The Prevalence of Comorbidity in India

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Plagiarism: 13%

ABSTRACT

Comorbidity is defined as the presence of one or more chronic non-communicable diseases. Recently many articles have illustrated that covid positive person with non-communicable disease has poor health outcome. Covid positive patients with comorbidity such as diabetes, heart diseases and hypertension are more vulnerable to develop a severe health condition. For this study we have taken data from national family and health survey 2015-16 (NFHS-4 survey). This data is national representative and cross section data. The prevalence of comorbidity is highest in females, rural areas, older age people, and highly educated persons. This highlights the need of healthcare facilities at the time of covid pandemic. This research utilized nationally representative (large scale data) and multi-round data to find the prevalence(occurrence) of diabetes and heart disease comorbidity and explore the comorbidity determinants from the National Family Health Survey (NFHS-4). From this study, female, secondary education, and old age have a positive association with diabetes and heart disease comorbidity in India. Diabetes and heart disease comorbidity exhibit a major difficulty to healthcare directors and can increase costs. This study confirms the evidence based on the size of diabetes and its comorbidity circumstances within its boundaries. The prevalence of comorbidity is highest in females, rural areas, older age groups, and secondary education.

1. INTRODUCTION

Recently several articles have shown that covid positive person with comorbidity has poor health outcome. covid positive patient who has comorbidity such as diabetes, heart diseases and hypertension are more likely to develop a server health condition. The Report was given by the New York State Department of Health that 86% of death of patients due to covid has involved at least one comorbidity.

Life expectancy has increased over recent decades. Non-communicable diseases (NCD's) and chronic diseases are accountable for the mortality of over forty million people globally every year, giving up 71% of death worldwide. Cardiovascular disease (CVD) is the second leading reason for death in the world, estimating at seventeen million deaths in 2013. Also, larger than 80% of those cases happened in low and middle-income nations. Four hundred sixty-three million people (age, 20–79 years) live with diabetes, which is anticipated to rise to 578.4 million by 2030. India has the second-largest number of people (age 20-79 years) with diabetes in 2019.

Feinstein introduced the term comorbidity in 1970 to signify a "distinct additional clinical entity" occurring in an index disease setting. The word has been practiced loosely in history to imply either "coexisting" diseases or "cooccurring" diseases.

2. REVIEW OF LITERATURE

Data suggest that associated comorbidity such as hypertension, cardiovascular disease (CVD), diabetes, obesity, chronic obstructive pulmonary illness, asthma, chronic kidney disease (CKD), and malignancy are often associated with an increase in hardness and or mortality in patients with COVID-19. The old

aged persons are at a chance of having diabetes or diabetes cardiovascular disease comorbidity. Data from this study has shown that daily style habits, such as physical exercise, are necessary to control diabetes.

The female gender as a non-modifiable danger determinant for chronic (long term) comorbidities. Female gender is associated with a higher odd of multimorbidity (Garin et al., 2016). People with comorbidity, mental health difficulties, and permanent conditions had low levels of health service use. Old age is a not changeable demographic risk factor for chronic diseases, and due to old age, the probability of comorbidity increases.

In India, due to low income and many other factors, people cannot get an education. Low education is also a factor that is correlated with chronic diseases and comorbidities. Lack of education and information increases the prevalence of co morbidities and depression. Low income, feeling hunger, history of cardiac diseases, moving ischaemic attack, earlier head injury, and diabetes increased the danger for geriatric depression after adjusting for other determinants. Noncommunicable diseases chronic diseases estimate for more than 50% of mortality in adults aged 15– 59 years in most low-income nations. A study found in 2007, using the WHO (world health organization) World Health Survey, that 9.3% of people who have depression also had diabetes.

Study of comorbidities such as diabetes with other chronic diseases or heart diseases, increases and becomes critical in developed countries. Usually, the health cost burden and the presence of two or more ailments in one person has been studied in developed countries. While research and study of comorbidity are low in developing. countries like India.

One of the study in Spain found that the comorbidity of hypertension, diabetes and cardiac arrhythmias is strongly attracted to people of age 70 or above. Other groups of diseases like heart disease, cerebrovascular diseases, and heart failure happen to people of age 80., and 3rd group of ailments like asthma, thyroid disease, and depression is associated with a patient of age under 30 years.

The objective of the present study is to determine the prevalence of comorbidity in India.

3. DATA AND METHODOLOGY

The data is taken from national family and health survey 2015-16(NFHS-4 survey). We used this data to analyse the status of comorbidity. Characteristics of sample is given in Table 1 where we can see that age of population is between 15 to 54 years. Most of people belong to age group from 25- 35 years which is 29.95%. The sample has 86.13% of female and 13.87% of male data. Education level is highest in the secondary education group, which is 49.28%, and only 12.08 % of people least in the highest education group. Most of the peoples live in rural areas and is 70.33%.

Table 1: Sample Characteristics

Variables	Percentage
Age	
15-25	35.10
25-35	29.95
35-45	23.65
45-54	11.30
Gender	
Female	86.13
Male	13.87
Level of Education	
No education	26.07
Primary	12.57
Secondary	49.28
Higher	12.08
Place of residence	
Urban	29.67
Rural	70.33

4. RESULTS

Our study gives the following results for the prevalence of comorbidity in India. In our study we have the data of 796104 people, and the age of the population from 15 to 54 years.

From the statistical and descriptive analysis, we will find about the prevalence of comorbidity according to age, gender, and educational status.

4.1 Age

We will do tabulations of comorbidity

with age where variable age has divided into 4 groups first group is from the age of 15 to 25, and 2nd group is from the age of 25 to 35, and 3rd group is from the age of 35 to 45, and the last group is from the age of 45 to 55.

Graph (a) shows that old age people have more diabetes and heart disease comorbidity compared to other age group people. Similar results also we have seen in other paper findings.

4.2 Gender

Gender has two categories' men and women. According to Graph(b), our pie charts suggest that the prevalence(occurrence) of diabetes and heart disease comorbidity in females is more than that of men because here 76.63 % diabetes and heart disease comorbidity in females and males have only 23.37%.

4.3 Place of Residents

According to the above graph (c), our study says that diabetes and heart disease comorbidity in people are high in the rural area compared to urban areas. Diabetes and heart disease comorbidity is 64% in the rural whereas 36% in the urban.

4.4 Level of education

The level of education has been divided into four categories no education, secondary, primary, and higher education.
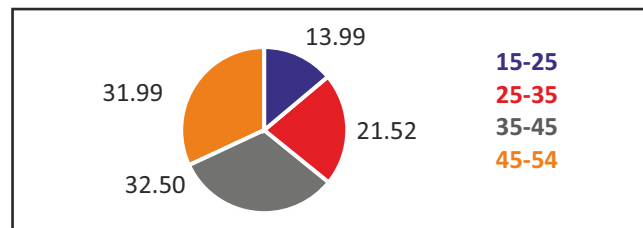
According to graph(d), our findings said that the prevalence(occurrence) of diabetes and heart disease comorbidity is high in the secondary level of education analysed to other education categories. It is around 45%.the second highest prevalent in the group of no education which is 28%.
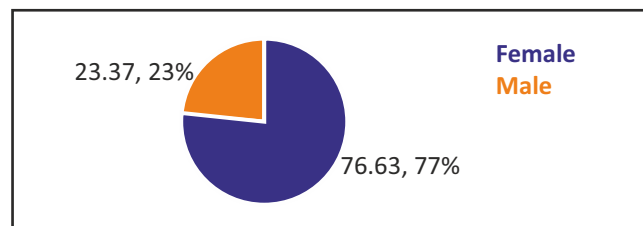
5. CONCLUSION

This research utilized nationally representative (large scale data) and multi-round data to find the prevalence(occurrence) of diabetes and heart disease comorbidity and explore the comorbidity determinants from the National Family Health Survey (NFHS-4). From this study, female, secondary education, and old age have a positive association with diabetes and heart disease comorbidity in India. Diabetes and heart disease comorbidity exhibit a major difficulty to healthcare directors and can

increase costs. This study confirms the evidence based on the size of diabetes and its comorbidity circumstances within its boundaries. The prevalence of comorbidity is highest in females, rural areas, older age groups, and secondary education. Age has a positive association with comorbidity. Consumption of cigarettes and alcohol has a positive association with comorbidity. This information can be used by government and other policy makers to reduce the effects of comorbidity on old age, people, and rural people. This study provides results that expresses the increasing burden of non-communicable diseases (NCD) and comorbidity in India. ●
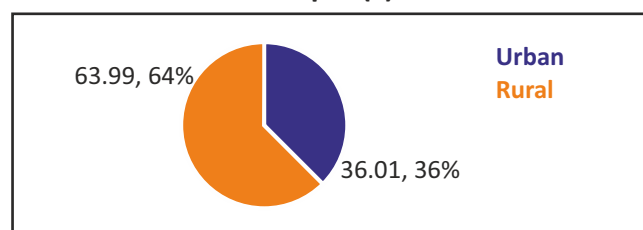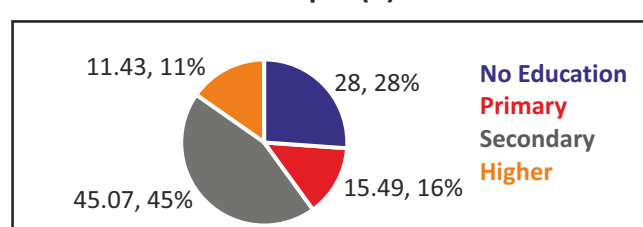
Graph: (a)

13.99	15-25
31.99	25-35
21.52	35-45
32.50	45-54

Graph: (b)

23.37, 23% — Female
76.63, 77% — Male

Graph: (c)

63.99, 64% — Urban
36.01, 36% — Rural

Graph: (d)

11.43, 11% — No Education
28, 28% — Primary
45.07, 45% — Secondary
15.49, 16% — Higher

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