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Nutritional and Health Status of the Registered Rickshaw Pullers in the Three Areas of Dhaka City

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Abstract:
Background*: In Bangladesh, cycle rickshaws are more helpful than the other public vehicles like auto carts, taxis and transports. Urban slum area employment relies upon to a great extent upon rickshaws in Bangladesh. In numerous Asian urban communities, cycle rickshaws are broadly utilized and give fundamental work to the recent immigrant's impoverished from rural areas. The majority of the cart pullers are migratory in nature and lives in unhygienic day to day environments.*
Materials and Methods*: The study was conducted among the rickshaw pullers at the three areas of Dhaka city, from July 2018 to September 2018. The study was descriptive cross-sectional study. Quantitative data was collected by anthropometric assessment and qualitative data was collected by socio-economic information through interviews. Total 180 rickshaw pullers were selected as the study sample of the selected areas.*
Results*: According to given data, out of 180 respondents 52.22% rickshaw pullers belongs to the age group of 25-35. A large number of the respondents (42.8%) were illiterate and about 60% respondent incomes were between 10000BDT to 15000BDT. Majority (76.1%) of the participants were belonging to normal range of Body Mass Index (BMI). In the study 58.9% of rickshaw pullers were smoker and 7.2% were addicted to alcohol.*
Conclusion: *The study showed that the high rate of illiteracy, low wage, early marriage, poor dietary intake, high rate of communicable diseases and poor nutritional status are very likely related to each other and one leads to another. The study shows that there is an association between only rice intake of the study participants and their nutrition status.*
Key Word*: Rickshaw pullers, Health, Personal habit, Normal weight, Nutrition.*

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I. Introduction

Rickshaw pullers are such workers, bearing pioneer legacy with most extreme resilience and obliviousness. They are in the limit destitution and carrying on with life somewhat better than the hobos. They are taking food just to live and they have no such degree to change their taste. They need to send cash to their home consistently, so they spend a few on food and they are for the most part experiencing lack of healthy sustenance also related wellbeing (1). A large portion of the rickshaw pullers are transients and live in poor environments conditions. There is an absence of essential conveniences in a considerable lot of garage. These garages don't have adequate convenience, cooking area, water and latrine facilities (2).

Urban slum area employment in Bangladesh largely depends on cycle rickshaws. On account of expansion and joblessness individuals from provincial region swarmed in the urban communities to become cart drivers generally called the rickshaw puller (1). Individuals picked this sort of work because of absence of business, no chance to get livelihoods or bringing in cash, absence of resources including agricultural land as well as house in the rural area (3). Although rickshaw pullers live in extreme poverty, they are generating income and thereby contributing towards our economy. Rapid and ongoing urbanization in Bangladesh has resulted in uncountable problems like high traffic congestion, air pollution, traffic accidents, and health problems. The relationship among health, nutrition and development is mutually reinforcing. While health contributes to economic development and nation tends to improve the health status of the population. As investment on health increases, the productive capacity of the working population increases hence the level of income tends to rise and to that extent it contributes to a decline in the incidence of poverty. It is important to gather pertinent data to examine the financial creation, causes, issues and the ramifications of such occupation on the wellbeing. In general, a suitable arrangement might be outlined to take care of their issues (4). A study with sample of 30, 21 respondents identified the reason for their migration is to earn more or for better

livelihood (5). Better health and nutrition related to the labor productivity (since deciders in good health generally have better intellectual capacities), can increase household income and economic growth. Thus, the aim of this study was to compare anthropometry data, health status and food intake patterns of rickshaw puller working during the day or night. Therefore, to investigate the nutritional status and food intake pattern of rickshaw pullers of Dhaka city.

II. Material And Methods

A cross sectional study was conducted (July 2018 to September 2018) to determine the nutritional status and dietary pattern of rickshaw pullers with socio economies as well as health status in three elite area of Dhaka city (Banani, Gulshan and Nikaton housing society). Firstly 200 samples were collected, due to some missing data finally 180 was selected as the study sample and analyzed from the 1500 licensed rickshaw pullers of the selected area. Both the quantitative and quantitative data was considered. Quantitative data was collected by Anthropometric Assessment which includes height measurement, weight measurement, Body Mass Index (According to WHO classification) (6). Qualitative data was collected by socio-economic information through interview. Digital weighing scale and measuring tape were used for the anthropometric measurements. A questionnaire that was modified from several studies was used to collect data. The questionnaire basically asked to obtain the relevant information on anthropometric, socio-economic and demographic information.

III. Result

The present cross sectional study was carried out to evaluate the socio economic profile, health and nutritional plight, food consumption profile among the selected rickshaw pullers. In Dhaka city about 90% rickshaw drivers came from the village ends. Employment opportunities and more earnings pull the rural people toward the cities (7). Some ecological push factors like dry seasons, storms and floods drive them to the metropolitan areas. A large number of illiterate and unskilled people generate income by pulling rickshaws in city areas (8).

Table no 1: Socio-demographic profile (N= 180)

Parameters	Indicators	Frequency	Percentage (%)
Age (years)	15-25	25	13.89
	25-35	94	52.22
	35-45	38	21.11
	45-55	21	11.67
	55-65	2	1.11
Education	Primary	44	24.4
	Secondary	51	28.3
	Higher secondary	8	4.5
	Illiterate	77	42.8
Family member	2-4	96	53.3
	5-8	84	46.7

Table 1 shows that, out of 180 respondents 52.22% belongs to 25-35age group and 21.11% from 35-45 age groups. Again 53.3% respondents had family size of 2-4, 46.7% had family size of 5-8 respectively. A large number of the respondents (42.8%) were illiterate, 28.3% of participants were secondary level of education, 24.4% were primary level education and a little number of respondents was in the higher secondary level education. In case of monthly family income, low income group was dominant (Table 2) according to World Health Organization (WHO) (9).

Table no 2: Family economic condition (N=180)

Parameters	*Indicators /Range*	*Frequency*	*Percentage (%)*
Income (BDT)	5,000-10,000	30	16.7
	10,001-15,000	108	60.0
	15,001-20,000	35	19.4
	20,001-25,000	7	3.9
Expenditure (BDT)	5,000-10,000	31	17.2
	10,001-15,000	108	60.0
	15,001-20,000	29	16.1
	20,001-25,000	10	6.7

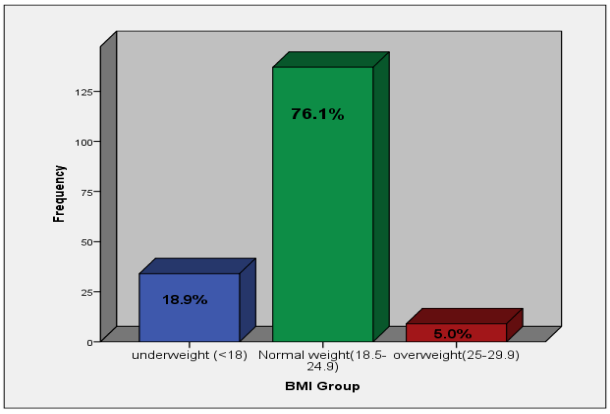

Figure1: BMI of the respondents

Rickshaw pulling has a destructive health risk that might create a health burden to rural poor people in the long run and family of cart the pullers do not approach appropriate schooling and wellbeing (10). Figure 1 is showing that majority of respondent (76.1%) have normal weight, 18.9% have underweight and 5% have the risk of overweight. More than half of the respondents face household food insecurity as shown in figure-2.

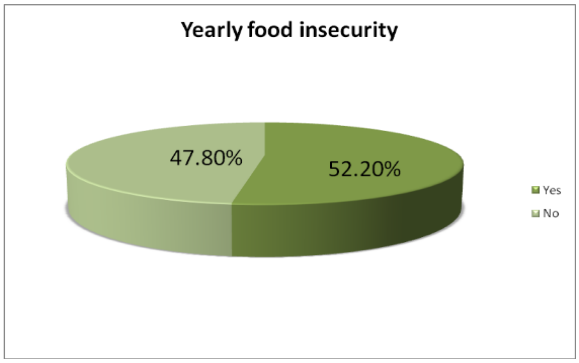

Figure 2: Yearly food insecurity

In addition, a significant number of rickshaw pullers were suffering from the different types of health problems like infectious diseases (35% from diarrhea 23.3% from hepatitis), joint pain (49.4%), headache (46.1%) and fever (40.6%).

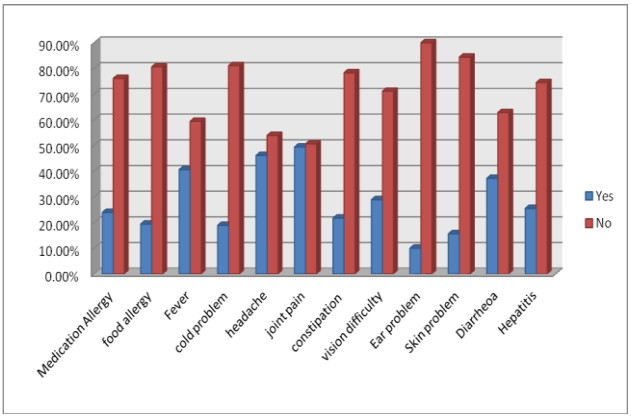

Figure 3: Health Complication

Figure 4 shows that the addiction of the respondents to tobacco and alcohol. Present study found the 58.9% respondents were smoker and 7.2% were addicted to alcohol.

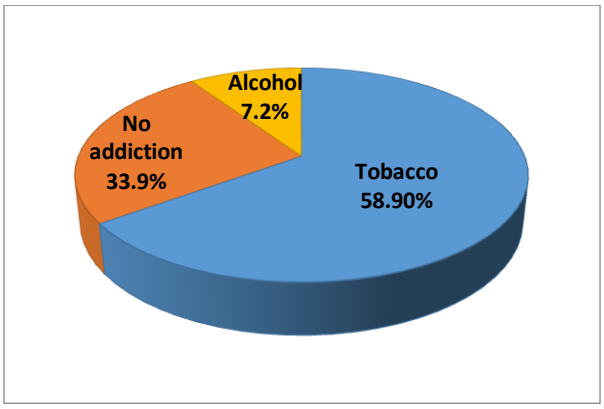

Figure 4: Personal Habit

The average daily consumption of foods from different food groups were poor among the participants that showing the respondents consumption of only energy yielding food (carbohydrate and lipid rich food) was very high.

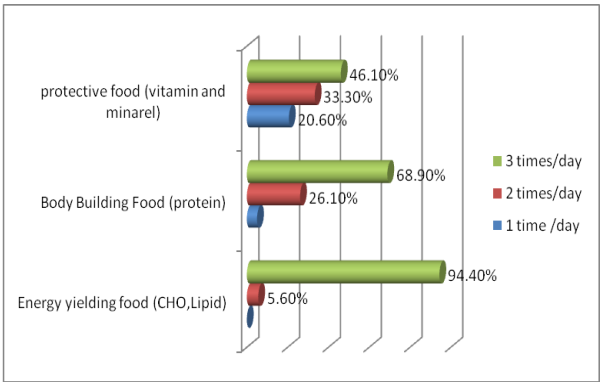

Figure 5: Daily consumption of Carbohydrate, protein and fat enrich food.

Analytical Features (Cross-Tables Analysis)

Chi-square tests were used to test the existence of relationship between various variables and the level of significance was also estimated. Table-3 shows that among the 36 underweight samples 18 were young aged person. Similarly in case of normal BMI majority was in the group of young age, but the relationship was not significant.

On the other hand Table-4 shows that there is only significant relationship between daily rice intake in a week and BMI of the respondents. Others were not significantly related.

Table no 3: Relationship of age and BMI (N=180)

		BMI Group			P value
		Underweight (<18)	Normal weight (18.5-24.9)	Overweight (25-29.9)	
Age (years)	15-25	7	16	2	0.551
	25-35	18	74	2	
	35-45	7	28	3	
	45-55	2	17	2	
	55-65	0	2	0	

The level of significance was 0.005 in the 95% confidence level

Table no 4: Relationship between BMI and daily dietary intake in a week

Dietary practice	*BMI*				
	Underweight (<18)	Normal(18.5-24.9)	Over Weight (25-29.9)	N	P value
Rice	33	135	8	176	.001
Bon/loaf/Ruti	15	45	5	65	.287
Potato	30	97	7	134	.108
Oil	34	123	9	166	.076
Fish	23	80	5	108	.177
Meat	3	7	0	10	.913
Egg	22	62	4	88	.365
Milk and milk product	10	45	2	57	.283
Legume and nuts	22	99	8	129	.092
leafy vegetable	20	73	7	100	.702
Non-leafy vegetables	22	53	5	80	.053
Fruits	3	22	1	26	.260
Cake /Biscuit	27	78	5	110	.195
Sugar	27	96	6	129	.162
Tea	28	103	6	137	.447

The level of significance was 0.005 in the 95% confidence level

IV. Discussion

The poor people who enter in the rickshaw pulling sector normally has no saving of cash money. So in any need of money they have to borrow from the unauthorized lenders with a high interest rate. A large number of them start their life with rickshaw pulling to repay their debt. The data analysis the mo50% rickshaw pullers were from youth group and the socio-economic causes which compelled the poor people to engage themselves in rickshaw pulling. Unemployment, poverty, low income, small size of land holdings, large family size, illiteracy, early marriage and family disintegration pushed to pull rickshaws. Moreover, cash payment, debt and uncertainty in production of crops derived the rickshaw pullers towards the pulling of the rickshaws. The anthropometric data (weight and height), in this study were 18.9% underweight, 76.1% normal range and 5% high risk of overweight but no obese persons. In addition, from the data analysis of 180 rickshaw pullers more than 50% were educated, 42.8% were not educated. From that point it could be assured that due to the poverty and lake of employment facility most of them are involved in this profession (8). Almost all respondents were belonging to Islam religion. According to monthly family income, low income group was dominant according to WHO criterion and monthly expenditure of 60% respondents were between 10,000 BDT- 15,000 BDT (9). Analyzed data showed that 58.9% respondents were smoker and 7.2% were addicted with alcohol. Where, 41.1% of the respondents had crisis in every meal in a day. But there was a positive sign that they have good hand hygiene practice and mostly know how to maintain safe food. But for the living in unhealthy environment, the respondents had several health complications simultaneously (10). Selected variables had vision problem while driving, medication allergy, food allergy, respiratory problem, infectious disease (diarrhea, hepatitis), cold problem, joint pain and constipation. More than half of the participants were suffering from the infectious diseases (35% from diarrhoea, 23.3% from hepatitis). Where, other health problems were joint pain 49.4%, headache (46.1%) and fever (40.6%). The dietetic tool nutrition counseling by name can be an effective measure to their sound health.

The evidence suggests that most of the rickshaw pullers originally came from very poor rural backgrounds, and that they have found rickshaw pulling to be somewhat effective as a route out of poverty (3). Upon entering the city, rickshaw pulling appears to be a relatively easy livelihood option. Incidence of food poverty appears to be much less prominent among rickshaw pullers than their rural counterpart. The main advantages that a rickshaw puller has over an agricultural laborer is not so much a higher income, but the regularity of income flows, lacking of rural laborers working in an environment marked with high seasonality (11).

V. Conclusion

This study assessed the socioeconomics, health status, personal habit, nutritional status, dietary knowledge and hygiene practices of rickshaw pullers and the association among the variables. The study showed that the high rate of illiteracy, low wage, early marriage, poor dietary intake, high rate of communicable diseases and poor nutritional status are very likely related to each other and one leads to another. The study showed that there is an association between only rice intake of the study participants and their nutrition status. Food intake of the Bangladeshi rickshaw pullers was found nearly adequate in terms of caloric intake especially from cereals, fishes, vegetables and pulses but inadequate with regards to fruits, egg, milk and milk products. Although the study subjects were mostly from urban dwellers their dietary intake was not balanced as evidenced by daily rice intake and very low intake of fruits, vegetables indicating a lack of awareness regarding healthy diet. Further study is needed to confirm the study findings and to initiate health education on diet in order to improve the health of the rickshaw pullers of Bangladesh. Though such studies require information on multiple variables, as nutrition is a multidimensional subject which is related to adequate safe food intake, pure water supply, proper health care practices, sanitation, hygiene, and socio-economic conditions of the people. We tried to cover every aspects related to the nutrition field, but the number of respondents were low and we included only registered rickshaw pullers of 3 elite areas of Dhaka city in the current study. Further studies can be conducted to address the underlying issues affecting the socioeconomic status, nutrition and sanitation situation in the broad context of deprived rickshaw pullers.

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