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Household Food Insecurity and Associated Factors among Households in Sodo Town, 2015

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Abstract
The aim of the study: To assess the level of household food insecurity and associated factors among households in Sodo town, South Ethiopia.**Methodology:** A community based cross-sectional study was conducted in Sodo town from August 6up to 31, 2015. A total of 609 households were selected from Sodo town by using multistage cluster sampling technique. The data were collected using pretested and structured questionnaires based on interview with household heads. The questionnaires included socio- demographic, socioeconomic and household food insecurity access scale questions. Data analysis was done using SPSS version 16 software and both Bivariate and multivariable logistic regression analyses.**Results:** From a total of 609 households included in this study, 37.6 %(95%CI =33.5%-41.5%) were food insecure. Of these 10.8% (95%CI=8.4%-13.3%) households were mildly food insecure, while 23.2% (95%CI=19.9%-26.6%) and 3.6% (95%CI=2.3%-5.1%) households were moderately and severely food insecure respectively. Factors associated with food insecurity were single household head (AOR=4.06, 95%CI=1.24-13.27), more than two dependent members in the family (AOR=3.03, 95%CI=1.38- 6.63), daily laborers of household head (AOR=16.0 95%CI =4.57-56.03) higher monthly income (AOR= 0.013, 95 %CI =0.004- 0.05) and low monthly food expenditure (AOR=10.56, 95% CI = 2.61-42.71). **Conclusion and recommendation:** The study shows that the prevalence of food insecurity was high in the study area as compared to urban national level. Being single household head, more than two dependent members in the household, daily laborers of household head, higher monthly income and low monthly food expenditure were significantly associated with household food insecurity. Therefore, the result needs attention on stabilization of food markets, designing urban food insecurity strategies and creating job opportunity to improving food security conditions in the studied area.
Keywords: Associated factors, Food insecurity, HFIAS, Household head, Sodo town

Background of the Study

Food is essential in human's life. Adequate food in terms of quantity and quality for all people is an important factor for a nation to continue its development. Lack of food in long terms leads to hunger and starvation consequently can cause death. In order to minimize the death, as a result of this, enough food is a necessary condition [1]. Indicators of food security include physical availability of food, economic and physical access to food, adequate food utilization, and sustainability having access to adequate food[2]. Food insecurity exists when all people, at all times lack secure access to sufficient amounts of safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life[3-4]. During food insecurity people are not consuming enough food for an active and healthy life. This may be due to the unavailability of food, inadequate purchasing power, or inappropriate utilization at household level[4].

There are two types of household food insecurity: chronic and transitory food insecurity. Chronic food insecurity is often the result of extended periods of poverty, lack of assets and inadequate access to productive or financial resources. Transitory food insecurity is primarily caused by short-term shocks and fluctuations in food availability and food access, including year-to-year variations in domestic food production, food prices and household income[2, 5]. Ethiopia, a country that has a long history of food security challenges linked to rural food insecurity, is currently facing relatively new challenges related to urban food insecurity [6].

Statement of the Problem

Food insecurity is a major public health problem in both developing and developed nations [4]. Based on Food and Agricultural organization 11.3% of the global population (805 million) was unable to meet their dietary energy requirements in 2012–14. In developing countries 791 million people live in hunger, that makes 13.5 % of the overall population, remain chronically underfed [7]. Achieving food security for all people at all times remains a huge challenge for several developing countries including Ethiopia.

Ethiopia is one of the world's poorest countries with indicators suggest low levels of development and it has been plagued with food insecurity for decades. However, Food security assessments in Ethiopia have traditionally focused on rural areas however; urban food security problems have got little attention.[8].

According to the Interim Report on Poverty Analysis Study in Ethiopia (2010/11), the proportion of the population below the poverty line in urban area was 25.7% , while the proportion of food poor people (people

who could not purchase the consumption items that generate 2,200 kilo calories) in urban area was estimated to be 28% that means; more than one in four Ethiopians fell below the food poverty line in urban [9].

According to Household Consumption Expenditure (HCE) data of Ethiopia, at a national level, about half (49%) of total household expenditures were on food. The levels were higher in rural Ethiopia (51%) than urban (41%). Households who spend more than 65% of their expenditures on food are considered to have a high share of food expenditure [10]. However, studies conducted in different parts of Ethiopia (Addis Ababa and Dire Dawa) revealed that the main factors were household incomes, occupational and educational status of household heads, household size, age of household head, access to credit, access to employment, proportion of expenditure on food and marital status of the household[1, 6, 11].

SIGNIFICANCE OF THE STUDY

Urbanization and rural-urban migration resulted in alarming population pressure implying increased food demand. Food accessibility and affordability is the main factor of food insecurity. In addition to this Poverty, irregular household incomes, unemployment and dynamic and complex livelihood are the root cause of urban food insecurity. Therefore household food insecurity status at Sodo town was not exhaustively studied because, inadequate evidence on household food insecurity status and its associated factors. Moreover, limited published researches were available in the study area. Therefore, this study was carried out as bench mark to provide information for policy makers, governmental and non-governmental organizations regarding the household food insecurity status in Sodo town.

METHODS AND MATERIALS

Study Setting

Study was conducted in Wolaita Sodo Town in Wolaita zone. Wolaita zone is one of the 13 zones in SNNPR Regional State located in the southern part of the region at 385 km distance from Addis Ababa and 165 km south west of the regional capital, Hawassa. Sodo Town is the capital city of Wolaita zone and located in $6^0$48`-$6^0$53`N latitude, $37^0$44`-$37^0$46`E longitude, at the altitude of 1500-2500m with an area of 82.1 km^2 and the total population is estimated to be 110,657 from these 57,477 are male, 53,180 are female. According to Wolaita Sodo town health office report, 2015 the total number of households in the town is 22,584 .The towns is structured in 3 sub- cities and 11 administrative kebeles. There are 2 hospitals, 3 health centers, 11 health posts & more than 21 private health institutions providing health services in the town. A number of household earn their livelihood being employed in the civil services, non government organizations, trading, small-scale industries, daily laborers and pension.

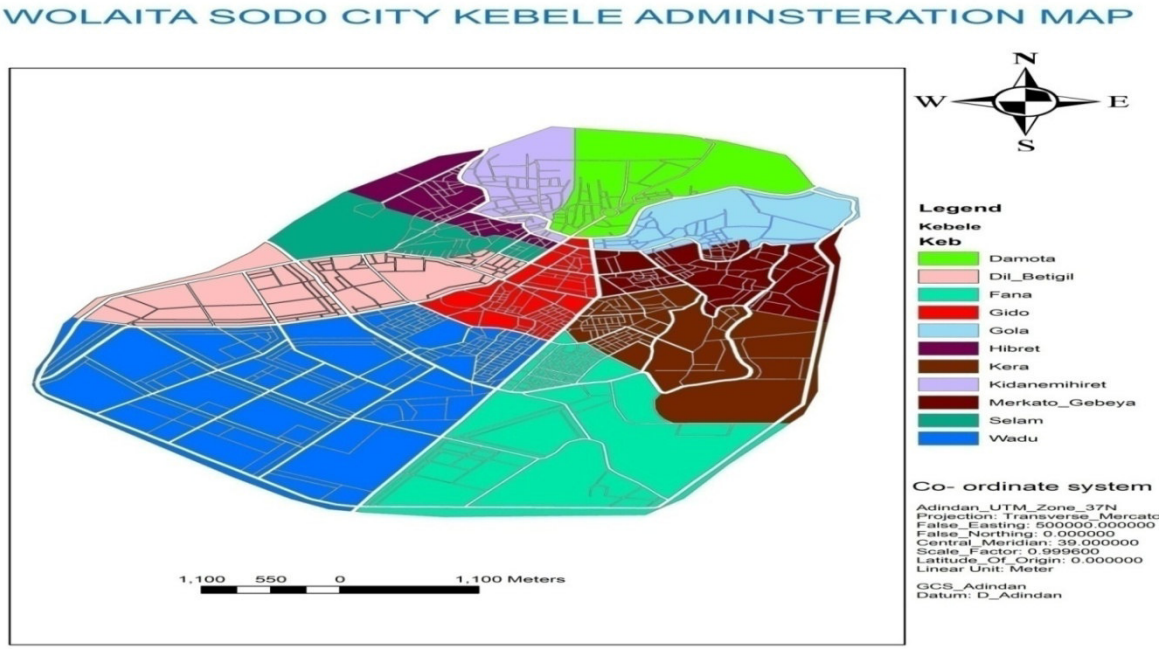

Figure 1: Map of Wolaita Sodo town 2015
Source: Sodo town health office report 2015.

Study period and Study design

The study was conducted from August 6/2015 to August 31/2015 and a community based cross-sectional study design was conducted

Source population and study population

All household's head in Sodo Town and All randomly selected households head within the selected clusters/gotte of kebeles in Sodo town.

Inclusion and Exclusion criteria

All household heads who were residents in Sodo town for the past 6 months.

Sample size determination

The prevalence of the food insecurity in the study area is not known/studied before adequately. A single population proportion formula was used with the following assumptions: the prevalence of urban food insecurity which was 58.2% in study done in Addis Ababa was used in sample size calculations[1]. Design effect 1.5, desired absolute precision of 5%, confidence level and 95%, anticipated non–response 10% was used. The total calculated sample size was 617 as indicated below.

A. formula for single population is indicated as:

$$n = \frac{[z^{2}\alpha/2 p(1-p)\ ]\ D}{d^2}$$

Where, n=sample size, d= desired precision 5 %=(0.05), z=standard normal distribution value at confidence level 95 %=(1.96)^2

P= proportion of food insecurity in Addis Ababa=58.2 %

D= design effect =1.5.Therefore, $n = \frac{[(1.96)^2 * 0.582(1-0.582)] * 1.5}{0.05^2}$

Then add 10% of anticipated non–response rate

n = 561*10%NR= **617**

B. To calculate the sample size for second objective, Open EPI 2.3 sample size calculation software was used. Then Some of factors associated with household food insecurity, from different studies conducted in Ethiopia, are Household head being daily wage dependant worker, low average monthly income, and education of household head were considered . The assumptions used were 95% confidence significance level, power of test 80%, design effect 1.5 and non response rate of 10%. The calculated sample size for respective associated factors affecting household food insecurity was 218, 185, and 208. There for sample size for the first objective, 617 was used for better representativeness.

Sampling procedures

A Multistage cluster sampling technique was used to select primary and secondary sampling units. Out of 11 kebeles of the study area, 5 kebeles were selected by simple random sampling as primary sampling unit. Then secondary sampling units 15 cluster/gotte were selected by simple random sampling from the list of 45cluster/gotte from each kebeles according to the size of cluster/ gotte and the sample size was allocated to each clusters/gotte using probability proportion to population size .Finally, **617** households were studied in the selected cluster/gotte and data was collected from all selected Kebeles.

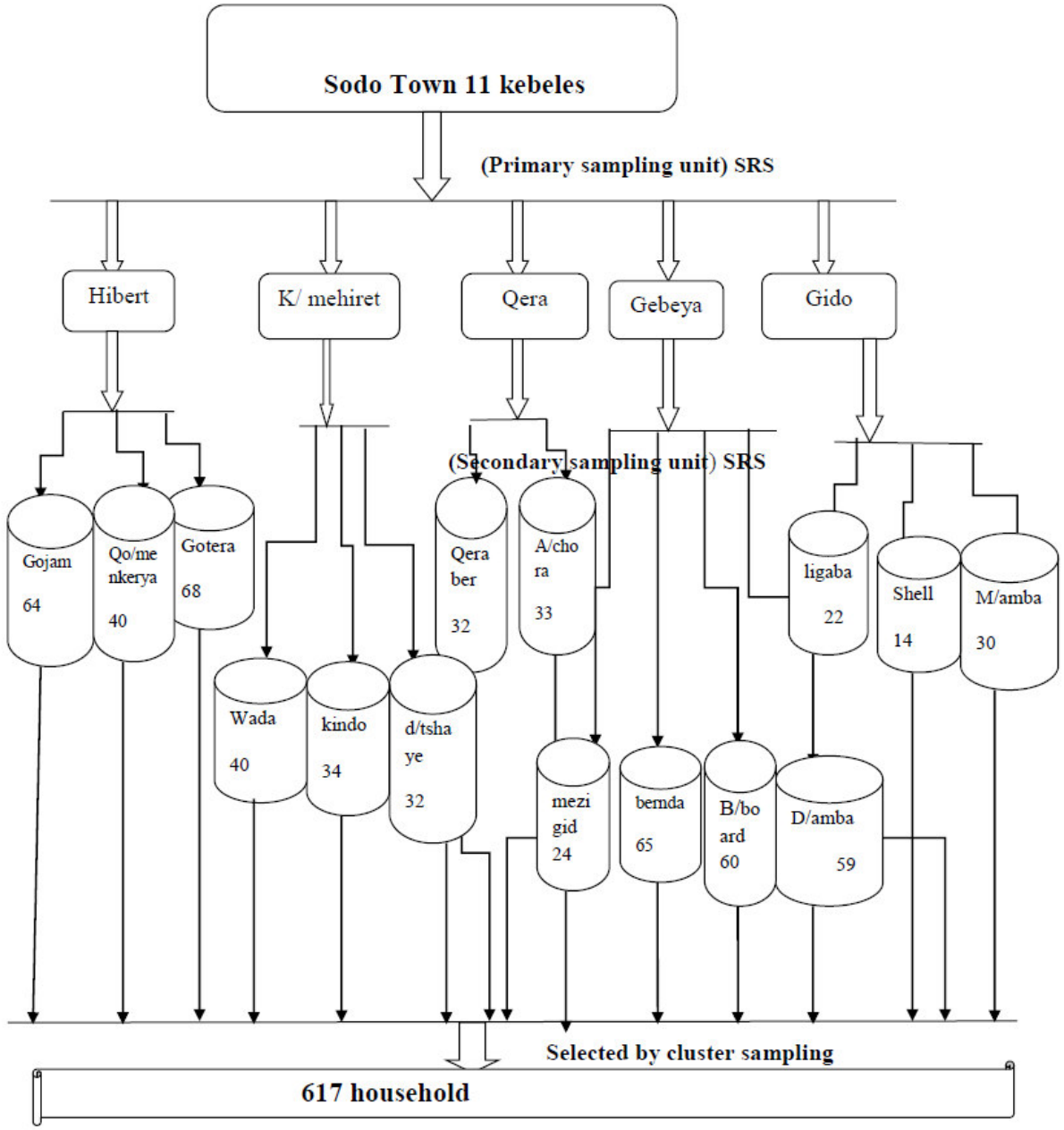

Figure 1: Schematic diagram to sampling procedure of households in Sodo 2015

Dependent Variable: Household food insecurity

Independent Variable

Socio demographic factors: Sex of household head, family size, Age of household head, marital status of household head, Educational status of household heads, ethnicity, Religions, dependent members in households and occupation of household head.

Socio -economic factors: Monthly household incomes, Access to credit, house ownership and Proportion of expenditure on food

Operational definitions

Food insecurity: exists when all people, at all times lack secure access to sufficient amounts of safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.

Mildly food insecure (access) household: worries about not having enough food sometimes or often, and/or is unable to eat preferred foods.

Moderately food insecure household: Sacrifices quality more frequently, by eating a monotonous diet or undesirable foods sometimes or often.

A severely food insecure household: Has forced to cutting back on meal size or number of meals often, and/or experiences any of the three most severe conditions.

Data collection methods

Data were collected using pretested structured questionnaires on the subject of Socio economic and demographic factors prepared based on review of different literatures and to estimate prevalence of household food insecurity standardized questionnaire of household food insecurity access scale (HFIAS) developed by FANTA Version 3(2007) and 12 food groups recommended by FANTA using a 24-hour recall method were also used to assess the (HDDS) household dietary diversity score[12-13]. The questionnaire was initially prepared in English and then translated into Amharic and finally back to English to check consistency and accuracy by language experts. Five diploma nurses as data collectors and two BSc health officers as supervisors were recruited from Sodo town based on their previous experience in data collection.

Data quality assurance

Both data collectors and supervisors were trained for two days one week prior to date of data collection on objective, methodology of the research in food insecurity, data collection and interviewing approach, and data recording. Pretest was done on 5% (31 households) of the sample from another two Kebeles which were not selected for actual study two days prior to actual study. A data collector was strictly supervised for properly filling questionnaire on daily basis. The principal investigator undertook the overall coordination of the activity.

Data processing and analysis

The Data were checked for completeness and consistency before data entry and cleaning. Data were coded and entered in to Epi Info version 3.5.3.Then; the data were exported to SPSS version 16 program for analysis. Households were classified based on responses to the nine severity items in the HFIAS and coded 0 for no and 1 for yes. The standard procedure for scoring was used as follows: zero was attributed if the event described by the question never occurred, 1 if it occurred during the previous 30 days. With regard to the occurrence, 1 was attributed if the events rarely occur, 2 sometimes and 3 often. Therefore, responses on the nine HFIAS questions were summed using the SPSS 16 program to create the food security score, with a minimum of 0 and a maximum score of 27. According to the score the higher the score, the more the household is vulnerable to food insecurity.

The lower the score, the less food insecurity a household experienced. Therefore, HFIAS score of 0-1 is categorized as food secure, 2 and above were considered as food insecure. Then, households scored 2–7, 8–14 and 15–27 were categorized to be mildly, moderately and severely food insecure households respectively. Descriptive summary statistics like frequencies, proportions, mean, graph and table were used to present study results.

Bivariate and Multivariable logistic regression analyses were computed to assess the association between the study variables and to control for all possible confounding factors. All the variables significantly associated during Bivariate analysis with the P-value less than or equal to 0.25 were candidate for multivariable analysis. P-value less than 0.05 were considered as statistically significant. Both crude and adjusted odds ratio with 95% confidence interval were reported to show the strength of association between study variables.

Ethical Consideration

Ethical clearance was obtained from the Ethical review Committee of college of health sciences and medicine, Wolaita Sodo University. Then the concerned officials in Sodo town at each level were communicated through formal official letters from the School of Public Health. Then the Sodo town health office sent official letters to local Authorities of all selected Kebeles. Informed verbal consent was obtained from each participant before interview.

To ensure confidentiality of participants, information, anonymous coding was used whereby the name of the participants and any participants' identifier were not written on the questionnaire and also during the interview to keep the privacy they were interviewed alone. The rights of participants not to take part in the study and not to answer the question they don't want to answer were ensured.

RESULTS

Socio Demographic and Economic Characteristics of the Households

A total of 609 households participated in the study, making a response rate of 98.7%. The mean age of household head was 43.03 year. The majority, 488 (80.1%) of the household heads interviewed were male and 479(78.7%) of the households were married. Majority of the participants 287(47.1%) were in the age group 41-64 years. About 402(66%) of the households have 4-6 family members and about 295(48%) were Orthodox Christians while 274(45.0%) were Protestants. Majority 411(67.5%) of households were from Wolaita ethnic group. The results indicate that majority of households had two or less dependent members 422(69.3%), while close to a third of households 187(30.7%) have more than two dependent members. As reported by the households 425(69.8%) have attended formal education. In terms of occupation the study revealed that among the household heads 321(52.7%) was self employed. More than 308(50.6%) of the households have monthly income of greater than 1901ETB. (Table1).

The finding indicated that most of the households in Sodo town had the following items; mobile phone

536(88%), TV/DVD/Radio 485(79.6%), and modern bed 402 (66.0%). On the other hand few households have reported to own the following items; car 9(1.5%), bicycles 54(8.9%), refrigerators 149(24.5%), jewelers 191(31.4%), sofa set 219(36.0%).

Table 1: Socio demographic characteristics of the respondents in Sodo town, 2015

Variable N=609	Category	Frequency	%
Sex of HH head	Male	488	80.1
	Female	121	19.9
Age of HH head	20-40	286	47.0
	41-64	287	47.1
	65and above	36	5.9
Family size	1-3	66	10.8
	4-6	402	66.0
	7 and above	141	23.2
Religion	Orthodox	295	48.4
	Protestant	274	45.0
	Others	40	6.6
Ethnicity	Wolaita	411	67.5
	Amhara	66	10.8
	Gurage	47	7.7
	Gamo	64	10.5
	Others	21	3.5
Marital status of HH head	Married	479	78.7
	Unmarried	6	1.0
	Divorced	26	4.3
	Separated	13	2.0
	Widowed	85	14.0
Educational status	No formal education	184	30.2
	Formal education	425	69.8
occupation of HH	Self employed	321	52.7
	GOV/NGO employed	120	19.7
	Daily wage	115	18.9
	Pension	53	8.7
Monthly income	≤1000	184	30.2
	1001-1900	117	19.2
	≥1901	308	50.6

Access to Food and Food consumption

All of the households included in this study purchased their food from the market. Almost half of the households used ≥1201 ETB for food expenditure. About 124(20%) of the households reported that they ate ≤ 2 meals a day. Majority of the households 582(95.6%) consumed cereals as their staple over 24 hours prior to the survey. Furthermore, 557(91.5%)of households reported to have consumed vegetables, 482(79.1%) oils or fats, 587(96.4%)Miscellaneous (tea & coffee)455(74.7%) sugar or honey, 401(65.8%) pulses, 331(54.4%) root or tubers,9(1.5%) fish, 42(6.9%) meat,82(13.5%) egg ,169(27.8%) fruits and 176(28.9%) milk and milk products over 24 hours prior to the survey.

Household dietary diversity score

The mean (SD) dietary diversity score of households was 6.36(±1.36). Using this mean score, households were categorized into three groups. Slightly over 160(26.3%) of households can be grouped as poor dietary diversity group (who have consumed 5 or less food groups), about 288(47.3%) of household can be grouped as medium dietary diversity (who have consumed 6-7 food groups) and (26.4%) better dietary diversity group (who have consumed >7 food groups).

Prevalence of household food insecurity

Among the total of 609 households, 229(37.6%) at (95%CI= 33.5%-41.5%) responded affirmatively to the 9 occurrence questions, labeling them as food insecure households. According to the cut-off points set, 66 (10.8%) at (95%CI= 8.4%-13.3%) of households were classified as mildly food insecure households, while 141(23.2%) at (95%CI= 19.9%-26.6%) and 22(3.6%) at (95%CI= 2.3%-5.1%) households are classified as moderately and severely food insecure households respectively (Figure5).

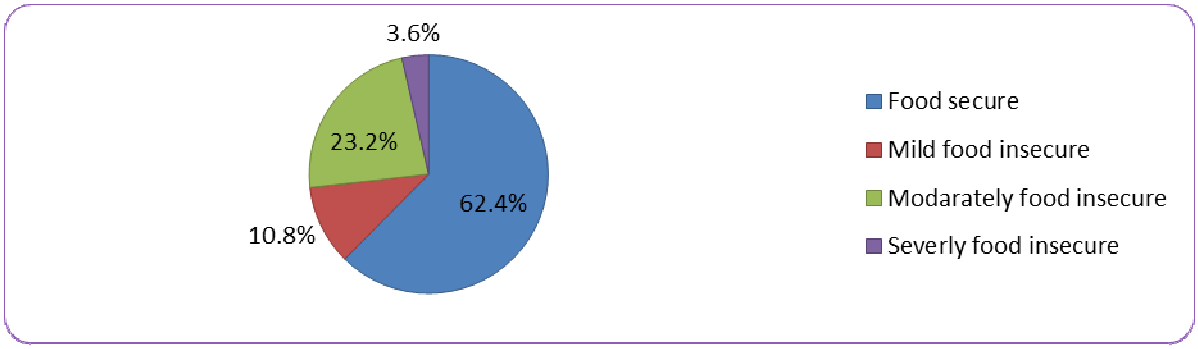

Figure 3: Diagrammatic representation of Food security status in Sodo, 2015

The mean HFIAS score of the households was 3.6. The study findings revealed that 227(37.3%) of the households worried about food inaccessibility. The proportion of affirmative responses shows that 229(37.6%) households were not able to eat the kinds of food they preferred due to lack of resources. About 226(37.1%) of the households reported that they did not consume a variety of food. The findings indicated that 173(28.4%) ate unwanted food, 200(32.8%) ate small amounts meal and 168(27.6%) ate few meals per day. The proportion of households who have reported that they did not have any food to eat was 44(7.2%) and for going to bed without eating were 25(4.1%) (Table4).

Table 2: Occurrence of HFIAS conditions in Sodo town,2015

Indicator	No	Total Yes
	N (%)	N (%)
Worry about not having enough food?	382(62.7)	227(37.3)
Unable to eat preferred food	380(62.4)	229(37.6)
Eat just a few kinds of food	383(62.9)	226(37.1)
Eat food really do not want	436(71.6)	173(28.4)
Eat smaller amounts in meal	409(67.2)	200(32.8)
Eat fewer meals in a day	441(72.4)	168(27.6)
No food of any kind in household	565(92.8)	44(7.2)
Go to sleep hungry at night	584(95.9)	25(4.1)
Go a whole day & night without food	604(99.2)	5(0.8)

6.5 Domains of household food insecurity

The nine occurrence items can further be summarized into three major domains: (i) feelings of uncertainty or anxiety about the household food supplies (represented by item 1); (ii) perceptions that household food is of insufficient quality and food type preference (represented by items 2–4); and (iii) insufficient food intake and its physical consequences (items 5–9). On the basis of these categories, the finding related to the percentages of household is falling. The computed percentage for anxiety and uncertainty domains was 227(37.3%), for the insufficient food quality domain was 229(37.6%) and insufficient food intake and its physical consequences domain were 202 (33.3%) (Figure6).

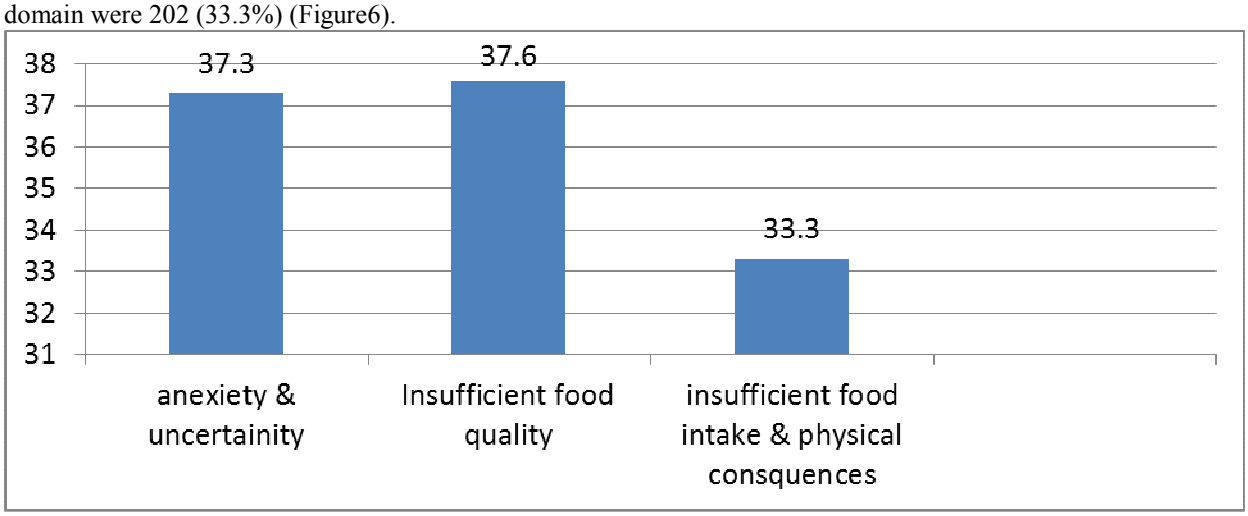

Figure 4: HFIAS domain shows percentage distribution of households in Sodo town, 2015

6.6 Factors associated with household food insecurity

At Bivariate logistic regression factors identified to be candidates were sex of household heads, age of household heads, family size, marital status, dependent members, occupation, monthly income, food expenditure, house ownership and credit access. Most variables that were associated with food insecurity during bivariate analysis lost their significance in the multivariable model. Only five variables (single household heads, dependent member in households, daily laborers of household heads, monthly income of households and monthly food expenditure) retained their significance in the multivariable model. Regarding marital status of household head with single (unmarried, separate, divorced and widowed) 4.0 times more likely to be food insecure as compared with household heads who were married (AOR=4.06,95%CI=1.24-13.27). Households with more than two dependent members were about 3.0 times (AOR=3.03, 95%CI= 1.38-6.63) more likely to be food insecure as compared with households with two and less dependent member in households. Household heads who were daily wage laborers were 16 times (AOR=16.0 95%CI= 4.57-56.03) more likely to be food insecure as compared with self-employed. The results also showed that having a higher monthly income (>1901ETB) were 98.7% (AOR= 0.013, 95 %CI= 0.003- 0.051) less likely to be food insecure as compared to lower monthly income (<1000ETB). On the other hand households expending ≤700ETB for monthly food consumption were 10.5 times (AOR=10.56, 95% CI = 2.61-42.71) more likely to be food insecure compared with households who expend ≥ 1201EB (Table 6).

Table 3: Results of Bivariate and multivariable logistic regression analysis on factors associated with household food insecurity in Sodo town, 2015

Variable (n=609)		Food security status		COR(CI)	AOR(CI)
		Insecure	Secure		
Sex of HH	Female	79	42	4.24 (2.78-6.45)	1.304(0.39-4.28)
	Male	150	338	1	1
Age of HH	20-40	89	197	1	1
	41-64	114	173	1.45(1.03-2.05)	0.145(0.01-1.28)
	65 & above	26	10	5.75 (2.66-12.44)	0.73(0.09-5.76)
Family size	1-3	34	32	1	1
	4-6	149	53	0.55(0.33-0.94)	0.77(0.34-1.74)
	7 & above	46	95	0.45(0.25-0.82)	0.93(0.37-2.35)
Marital status:	singles	86	44	4.59(3.0-6.93)	4.06(1.24-13.27)*
	Married	143	336	1	1
Dependent:	> 2 members	83	104	1.51(1.06-2.14)	3.08(1.33-7.13)**
	≤ 2 members	146	276	1	1
Occupation :	Pension	43	10	19.92(9.45-41.96)	5.27(1.49-18.58)*
	Daily wage	108	7	71.46(31.6-161.64)	16.0(4.57-56.03)**
	Gov/NGO employed	21	99	0.98(0.57-1.71)	5.26(2.05-13.47)**
	Self employed	57	264	1	1
Education:	No formal education	102	82	2.92(2.04-4.17)	1.33(0.76-2.32)
	Formal education	127	298	1	1
Monthly income:	≤ 1000 birr	169	15	1	1
	1001-1900birr	49	68	0.064(0.034-0.122)	0.149(0.049-0.449)**
	≥1901 birr	11	297	0.003(0.001-0.007)	0.013(0.003-0.051)**
Food expenditure :	≤700	159	17	211.7(96.6-463.74)	10.56(2.61-42.71)**
	701-1200	59	69	19.3(9.77-40.13)	5.83(2.20-15.42)**
	≥1201	11	249	1	1
House ownership:	Rent house	150	115	4.38(3.09-6.21)	1.04(0.48-2.23)
	private owner	79	265	1	1

Key: p-value<0.05* significantly associated, p-value <0.01**strongly statistically significant

7. Discussion

This study looked at the levels and associated factors of household food insecurity in an urban area of Sodo town using Household Food Insecurity Access Scale (HFIAS). The study indicated that a total of 37.6% (95%CI=33.5%-41.5%) households were food insecure, among whom 10.8%(95%CI=8.4%-13.3%), 23.2%(95%CI=19.9%-26.6%) and 3.6%(95%CI=2.3%-5.1%) were mildly, moderately and severely food insecure respectively. The study also identified single household head, dependent member in households, daily laborers of household head; higher monthly income and monthly food expenditure were found significant predictors of food insecurity.

The prevalence of household food insecurity in the study area is (37.6%) moderate .The findings is relatively similar with previous studies conducted in Shashemene district (36%) and Mwingi District, Kenya

(38%) and Sodo town (35%). It is also comparable with the national prevalence rates reported in Ethiopia (35%) [14-17]. However, the levels of food insecurity observed in this study is lower than the findings reported by a number of studies such as reports of studies conducted in South Delhi and Malda district of India (77.2% and 68.38% respectively), Kinshasa (70%), two studies in Addis Ababa city (75% and 58.2%), Dire Dawa town (43%), Farta district of Northwest part of Ethiopia (70.7%), Manna Woreda of Jimma zone (42.9%), Offa Woreda, (57%), and Boloso sore Woreda of Wolaita zone (65.5%) [1, 4, 6, 11, 18-24]. The possible explanation might be the coincidence of the data collection with a harvest season (July to November) where food is more available and the prices are relatively low. Therefore, lower food insecurity prevalence in this study might be associated with harvesting season of the year where the study conducted.

In the contrary, however, the findings observed in this study tends to be higher than the findings of some studies such as the findings of studies conducted in the Punjab province of Pakistan (19%), Humbo (28.4%) and urban areas of Ethiopia, 28.0% [9, 25-26]. The difference might be attributable to the ecological differences (study setting) and socioeconomic variations among study areas. Regarding marital status of the households, single household heads were four times more likely to be food insecure than married households. This finding is similar with findings of studies conducted in south Africa and Dire Dawa which conclude that married are more likely to be food secure than single headed household[11, 27]. This may be due to less family income and low purchasing power in single households.

The study identified that households that had more than two dependent members in households were 3 times more likely to be food insecure as compared to households with two or less dependent members. The higher the number of the dependents in the household, the lower the income generated to purchase food items to fulfill all family needs. Thus, a lower household income increased household size tends to aggravate food insecurity. The findings from similar studies conducted in Zimbabwe, Humbo, Sodo town and Wolaita zone are comparable with the findings of this study [17, 25, 28-29].

The study revealed that Daily wage laborers were 16 times more likely to be food insecure as compared to self employed. This may be due to low income and purchasing power of the daily laborers. Households headed by daily wage earners are more at risk to food insecurity in both agricultural and non-agricultural sectors. In addition to regular wage earners and pension were also the most affected since their income was fixed and thus with higher food prices. But self employed is able to vary their work or effort level and thus can compensate at least partly for the high level of food prices. This finding is similar with study conducted in Addis Ababa city, Bangladesh and India [6, 19, 30] .

Households who reported high monthly income ($\geq$1901 ETB) were 98.7% less likely to be food insecure than those households who have $\leq$1000ETB. On the other hand when income diminishes household may cause inadequate quality and quantity of food intake due to unable to purchase variety and preferences of the type of food while rich households might have additional sources of income. Earlier researches conducted in South Africa, Addis Ababa city and Dire Dawa shows that households with higher monthly income are less likely to suffer from food insecurity as compared to households with lower incomes[6, 11, 27].

Regarding household food expenditure, households expending $\leq$700 ETB for monthly food purchases were eleven times more likely to be food insecure than those households who expend more. The findings are comparable with the findings from studies done in North India and Dire Dawa [11, 19]. This may be due to low income and purchasing power of food for their consumption, as the proportion of expenditure on food decreases, access to food by household also decrease, this may end up with shortage of food Varity as well as amount.

8. Limitation of the Study

The nature of the data collection for past one month on HFIAS depend on the recall of events of households, it might introduce recall biases. The coincidence of data collection with a harvesting season might have led to underestimation of household food insecurity status.

CONCLUSION AND RECOMMENDATION

The study confirmed that food insecurity is not only a rural problem but also an urban problem. This study showed that high proportion of households was food insecure in the study area as compared to the urban national level. Single household head, dependent member in households, daily laborer of household head, higher monthly income and low food expenditure were found significant predictors of food insecurity. Sodo town municipality, health and agriculture office need to take action aimed at improving food security situation in the study area such as: - Strengthening micro finance and small business enterprise to increase access to food via increased income, Design strategies of food security program (like safety net program, enhancing backyard farming) in study setting, Awareness creation on impact of population and strengthening family planning methods by collaboration with health office ,Stabilization of food markets/prices and income generating activities should be encouraged and Furthermore promotion of saving to ensure building up of assets for food insecure households in the study area.

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