^2 =1.717; df=1; p=0.190), availability of school health club (x^2 =0.439; df=1; p=0.508) or being a health promoting school (x^2 =0.124; df=1; p=0.724). It also reveals that mere inspection of the school canteen by the PHI also did not have any significant association (x^2 =1.244; df=1; p=0.265).

Table 1. Services available in relation to food safety

Indicator	Yes		No	
	No	%	No	%
Health promotion school	153	91.6	14	8.4
Presence of School health club	148	88.6	19	11.4
Presence of school food committee	135	80.8	32	19.2
Grading on food safety by PHI using H 800	25	14.4	143	85.6

Table 2. Levels of Practices ensuring the safety of food

Indicator	Good		Satisfactory		Poor	
	No	%	No	%	No	%
Surrounding environment and building	36	21.6	59	35.3	72	43.1
Maintenance of hygiene and sanitation	78	46.7	60	35.9	29	17.4
Food display and storage	18	10.8	22	13.2	127	76.0
Food handling	46	27.5	77	46.1	44	26.3
Ensuring food safety by health sector	10	6.0	48	28.7	109	65.3
Types of food sold	33	19.7	97	58.1	37	22.2

Table 3. Levels of Knowledge and Practices ensuring the safety of food

Indicator	Satisfactory		Not satisfactory	
	No	%	No	%
Overall practice	91	54.5	76	45.5
Knowledge level	42	25.1	125	74.9

Table 4. Factors associated with food safety in school canteen

Factor	X^2 value	DF	P value
Type of school	18.007	3	.000
School zone	16.350	3	.001
No. of school children	1.717	1	.190
Health promoting school	0.124	1	.724
School health club	0.439	1	.508
Adherence to administrative criteria	23.505	2	.000
Knowledge level	14.342	2	.001
School food committee	19.318	1	.000
H 800 availability	12.441	2	.002
Inspection by PHI	1.244	1	.265

DISCUSSION

The assessment of prevalence by a cross sectional survey provides a 'snapshot' of the existing situation helping generate hypotheses[9]. The response rate was 93%, which gives a satisfactory representation by the study participation enabling the researcher to draw valid conclusion. According to the general circular 2011/3 by the secretary, Ministry of Education, 10 indicators are used to assess the availability and the quality of food in school canteens (9). To begin with, every school should have canteen been established. However, only 29.6% schools have functioning canteens in the district of Rathnapura. Non availability of school canteens is a drastic issue affecting nutritional status of school children in the district. However, non availability of canteens with 94.7% schools with<200 students, indicates the further scarce of resources in schools in which rural students are studying. Non availability of food within the school premises prevents children getting at least some food during school time since many of them leaves home even without the breakfast. The other indicators are cleanliness of the place and utensils, ensuring health and safety of food according o the national food policy, opportunity to obtain healthy food, promotion of healthy food habits, avoiding of seeking unhealthy food, maintaining the cleanliness around the canteen premises, availability of safe drinking water, storing of food accurately and maintaining the cold temperature in refrigerators and use of non allergic colorings & chemicals. Considered the practice of school canteen policy in the Rathnapura district, satisfactory levels of more than 50% could be seen only in relation to environment & building (56.9%), hygiene & sanitation (82.6%), food handling (73.6%), availability of food varieties (77.8%). However, highly unsatisfactory levels of practices were identified for food storage (24.0%), food safety activities (34.7%), and knowledge of canteen owners (25.1%). This would be the ultimate results of non involvement by authorized supervisors in maintaining the quality of school canteens as revealed by not issuing H 800 for 85% of school canteens. Ensuring food safety in the school premises is guaranteed through the school canteen policy which is implemented through the combined effort of Health and education ministries. Among the responsible officers in the health sector, the PHI plays the main role by being the immediate supervisor of ensuring the health of school children. Thus, he has to do school health survey in each school within the first quarter in the year together with assessing the quality of the school canteen with issuing H 800. Although he has examined 122 (73.9%) schools, he has issued H 800 only for 25 school canteens (15%) indicating severe backward performance of the PHI with not adhering to his assigned duties. Further, availability of school health clubs in 88.6% and 91.6% of them being health promotion schools together with the presence of school food committee in 80.8% has not contributed much in ensuring the safety of food in school canteens. It is very evident that the active involvement of both parties is very poor. When the responsible bodies are not performing their tasks, the canteen owners gradually become irresponsible; the ultimate

results being the non practice of school canteen policy in the school, endangering the health of school children within the school premises. In the present study, many correlations of the practice of school canteen policy could be revealed with significant associations. First of all, the difference between zones could be observed; the Rathnapura zone being the best out of four zones in the district. It is more urban in nature where more facilitated schools are existing. The involvement of parents in looking for better quality in schools would be the reason for this observed positive association. Further, the monitoring by the health sector by way of availability of H 800 has confirmed the value of correct involvement of public health services on the quality of school canteens by way of Inspection by PHI and grading the canteen quality by issuing H 800. All these steps will definitely contribute for improving the nutritional status of our future generation; the school children. This is a very important finding because it is the health sector that is highly responsible and has the capacity of improving the quality of school canteens. It further emphasizes the value establishing regular monitoring system of the canteens through the health officials. Further the knowledge level of the canteen owners showed positive relationship with the practice being satisfactory. This fact is very important that higher level of knowledge is contributing to improve the quality of school canteens. However, the level of knowledge is very poor, thus directly affecting the quality of the school canteen. Therefore, it is very important to identify the reasons for this poor knowledge of canteen owners and to identify the methods of improving them. Further, the existence of positive relationship with the availability of school food committee provide the methods to be used to enhance the quality of school canteens by establishing regular monitoring system of the canteens through the school food committee. Finally, the monitoring by the health sector by way of availability of H 800 has confirmed the value of correct involvement of public health services on the quality of school. All these steps will definitely contribute for improving the nutritional status of our future generation; the school children.

Contribution by the education sector to increase the knowledge and awareness is done through school health clubs and making the school into HPS. Each school needs to be a health promoting school and should have a school health club and a school food committee. All the schools in the study have school development committees. However, in the study group 91.6% were health promoting schools while 88.6% have school health clubs and 80.8% have school food committees. Non existence of any relationship between the practice of the school canteen policy and availability of school health clubs and being health promotion schools would be due to their of non functioning nature with minimal contribution for the betterment of the school canteens.

Thus, the important findings of this study would be most useful for designing future strategies in relation to school canteen policy in Sri Lanka.

Conclusion

Non availability of school canteens in many schools warrants the effect on nutrition of school children; especially in smaller schools in rural areas. Unsatisfactory practices in school canteens should be attended by both health and education sectors with special attention to identified associated factors with further research to identify underlying reasons and thereby to improve service provision as well.

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Glossary of Abbreviations

SHP	School Health Programme
MOH	Medical Officer of Health
HPS	Health Promoting Schools
PHI	Public Health Inspector
BMI	Body Mass Index
IAQ	Interviewer Administered structured Questionnaire
AL	Advanced Level

REFERENCES

Census of Population and Housing 2012. Department of census and statistics, Ministry of Policy Planning and Economic affairs

Code of Conduct on School Canteens 2015. Ministry of Education, Sri Lanka.

District data on school health services, Rathnapura district

General circular 2011/3, Ministry of Education, Sri Lanka

Hennekens, CH & Buring, JE 1987, *Design Strategies in Epidemiologic research*, Epidemiology in Medicine, 1st edn, Little, Brown and company, Boston /Toronto

Manual for PHI, Sri Lanka. Ministry of Health, Sri Lanka

National Maternal and Child Health Policy, Family Health Bureau, Ministry of Health and Indigenous Medicine, Sri Lanka

School Health programme, Guideline and Hand book for health care staff2011. Ministry of Health, Sri Lanka

The format for Grading of Food Handling Establishments (H 800)

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