Prevalence of Hypertension, Diabetes Mellitus & Obesity among Secretariat Employees of Bangladesh
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INTRODUCTION

- Over the past few years, attention has been increasingly focused on the upcoming epidemic of noncommunicable diseases (NCDs).
- By 2020, it is predicted that these diseases will be causing seven out of every 10 deaths in developing countries like Bangladesh.
- Hypertension (HTN), diabetes mellitus (DM) and obesity are three major components of NCDs.
- Primary prevention is the key to control of the global epidemic of NCDs.
Aims of this Study

To explore the prevalence and to determine the risk factors of HTN, DM and obesity among secretariat employees of Bangladesh.
Methods

- **Type of Study:** Cross sectional type of descriptive study.
- **Study Population:** 1000 employees of Bangladesh Secretariat irrespective of age, sex or class.
- **Duration:** 1\textsuperscript{st} to 31\textsuperscript{st} December, 2008.
- **BP, BMI, Blood sugar level in fasting & 2 hours after 75 gm glucose were measured in each cases.**
- **Socio-demographic variables and different related risk factors were also evaluated.**
RESULTS
Male: Female ratio among Secretariat Employees (4.75:1)
Age Distribution of Secretariat Employees

- Gr I: 18-30: 18%
- Gr II: 31-40: 34%
- Gr III: 41-50: 31%
- Gr IV: >50: 17%

Legend:
- Light Blue: Gr I: 18-30
- Blue: Gr II: 31-40
- Dark Teal: Gr III: 41-50
- Yellow: Gr IV: >50
Educational Status

GrI: I-V
GrII: VI-XII
GrIII: XII+

- GrI: 88
- GrII: 468
- GrIII: 444
Monthly Basic Income

<table>
<thead>
<tr>
<th>Number of Employees</th>
<th>GrIII: ≥15000</th>
<th>GrII: 5100-14999</th>
<th>GrI: &lt;5100</th>
</tr>
</thead>
<tbody>
<tr>
<td>239</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>507</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>254</td>
<td></td>
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</tr>
</tbody>
</table>
Physical Activity

- Sedentary/Low: 650
- Moderate: 284
- Vigorous: 66
Regular Exercise

- Yes: 69%
- No: 31%
Daily Intake of Added Salt in Diet

<table>
<thead>
<tr>
<th></th>
<th>780</th>
<th>220</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>220</td>
<td></td>
</tr>
</tbody>
</table>
Cigarette Smoking

- 794 No
- 174 Yes
- 32 ≥20
- <20 No
- ≥20 Yes
Daily Alcohol Intake

995
No
Yes
History among 1\textsuperscript{st} degree relative

- DM: 199
- HTN: 287
- Dyslipidemia: 101
Known Cases of Corresponding Diseases

- Dyslipidemia: 21
- HTN: 167
- DM: 94
Distribution of Secretariat Employees on BMI score

Mean: 24.38 ± 3.14 SD

- Underweight: 32
- Normal: 470
- Overweight: 405
- Obesity: class I
- Obesity: class II
- Extreme obesity: class III
Blood Pressure (Systolic)

- Gr I: <130
- Gr II: 130-139
- Gr III: 140-159
- Gr IV: 160-179
- Gr V: ≥180

The chart shows the distribution of systolic blood pressures with the following counts:
- Gr I: 629
- Gr II: 153
- Gr III: 166
- Gr IV: 46
- Gr V: 6
Blood Pressure (Diastolic)

- **Gr I:** < 85
- **Gr. II:** 85-89
- **Gr. III:** 90-99
- **Gr. IV:** 100-109
- **Gr. V:** ≥ 110

- 645
- 51
- 189
- 71
- 44
Blood Sugar Level (Fasting)

- <3.9
- 3.9-5.6
- 5.7-6.9
- ≥7

- 0
- 100
- 200
- 300
- 400
- 500
- 600

- 7
- 505
- 318
- 123
- 0
Blood Sugar Level
(2hrs after 75g glucose/breakfast)
# Fasting Lipid Profile

<table>
<thead>
<tr>
<th>(mg/dL)</th>
<th>Number</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total cholesterol</strong></td>
<td></td>
<td>Mean</td>
<td>± SD</td>
</tr>
<tr>
<td>&lt;200</td>
<td>783</td>
<td>170.6559</td>
<td>± 39.37493</td>
</tr>
<tr>
<td>200-239</td>
<td>118</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;240</td>
<td>55</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LDL-C</strong></td>
<td></td>
<td>Mean</td>
<td>± SD</td>
</tr>
<tr>
<td>&lt;100</td>
<td>471</td>
<td>103.728</td>
<td>± 30.90094</td>
</tr>
<tr>
<td>100-129</td>
<td>323</td>
<td></td>
<td></td>
</tr>
<tr>
<td>130-159</td>
<td>111</td>
<td></td>
<td></td>
</tr>
<tr>
<td>160-189</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;190</td>
<td>18</td>
<td></td>
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</tbody>
</table>
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<table>
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<tr>
<th>(mg/dL)</th>
<th>Number</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HDL-C</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;40</td>
<td>756</td>
<td>Mean</td>
<td>36.45607</td>
</tr>
<tr>
<td>40-59</td>
<td>196</td>
<td>SD</td>
<td>± 5.938177</td>
</tr>
<tr>
<td>≥60</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Triglyceride</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;150</td>
<td>470</td>
<td>Mean</td>
<td>169.0094</td>
</tr>
<tr>
<td>150-199</td>
<td>251</td>
<td>SD</td>
<td>± 97.69165</td>
</tr>
<tr>
<td>200-499</td>
<td>215</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;500</td>
<td>19</td>
<td></td>
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Conclusion

The magnitude of the burden of NCDs is large enough to demand urgent attention and action.

Multi disciplinary action is essential to prevent this condition since the risk factors are entrenched in the framework of society.
THANK YOU