International Journal Dental and Medical Sciences Research
Volume 4, Issue 5, Sep-Oct 2022 pp 500-505 www.ijdmsrjournal.com ISSN: 2582-6018

Clinico-Epidemiological Profile of Covid 19 Positive Undergraduate Students of B.J Medical College Who Served As Covid Sahayaks during the Pandemic

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Submitted: 15-10-2022 Accepted: 31-10-2022

ABSTRACT: Aim of this present work is to understand the underlying disease profile and dynamics that could provide relative inputs and insight into the patho physiology and prevent further spread and evolve management strategies of covid 19 patients from data driven techniques.

KEYWORDS: covid 19 infection, heterogenous risk profiles, spectrum of signs and symptoms, clinic epidemiological predilections.

I. INTRODUCTION

The corona virus outbreak has led to a global exigency of colossal and monstrous proportions in terms of public health and economic crisis. Over 5.5 million cases and 350000 deaths have been reported worldwide.(1). India reported its first case on 30th January, 2020 from Kerala. (2) Ever since over 0.2 million cases have been identified and 6367 people have lost their lives (3) To combat the rapid upsurge of the pandemic, the country went under lockdown since 25th march. India ramped up its preparation level, a major initiative being setting up of COVID 19 hospitals across the country for in patient care.

Multiple epidemiological studies reported that the covid 19 is identified in Wuhan, China on December 8, 2019. This disease later spread worldwide including Iran, Europe, India, UK and officially became a pandemic on March 11, 2020. (4)(5)

About 80% of the individuals with SARS COV 2 infection either remain asymptomatic or show mild symptoms of flu; these may be managed at home isolation to check the spread of transmission. The remaining 10 -15 % have moderate to severe symptoms and need institutional care ranging from oxygen therapy, intensive care to ventilator support (6). The elderly and those with comorbities are a higher risk of developing florid symptoms and meet adverse outcomes (7).

Covid 19 infection has heterogenous risk profiles (eg. Preventive practices including personal hygiene and respiratory etiquettes, undiagnosed/ uncontrolled comorbid health conditions, and care seeking patterns). A critical analysis of the profile of patients presenting with covid 19 may help in response preparedness, resource mobilization and allocation, and in monitoring and predicting future trends.(8)

The struggle to provide acute health coverage to the unprecedented amount of diseased put healthcare workers to a limit. Several hospitals called upon medical students to assist in the ongoing pandemic.

The corona virus disease presents across a spectrum of signs and symptoms and shows clinic epidemiological predilections. (9)

OBJECTIVE

- To report the case detection trends and clinico epidemiological profile of positive tested students of BJMC during their covid duty**.**
- To determine the factors playing major role in the rate and severity of the infection.
- To find out the common presenting symptoms and their severity in covid positive students.

METHOD

STUDY TYPE

Retrospective record based observational study was conducted on 71 covid 19 positive 2nd and 3rd year students of BJMC from March to May 2021.

STUDY SITE

This study is carried out in BJMC Ahmedabad

SAMPLE SIZE

71 covid positive students of 2nd and 3rd MBBS of BJ Medical college.

DATA COLLECTION

A pre designed and pre tested online google form was sent by message to collect data related to vaccination, number of days of duty performed, migration (if any) from other city, stay during covid duty, whether infected before joining the duty, exposure to family members or friends. This data was analysed using excel spreadsheet.

STATISTICAL ANALYSIS

The data was analysed and summarised using spss software and expressed as percentages and means, to describe the patients' demographic and clinical characteristics. P value is used to evaluate the significance level. $p<0.05$ is considered significant.

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II. RESULT

TABLE 1 The clinic epidemiological profile of covid positive students is summarised in table 1.

Out of 71 infected students, 58 were males and 13 females; 56 students were of 2nd year and 15 students from 3rd year; 58 students performed Sanjeevni duty while 13 students performed duty in covid booths for rapid antigen testing; 59 students performed duty less than the average number of days; 32 students had migrated out of which 27 had migrated within 14 days of joining duty; 69 students stayed in hostel; 39 students were fully vaccinated and 26 were partially vaccinated; 60 students claimed of having been exposed to high risk contact.

		% (total 71)	mean	P value
Academic year	2nd year	56 (78.9%)		
	3rd year	15 (21.1%)		
Gender	male	58 (81%)		
	female	13 (16.9%)		
Type of duty	Rapid Antigen	13 (18.3%)	-	
	Sanjeevni	58 (81.7%)	-	
Total days of duty performed	More than 33.33 days(average)	12 (16.9%)	33.33	0.0001
	Less than 33.33 days (average)	59 (83.1%)		
Migration	yes	32 (47.9%)		0.0042
	no	39(52.1)		
	Within 14 days of duty	27 (38%)		
Stay during duty	hostel	69 (97.1%)		0.0001
	No. of people per room		1.98	
	AC	50 (72.4%)		
	home	2 (2.9%)		
	No. of people per room		4.38	
	AC	2 (100%)		
Previously infected family member/ room mate	No	63 (88.7%)		
	Before 3 months of joining duty	4 (5.6%)		
	Within 3 months of joining duty	4 (5.6%)		
Covid vaccination status	Not vaccinated	6 (8.4%)		
	1 dose taken	26 (36.6%)		
	Both doses taken	39 (54.9%)		
Approximate gap between last dose taken and joining of duty (in	More than 4.35 weeks (more than average)	54 (77.1%)		

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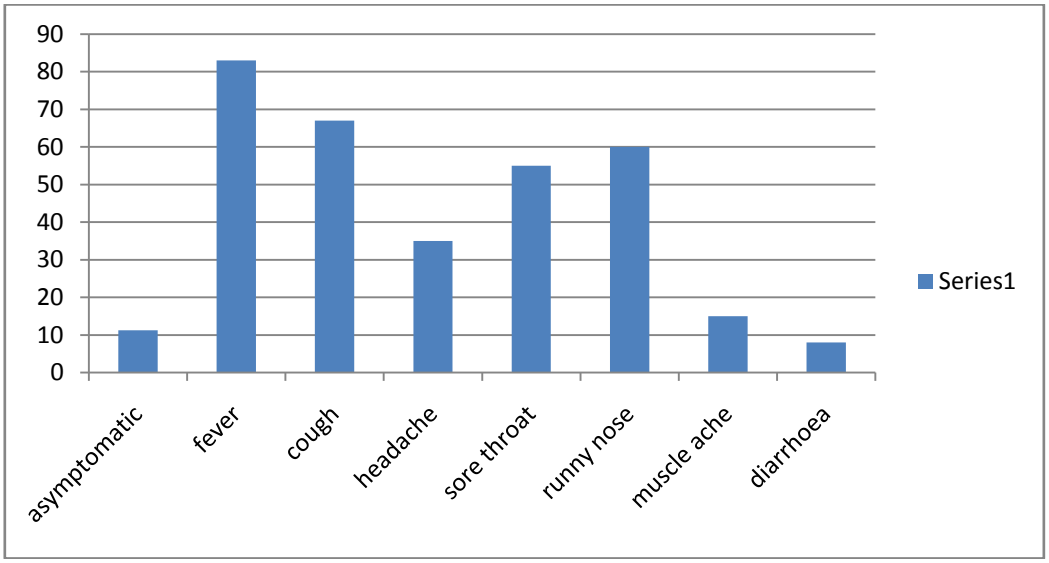
weeks)				
	Less than 4.35 weeks (less than average)	16 (22.8%)		
High risk contact	no	11 (15.49%)		
	yes	60 (84.5%)		0.015
Training satisfaction	PPE training	63 (88.7%)		
	Sanitization training	62 (87.3%)		
	Swab collection training	58 (81.7%)		

Table 2
Symptomatology

symptom	Percentage of covid positive people presenting the symptom
Asymptomatic	11.2%
fever	83%
cough	67%
Runny nose	60%
headache	35%
Muscle ache	15%
diarrhoea	8%
Sore throat	55%



III. DISCUSSION

Aim of this study is to find out the clinico epidemiological profile of covid positive students working as covid sahayaks. Several factors such as vaccination status of students, migration, duration and type of duty performed, symptomatology and so on were taken into consideration in this study to understand the clinic epidemiological profile of covid positive students.

In our study, male gender has proven to be more prone to getting covid infection than their female counterparts (81%). This outcome could be attributed to the fact that females tend to follow the preventive measures and maintain hygiene and sanitization more efficiently than males. (limitation of this outcome: total number of males who performed covid duty was much higher than females ; Also there have been contradictory results in countries such as Armenia where percentage of

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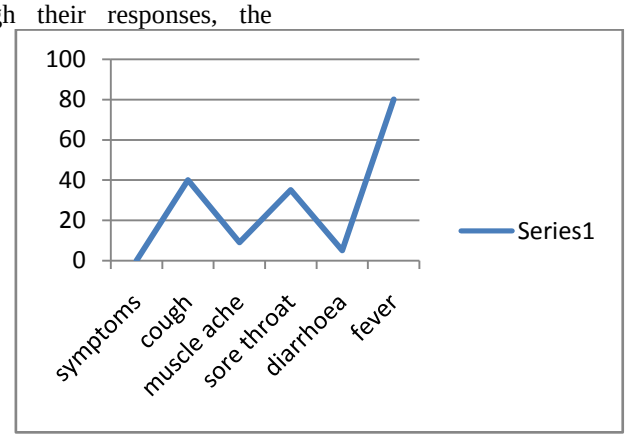
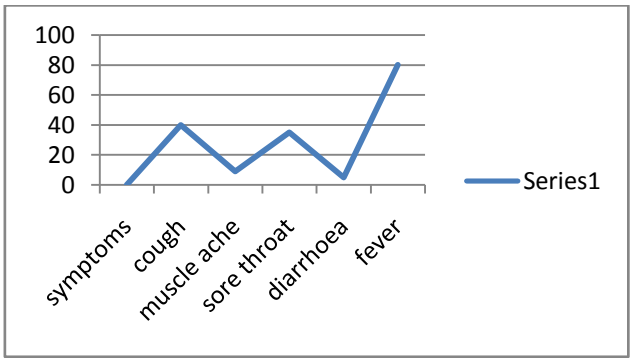
females infected with covid has come out to be more i.e, 62%). Whereas, on assessing the covid positive students through their responses, the severity of symptoms was seen more in females than their male counterparts.



In females



In males

Migration status was one of the other significant outcomes of this study. It was found out that out of the total number of covid positive students who migrated from a different place (32), most of them migrated within 14 days before joining the duty (27). Thus migration within such short span of time becomes a major epidemiological factor contributing to the higher infectivity chances of students.

Most of the students who got infected with covid lived in hostels (69 out of 71 students – 97%). This result could be could be interpreted as a direct outcome of hygiene, sanitization and social distancing performed in hostels. Better care and preventive measures are seen to be taken at homes than hostels. A sheer negligence could be attributed to higher rate of infection in hostels. Again, it was seen that the severity of symptoms, mainly fever and cough was more seen among those staying in hostel than at home.

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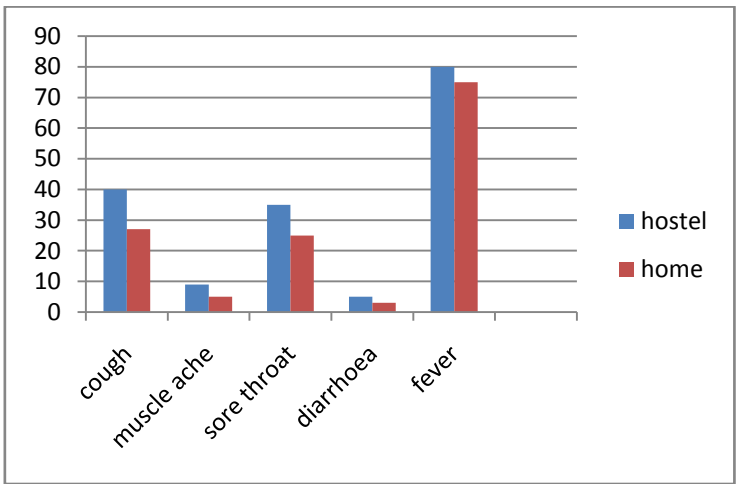

The result also shows that the rate of infection was high in students who were exposed to high risk contact without adequate protection. 84.5 percent students claimed that they were exposed to high risk contact(s) before getting infected with covid.

Also the infection rate and severity of symptoms was much higher among 2nd year students than 3rd year students. 78.9 percent students infected were from 2nd year. This outcome could be a direct result of the fact that 2nd year students might have lacked the maturity to handle high risk patients while on duty. Negligence for hygiene and social distancing off the field can also be the reason why 2nd year students had higher infectivity rate. Increased severity of symptoms among 2nd year students could be due to lack of basic medical and pharmacological knowledge to combat the symptoms.

Exclusion Criteria in the study: students with comorbities are excluded from the study.

Discussion of the clinical profile of covid positive students

Fever is the most common presenting symptom of the covid infected students. 83 % of the infected students complained of moderate to high degree of fever for most of the duration of their infection.

Cough and runny nose were the other common symptoms of covid positive students. Cough was the main complaint of 67 % of the students and runny nose was the complaint of 60 % of covid infected students.

Other symptoms such as muscle ache, diarrhoea, headache were also seen in some of the covid infected patients.

The result of this study determines that most of the students were mildly symptomatic mainly with symptoms such as fever and cough. No life threatening symptom was noted amongst the infected study population. A strong conclusion can be derived though this observation, i.e., the severity of symptoms is mild to moderate among the younger population. This also shows that the students who worked as covid sahaykas were well trained in combating the infection, as is clearly depicted in the result that 60% of the students were satisfied with the training provided.

IV. CONCLUSION

Factors such as migration; Stay during the duty period and exposure to high risk contacts have proved to play a major role in clinico-epidemiological profile of covid positive students. The severity of symptoms is also found relatively higher among these students. This result proves that following covid appropriate behavior (sanitization, mask and social distancing) is the key to prevent the infection and also reduce the severity of the infection.

Factors such as covid vaccination status, gap between the last dose of vaccination and joining of duty have proved to be non significant in this study group. A conclusion can be drawn out that the chance of infection does not depend upon the vaccination of students. Both the vaccinated and non vaccinated population is at an equal risk of getting infected.

Lastly, on the basis of the clinical profile of covid infected students, a conclusion is derived that the severity of the symptoms and the rate of hospitalisation is significantly less among the younger age population.

REFERENCES

[1]. A preliminary clinico- epidemiological portrayal of covid 19 pandemic at a premier medical institution of North India. PMID: PMC7423199 DOI 10.4103/atm.ATM_182_20

[2]. Srinivasan R, Gupta P, Rekhi B, Deb P, Nijhawan V et al. Indian academy of cytologists national guidelines for cytopathology laboratories for handling suspected and positive covid 19 patient samples. J Cytol. 2020;37:67-71.

[3]. The real time statistics project. www.worldometers.info

[4]. Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y. Clinical features of patients infected with 2019 novel corona virus in Wuhan, China. Lance. 2020; 395:497-506. – PMC Pubmed.

[5]. Zhou P, Yang XL, Wang XG, Hu B, Zhang l, Zhang W, et al. A pneumonia outbreak associated with a new corona virus of probable bat origin. Nature. 2020; 579:270-3. PMC pubmed.

[6]. Report of the WHO-China joint mission on corona virus disease 2019 (google scholar).

[7]. Guan WJ, Liang WH, Zhao Y, Liang HR, Chen ZS, Li YM, et al. Comorbidity and its impact on 1590 patients with covid 19 in China: A nationwide analysis. Eur Respir J. 2020;55;2000547. Doi:10.1183/13993003.00547-2020 (PubMed)

[8]. Preventing and managing Covid 19 across long term care services: policy brief. Geneva : World health organisation 2020 licence : CC BY NC SA 3.0 IGO (google scholar)

[9]. Trends and clinic epidemiological profile of covid 19 patients at a designated covid 19 hospital in Delhi, North India. J Family Med Prim Care 2020 ; PMCID :PMC7928146 PMID 33681074.