

ORIGINAL ARTICLE—Short Communication

Prevalence and correlates of hunger among private aided secondary school children in Bangalore

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ABSTRACT

Background: Literacy is an indispensable minimum condition for development of India, but it is far from sufficient. The Gross Enrolment Ratio of class I to X is 94.4 per cent and the dropout rate is 52.8%. There are many reasons for school dropouts, Hunger plays a major role. Hence the present report focus on the prevalence and factors associated with hunger among private aided secondary school children in Bangalore.

Methods: This study involved secondary analysis of data from the PhD research project i.e. Effectiveness of Adolescent Health Education Programme on Health among adolescents, which was conducted from 2010 to 2015 at Bangalore, Karnataka, India to estimate the prevalence of self-reported hunger within the last 30 days among primary and secondary school age group.

Results: Total of 204 students data were analysed. The overall prevalence of self reported hunger was 14.7%. Results revealed that age, dietary pattern and use of soap for hand washing had significant association with hunger.

Conclusion: Hunger among school children is an crucial public health issue in India, which in turn affect the literacy rate, productivity and overall growth of the nation. It is high time for the government and other stake holders to take necessary steps to eradicate hunger from world.

Keywords: *Hunger; Global School Health Survey; Children..*

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Introduction

Literacy is an indispensable minimum condition for development of India, but it is far from sufficient (Gupta, 2002). The Gross Enrolment Ratio of class I to X is 94.4 per cent and the dropout rate is 52.8% (MHRD, 2011). There are many reasons for school dropouts, Hunger plays a major role (Kishore & Shaji, 2012). Hunger is also a determinant of multiple health risk behaviours which may jeopardize the future of the primary and secondary school children in India (Gupta, 2002). Hence the present report focus on the prevalence and factors associated with hunger among private aided secondary school children in Bangalore.

Materials and methods

This study involved secondary analysis of data from the PhD research project i.e. Effectiveness of Adolescent Health Education Programme on Health among adolescents, which was conducted from 2010 to 2015 at Bangalore, Karnataka, India.

Sample:

Out of thirty two private aided schools in Bangalore north, 29 schools have coeducation and 3 schools were only for girls. Locality wise there are six schools in mathikere and yeswanthpur (three in each). Total of 204 students studying 9th standard were consecutively selected as sample from three schools, where English was followed as medium of instruction.

Measures:

Global School Health Survey (GSHS) tool was developed by the World Health Organization (WHO) in collaboration with United Nations' UNICEF, UNESCO, and UNAIDS with technical assistance from the Centres for Disease Control and Prevention (WHO, 2015), was used to collect the data.

Dependent variable: For the outcome variable, students were asked: During the past 30 days, how often did you go hungry because there was not enough food in your home? The responses were never, rarely, sometimes, most of the time and always. The response was categorized into 1 for yes (combined rarely, sometimes, most of the time and always) or 2 for no (never).

Independent variables: Regarding the independent variables, the students were asked the following questions:

During the past 30 days, how many times per day did you usually eat fruits such as apple, mango, banana, pineapple, papaya, jackfruit, guava or chikoo

etc.? During the past 30 days, how many times per day did you usually eat vegetables, such as cauliflower, lady finger, pumpkin, brinjal, cabbage, spinach, peas, tomato, cucumber or beans? During the past 30 days, how many times per day did you usually drink carbonated soft drinks, such as Coke, Pepsi, Limca or Fanta? The responses to the above questions were: I did not eat / drink for the past 30 days, less than one time per day, 1 time per day, 2 times per day, 3 times per day, 4 times per day, 5 or more times per day. These responses were categorized into 1 for yes (combined 2 times per day to 5 or more times per day) or 2 for no (combined I did not eat for the past 30 days, less than one time per day, 1 time per day).

During the past 7 days, how many days did you eat at a fast food restaurant, such as McDonalds, Pizza Hut, or at those serving quick meals (e.g. samosas, patties, burgers, noodles or ice creams)? The options are 0 days, 1 day, 2 days, 3 days, 4 days, 5 days, 6 days and 7 days. These responses were categorized into 1 for yes (combined 2 days to 7 days) or 2 for no (Combined 0 day and 1 day)

During this school year, were you taught in any of your classes the benefits of healthy eating?, during the school year, were you taught in any of your classes the benefits of eating more fruits and vegetables? The responses for the above questions were yes, no and I don't know.

During the past 30 days, how often did you wash hands before eating? During the past 30 days, how often did you use soap when washing your hands? During the past 30 days, how often did you wash hand after using the toilet or latrine? The responses to the above predictor variables were never, rarely, sometimes, most of the time and always. The responses were categorized into 1 for yes (combined always and most of time) or 2 for no (combined never, rarely and sometimes). Is there a place to wash hands before eating at school? The options are yes or no.

Procedure:

Formal permission was obtained from the concerned school authorities and all the students were informed about the research and its purpose. Students were used paper and pencil to self-report the questionnaire. They were asked to answer all questions but also told that they were free not to answer any question they felt uncomfortable with.

Results and Discussion

Table 1 shows that the overall prevalence rate of hunger within last 30 days is 4.7% which is slightly

Table 1. Hunger characteristics of students (n=200)

Characteristics	Hunger		Chi Square	P value
	No	Yes		
Age in years				
13-14	128	16	5.044	0.025
15-16	46	14		
Gender				
Male	86	20	3.047	0.081
Female	88	10		
Dietary pattern				
Vegetarian	47	3	4.002	0.045
Non Vegetarian	127	27		
Having fruits				
Yes	42	4	1.710	0.191
No	132	26		
Having Vegetables				
Yes	65	10	0.178	0.673
No	109	20		
Having Carbonated drinks				
Yes	39	7	0.012	0.911
No	135	23		
Having Fast foods				
Yes	80	8	3.890	0.049
No	94	22		
Class on healthy eating				
Yes	112	10	20.336	<0.001
No	36	18		
I don't know	26	2		
Class on importance of fruits and vegetables				
Yes	96	10	5.234	0.073
No	59	14		
I don't know	19	6		
Hand washing before food				
Yes	173	28	6.554	0.014
No	1	2		
Use of soap for Hand washing				
Yes	100	24	5.448	0.020
No	74	6		

lower than the Indian estimate of Menon P (Menon, Deolalikar, & Bhaskar, 2009) and Zambia (M. H. Swahn, R. M. Bossarte, E. Gaylor, D. Musa Elimam, 2010). Similar results were observed in Malawi (Mwambene, Muula, & Leo, 2013), Kenya and Botswana (M. H. Swahn, R. M. Bossarte, E. Gaylor, D. Musa Elimam, 2010).

Table 2 revealed that age, dietary pattern and use of soap for hand washing had significant association with hunger. But Swahn argued that age is not significantly associate with hunger (Swahn MH, R. M. Bossarte, E. Gaylor, D. Musa Elimam, 2010). Student who are from 15-16 years (Exp (B) = 0.398, 95% CI [0.166, 0.955]) and who washed hands with soap (Exp (B) = 0.191, 95% CI [0.063, 0.583]) were less likely to

Table 2. Factors associated with hunger among students

Factor	Exp (B)	95% CI for Exp (B)		B	P value
		Lower	Upper		
Age in years					
13-14	1	0.166	0.955	-0.921	0.039
15-16	0.398				
Dietary pattern					
Vegetarian	1	1.106	20.22	1.554	0.036
Non Vegetarian	4.730				
Use of soap for Hand washing					
Yes	1	0.063	0.583	-1.656	0.004
No	0.191				

report being hungry. However, students whose family's dietary pattern is Non-vegetarian (Exp (B) = 4.730, 95% CI, [1.106, 20.22]) is more likely to report being hungry. Similar results were observed in Malawi (Mwambene et al., 2013) and Kenya (Swahn MH, R. M. Bossarte, E. Gaylor, D. Musa Elimam, 2010).

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