Original Research Article

Evaluation of differences between socio demographic profile and recovery rate of symtomatic and asymptomatic patients of COVID 19 in tribal district of Rajasthan

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Abstract

Introduction:For COVID-19, data to date suggest that 80% of infections are mild or asymptomatic, 15% are severe infection, requiring oxygen and 5% are critical infections, requiring ventilation.So this study aimed to find out the difference between Sociodemographic profile and recovery rate of such patients. **Material and methodology;** A hospital based cross sectional study was conducted in Dungarpur District among Covid 19 patients for one month and 150 patients were selected.**Results**; Chi square and p value suggest that Category moderate to severe symptomatic COVID 19 patients belonged to >60 yr age group and <15 year age group, non tribal, upper class. Majority of them were tobacco abuser and had comorbidities with recovery rate of 20 days. While Covid 19 patients having no symptoms and mild symptoms had 14 days recovery rate.

Keywords:COVID 19, Severity, Socio Demographic Profile

Introduction

Pandemics are incidental to history, world has faced many. This time it is all about Covid 19, a highly contagious disease caused by a newly discovered corona virus with reproductive number- the no of secondary infections generated from one infected individual is between 2 and 2.52.The most common symptoms of COVID-19 are fever,dry cough,and tiredness. Other symptoms that are less common and may affect some patients include aches and pains, nasal congestion, headache, conjunctivitis, sore throat, diarrhoea, loss of taste or smell or a rash on skin or discoloration of fingers or toes. These symptoms are usually mild and begin gradually.Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Most people (about 80%) recover from the disease without needing hospital treatment. Around 1 out of every 5 people who gets COVID-19 becomes seriously ill and develops difficulty breathing. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness[1-3].

Aims: To study difference between sociodemographic profile and recovery rate of symptomatic and asymptomatic patients of Covid 19.

Objective

1.To study difference between sociodemographic profile of symptomatic and asymptomatic patients of Covid 19.

2.To study difference between recovery rate of symptomatic and asymptomatic patients of Covid 19.

Material and methodology

This study was conducted in COVID care centre, Dedicated COVID Health Centre and Dedicated COVID Hospital of Dungarpur district, Rajasthan.

Study Design: Facility based cross sectional study.

Study Period: This study was conducted for one month from 1st May to 31st May 2020 among COVID positive patients.

Sample Size: All the COVID Positive patients admitted during study period in COVID care centre, Dedicated COVID Health Centre and Dedicated COVID Hospital of Dungarpur district, Rajasthan were taken for study. We selected 150 patients, 75 in both groups for proper comparison.

Methodology: We divided patients in two groups for this study according to their symptoms.

Group A: Asymptomatic and mild symptomatic patients

Group B: Moderate to severe symptomatic patients

Asymptomatic and mild symptomatic patients were admitted in COVID care centre while 34 Moderate to severe symptomatic patients were admitted in Dedicated COVID Health Centre and Dedicated COVID Hospital of Dungarpur district, Rajasthan. Details sociodemographic study and clinical history of patients was taken according to semi structured questionnaire.

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Observation

Table 1: COVID 19 patients

Age	Asymptomatic and mild symptomatic COVID 19 patients	Moderate to severe symptomatic COVID patients	Total
<15	3(30.4%)	5(69.6%)	8
15-25	16(50%)	16(50%)	32
26-35	36(82.9%)	7(17.1%)	43
36-45	10(45%)	12(55%)	22
46-60	9(25.9%)	26(74.1%)	35
>60	1(6.7%)	9(93.3%)	10
Total	75	75	150

Table 2:Distribution of patients according to age and sex

Sex	Patients		
Male	67(53.1%)	59 (46.9%)	126
Female	8(33.3%)	16(66.7%)	24
Total	75	75	150

Chi square statistics for age is 47.18 and p value is <.0001.
Distribution of patients according to age shows that maximum patients i.e. 93.3% of Covid 19 belonged to age group >60 and they were mod to severely effected, followed by 26-35 years (82.9%) and 16-25 (80.8%) who were mild symptomatic and asymptomatic and minimum patients i.e. 6.7% were of age group >60 yrs who were mild symptomatic and asymptomatic . While among category asymptomatic and mild symptomatic max patients were of 16-25 yrs age grp and minimum were of >60 yr age group. While among category moderate and severe symptomatic max patients were of <15 yrs age grp and >60 yrs age grp and minimum were of 16-25 yr age group. Chi square and p value suggest that there is significant correlation of age group distribution with symptomatic category of Covid 19 patients.
Chi square statistics for sex is 3.84 and p value is.05.
Distribution of patients according to sex shows that maximum patients i.e. 57.9% of Covid 19 were males and they were mod to severely effected while minimum i.e 47.9% were females and they were mod to severely effected. Chi square and p value suggest that there is not significant correlation of sex distribution with symptomatic category of Covid 19 patients.

Table 3: Distribution Of Patients According To Tribal Area

	Asymptomatic and mild symptomatic COVID 19 patients	Moderate to severe symptomatic COVID 19 patients	Total
Tribal	37 (66.3%)	19 (33.7%)	56
Non Tribal	43(45.7%)	51 (54.3%)	94
Total	75	75	150

Chi square statistics is 6.41 and p value is.011.
Distribution of patients according to tribal area transcribes that majority of patients i.e. 66.3% belonged to tribal area and they were under asymptomatic and mild symptomatic category of Covid 19 patients and min i.e. 33.7% were Moderate to severe symptomatic Covid 19 tribal patients. There is significant correlation of symptomatic category and tribal area distribution of Covid 19 patients.

Table 4: Distribution Of Patients According to Socioeconomic Status and Occupation

Socioeconomic Status	Asymptomatic And Mild Symptomatic Covid 19 Patients	Moderate To Severe Symptomatic Covid 19 Patients	Total
Lower Class	37(55.2%)	30(44.8%)	67
Middle Class	31(55.3%)	25(44.7%)	56
Upper Class	7(26%)	20(74%)	27
Total	75	75	150

Chi square statistics is 7.63 and p value is 0.02.
Majority of COVID 19 patients i.e. 74% who were mod to severely symptomatic were from upper class, while minimum COVID 19 patients i.e. 26% who were Asymptomatic and mild symptomatic were also from upper class.

Table 5 : Distribution Of Patients according to Diet

Diet Pattern	Asymptomatic And Mild Symptomatic Covid 19 Patients	Moderate To Severe Symptomatic Covid 19 Patients	Total
Vegetarian	54(55.1%)	44(44.9%)	98
Non Vegetarian	21(40.4%)	31(59.6%)	52
Total	75	75	150

Chi square statistics is 2.94 and p value is 0.086.

Table and chi square value suggest that there is no significant correlation among categories of COVID 19 and diet pattern.

Table 6 : Distribution Of Patients according to Substance Abuse

	Asymptomatic and mild symptomatic COVID 19 patients	Moderate to severe symptomatic COVID 19 patients	Total
Alcohol	23(53.5%)	20(46.5%)	43
Tobacco	11(23%)	37(77%)	48
Both	12(36.4%)	21(63.7)	33
No	41(69.5%)	18(30.5%)	59

Chi square statistics is 25.33 and p value is 0.000013.

Above table showed that majority of moderate to severe symptomatic patients i.e. 77% were taking tobacco followed by both tobacco and alcohol i.e. 63.7%, while majority of asymptomatic and mild symptomatic patients i.e. 69.5% were not abusing any substance followed by alcohol consumer i.e. 53.5%. There is significant relation between substance abuse and categories of COVID 19.

Table 6 : Distribution Of Patients according to Co Morbidity

Co- morbidity	Asymptomatic and mild symptomatic COVID 19 patients	Moderate to severe symptomatic COVID 19 patients	Total
Yes	6 (13.3%)	39(86.7%)	45
No	69(65.7%)	36(34.3%)	105
Total	75	75	150

Chi square statistics is 34.57 and p value is <0.0001

Distribution of patients according to co morbidity showed that majority of patients having moderate and severe symptoms i.e. 86.7% were having co morbidities, while 65.7% COVID 19 patients who were asymptomatic and mild symptoms were not having any co morbidities. Chi square and p value also suggest that there is highly significant association between presence of comorbidities and severity of disease.

Table 7: Distribution Of Patients according to Recovery Rate

	Asymptomatic symptomatic patients and mild COVID 19 patients	Moderate symptomatic to severe COVID 19 patients
Mean recovery rate	14 days	20 days

In our study mean recovery rate of asymptomatic and mild symptomatic COVID 19 patients was 14 days (approx 2 week) and mean recovery rate of Moderate to severe symptomatic COVID 19 patients was 20 days (approx 3 week).

Discussion

Distribution of patients according to age shows that maximum patients i.e. 93.3% of Covid 19 belonged to age group >60 and they were mod to severely effected, followed by 26-35 years (82.9%) and 16-25 (80.8%) who were mild symptomatic and asymptomatic and minimum patients i.e. 6.7% were of age group >60 yrs who were mild symptomatic and asymptomatic. While among category asymptomatic and mild symptomatic max patients were of 16-25 yrs age grp and minimum were of >60 yr age group. While among category moderate and severe symtomatic5 max patients were of <15 yrs age grp and >60 yrs age grp and minimum were of 16-25 yr age 6 group. Chi square and p value suggest that there is significant correlation of age group 3 distribution with symptomatic category of Covid 19 patients. While study of Colin J Worbyon the relative role of different age groups in influenza epidemics found for epidemics associated with influenza A subtypes, children 5–17 had the highest estimates of RR among all age groups for the five largest epidemics during the time period under study (as assessed by combining data on influenza-like illness consultations with data on the percentages of respiratory specimens testing positive for a particular (sub)type, **Error! Hyperlink reference not valid.**2009A/H1N1, 2012–2013 A/H3N2, 2013–2014 A/H1N1, 2010–2011 A/H3N2 and the 2010–2011 A/H1N1 epidemics. Adults aged 50–64 and 65+ had the lowest estimates of RR except for the small, 2011–2012 A/H3N2 epidemic. For influenza B outbreaks, children 0–4 had the highest estimate of RR (1.32 (1.08,1.61)) during the 2012–2013 epidemic, while adults 18–49 had the highest RR during the 2010–2011 epidemic (RR=1.43 (1.09,1.85)).Distribution of patients according to tribal area transcribes that majority of patients i.e. 66.3% belonged to tribal area and they were under asymptomatic and mild symptomatic category of Covid 19 patients and min i.e. 33.7% were Moderate to severe symptomatic COVID 19 tribal patients. There is significant correlation of symptomatic category and tribal area distribution of Covid 19 patients. Majority of COVID 19 patients i.e. 74% who were mod to severely symptomatic were from upper class, while minimum COVID 19 patients i.e. 26% who were 30 Asymptomatic and mild symptomatic were also from upper class. While study of Amy V. Groom et al[4] on Pandemic Influenza Preparedness and Vulnerable Populations in Tribal Communities transpired that Within AIAN communities, certain subpopulations will be particularly vulnerable to the effects of pandemic influenza. Some may be physically more vulnerable because of underlying health conditions, whereas others may be vulnerable because access issues prevent them from receiving information and prevention and treatment interventions. Given the heterogeneity of the AIAN population and tribal communities, an exhaustive account of all potentially vulnerable populations is beyond the scope of this review. Majority of moderate to severe symptomatic patients i.e. 77% were taking tobacco followed by 41 both tobacco and alcohol i.e. 63.7%, while majority

of asymptomatic and mild symptomatic patients i.e. 69.5% were not abusing any substance followed by alcohol consumer i.e. 53.5%.There is significant relation between substance abuse and categories of COVID 19. Similarly, in study of H Lawrence et al[5] on cigarette smoking and influenza found that smokers have an increased risk of developing influenza compared to non-smokers. Distribution of patients according to comorbidity showed that majority of patients having moderate and severe symptoms i.e. 86.7% were having co morbidities, while 65.7% COVID 19patients who were asymptomatic and mild sym ptoms were not having any co morbidities. Chi square and p value also suggest that there is highly significant association between presence of comorbidities and severity of disease. Similarly study of Enrique et al[6] on Effect of vaccination, comorbidities and age on mortality and severe disease associated with influenza during the season 2016–2017 in a Spanish tertiary hospital found The most frequent comorbidities from those included in the CCI in patients admitted with influenza were https://www.sciencedirect.com/topics/medicine-and-dentistry/chronic-lung-diseasechronic pulmonaryhttps://www.sciencedirect.com/topics/medicine-and-dentistry/chronic-lung-disease disease (38.9%),https://www.sciencedirect.com/topics/medicine-and-dentistry/diabetes-mellitusdiabetes mellitus (25.7%) andhttps://www.sciencedirect.com/topics/medicine-and-dentistry/congestive-heart-failurecongestive heart failure (22.2%).https://www.sciencedirect.com/topics/medicine-and-dentistry/dementiaDementia https://www.sciencedirect.com/topics/medicine-and-dentistry/dementiaand congestive heart failure were significantly associated with fatal cases ($p < 0.001$ and $p = 0.026$ respectively).In our study mean recovery rate of asymptomatic and mild symptomatic COVID 19 patients was14 days (approx 2 week) and mean recovery rate of Moderate to severe symptomatic COVID19 patients was 20 days (approx 3 week). On the contrary study of Hien H Nguyen et al found that most patients with influenza recover in 3 days; however, malaise may persist for weeks.

Summary and conclusion

Chi square and p value suggest that Category moderate to severe symptomatic COVID 19patients belonged to >60 yr age group and <15year age group, non-tribal, upper class. Majority of them were tobacco abuser and had comorbidities with recovery rate of 20 days. While Covid19 patients having no symptoms and mild symptoms had 14 days recovery rate.

Conflict of Interest: Nil
Source of support:Nil

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