The Effect of a School Feeding Program on Class Absenteeism among School Children in Bahir Dar City North West Ethiopia, Facility Based Comparative Cross-Sectional Study

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ABSTRACT

Objective: The School Feeding Program (SFP) is a safety net program aimed at providing better nutrition, health and increased access to and achievement in education which is an effective program to reduce student absenteeism. There is limited information on the effect of a school feeding program on class absenteeism among school children in the country, particularly in the study area. Therefore this study was aimed to assess the effects of a school feeding program on class absenteeism among school children in Bahir Dar, North West Ethiopia.

Methods: An institution-based comparative cross-sectional study triangulated with an in-depth interview was conducted. A simple random sampling technique was used to select a sample of 556 children from both school feeding program and non-school feeding program who were attending Kindergarten. A structured questionnaire and an in-depth interview guide were used to collect data. Data were entered by using Epi-data and analyzed using Statistical Package for social science version 23. Bivariate and multivariable logistic regression analyses were used to identify factors associated with class absenteeism. A p-value less than 0.05 in multivariable binary logistic regression was considered statistically significant. A thematic analysis was done for qualitative data.

Results: The overall prevalence of school absenteeism was 20.6% (95% confidence interval=(16.9, 24.4%)). A higher school absenteeism prevalence was observed among schools on Non School Feeding Program (29.2%, 95% CI:23.6, 34.6) than in SFP (12%, 95% CI=8.3, 16.0). The odds of class absenteeism were 2.5 time [AOR=2.5; 95% CI=(1.41, 4.29)] higher among parents who had not active school involvement than parents who had active school involvement. The odds of having school absenteeism were decreased by 46% [AOR=0.54, 95% CI=(0.30, 0.96)] among parents who had four or fewer living children as compared to parents who had five or more living children. Moreover, parent who were not living together had 1.8 times [AOR=1.8, 95% CI=(1.11, 3.13)] higher odds of child class absenteeism than their counterpart. Compared to students from the school feeding program, students from non-school feeding program were found to have higher odds of having school absenteeism [AOR=2.8, 95% CI=(1.74, 4.47)].

Conclusion: A significant difference was observed in school absenteeism between program-exposed and non-exposed areas. Therefore, encouraging parents involvement in school, living parents together and initiating school feeding programs for school children is recommended.

Keywords: School feeding; Class absenteeism, Bahir Dar, Ethiopia

INTRODUCTION

The school Feeding Program (SFP) is a safety net program aimed at providing better nutrition, health and increased access to and achievement in education which is an effective program to reduce student absenteeism. However, the process of

school feeding can take different forms: Providing school meals or snacks to be eaten during school hours, or distributing dry take-home food rations to students at the end of each month [1]. SFP can motivate parents to enroll their children and see that they attend school regularly, improve the nutritional status of school-age children over time and alleviate short-term hunger in malnourished or well-nourished school children, and improve cognitive function, academic performance *via* reduced absenteeism [2].

Hunger has been a barrier to school involvement by stricken Children not only unable to enroll in school at the right age but also cannot attend appropriately even if enrolled [2]. Children with diminished cognitive abilities perform less well and are more likely to repeat grades and drop out of school [3].

In the 1930s, the United States and the United Kingdom utilized Food for Education (FFE) to improve children's health. These early programs took the form of SFP; participants were fed a meal or snack at school. In Asia, Africa, and Latin America SFP is established as a social safety net [4]. The World Food Program (WFP) sponsored school meals were started in 1994 in Ethiopia with an initial pilot project in the war-affected zone in the Tigray region [5].

In Ethiopia most government data do not illustrate community school food insecurity levels; it is expected that affects urban parents to fulfill their children's nutrition needs. The study showed that 26.5% of vulnerable primary school students eat once a day and 15.8% of them never take any food for the whole day. The study also found that 14.7% of the students were beggars [6].

As a result, children have to engage in activities to generate livelihoods for their households. Thus, many primary school-age children in food-insecure areas remain out of school [7]. The implementation of such SFPs is expected to positively contribute to alleviating short-term hunger and to enhancing class attendance.

Globally approximately 38% of hungry children depart primary school without learning how to read, write and perform simple arithmetic [8]. This problem is severe in Africa [9]. According to the United Nations World Food Programme, 66 million primary school-age children go hungry every day of which 23 million are in Africa [10]. Additionally, 75 million school-age children (55% of the girls) do not attend school 47% of them live in sub-Saharan Africa.

In developing countries, 60 million children go to school with hunger every day. Policymakers, local and international organizations use different interventions to target various groups within a population through social safety nets to address the problems of hunger and malnutrition. Food for Education is an intervention to tackle such issues. Schools face an increasing demand to improve their core academic performance. However, it depends on the child's health, nutrition, cognitive development and socioeconomic status. In many developing countries undernourishment is pervasive and negatively affects the ability of children to learn and makes them perform at a lower level in school.

According to a report by the Addis Ababa Education Bureau, Addis Ababa Women and Children Affairs Bureau (2015), about 26.5% of the primary school students are under economically deprived families in Addis Ababa, may eat only once a day and 15.8% of them might sometimes take no food at all. The same survey reported that among 220 schools included in the study 14.7% were beggars.

The Ethiopian Ministry of Education has formulated a national school health and nutrition strategy to combat problems related to school-age children who are suffering from ill-health, malnutrition and morbidity. According to a survey conducted by the Ministry of Education in Ethiopia, 46% of the children in the study were malnourished. The government established a National School Health and Nutrition Strategy with the objective "To promote a sustainable, quality health and nutrition interventions across the education sector" in collaboration with the other responsible stakeholders. This strategy works in integration with the "Seqota" declaration which was adopted by the government to end under-nutrition of children by 2030. A National School Feeding Strategy was also designed by the government to have collaborated activities in the area of school feeding.

Similarly, the United Nations World Food Program School Feeding Program is an incentive for vulnerable families to invest in children's education. It also enables families to send their children to school and keep them there. Studies have been conducted to evaluate the impact of school feeding programs and show a positive relationship between school feeding and school performance.

However, the effects of school feeding programs remain controversial. There are studies that support the idea that the school feeding programs will have a very significant impact on the pupils while others state that since the children are already grown it would be difficult to change their growth status once it has been altered. Therefore, this study provides knowledge on the current understanding of the effect of the school feeding program on class absenteeism in Bahir Dar city.

METHODS

Study Design and Period

An institution-based comparative cross-sectional study supported by a phenomenology qualitative study was conducted in Bahir Dar city, the capital city of Amhara region, North West Ethiopia from March 20 to April 10, 2019.

Population

The source population consisted of all children who were attending Kindergarten (KG) education in public schools in Bahir Dar city, while the study population consisted of all children who were attending Kindergarten (KG) education in the selected public schools in Bahir Dar city that fulfilled the inclusion criteria. Parents, teachers, school directors, education office heads are populations for qualitative study that is for in-depth interview. Inclusion criteria were all children who were attending Kindergarten (KG) education in the selected public schools in Bahir Dar city who were present in the school in the past semester and the exclusion criteria was those children who were absent from school during the data collection period.

Sample Size Determination and Sampling Procedure

The sample size was determined using double population formula by using Epi info version 7 by considering the following assumptions: Confidence interval (CI) 95%, power 80%, ratio 1:1 and non-response rate 10%. The factors were taken from a previous study conducted in Dara, Southern Ethiopia which affects children's class absenteeism among SFP and NSFP (25). Illness was the factor that was taken to obtain the largest sample size for this study and it was 504 by assuming a 10% non-response rate and the final sample size was 555 (278 for SFP and 278 for Non-SFP group). For the qualitative study the sample size was determined based on information saturation. Finally 16 individuals (parents, teachers, school directors and education office heads) were interviewed. All four schools were selected which have a feeding program and four corresponding non-school feeding program schools were purposively selected by being nearest to the SFP implementing school. The sample size in each school was proportionally allocated based on the number of students. Simple random sampling was used to select the study participants. Purposive sampling technique was used for qualitative study.

Variables of the Study

Dependent variable: Class absenteeism

Independent variables:

- Child-related variables: Sex, age, health status (illness), domestic work and grade.

- Family-related variables: Educational status of family, marital status, living status of family, family involvement in the school, income and family size.

- School-related variables: School feeding program, hygiene and sanitation and play area.

Data Quality Control

In order to assure the data quality, data collection tool was prepared after an intensive review of relevant literature. Pre-testing of the questionnaire was carried out on 5% of the sample size in the school that was not included in the study. Data collectors and supervisors were aware about confidentiality, responders right, informed consent, objective of the study, on techniques of the interview and filling the questionnaire through one-day training. The completeness of the data was checked by data collectors during data collection and also immediately after data collection by the supervisor and principal investigator. For qualitative study the data was transcribed, translated and coded properly.

Data Collection Tools and Procedures

Interviewer administered questionnaires was used for data collection. The questionnaires initially prepared in English and translated to Amharic and again back to English to check consistency. By getting parents address from the school for each student and the data collector was contact each parent to get the primary data about children's related factors associated with student's absenteeism. Secondary data from the roster was used to determine the class absenteeism of students. Class absenteeism was identifying by the number of days the child gets absent from school in the previous semester immediately before the survey. 8 data collectors who had diploma in educational science and four supervisors who had BA in educational science and not working in the selected schools were trained for data collection and supervision. Face-face in-depth interview guide was used to collect qualitative data by principal investigator. Qualitative data was collected in home for parents and in school for teachers and school directors. Two data encoders were used to for qualitative data.

Statistical Analysis

The collected data were entered and cleaned using Epi data version 3.1, then exported to SPSS version 23 for analysis. Descriptive analysis was conducted to summarize the data and the final result of the study was interpreted in the form of text, figures and tables. Binary logistic regression analysis was executed to see the association between independent and dependent variables. All explanatory variables with $p<0.2$ in bi-variable logistic regression were entered into multivariable logistic regression analysis and significant association was identified based on $p<0.05$ and odds ratio with 95% CI in multivariable logistic regression. The final model fitness was checked using Hosmer-Lemeshow Goodness of Fit test. A separate analysis was also done for both SFP and Non SFP.

For qualitative data: The transcribed data was translated into English. Then data was analyzed after reading for the content, coding, displaying data, data reduction and interpretation and finally thematic data analysis was carried out.

RESULTS

Socio Demographic Characteristics of Children

A total of 549 study participants, 274 from non-school feeding and 275 from school feeding with a response rate of 98.5% and 98.9% respectively participated in this study. The mean age of the child was 5.36 (SD ± 0.928) years among NSFP and 5.35 (SD ± 0.833) years among SFP (Table 1).

Table 1: Socio-demographic characteristics among school children, Bahir Dar, Ethiopia, 2019

Variables	Non SFP	SFP	Socio	Socio
	Frequency	Percent (%)	Frequency	Percent (%)
Age				
3-7	230	83.9	231	84.0
8-12	44	16.1	44	16.0
Sex				
Female	160	58.4	150	54.5

Male	114	41.6	125	45.5
Grade				
KG1	126	46.0	132	48.0
KG2	63	23.0	69	25.1
KG3	85	31.0	74	26.9
Child living with their parent				
No	38	13.9	53	19.3
Yes	236	86.1	222	80.7

Socio Demographic Characteristics of Qualitative Respondents

A total of 16 respondents were participated in qualitative study. Majority of them 7 (43.8%) were in the age group of greater than 45 years. Regarding their educational status majority of them 10 (62.4%) were attending college and above (**Table 2**).

Table 2: Socio-demographic characteristics of qualitative respondents regarding school feeding program, Bahir Dar, Ethiopia, 2019

Variables	Frequency	Percent (%)
Age		
25-35	3	18.8
36-45	6	37.5
>45	7	43.8
Sex		
Male	9	56.2
Female	7	43.8
Educational status		
No formal education	1	6.3
Primary school (1-8)	1	6.3
Secondary school (9-12)	4	25
College and above	10	62.4
Occupation		
Governmental employee	10	62.5
Private employee	2	12.5
Housewife	2	12.5
Daily labor	2	12.5
Marital status		
Married	6	37.5
Single	3	18.8
Divorced	4	25
Widowed	3	18.8

Family Related Characteristics

Majority (80.7% and 78.5%) of the child's parents were live together with both in NSFP and SFP respectively. Most of the parent has active school involvement (73.7% among NSFP and 83.0% among SFP). Majority of the mother has no formal education which was 49.6% among NSFP and 40% among SFP. The predominant occupation of the mother was housewife 107 (39.1%) among NSFP and 113 (14.1%) among SFP (**Table 3**).

Table 3: School children's family characteristics among school children, Bahir Dar, Ethiopia, month, 2019

Variables	Non SFP (274)	SFP (275)	4	4
	Frequency	Percent (%)	Frequency	Percent (%)
Parents live together				
No	54	19.7	52	18.9
Yes	220	80.3	223	81.1
Number of children				
1-4	233	85.0	238	86.5
5-7	41	15.0	37	13.5
Parents involvement in the school				
No	54	19.7	21	7.6
Yes	220	80.3	254	92.4
Type of involvement				
School parents meeting	23	8.9	17	6.53
Reaching the child in to the school	191	73.7	232	89.23
Following the child's class engage	45	17.4	11	4.23
Educational status of mother				
Not formal education	133	48.5	103	37.5
Primary school (1-8)	92	33.6	111	40.4
Secondary school (9-12)	47	17.2	55	20.0
College and above	2	0.7	6	2.2

Occupation of mother				
Housewife	107	39.1	113	41.1
Daily laborer	99	36.1	78	28.4
Other	68	24.8	84	30.5
Educational status of father				
Not attending formal education	86	31.4	65	23.6
Primary school (1-8)	58	21.2	109	39.6
Secondary school (9-12)	89	32.5	80	29.1
College and above	41	15	21	7.6
Occupation of the father				
Merchant	56	20.4	70	25.5
Daily labor	131	47.8	139	50.5
Other	87	31.8	66	24.0

School Related Characteristics

All school had functional latrine. Both SFP and NSFP have lesson concerning hygiene and sanitation. About 21% and 80% participants were explained that they were washing hands after visiting toilet and before eating in NSFP and SFP, respectively. Major (80%) of SFP had hand washing station but there was no hand washing station in NSFP (**Table 4**).

Table 4: School related characteristics of the study participants, Bahir Dar, Ethiopia, 2019

Variable	Non SFP	SFP	Other	Other
	Frequency	Percent (%)	Frequency	Percent (%)
School have latrine facility				
Yes	274	100	275	100
Has school provided hand washing facilities				
No	274	100	55	20.0
Yes	0	0	220	80.0
Washing hands after visiting toilet and before eating				
No	217	79.2	55	20.0
Yes	57	20.8	220	80.0
Any playing area in the school				
No	51	18.6	53	19.3
Yes	223	81.4	222	80.7

Reasons for Class Absenteeism Based on Parents' Response

Quantitatively the main reasons for children's class absenteeism were illness, helping domestic work, lack of food and going to another place which was quantified as 88.2% from NSFP and 92.5% from SFP were illness.

On the contrary, an in-depth interview result mentioned the most commonly mentioned factor affecting children's class absenteeism were not taking breakfast and parent's low living conditions. The majority of the children were coming from daily laboring families which make the family not give emphasis to the children's class attendance since they were busy to fill the hand-to-mouth life.

"I exited from the home early morning even the child was not awaked, so I don't have another person who can feed and take my child in to the school" said a daily laborer mother.

Quantitatively the study shows that the other reason for child class absenteeism was lack of food which was 4.4% among SFP beneficiaries and 12.9% among SFP non-beneficiaries which was supported by an in-depth interview finding since both cat-

egory parents appreciated the importance of school feeding for the improvement of children's class attendance.

The child's parent said that "a child doesn't have milk every day on the home that is why the child seen the school milk a special breakfast for them which initiated them to attend the class". Another mother also said that "my child prefers the school feeding even I accessed the same food on the home since the child wanted to eat with other children."

Qualitatively participants mentioned not taking breakfast as the other reason for children's class absenteeism. An elder grandmother said that "I can't prepare the breakfast early in the morning to meal the child which makes the child to miss the class."

Prevalence of Class Absenteeism

The overall prevalence of school absenteeism was 20.6%. The prevalence of school absenteeism among NSFP was 29.2% (95% CI: 23.6,34.6) and SFP was 12% (95% CI: 8,16). Majority of the participants reported that their children absent at least once from school in the first semester among NSFP (96%) and SFP (91.6%).

Factors Associated with Class Absenteeism among NSFP and SFP

In multivariable logistic regression parents engagement in wards school activities, number of living children in the family, parent's living together and type of school a child was learning were significantly associated with children's class absenteeism. Parents who do not actively engage in the activities of their wards at school had 2.5 times higher odds of child class absenteeism than parents who have active school involvement [AOR=2.5, 95% CI=(1.41, 4.29)]. Parents who have ≤ 4 living children had 46% lower the odds of child class absenteeism than parents who have ≥ 5 number of living children [AOR=0.54, 95% CI=(0.30, 0.96)]. This finding revealed that parents not living together had 1.8 times higher odds of child class absenteeism than their counterparts [AOR=1.8, 95% CI=(1.11, 3.13)]. Children who were learning in schools who haven't feeding program had 2.8 times time more likely higher the odds of class absenteeism than their counterparts [AOR=2.8, 95% CI=(1.74, 4.47)] (**Table 5**).

Table 5: Factors associated with class absenteeism of the children among NSFP and SFP, Bahir Dar, Ethiopia, 2019

Variables	Class Absenteeism		COR (95% CI)	AOR (95% CI)	P-value
	High	Low			
Age					
3-7	96 (17.5)	365 (66.5)	1.09 (0.61,1.95)	1.04 (0.55,1.99)	0.888
8-12	17 (3.1%)	71 (12.9%)	1	1	
Sex					
Female	65 (11.8%)	245 (44.6%)	1.05 (0.69,1.60)	1.00 (0.63, 1.59)	0.983
Male	48 (8.7%)	191 (34.8%)	1	1	
Child living with parent					
No	22 (4.0%)	69 (12.6%)	1.28 (0.75, 2.18)	1.39 (0.72, 2.66)	0.319
Yes	91 (16.6%)	367 (66.8%)	1	1	
Grade of child					
KG					0.717
KG1	55 (10.0%)	203 (37.0%)	1.11 (0.68, 1.83)	1.24 (0.72, 2.15)	0.429
KG2	27 (4.9%)	105 (19.1%)	1.06 (0.59, 1.89)	1.22 (0.64, 2.31)	0.544
KG3	31 (5.6%)	128 (23.3%)	1	1	
Education of Mother					
Education					0.44
No formal Edu	48	188	0.76 (0.15, 3.91)	0.19 (0.02, 1.37)	0.101
Primary level	41	162	0.75 (0.14, 3.90)	0.21 (0.03, 1.49)	0.121
Secondary level	22	80	0.82 (0.15,4.37)	0.21 (0.03, 1.53)	0.125
Tertiary level	2	6	1	1	
Mother occupation					
Occupation					0.126
House wife	52	168	1	1	
Daily labor	34	143	0.76 (.47, 1.24)	0.58 (0.34, 1.01)	0.054
Other	27	125	0.69 (0.41, 1.17)	0.689 (0.39, 1.19)	0.182
Father's education					
Education					0.092
No formal Education	30	121	1.28 (0.58, 2.82)	1.31 (0.58, 2.98)	0.51
Primary level	29	138	1.09 (0.49, 2.39)	1.45 (0.63, 3.32)	0.38
Secondary level	44	125	1.83 (0.85, 3.91)	2.29 (1.03, 5.07)	0.04
Tertiary level	10	52	1	1	
Father's occupation					
Occupation					0.239
Merchant	20	106	1	1	
Daily labor	52	218	1.26 (0.71, 2.22)	1.34 (0.69, 2.58)	0.38
Other	41	112	1.94 (1.06, 3.52)	1.79 (0.91, 3.52)	0.091
Parents living status					
Live separately	30 (5.5%)	76 (13.8%)	1.71 (1.05,2.78)*	1.86 (1.11, 3.13)*	0.017*
Live together	83 (15.1%)	360 (65.6%)	1	1	
Number of live children					

01-Apr	90 (16.4%)	381 (69.4%)	0.56 (0.33, 0.96)	0.54 (0.30,0.96)	0.037*
≥5	23 (4.2%)	55 (10.0%)	1	1	
Parents school involvement					
No	28 (5.1%)	47 (8.6%)	2.72 (1.61, 4.60)	2.46 (1.41,4.29)	0.001**
Yes	85 (15.5%)	389 (70.9%)	1	1	
Feeding program					
No	80 (14.6%)	194 (35.3%)	3.02 (1.93, 4.73)	2.79 (1.74, 4.47)	0.001**
Yes	33 (6.0%)	242 (44.1%)	1	1	
Wealth index					
Poor	100 (18.2%)	395 (71.9%)	0.79 (0.41, 1.54)	1.14 (0.54, 2.38)	0.725
Rich	13 (2.4%)	41 (7.5%)	1	1	
Note: *p-value< 0.05; **p-value<0.001, Other: Employed, driver, farmer					

Factors Associated with Class Absenteeism among NSFP

The second model was fitted to assess factors associated with class absenteeism among NSFP Variables such as parents living together and engagement in wards school activities significantly associated with class absenteeism NSFP. Parents who hadn't active school involvement had 2.63 (95% CI; 1.35, 5.11) higher odds of child class absenteeism than parents who have active school involvement. This finding revealed that parents not living together had 1.89 (95% CI: 1.00, 3.59) higher odds of child class absenteeism than their counterparts (**Table 6**).

Table 6: Factors associated with class absenteeism of the children among NSFP Bahir Dar, Ethiopia, 2019.

Variables	Class absenteeism		COR (95% CI)	AOR (95% CI)	P-value
	Low	High			
Age					
03-Jul	161	69	1.28 (0.61,2.69)	1.27 (0.57, 2.83)	0.557
08-Dec	33	11	1	1	
Sex					
Female	110	50	1.27 (0.74,2.17)	1.30 (0.73, 2.32)	0.365
Male	84	30	1	1	
Child living with parent					
No	26	12	1.14 (0.54,2.38)	0.93 (0.38, 2.26)	0.874
Yes	168	68	1	1	
Grade of child					
KG					0.328
KG 1	90	36	1.07 (0.58, 1.99)	1.13 (0.58, 2.21)	0.459
KG 2	42	21	1.34 (0.66, 2.74)	1.61 (0.74, 3.50)	0.712
Kg 3	62	23	1	1	
Family living together					
No	32	22	1.92 (1.03,3.57)	1.89 (1.00, 3.59)	0.049*
Yes	162	58	1	1	
Number of living children					
01-Apr	169	64	0.59 (0.29, 1.18)	0.60 (0.29, 1.22)	0.161
≥5	25	16	1	1	
Parents school involvement					
No	31	23	2.12 (1.14,3.93)	2.63 (1.35,5.11)	0.004*
Yes	163	57	1	1	
Income					
Poor	166	70	1.18 (0.54,2.56)	1.48 (0.64, 3.44)	0.355
Rich	28	10	1	1	
Note: *P<0.05 which is significantly associated					

Factors Associated with Class Absenteeism among SFP

In the multivariable logistic regression analysis among SFP, no variable was significantly associated with class attendance (Table 7).

Table 7: Factors associated with class absenteeism of the children among SFP Bahir Dar, Ethiopia, 2019.

Variables	Class absenteeism		COR (95% CI)	AOR (95% CI)	P-value
	Low	High			
Age					
03-Jul	204	27	0.83 (0.32,2.16)	0.61 (0.21,1.76)	0.366
08-Dec	38	6	1	1	
Sex					
Female	135	15	0.66 (0.31,1.37)	0.632 (0.29,1.34)	0.234
Male	107	18	1	1	
Child living with parent					
No	43	10	2.01 (0.89,4.53)	2.21 (0.96,5.08)	0.06
Yes	199	23	1	1	
Grade of child					
KG	113	19	1.38 (0.57,3.34)	1.64 (0.62,4.29)	0.343
KG 1	63	6	0.78 (0.25,2.39)	0.82 (0.25,2.69)	0.313
KG 2	66	8	1	1	0.748
Kg 3					
Family living together					
No	44	8	1.44 (0.60,3.40)		0.658
Yes	198	25	1	1.30 (0.40,4.17)	
Rich					
01-Apr	212	26	0.52 (0.21,1.31)	0.45 (0.17,1.19)	0.11
≥5	30	7	1	1	
Parents school involvement					
No	16	5	2.52 (0.85,7.41)	2.37 (0.75,7.42)	0.138
Yes	226	28	1	1	
Income					
No	229	30	0.56 (0.15,2.10)	0.44 (0.10,1.88)	0.27
Yes	13	3	1	1	
Note: *P<0.05 which is significantly associated					

DISCUSSION

The overall prevalence of school absenteeism was 20.6% (95% CI: 16.9,24.4%). The prevalence of school absenteeism was 29.2% among NSFP and the prevalence of school attendance was 12% among SFP. This finding is lower than the study done in Sidama Zone, Boricha district, Southern Ethiopia (91.0% among NSFP and 49.7% among SFP). This possible difference may be due to the study area variation. This study was conducted in urban area whereas the aforementioned research was conducted in rural area too. Student from rural area needs to travel long distance to school; work loaded to help their parents and uneducated family or poor attitude toward education might have contributed to their school absenteeism.

Children who were from Non-School Feeding Programs (NSFP) were 2.79 times more likely to be absent from school than children who were from in School Feeding Program (SFP). This finding was supported by studies conducted in Boricha, Debre Libanos and Addis Ababa Jamaica, Gahanna and Kenya which revealed that school meals attract pupils for attendance and enrolment.

This finding is also supported by an in-depth interview result shows that parents appreciated the importance of school feeding for the decrement of children's class absenteeism. As a child's parent said that "a child doesn't have milk every day in the home that is why the child has been the school milk a special breakfast for them which initiated them to attend the class." Another mother also said that "my child prefers the school feeding even I accessed the same food on the home since the child wanted to eat with other children."

This may be due to the fact that children are motivated to enroll in pre-school as a result of SFP. Moreover, school feeding program enabled children to improve their learning interests, better understanding the lesson, and not to hungry when they are in school which helps to focus on their education.

Moreover, school attendance had all improved in response to school feeding because the provision of school meals reduces the parent's cost for their children thereby promoting early-enrollment and improving attendance.

But this finding was inconsistent with studies conducted with Bishoftu, southern Ethiopia, Addis Ababa and Uganda which revealed that the presence of a school feeding programs has no impact on students' class attendance. The possible reason might be due to the inadequacy of school meals; some children are unable to come to school or if they do, could not stay there for the whole school hours due to hunger or hunger related incidence of illness, the size of the meals allocated for the students is also not large enough to encourage their school attendances and children have greater roles in household activities because of this the cost of sending them to school is greater than the perceived benefit of doing so.

Because of parents who are participating or involved in school activities like talking with their children about school, checking homework, and participating in school-based parent activity can give the chance to monitor children's class experience. This in turn leads children to engage in to school. In this study, parents who had no active school involvement were more likely children's class absenteeism than parents who had active school involvement. This result was in lined with the idea stated as family school partnership practice decrease children's class absenteeism.

Qualitatively the class room teacher also revealed that "families were not giving emphasis for the children's Majority of the children were coming from daily laboring families which makes the family not giving emphasis for the children(s) class attendance since they were busy to fill the hand to mouth life because of this most of student absent in class."

The current study found that families having four or less living children decrease children's class absenteeism than family having 5 or more children in the household. This finding is supported by study conducted in Dale Woreda, southern Ethiopia. This might be due to households having small family size would give more attention for their children this intern gives the children to concentrate on studies and attend school regularly.

But this finding was inconsistent with study done in Nepal which revealed that parents who have 5 members or lower in their household have a slightly higher attendance rate (93.3%) than students who have 6 members or higher (91.2%) in their household.

Moreover, parents who are living together had positive association with children's class attendance which was in lined with the idea stated as living in a family with a lone parent had negative effect on children's class attendance. This might be due to children live with both parents might have low domestic work and psychologically active for education and this is directly influence child's school absenteeism. Similarly, an in-depth interview result mentioned being single mom as the main factor affecting children's class absenteeism. "I exited from the home early morning even the child was not awaked, so I have no another person who can feed and take my child in to the school" said a daily laboring mother.

The result was supported by study done in Jimma zone which showed that students from female-headed families were 77% less likely absent from school compared to their peers from families headed by their relatives. This might be explained by the fact that if economic burden and domestic work burden is headed by only mothers and their children share this burden which is directly influence children(s) school absenteeism.

The main reasons for children class absenteeism was illness which was 88.2% among NSFP and 92.5% in SFP which was in lined with the study done in Addis Ababa, Ethiopia as it shown that among the absent students the major reason for their absence was illness 54.3%. On the other study done in Bishoftu shows that about 48.57% of the causes of class absences in SFP households and 55.16% of those in non SFP are due to illnesses.

Which was also supported finding done Dara Woreda Sidama Zone which showed that the main cause of absence in both SFP as well as Non SFP households are illness 30% of the causes of class absences in SFP households and 33% of those in NSFP households are due to illnesses this indicates illness is the main cause of absence for school children. Even though we used our maximum effort this paper had limitations. Cross-sectional nature of this study limits to set causal effect relationship of independent and dependent variables.

CONCLUSION

Significant difference was observed on school absenteeism between School Feeding Program and Non-School Feeding Program schools. Parents who have no school involvement, increasing number of living children in the family, parents who were living separately and absence of school feeding had significant positive association with children's class absenteeism.

The qualitative study also shows that there was class absenteeism. The most commonly mentioned factor were not taking breakfast, not giving emphasis for the children's class attendance and parent's low living condition.

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ETHICAL CONSIDERATION

The ethical clearance was obtained from Institutional Review Board of Bahir Dar University, College of Medicine and Health Sciences with Ref No: BDU/IRB/6827/2019. A formal letter was given to the selected school from the school of public health.

Written informed consent was obtained from each school before data collection. Informed written consent was also obtained from family and aware them their right to withdraw from the study at any time. The information given by each respondent was kept confidential.

AUTHOR'S CONTRIBUTION

SB and AM conceived the review topic and objectives. SB, AM, YM and NK and participated in the study selection, data extraction and analysis. SB, AM, YM and NK also reviewed the

manuscript critically for its scientific content. All authors reviewed and approved the manuscript.

DECLARATION OF CONFLICTING INTERESTS

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The ethical clearance was obtained from IRB of Bahir Dar University, College of Medicine and Health Sciences. A formal letter was given to the selected school from the school of public health. More over informed oral assent was obtained from family and aware them their right to withdraw from the study at any time. The information given by each respondent was kept confidential. The dissemination of the finding was not being refer specific respondent but to the general source population.

DATA AVAILABILITY

All related data has been presented within the manuscript. The data set supporting the conclusions of this article is available from the corresponding author upon reasonable request.

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