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Original Research Article

Risk Factors for Non-Communicable Disease in a Selected Rural Area of Bangladesh

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Abstract: ***Background:*** There is rising recognition that non-communicable diseases (NCDs) pose a serious threat to low- and middle-income nations (LMICs). Understanding how each country is reacting is crucial because LMICs account for 80% of NCD mortality. ***Objective:*** To determine the pattern of risk factors for non-communicable disease replace among by in the rural area of Bangladesh. ***Methods:*** This is a descriptive type of cross-sectional study conducted by the 3rd year MBBS student at Delta medical college and which was conducted in Savar Upazilla health Complex. The total number of respondents was replaced by were 405, adult (Male & Female), study period was 27.12.2021- 29.01. 2022.The sample size was 405. After collection, the data were checked and edited. Then data were processed and analyzed by SPSS-23 version. ***Results:*** Out of 405 respondents 28.38% belong in the 18-25 years age group and 25.65% were in 26-30 years. Other 18.92%, 15.41% and 11.62% belonged to 31-40 years, 41-50 years and above 50 years age group respectively. About 88.65% of the respondents used soybean oil. 32.8% of the respondents used mustard oil, 3.25% of the respondents used palm oil, 1.89% of the respondents did not use any specific oil or fat. Other 0.27% of the respondents used sunflower oil. The majority (41.36%) of the respondents took extra salt with meals occasionally, 31.62% of the respondents took extra salt regularly. Other 27.02% of the respondents never took extra salt at mealtimes. ***Conclusion:*** Attention should be drawn to the concepts of control as well as prevention of non- communicable disease. Intake of extra salt, oily food, smoking and other habits should be strictly prohibited. Good housing and sanitation are to be maintained.

Keywords: Non-Communicable Disease, Risk Factor, Accident, Injury.

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Introduction

Non-communicable diseases (NCDs) are a fast-expanding danger in low- and medium-income countries (LMICs), and this awareness is growing. Since LMICs account for 80% of fatalities from NCDs, it's critical to better understand how each nation is responding.[1] With a growing older population and a change in the illness burden from infectious, communicable diseases to chronic, non-communicable diseases (NCDs), Bangladesh is going through a fast demographic and epidemiological transformation.[2] Cardiovascular illnesses, cancer, diabetes, and chronic respiratory diseases are all non-communicable diseases (NCDs) that have already raised significant public health concerns in Bangladesh.[3] The cause of over 60% of fatalities in Bangladesh is NCDs. Both NCDs and the risk factors for them are on the rise. These risk factors include smoking, eating few fruits and vegetables, being physically inactive, being obese, drinking too much alcohol, having high blood pressure, high blood

sugar, and high cholesterol.[4] Evidence suggests that the rate of diabetes mellitus and hypertension identification and treatment in the Bangladeshi population is similarly insufficient. NCDs and chronic illnesses are the main causes of death in the nation. A few research have revealed that some risk factors are widespread among Bangladeshi citizens in both rural and urban locations.[5] Controlling these risk factors is less expensive than treating NCDs as a whole. As a result, risk factor-based approaches to NCD prevention have found success in several nations. We must first understand the distribution of risk factors in the population before we can implement any intervention to prevent and manage these NCDs.[6] The World Health Organization is promoting STEPS, a common method for determining the distribution of risk factors in a community. In order to provide a suitable intervention for the community, the current study was developed using the STEPS method to identify the distribution of NCD risk variables as well as the rates of hypertension and diabetes mellitus diagnosis and treatment in a rural Bangladeshi population. The United States' commission on chronic illness has defined "Non-Communicable Disease" as having the following traits: being permanent, leaving residual disability, being brought on by an irreversible pathological alteration, requiring specialized patient training for rehabilitation, and possibly necessitating a lengthy period of supervision and observation.[7] Non-communicable diseases can be avoided by using improved methods for diagnosis, treatment, and rehabilitation, reducing accidents, controlling food, water, and air pollution, and changing societal norms and lifestyles through extensive education. The primary policy/options and strategic goals in this study are based on the country context, including the prevalence of NCDs and related risk factors as well as the current capability of the health system. It describes the national and regional circumstances as well as the demographic evidence.[8]

Objective

To determine the pattern of risk factor for non-communicable disease among the rural area of Bangladesh.

Materials and Methods

The descriptive type of cross-sectional study was conducted during the period of 27.12.2021 -29.06.2022 at Savar Upazilla Health Complex among adult people (Both Male and Female). The sample size was 405 selected by purposive sampling.

Inclusion Criteria

Adult male and female

Exclusion Criteria

Seriously ill patient
psychologically abnormal
Children

Data Collection Instrument and Technique

A pre-tested structure written questionnaire was used to collect the data through face-to-face interview.

Data Processing and Analysis

After collection the data were checked and edited. Then data were processed and analyzed by SPSS-23 version.

Results

Table 1: Distribution of Respondents by Age (n=405)

Age	Frequency	Percentage
18-25 years	105	28.38%
26-30 years	95	25.67%
31-40 years	105	18.92%
41-50 years	57	15.41%
Above 50 years	43	11.62%
Total	405	100%

Table 1 shows that, among all the respondents 28.38% belonged in 18-25 years age group. About 25.67% was in 26-30 years age group. Other 18.92%, 15.41%, 11.62% belonged in 31-40 years, 41-50 years and above 50 years age group respectively.

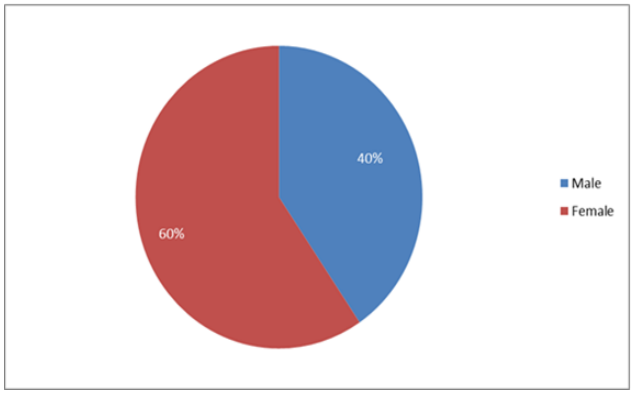

Figure 1: Distribution of Respondents by Sex (n=405)

Figure 1 shows that among the entire respondent's majority were female 59.5% and about 40.5% of the respondents were male.

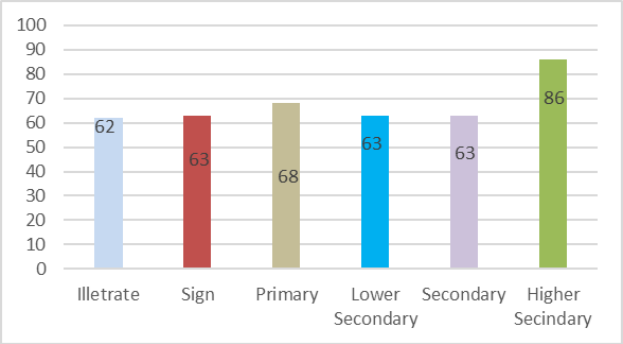

Figure 2: Distribution of the respondents by educational status. (n=405)

Figure 2 shows that among the respondents 15% were illiterate. 16% had signed only and 17% had primary education. 16% had lower secondary education, 16% had secondary education. 20% had a higher secondary educational background.

Table 2: Distribution of the respondents by housing status (n=405)

Housing Status	Frequency	Percentage
Mud house	13	3.51%
Bamboo	5	135%
Straw	1	0.27%
Half building	237	54.60%
Full building	137	37.03%
Others	12	3.24%
Total	405	100%

Table 2 shows the majority (54.60%) of the respondents' housing status was half building. Another 37.03%, 3.51%, 1.35% and 3.24% of respondent's housing status were full building, mud house, bamboo and others respectively.

Table 3: Distribution of respondents by their water source (n=405)

Water source	Frequency	Percentage
Pond	5	1.35%
Shallow tube well	112	30.27%
Supply water	288	68.38%
Total	**405**	**100%**

Table 3 shows that 68.38% of the respondents used supply water. Other 30.27% & 1.35 % uses shallow tube well & pond water respectively.

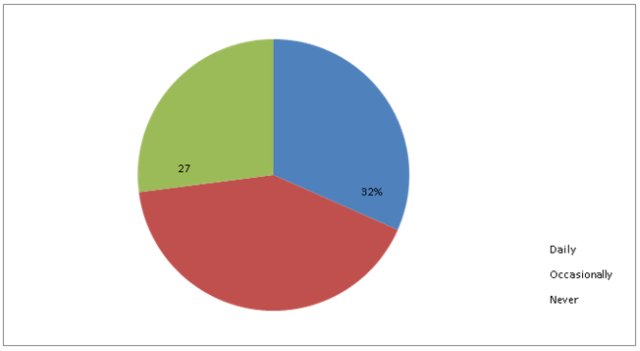

Figure 3: Distribution of the Respondents by Extra Salt Intake in Mealtime (n=405)

Figure 3 shows that 41.36% of the respondents took extra salt occasionally. Other 31.62% took extra salt regularly & 27.02 % never.

Table 4: Distribution of the respondents by sanitation status (n=405)

Sanitation	Frequency	Percentage
Open place	37	10.00%
Pit toilet	89	24.05%
Paka toilet	279	65.94%
Total	**405**	**100%**

Table 4 shows that the majority (65.94%) of the respondents used Paka toilet for their sanitation. Other 24.05% and 10.00% used Pit toilet and open place for their sanitation respectively.

Table 5: Distribution of respondents by type of habits (n=101)

Habit	Frequency	Percentage
Biri	7	6.93%
Cigarette	57	56.43%
Hookah	1	0.99%
Gul	0	0.00%
Pan-jorda	36	35.65%
Total	**101**	**100%**

A total of 405 respondents, 101 were smokers. Out of 101smokers, 56.43%had cigarette smoking habit, 35.65% took pan-jorda. Another 6.93% & 0.99% took biri & hookah respectively (Table 5).

Table 6: Distribution of respondents by daily cigarettes smoking (n=57)

Daily number of cigarettes	Frequency	Percentage
5-10	44	77 20%
11-15	9	15.79%
16-20	4	7.01%
Above >20	0	0.00%
Total	**57**	**100%**

Table 6 shows that 77.2% of the respondents daily smoked 5-10 cigarettes. 15.79% of respondents daily smoked 11-15 cigarettes. Other 7.01% respondents daily smoked 16-20 cigarettes.

Table 7: Distribution of respondents by their household's use of type of oil or fat (n=405)

Oil or fat	Frequency	Percentage
Soybean oil	363	88.65%
Fat	0	0%
Butter of ghee	0	0%
Palm oil	12	3.25%
Sunflower oil	1	0.27%
Mustard oil	22	5.94%
Dalda	0	0%
Not specific	7	1.89%
Others (specific)	0	0%
Total	**405**	**100%**

Table 7 shows that 88.65% of the respondents used soybean oil. Other 5.94%, 3.25%, 1.89% and 0.27% used mustard oil, palm oil, non-specific and sunflower oil respectively.

Table 8: Distribution of respondents by oily food intake (n=405)

Oily food intake	Frequency	Percentage
Daily	32	8.64%
Occasionally	313	75.14%
Never	60	16.22%
Total	**405**	**100%**

Table 8 shows that 75.14% of the respondents took oily food occasionally. Other 16.22% never take oily food & 8.64% take oily food daily.

Table 9: Distribution of respondents by facing injury or accident in workplace (n=230)

Injury and accident workplace	Frequency	Percentage
Yes	65	28.26%
No	165	71.74%
Total	230	100%

Table 9 shows that 28.26% of the respondents faced injury or accident in the workplace. The other 71.74% did not face any injury or accident in the workplace.

Discussion

This survey allowed for the quick evaluation of non-communicable disease risk factors. In this study, 25.65% of participants were aged 26 to 30 years, while 28.38% were in the 18-to-25-year age range.[9] Other percentages were 18.92%, 15.41%, and 11.62% for the 31–40, 41–50, and above 50 age groups, respectively. However, a research in the Dhamrai upazilla found that in the previous year, 29.6% of respondents were between the ages of 41 and 50. Regarding gender, there were 40.5% male respondents and 59.5% female respondents, respectively.[10] Prior to this, men made up the majority of responses (65.2%).In the Dhamrai research from the previous year, 80.6% of participants reported living in one room with 2-4 other people. The majority of respondents (65.94%) utilized paka toilets for sanitation. Other 24.05% and 10%, respectively, used pit toilets and open spaces for sanitation. Similar to this, 71.7% of people in Dhamrai used paka toilets last year. This suggests a decline in environmental and sanitary hygiene. The majority of responders (68.38%) utilized supply water.[11] For the remaining 30.27% and 1.35%, respectively, shallow tuba-wells were employed. In the past, the majority of respondents (73.7%) utilized shallow tube wells in Dhamrai. As a result, supply water is being used more often. Only 27.29% of respondents reported having a personal habit. 56.43% of those surveyed smoked cigarettes regularly. Paan-jorda was taken by 35.65%. 6.93% used a bin.[12,13] Hookah use was 0.99% . Soybean oil was utilized by about 88.65% of the respondents. 32.8% of respondents said they used mustard oil, 3.25% said they used palm oil, and 1.8 % said they didn't use any particular oil or fat at all.[14] Sunflower oil was utilized by an additional 0.27% of respondents. The usage of soybeans was 76% last year, according to publications published by Sagepub.[15-17]. The respondents' consumption of

soybean oil has increased as a result. About 41.36% of the respondents occasionally added more salt to their meals, while 31.62% did so on a daily basis.[18] The remaining 27.02% of respondents never added extra salt to their meals. While, according to searo.who.int, an additional 17% of salt was consumed with meals in the previous several years.[19] 16.22% of respondents never ate greasy food, whereas the majority (75.14%) of respondents occasionally did. The remaining 8.64% of respondents consumed fatty foods every day. On the other hand, study gate in Bangladesh reports that the consumption of greasy foods has increased to 95% in recent years.[20]

Conclusion

This study provides information that not only acts as strong evidence of non-communicable disease among the rural people but also gives recommendation to reduce it. This descriptive type of cross-sectional study with purposively selected sample of selected rural people conducted by the 3rd year MBBS student at Delta medical college which occurred in Savar Upazilla health Complex.Despite being a small and heterogeneous group of people selected from the study we found that majority of the population were female of middle age. Among the selected people most of them had higher secondary education. Also, it is/to be noted that most of the people's monthly income as well as total family income is high despite the good number of family members. We also found majority of them living m half building with good housing space. This indicates socioeconomic condition plays an important role in the prevalence of non- communicable diseases. Majority of the population had no history of personal habit, and a small portion had the habit of smoking cigarettes, which is a non-fixable factor non communicable disease. From the proportion-paving habit of eating oily food we found the majority having the habit from a long period of time, consuming a good amount occasionally. Also, from the study, we found most of the population had the habit of using personal protective equipment.Attention should be drawn to the concepts of control as well as the prevention of non- communicable disease. Intake of extra salt, oily food, smoking and other habits should be strictly prohibited. Good housing and sanitation are to be maintained. Last of all, nothing is more effective than the arousal of awareness of a disease that affects the economic condition of the family as well as country and. reduce life expectancy per year thus influencing the mortality and morbidity rate of a country.

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