ABSTRACT

**Background:** Ischemic Heart Disease is a major cause of death and disability worldwide. The presence of risk factors in the individual patient plays a major role in determining the occurrence and severity of IHD. Primary prevention of IHD through identification and modification of risk factors prior to initial morbid event would be the optimal management approach. **Methods:** The present cross sectional observational study was carried out at Government Medical College and Hospital, Aurangabad, Maharashtra to assess possible risk factors of patients with IHD admitted in ICCU. **Results:** Of the 100 patients of IHD, 70% were male and 30% were female, 57% of the patients were previously diagnosed with Diabetes, Hypertension or Cerebrovascular Accident, 9% were alcoholics and 3% were without presence of any significant risk factors. **Conclusions:** Risk factor identification and modification are important interventions for individual patients with known or suspected IHD and as a population based policy to reduce the impact of the disease. Risk factors of IHD could be minimized by developing a proper minimization strategy plan and creating general awareness in the society.

**KEYWORDS:** IHD (Ischemic Heart Disease), Risk Factors, Tobacco Abusers.

INTRODUCTION

Ischemic Heart Disease is a major cause of death and disability world wide.\(^1\) Physical inactivity and rapid socioeconomic changes would have contributed to this trend.\(^2\) Risk factor identification and modification are important interventions for individual patients with known or suspected ischemic heart disease (IHD) and as a population based policy to reduce the impact of disease.\(^3\)

Ischemic Heart Disease is defined as a lack of oxygen and reduced or no blood flow to the myocardium resulting from coronary artery narrowing or obstruction.\(^4\) Any of the following criteria is involved in diagnosis of IHD. Detection of rise and/or fall of cardiac biomarkers (like Troponin) with at least one of the following:
1. Symptoms
2. ECG changes (ST-T changes or LBBB)
3. Development of pathologic Q wave.\(^5\)

The presence of risk factors in individual patients plays a major role in determining the occurrence and severity of IHD.\(^6\) IHD may occur at any age, but frequency rises progressively with increasing age and other predisposing factors such as atherosclerosis, HTN, smoking, diabetes mellitus, dyslipidemia, obesity, alcohol. The non modifiable risk factors include age, gender, family history. The modifiable risk factors include atherosclerosis, tobacco consumption, high blood pressure, high cholesterol, diabetes mellitus, obesity.\(^6\)

MATERIALS AND METHODS

The present study conducted during the period of June 2015 to June 2016 was a cross sectional observational study on 100 patients of IHD admitted in Intensive Cardiac Care Unit (ICCU) at the Government Tertiary Care Hospital, Aurangabad.

The patients were included in the study after written and informed consent.
Descriptive data like name, age, sex, religion, occupation, personal history like diet, addiction were obtained by interviewing the patients. History was recorded on predesigned proforma. They underwent a thorough physical examination which includes weight, height, waist circumference, hip circumference. BMI and Waist-to-Hip ratio was also calculated.

Waist circumference was measured using non stretchable tape in horizontal position just above the iliac crest. Hip circumference was measured with the maximum circumference over the buttocks using non stretchable tape.

RESULTS
Of 100 patients of IHD, 63% were younger (<60yrs) and 37% were old age (≥60yrs) (Figure.1).

Among 70% of male, 36% were above 60 yrs and among 30% female, 47% were above 60 years. (Figure 3, 4).

On the basis of gender irrespective of age 70% were male and 30% were female. (Figure. 2)

Among 30 female patients, 57% were postmenopausal and 43% were premenopausal. (Figure. 5)
On basis of BMI, 52% were within normal range, 29% were obese, 16% were overweight and 3% were underweight. (Figure. 6) 

19% patients were Diabetic, Hypertensive or previously diagnosed with Cerebrovascular Accident. (Figure. 7)

CVA (Cerebrovascular Accident), DM (Diabetes Mellitus), HTN (Hypertension)

51% were tobacco abusers of whom 36% were smokers and 15% were tobacco chewers.
Considering age as risk factor 37% were above 60 yrs of age.
29% patients were obese, on the basis of their BMI.
19% were previously diagnosed with Diabetes, Hypertension or Cerebrovascular Accident.
9% were alcoholic.
3% patients were having significant family history of IHD.
3% were without presence of any significant risk factor. (Figure.8)

100 patients of IHD were enrolled for the study after they were evaluated for eligibility.
51% patients were tobacco abusers of whom and 36% were smokers and 15% were tobacco chewers.
29% patients were obese, on the basis of their BMI.

According to M Egred et.al although Ischemic Heart Disease (IHD) mainly occurred in patients older than 45years, young men or women could suffer IHD. [13]

In present study 37% patients were old age i.e. above 60 yrs of age. In both genders, IHD risk increases with age, but the increase is sharper in women. According to Sonia et al this cut-point was chosen because the incidence of IHD increases sharply after the age of 60 years in women. Among 70% of male, 36% were above 60 yrs and among 30% female, 47% were above 60 years. [15]

According to Bruyninckx et. al it is not possible to define an important role for signs and symptoms in the diagnosis of acute myocardial infarction or acute coronary syndrome, only chest-wall tenderness on palpation largely ruled out acute myocardial infarction or acute coronary syndrome in low-prevalence settings. [14]

According to Sadia et.al non modifiable risk factors for IHD includes age, gender, family history of premature coronary heart disease while modifiable risk factors includes smoking or other tobacco use, diabetes mellitus, hypertension, hypercholesterolemia, hypertriglyceridemia, obesity, sedentary life style and psychosocial stress. [17]

Present study mainly concentrate on some common modifiable risk factors like smoking, tobacco abuse, alcohol abuse and obesity as well as some non modifiable risk factors like age, gender, family history and genetic factors.

Some patients were having two or more risk factors.
19% patients were previously Diabetic, Hypertensive or previously diagnosed with Cerebrovascular Accident.
9% of the patients were alcoholics.
3% patients were having significant family history indicative as a risk factor for IHD

Table 1: Comparative discussion on risk factors.

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>In House study</th>
<th>Reference study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>37</td>
<td>50 [Tanna N, et al.][^18]</td>
</tr>
<tr>
<td>Gender</td>
<td>Male (64)</td>
<td>60 [Sonia Anand, et al.][^20]</td>
</tr>
<tr>
<td></td>
<td>Female (53)</td>
<td>33 [Salim Yusuf, et al.][^16]</td>
</tr>
<tr>
<td>Obesity</td>
<td>29</td>
<td>15 [Sushma Pandey, et al.][^12]</td>
</tr>
<tr>
<td>Tobacco Abuse</td>
<td>51</td>
<td>55 [Sushma Pandey, et al.][^12]</td>
</tr>
<tr>
<td>Alcoholics</td>
<td>9</td>
<td>12 [Tanna N, et al.][^18]</td>
</tr>
<tr>
<td>Family History</td>
<td>3</td>
<td>33 [Tanna N, et al.][^18]</td>
</tr>
<tr>
<td>Diabetes Mellitus</td>
<td>32</td>
<td>23 [Tanna N, et al.][^18]</td>
</tr>
<tr>
<td>Hypertension</td>
<td>47</td>
<td>32 [Sushma Pandey, et al.][^12]</td>
</tr>
</tbody>
</table>

CONCLUSION
51% were with social history of tobacco abuse of which 36% were smoker and 15% were tobacco chewers indicating it as a major risk factor for IHD. Patient counseling regarding quitting tobacco use and active participation in various smoking cessation programme is recommended.

29% were obese and among 19% previously diagnosed patients 15% were hypertensive and 8% were diabetic hence in order to minimize the risk of IHD, patients of HTN and DM should maintain their blood pressure and blood glucose level with proper medication adherence, regular exercise and balanced diet.

In the study, 30 were female patients among them 57% were postmenopausal, certain life style changes like increase in physical activity, regular exercise and some dietary modifications are recommended.

Among all above risk factors modifiable risk factors could be minimized by developing a proper minimization strategy plan creating general awareness in society by providing various awareness programmes, camps at various government sectors.

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Place: Aurangabad

REFERENCES