

Healthy Eating: Teachers' Perspective and Students' Practice in Monastic Education Schools and Basic Education Primary Schools, Mingalardon Township

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The cross-sectional comparative study was conducted by using quantitative and qualitative methods in Mingalardon Township, Yangon Region in 2013. The study aimed to compare knowledge and healthy eating practices between Monastic Education schools (MES) and Basic Education Primary schools (BEPS). Face-to-face interviews were done with fifth grade students of five MES and five BEPS by using structured questionnaire. Altogether 218 students from BEPS and 240 students from MES participated in the study. Eight key Informant interviews (KIIs) and thirteen in-depth interviews were done with MES and BEPS teachers. Majority (92%) of BEPS students and 65% of MES students correctly responded that there were 3 kinds of food groups and identified the name of food groups. Multiple logistic regression revealed that knowledge on food groups OR=3.69 (95% CI=1.59-8.56), is determinant of healthy eating practice of grade five students. The interview findings with teachers showed that those readymade packets are the most available food around the school. Most of teachers are very willing to teach healthy eating practice to the students. Some of the students could relay the messages to the parents through them. However, according to student's parents' economic condition (or affordability), the ability to prepare lunch/food are different. Even economically underprivileged people should know healthy eating practices which are not costly. By providing life skill training to the teachers (especially to MES teachers), supporting teaching materials and keeping the school environment free of unhealthy food will favor the health of school children.

Key words: Healthy food eating practice, Primary school children

INTRODUCTION

Schools are arena where different types of healthy behaviors can start and attention to opportunities available for students at school if those behaviors become normative childhood behavior. Healthy food eating practices can affect the future health of school children. Children need to be healthy to learn and be educated to be healthy. Schools have an important role to play in equipping children with knowledge, attitude and skills they need to protect their health. Ensuring that children are healthy and able to learn is an essential part of an effective education system.¹ Healthy eating plays a powerful role in preventing chronic

diseases, including heart disease, cancer, and stroke, the three leading causes of death among adults aged 18 years or older.²⁻⁶ In life skill curriculum for the students, they are taught for about importance of healthy food eating practices.⁷

In Myanmar, Basic Education Primary schools (BEPS) were under the Ministry of Education and teachers are paid by the government. Monastic Education Schools (MES) are those adopt the government curriculum. They engage in formal education, but usually stand on their own financial

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support from various well-wishers. MES schools registered with the Ministry of Education (MOE) and the Ministry of Religious Affairs. In Myanmar, monastery-based primary education is still indispensable for our country's basic education.^{8, 9} There is still need to explore knowledge and practice of healthy eating of students from MES and BEPS and this study aimed to compare knowledge and healthy eating practices between them.

MATERIALS AND METHODS

This cross-sectional comparative study was done in the fifth graders of five BEPS and five MES, Mingalardon Township, Yangon Region during 2013. Schools were selected by lottery method. From each school, students were selected by systematic random sampling. Altogether 218 students from BEPS and 240 students from MES participated in the study. Data were collected by face-to-face interview using pre-tested, semi-structured questionnaire. The quantitative questionnaires and qualitative were developed mainly based on life skill education curriculum for 4th grade students.⁷ Before data collection, the questionnaires were pretested in one BEPS and one MES of Shwepyitha Township. After the pre-test, the questionnaires were revised and finalized accordingly and used for quantitative data collections.

Data entry and data analysis were carried out using IBM SPSS version 22. Coding and interpretations of data were carried out by principal investigator and co-investigators. Chi square test and forward multiple logistic regression were used for data analysis.

Eight key informant interviews (KII) were done with headmistress or life skill teachers for each school. One teacher served as head and life skill teacher. One or two in-depth interviews (IDI) were done with life skill teacher for each school. Altogether eight KIIs and thirteen IDIs were done. Interviews were recorded with digital recorders

(with prior permission of respondent). After that, the interviews were transcribed and typed in details. Then, the transcripts were coded and organized on the basis of themes and sub-themes by using ATLAS ti version 6.0 software. There were 5 code families and 11 codes were identified. Ethical clearance was obtained from ethical board of University of Public Health.

RESULTS

In this study, 218 students from MES and 240 students from BEPS were interviewed on their sociodemographic background, knowledge and healthy eating practices (Table 1).

Table 1. Sociodemographic background of students

Sociodemographic characteristics	Type of school	
	MES (n=218) Frequency (%)	BEPS (n=240) Frequency (%)
Age (year)(mean±SD)	10±1.64	9.54±1.16
<i>Gender</i>		
Female	97(44.5)	115(47.9)
Male	121(55.5)	125(52.1)
<i>Father's occupation</i>		
Government service	12(5.5)	25(10.4)
Own business	22(10.1)	41(17.1)
Agricultural	42(19.3)	8(3.3)
Odd jobs	105(48.2)	154(64.2)
Dependent	2(0.9)	6(2.5)
Don't know/Pass away	35(16.1)	6(2.5)
<i>Father's educational status</i>		
Illiterate	8(3.7)	3(1.2)
Can read and write	56(25.7)	39(16.2)
Primary school	65(29.8)	63(26.2)
Middle school	44(20.2)	53(22.1)
High school	16(7.3)	37(15.4)
Graduated and above	13(6.0)	20(8.3)
Don't know/Pass away	16(7.3)	25(10.4)
<i>Mother's occupation</i>		
Government service	5(2.3)	12(5.0)
Own business	14(6.4)	24(10.0)
Agricultural	31(14.2)	7(2.9)
Odd jobs	51(23.4)	64(26.7)
House wife	99(45.4)	121(50.4)
Don't know/Pass away	18(8.3)	12(5.0)
<i>Mother's educational status</i>		
Illiterate	11(5.0)	4(1.7)
Can read and write	68(31.2)	43(17.9)
Primary school	58(26.6)	59(24.6)
Middle school	51(23.4)	58(24.2)
High school	16(7.3)	34(14.2)
Graduated and above	7(3.2)	21(8.8)
Don't know/Pass away	7(3.2)	21(8.8)

The ages of the students in this study widely varied from 8 to 16 years with mean ages of 10±1.64 in MES and 9.54±1.16 in BEPS

(median ages: MES=10; BEPS=9 years). Gender ratios among the two types of schools were more or less the same. The commonest type of their fathers' occupation was odd jobs, 105 (48.2%) in MES students' and 154 (64.2%) in BEPS students', respectively. About quarter of the fathers of MES students attained high school level and above while one third in those of BEPS students did. In both groups, nearly half of mothers were housewives. Only 3.2% mothers of MES students and 8.8% of those of BEPS students were graduates.

Significantly, more BEPS students responded that there were 3 kinds of food groups and identified the name of food groups than did MES students (91.7% vs. 64%, $p=0.000$). However, when asked about

Table 2. Knowledge on food groups

Knowledge on food groups	Type of school		p value
	MES (n=218) Frequency (%)	BEPS (n=240) Frequency (%)	
<i>Can classify food groups</i>			
Answer other than 3 groups	77(35.5)	20(8.3)	0.000
3 groups	141(64.7)	220(91.7)	
<i>Can identify body building food (protein rich food)</i>			
No	63(28.9)	18(7.5)	0.000
Yes	155(71.1)	222(92.5)	
<i>Protein rich food (Meat, egg, etc)</i>			
Right answer	86(39.4)	132(55.0)	0.003
Wrong answer	132(60.6)	108(45.0)	
<i>Can identify disease preventing food group (vitamin rich food, vegetables)</i>			
No	72(33.0)	40(16.7)	0.000
Yes	146(67.0)	200(83.3)	
<i>Vitamin rich food (vegetables)</i>			
Right answer	120(55.0)	154 (64.2)	0.029
Wrong answer	98(45.0)	86(35.8)	
<i>Advantages for eating vegetables (vitamins) (disease preventing)</i>			
Right answer	142(65.1)	191(79.6)	0.002
Wrong answer	76(34.9)	49(20.4)	
<i>Can identify energy giving food (carbohydrate rich food)</i>			
Right answer	139(63.8)	198(82.5)	0.000
Wrong answer	79(36.2)	42(17.5)	
<i>Carbohydrate rich Food (rice, wheat, etc)</i>			
Right answer	89(40.8)	108(45)	0.000
Wrong answer	129(59.2)	62(25.8)	
<i>Advantage for eating carbohydrate rich food (grow well, etc)</i>			
Right answer	113(51.8)	154(64.2)	0.005
Wrong answer	105(48.2)	86(35.8)	
<i>Food needed for doing sports (carbohydrate rich food)</i>			
Right answer	56(25.7)	108(45.0)	0.000
Wrong answer	162(74.3)	132(55.0)	
<i>Balanced diet contain how many food group</i>			
Three food groups	130(59.6)	189(78.8)	<0.001
Other than 3 food groups	88(40.4)	51(21.2)	

specific knowledge of the food groups, about half of students could correctly respond and more by BEPS students. More than 70% of BEPS students and over 60% of MES students could tell the advantages of eating food from each group. This finding shows that MES students have less knowledge than the BEPS students (Table 2).

Table 3. Students' eating practices

Variables	Type of school		p value
	MES (n=218) Frequency (%)	BEPS (n=240) Frequency (%)	
<i>Consists of both meat and vegetables in last week</i>			
≥3 days/week	121(55.5)	164(68.3)	0.005
<3 days/week	97(44.5)	76(31.7)	
<i>Type of food bought by pocket money</i>			
Healthy food	85(39.0)	89(37.1)	0.915
Unhealthy food	86(39.4)	98(40.8)	
Both	47(21.6)	53(22.1)	
<i>Used to eat junk food</i>			
Yes	136(62.4)	175(72.9)	0.017
No	82(37.6)	65(27.1)	

Table 4. Factors influencing students' eating practices

Variables	Crude OR (95% CI)	Adjusted OR (95%CI)
<i>Knowledge score on healthy food</i>		
High	1.67(0.55-5.1)	3.69(1.59-8.56)
Low	1	
<i>Gender</i>		
Male	1.32(0.68-2.57)	1.35(0.63-2.87)
Female	1	
<i>Type of school</i>		
BEPS	1.25(0.65-2.42)	0.99(0.45-2.21)
MES	1	
<i>Education of father</i>		
High school level and above	1.65(0.78-3.48)	1.664(0.60-4.59)
Up to middle school level	1	
<i>Education of mother</i>		
High school level and above	1.7(0.79-3.67)	0.851(0.29-2.46)
Up to middle school level	1	
<i>Occupation of father</i>		
Government/own/ agricultural	2.01(1.02-3.95)	1.75(0.82-3.76)
Odd/ unemployed	1	
<i>Occupation of mother</i>		
Working mother	1.25(0.64-2.42)	0.90(0.43-1.89)
Housewife	1	
Age	0.79(0.64-2.42)	0.83(0.60-1.15)

The proportion of BEPS students who ate meat and vegetables more than 3 days during last week was significantly higher than those of MES students ($p<0.005$). Moreover, majority of students responded that they usually ate junk food in both types

of school (Table 3). Multiple logistic regression was carried out to evaluate the combined effect of multiple factors affecting good eating practice (having meat and vegetables ≥ 3 days in last week). After adjusting for the effect of other variables, knowledge of the students was a significant predictor for good eating practice OR=3.69 (95% CI=1.59-8.56), (p=0.006). Although being male student, high educational level and occupation of father seem to be influencing factors for good eating practice, none of them was statistically significant after adjusting the effect of other variables (Table 4).

Characteristics of in-depth interview respondents

Twenty-one interviews were done with head and life skill teachers of the BEPS and MES. Life skill teachers are responsible for teaching benefits of healthy food. And they also have to taught other subjects. Respondents' ages were ranging from 21 years to 64 years. Apart from one monk who was acting as head of school, the other respondents were females. Three teachers were high school passed. But, they got teaching training. One monk and one nun passed Dhammacariya curriculum (a Buddha graduation). One nun passed the Phathamagyi. The others were graduates. Nine respondents stayed in school compounds. Ten respondents got life skill training. Eight head of schools did school administration only while others took relieving classes.

School's facility and sanitary conditions

Almost all respondents from BEPS stated that because of their limited school budget, they could not maintain school building and compound very well. Two school compounds of MES were found very neat and tidy because teachers and students cleaned the school by themselves.

"In our school, we assigned three groups consisting of teachers and students from grades 5 to 10 students for cleaning the school. Each group has to clean the whole

school in their turns (from 8:00 to 9:00 am before the school starts)."

(64 years old having 9 years service, Head of school from MES)

Personal hygiene

Personal hygiene of children was poorer in MES than that of BEPS students. Teachers had to be patient and took care for their personal cleanliness.

"Under abject poverty, the parents did not control over their children's schooling. They send their children just to grow up. They are not much interested in school lessons. Children do not know personal cleanliness. We have to urge them for regular bathing and washing clothes."

(21 years old having 2 years service, Life skill teacher from MES)

"In our school, training on personal hygiene was usually done. When school open for every year, students have to learn how to wash their hands properly, how to use toilet, etc, for two to three days before starting any teaching. Only after they get used to those training, school curriculum starts."

(39 years old having 2 years service, Head of school from MES)

Life skill curriculum teaching periods

Although teachers from BEPS could teach life skills according to assigned curriculum, MES teachers were facing difficulties. More teachers from BEPS got Life skill training. So, they did not mention difficulties for teaching life skill.

"During my two years experience, I could only teach life skill curriculum for 3 times a month."

(21 years old having 2 years service, Life skill teacher of school from MES)

Although MES schools could not teach well for life skill curriculum, BEPS could teach.

"In our school, there are eight periods (one period is 45 minutes) a day. We teach life skill curriculum one period a day."

(33 years old having 9 years service, Life skill teachers of school from BEPS)

“We teach life skill curriculum according to monthly teaching plan. For example, in June we have to teach personal hygiene, and in July, having balanced diet and benefit of iodinated salt.”

(46 years old having 23 years service, Life skill teacher of school from BEPS)

Teaching about healthy food eating practice

Regarding healthy food eating practice teaching in schools, teachers are mainly responsible to guide the students. According to life skill curriculum, teachers have to teach in different teaching style such as using pictograph, asking different food, etc. In MES, teachers were not accustomed to teach life skill training because most of them were not trained for life skill curriculum.

“I sometimes asked the students to name the food they ate for today and its belonging food group. And I wrote down on the white board and explain which one is correct and which one not. I urged them to recite poem also. If you have fish, fruit, vegetable, you will grow well, etc.”

(34 years old having 11 years service life skill teachers from MES)

“With the aid of pictograph from CCA (child center approach) course, I explained about food groups. I used to ask them what you ate today. I taught the food groups by explaining each response with belonging food groups. Sometimes, I check their (students) lunch boxes and explain the food group.”

(Age 35 having 8 years Service, life skill teacher from BEPS)

Health message to the parents

Children are very good messengers to convey health related messages to the parents. Even though, parents got the message from their children, socioeconomically underprivileged conditions did not favor to prepare proper cooking.

“At home children used to recite what they had learnt at school. By that means, parents can get information about healthy food. I

used to urge the teachers to teach the students. Although the parents know the food group, they cannot prepare properly because of their limited budget.”

(A 52 years old having 25 years service, Head from BEPS)

School canteen

In Myanmar, school meal program has not been implemented yet. Students have to bring their lunch box when they come to school. Or, parents have to deliver the lunch box at lunch hour. And school canteens also playing important role in children's food. Most of the children would like to eat foods which are sold in school canteen. So, sanitary conditions, provision of nutritious food in school canteen are important for the health of children. Many teachers stated that ready-made packets which are sold in school canteen were bad for the health of children. Only one headmistress mentioned about the medical checkup of school canteen food handlers. Most of the food vendors sell readymade packets.

“Although our school do not have canteen, some street vendors come and sell around the school. Some well wishers donate about two times per month.”

(A 64 years old having 9 years service, Head from MES)

“Previously street vendors used to sell the food around the school. Last two years ago, I arranged to sell school-made food at canteen with minimal profit. The team consists of some teachers and staff have to prepare it. They sell fried vermicelli, ice-stick, etc. As we prepare ourselves it seems to be cleaner.”

(A 39 years old having 2 years service, Head from MES)

DISCUSSION

This study assessed the adoption of healthy food eating practice among Grade five students from five MES and five BEPS of Mingalardon Township. It was noted that

there was some difference in socio-demographic characteristics of parents of the studied student's.

Regarding the knowledge of body building food group, disease preventing food group and energy giving food group, students from BEPS could answer more correctly than MES students. That finding was tally with the interview findings with the teachers. Most MES teachers could not teach healthy food eating practice. Since some did not get life skill training, they don't know how to teach well. So, life skill training should be given to the MES teachers also. Apart from that, teachers are suggesting to persuade students for bringing some vegetables from their homes for practical lessons. It will be better if we can support teaching aids such as posters.

Majority (92%) of BEPS students and more than 60% of MES students correctly responded that there were 3 food groups and identified the names of food groups. Although proportion of students who ate balanced diet more than 3 days per week was significantly high, the proportion consumption of junk food was not also low. The finding was consistent with other studies which stated that junk foods are irresistible because the taste of unhealthy food may be good enough to addict for Grade 5 students.^{5, 6, 10} Students' healthy food knowledge was a predictor for their good eating practice. Although being male student, high educational level and occupation of father were seem to be influencing factors for good eating practice, none of them is statistically significant after adjusting for the effect of other variables.

The interview findings with teachers also showed that the readymade packets were the most available food around the school. The finding was similar with one study which mentioned that a high number of unhealthy food options on school canteen menus was a barrier to healthy eating for Grade five students in Australia.¹⁰ So, we should limit (if possible abolish) the sale of high-fat snacks (junk food) and sweetened beverages

with non permitted dye and/or artificial sweeteners in school canteen and around the school area.

Most teachers were very willing to teach healthy eating practice to the students. And some of them could relay the message to the parents through the children. According to affordability of parents, the ability to prepare lunch/food are different. However, even economically underprivileged people should know healthy eating practices which are not costly.

We should consider ways to provide school lunch in implementing national school health program. We should encourage to respective ministries for the development of different strategies for safe food production and health education programs to assist students in making healthy food choices in the rest of their life.

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