INTRODUCTION

Mets is a condition characterized by ongoing mild inflammation that is by genetic predisposition and environmental factors [1]. The prevalence of metabolic syndrome (MetS) varies widely worldwide, ranging from 10% to 84%. Factors such as geographic distribution, ethnicity, age, and gender play a role in these variations among different populations [2]. In India, a meta-analysis revealed that the prevalence of MetS is around 30%. This condition most commonly occurs in elderly individuals over 60, women, and those living in urban areas [3]. Genetic predisposition, obesity, physical inactivity, smoking, and alcohol intake are all components of the syndrome [4]. Obesity has been linked with excessive sympathetic activity, which in turn is related to insulin resistance, diabetes, high blood pressure, abnormal lipid levels, and various other metabolic, cardiovascular, and kidney disorders. Our understanding of the relationship between overweight and obesity and MetS has increased with many products secreted from adipocytes, such as inflammatory cytokines, leptin, non-esterified fatty acids, adiponectin, and resistin [5]. Mets is a high-risk state because the complicated multimorbidity condition requires optimal medication and lifestyle adherence to maintain desired health outcomes and prevent the onset and development of impacts such as cardiovascular disease (CVD) [6]. India has a high prevalence of diabetes, hypertension, and abdominal obesity compared to other countries, around 1.4 billion. The majority of the elderly population in the country are at risk of developing Mets [7,8]. Hence, this study aims to discover MetS and its factors in the north Indian population.

METHODS

A research study was conducted at the Biochemistry Department of the Government Medical College in Amritsar. The study was done with approval from the institution's ethics committee. Among the 200 patients in the study, 106 were identified as not having Mets and were categorized as the control group, while 94 patients with Mets were classified into the case group. Data on patient demographics, socioeconomic status, and physical symptoms were carefully documented. Blood samples were collected to analyze for biochemical parameters such as fasting blood glucose (FBS) value and lipid profile. Mets is identified based on the guidelines set by the International Diabetes Federation (IDF). A diagnosis of Mets is made when an individual exhibits an enlarged waist circumference along with a minimum of two additional risk factors, which may include elevated FBS levels, dyslipidemia, and hypertension. Before the study, all participants provided written consent. The analysis was done by the Statistical Package for the Social Sciences software – discrepancies in baseline and review characteristics, as well as the prevalence of MetS and its components. Patients were analyzed for clinical significance (p<0.05) among the study population.

RESULTS AND DISCUSSION

The research was done at the Biochemistry Department of the Government Medical College in Amritsar. Patients were divided into two groups: Group I (100) as the case group and Group II (100) as the control group. The distribution of males and females is shown in Table 1. The findings revealed that females (55%) have a higher susceptibility to Mets compared to males (45%).

Using the IDF criteria, our study established a significant association between age and the Mets (p<0.05). The prevalence of Mets was highest in the age group of 61-80 years (Table 2). Our study observed a progressive development of the MetS under a sequential increase in age.

Our study participants were put into four categories based on their lifestyle: smokers, alcoholics, and both smokers and alcoholics. 20%
The MetS increased with age, with a female preponderance. Mets is a group of metabolic abnormalities with a risk of T2DM with CVD. In addition, a larger proportion of the study population was both smokers and alcoholics. Prevention, earlier identification, and treatment are urgently needed to counteract the increased prevalence and reduce the burden of MetS among the north Indian population.

AUTHORS' CONTRIBUTIONS

The writing was completed by Dr. Jaswant Kaur, while data collection and analysis were carried out by Dr. Inderpreet Kaur and Dr. Purnima Jindal. Dr. Rajinderjit Singh Ahli reviewed and edited the research, and the final manuscript was prepared by him. Dr. Jaswant Kaur then submitted the manuscript for publication.

CONFLICTS OF INTEREST

There are no conflicts of interest.

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