Pattern of Patients visited at the Non-Communicable Disease Control (NCDC) corner at an Upazilla Health Complex in Chattogram

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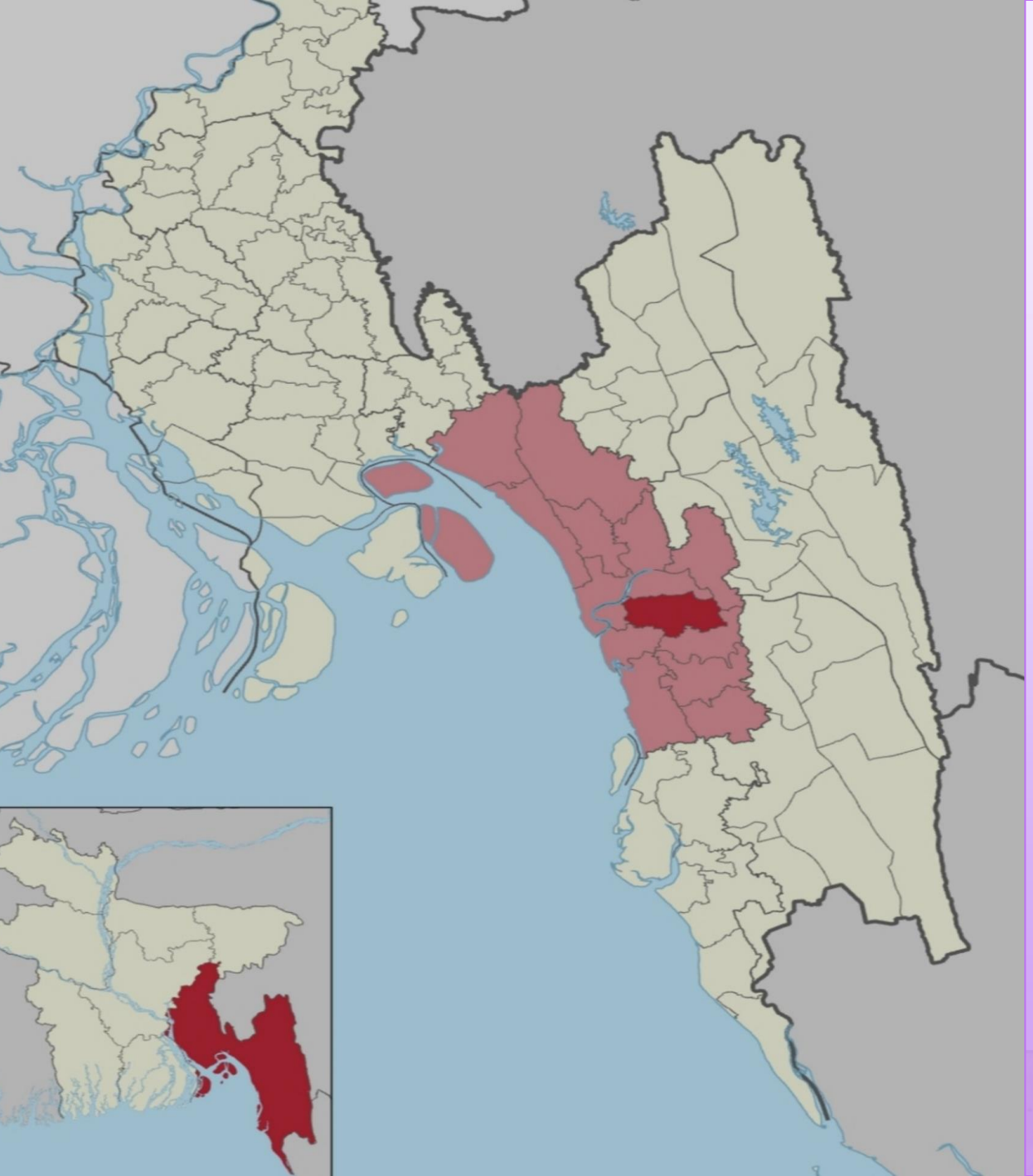
BACKGROUND

- Non-communicable diseases (NCDs) have emerged as a significant global health challenge, contributing to a substantial burden of morbidity and mortality.
- Cardiovascular diseases (CVD), cancer, chronic respiratory diseases, and diabetes are most common.
- The number of deaths due to NCDs is predicted to reach 52 million from 38 million globally between 2012 and 2030.
- An estimated 85% of 15 million premature deaths occur due to the abovementioned NCDs in low- and middle-income countries (LMICs) worldwide every year.

- In Bangladesh, 572,600 (67%) estimated deaths caused by NCDs annually with 22% probable premature deaths.
- The prevalence of NCD has increased over the last ten years
- It is predicted to increase more as Bangladesh is passing through a growing stage of epidemiological transition

- The Non-Communicable Disease Control (NCDC) corners have been established in different upazilla health complexes throughout the country.
- Dynamic leadership of NCDC program wing of DGHS



Lohagara is the southernmost upazilla of Chattogram district.

The UHC plays a crucial role in addressing this growing burden of NCDs among 3,00,562 inhabitants in the region.

- The upazilla health complex is a **50 bedded** hospital where average 600 patients visit at OPD daily.
- The NCD corner started its function here with full logistics and organised new setup since July of 2022.
- Around 70 to 80 patients visited at NCD daily.
- Initially patients' registration process was done through traditional method using log book. Later, online based registration process was started.

MATERIALS AND METHODS

- The research was conducted as retrospective cross-sectional study.
- The study period was of one year duration (July 2022 to July 2023)
- The information was noted in the well-designed register book kept at NCD corner for patients' registration, on the very first visit at UHC.

রক্তচাপ পরিমাপে করনীয়

১৮ বছর ও তদুর্ধ্ব সকলের রক্তচাপ পরিমাপ করুন

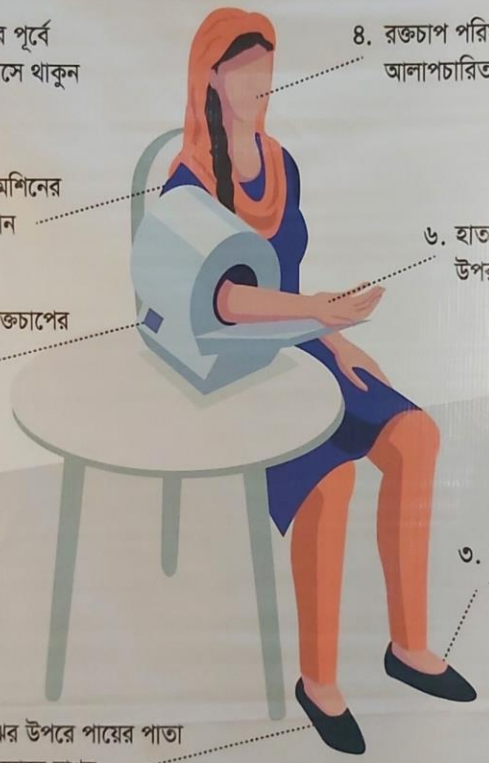
১. রক্তচাপ পরিমাপের পূর্বে ৫ মিনিট নীরবে বসে থাকুন

৪. রক্তচাপ পরিমাপের সময় আলাপচারিতা থেকে বিরত থাকুন

৫. বাহু, কাধ পর্যন্ত মেশিনের ভেতর প্রবেশ করান

৬. হাত মেশিনের হাতলের উপর রাখুন

৭. মেশিন প্রদর্শিত রক্তচাপের মানটিই লিখুন



৩. পা আড়াআড়িভাবে রাখবেন না

২. মেঝের উপরে পায়ের পাতা সমান্তরালে রাখুন

রোগী বিগত আধা ঘন্টার মধ্যে শারীরিক পরিশ্রম করলে, চা- কফি বা তামাক গ্রহণ করলে রক্তচাপ পরিমাপের জন্য আধা ঘন্টা অপেক্ষা করুন

RESOLVE TO SAVE LIVES

Bangladesh

Hypertension Management Protocol for Primary Health Care Setting*

Measure blood pressure of **all adults** ≥ 18 years**

If SBP is 140-159 mmHg or DBP 90-99 mmHg [a] → Advice for lifestyle modification

Review BP after 2 weeks. If SBP is still 140-159 mmHg or DBP 90-99 mmHg, **start drug treatment as below.*****

Step 1 **Start amlodipine 5 mg [b] once daily.**

Step 2 Review after 1 month. If treatment target not met, [c]
amlodipine 5 mg + losartan [d] 50 mg once daily.

Step 3 Review after 1 month. If treatment target not met, [c]
amlodipine 5 mg + losartan [d] 50 mg + hydrochlorothiazide 12.5 mg once daily [e].

Step 4 Review after 1 month. If treatment target not met, [c]
refer to a specialist.

Treatment Target Based on Levels of Blood Pressure	
Most Patients	**≤140/90 mmHg**
Having Comorbidity (diabetes, ischemic heart disease, stroke, chronic kidney disease)	≤130/80 mmHg
High CVD Risk > 30% (as per CVD risk prediction chart)	≤130/80 mmHg

For Women of Childbearing Age Who May Become Pregnant

Step 1: Start amlodipine 5 mg [b] once daily.

Step 2: Review after 1 month. If treatment target not met, [c] amlodipine 10 mg once daily.

Step 3: Review after 1 month. If treatment target not met, [c] refer to specialist.

⚠ **DO NOT PRESCRIBE losartan or any ACE inhibitor or ARB to women who may become pregnant.**

a. For patients with SBP ≥160 mmHg or DBP ≥ 100 mmHg, start immediate treatment at step 2 (amlodipine 5 mg + losartan 50 mg).
b. Consider amlodipine 2.5 mg as a starting dose for the elderly or patients with low body weight.
c. Check that the patient has been taking drugs regularly and correctly.
d. Before initiating and several weeks after starting losartan, check serum creatinine and serum potassium. Avoid losartan for women of childbearing age who may become pregnant.
e. Consider the option of increasing losartan to 100 mg before proceeding to step 3, and continuing the dose of losartan 100 mg for step 3.

* **Adapted from National Protocol for Management of Diabetes and Hypertension, NCDC programme, DGHS MOHFW 2018-19.**
** **For patients aged ≥ 40 years, decision to treat high blood pressure may be taken based on total cardiovascular disease (CVD) risk estimation.**
*** **This protocol should not be used for pregnant patients. If patient is pregnant, refer to a specialist.**

Advice for lifestyle modification

Avoid alcohol and tobacco, including secondhand smoke

Exercise 2.5 hr/week

Eat a low salt diet (under 1 tsp/day)

Eat a heart-healthy diet

If overweight, lose weight.

Eat at least 5 servings of vegetables/fruit per day.

Use healthy oils, such as sesame (til), olive, safflower, sunflower.

Eat nuts, peas, whole grains and foods rich in potassium like spinach, watermelon, yogurt and banana.

Limit red meat to once or twice per week at most.

Eat fish or other food rich in omega 3 fatty acids at least twice per week.

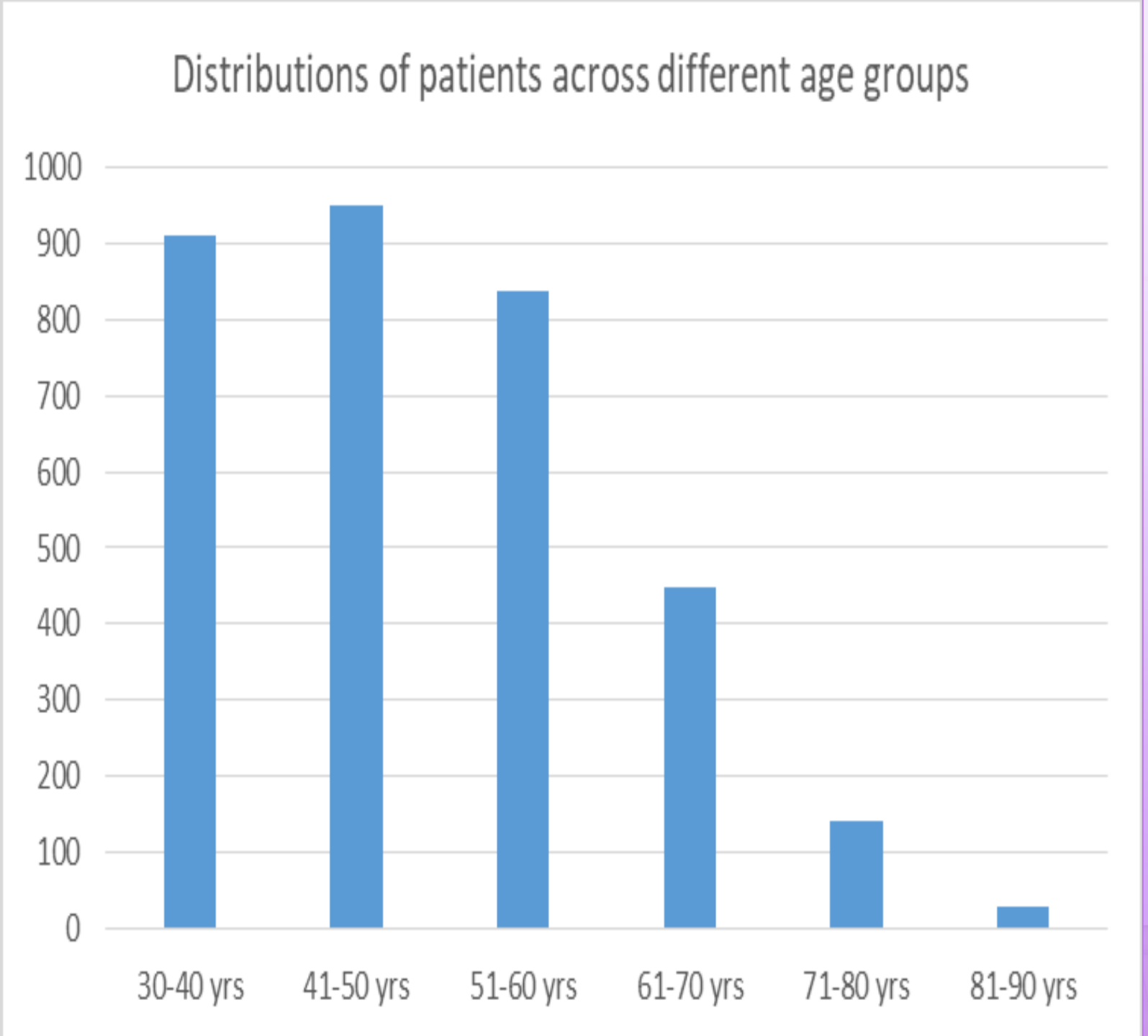
Avoid added sugar from cakes, cookies, sweets, fizzy drinks.

NCDC

RESOLVE TO SAVE LIVES

RESULTS

- During the study period of one year, total **3,316** patients were registered.
- Among them, 1,230 (37%) were male and 2,086 (63%) were female.
- Mean age of the participants was **49.01** years (SD±13.09).



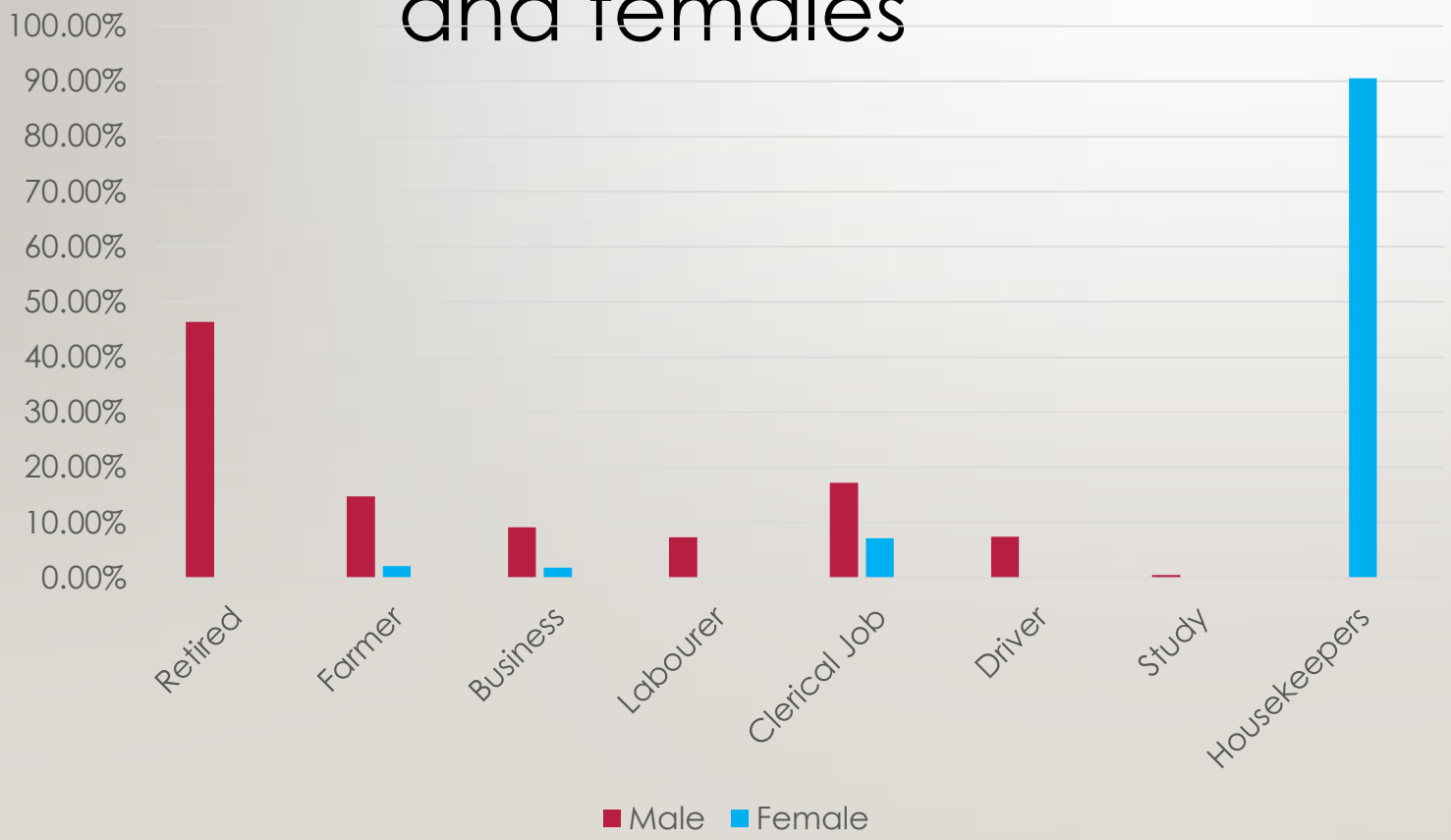
Maximum patients (n=948, 28.56%) were between the age of 41 years to 50 years

Number of patients (n=30, 0.90%) were lest in the age group 81-90 years

Age group between 51 to 60 years consist of 25.28% (n=838) patients

Age group 61 to 70 years consist of 13.50% (n=448) patients.

Distribution of patients based on occupation among males and females



Among males, Job holders were 17.17% (n=211)

Farmers were 14.72 % (n=181)

9.11% patients (n=112) were engaged in various business,

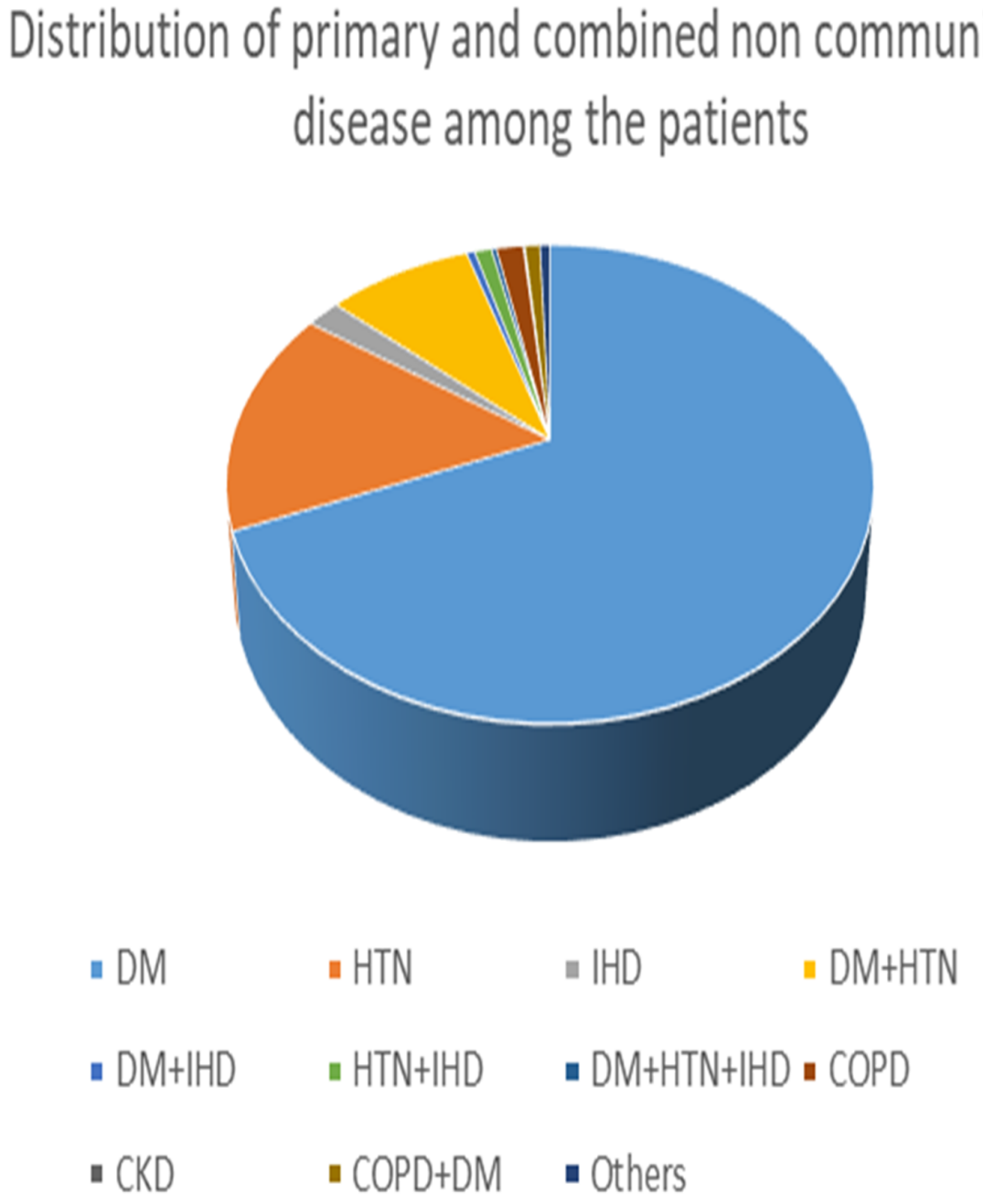
7.32 % (n=90) patients were labourer,

Retired elderly patients were 46.34%, (n=572)

Among female patients, 90.53% (n=1,894) were housekeepers

Farmer were 2.06% (n=43)

7.11 %(n=149) were engaged in different kinds of clerical jobs.



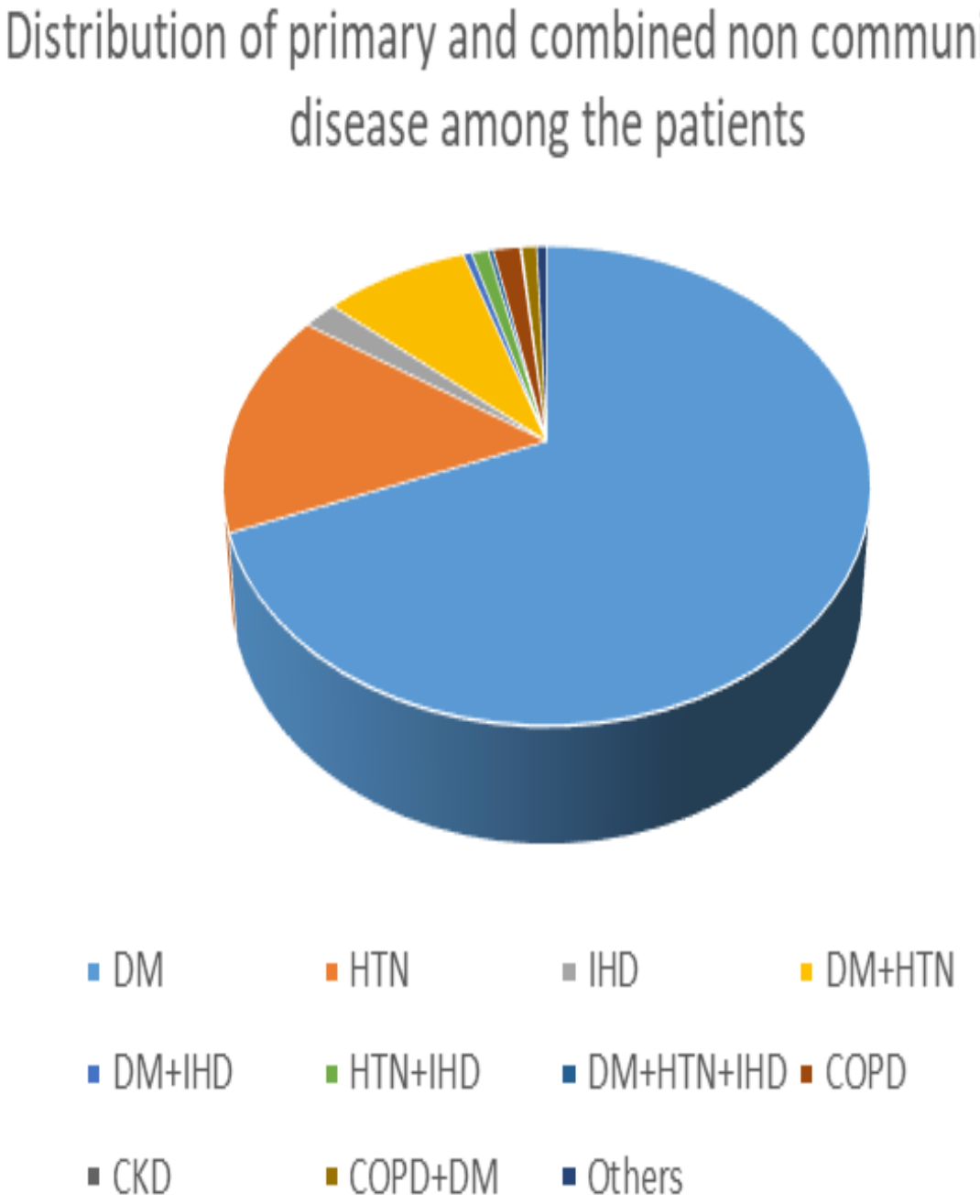
Diabetes Mellitus (DM) in 2,285 patients (68.9% of total cases)

Hypertension (HTN) in 512 patients (15.4% of total cases)

Ischemic Heart Disease (IHD) in 66 patients (2% of total cases)

Chronic obstructive pulmonary disease (COPD) in 53 patients (1.6% of total cases)

Chronic Kidney Disease (CKD) in 3 patients (0.1% of total cases).



DM with HTN in 287 patients (8.6% of total cases)

DM with IHD in 17 patients (0.5% of total cases)

HTN with IHD in 34 patients (1% of total cases)

DM with HTN and IHD in 10 patients (0.3% of total cases)

COPD with DM in 30 patients (0.9% of total cases)

Others in 19 patients (0.6% of total cases).

DISCUSSION

- In a similar study among Bangladeshi adults by Ali et al. (2019), mean age of the participants was 51.4 years (SD ±13.0), while the highest percentage (19%) belonged to 35–39-year-old age group
- Ali et al. (2019), Fottrell E et al. (2018), Khanam R et al. (2019) found female have a higher prevalence than their male counterparts for both hypertension and diabetes similar to our findings.

- In our study, we found the prevalence of hypertension was much lower than that of DM (15.4% vs 68.9%).
- The prevalence of hypertension in our study was also less than the overall prevalence of hypertension (26.4 %) in a cross-sectional study using data from the nationally representative 2011 Bangladesh Demographic and Health Survey.

- Though, a study conducted by Islam FMA et al. (2016), in different rural area of Bangladesh identified a strikingly high prevalence of hypertension among both sex groups of 40% .
- Also in another study conducted by Ali et al. (2019), the prevalence of hypertension was found higher than DM (29.55% vs 10.95%).

- In our study, the dominance of housekeepers among females highlights the need for targeted health education programs
- Their dependency on male partners for the treatment costs.
- Similar to our study, Zaman et al. (2013) found 71 % of women were housekeepers and 12 % were salaried staff.
- The high number of retired elderly individuals seeking healthcare service raises questions about the potential correlation between their financial status and medications.

- Considering the combination of NCDs, prevalence of DM with HTN was 8.6% in our study.
- In a similar study in Chattogram by Sathi NJ et al. (2022), the prevalence of HTN with DM was 6.59%.
- We did not find any similar study on pattern of patients at NCDC corners of other UHCs in Chattogram, and also in the country. So, relevant comparison was not possible.

- Significant awareness in the community regarding the adequate supply of medicine from the government.
- Patients were encouraged to visit NCD, specially for oral anti-Diabetic (OAD) and anti-hypertensive drugs.
- Less availability of drugs for other NCDs like COPD, CKD probably discouraged them visiting at the OPD of NCD.

STRENTH AND LIMITATATIONS

- We could include almost all patients coming with NCDs in the upazilla health complex for one year.
- The study duration was one year, so that the patients' adherence and compliance could be followed.

- Does not represent the whole NCD scenario of the particular upazilla
- Significant number of patients take treatment from private hospitals and GPs/Specialists outside UHC.
- Patients' turnover fluctuated according to the supply of drugs.

CONCLUSION

- This retrospective analytical study for a year at the NCDC corner provided a comprehensive understanding of the NCD landscape in the studied community.
- Future research should delve deeper into the factors contributing to the high prevalence of DM.
- Adequate supply of logistics should be ensured according to the pattern of NCDs

ACKNOWLEDGEMENT:

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Thank you