Research Article

iMedPub Journals
www.imedpub.com

Journal of Preventive Medicine
ISSN 2572-5483

2020
Vol.5 No.4:13

DOI: 10.36648/2572-5483.5.4.57

Frequency of Covid-19 in Population of District Nowshera, Pakistan

Hamzullah Khan*

Department of Hematology, Director of Research & Development Wing, Nowshera Medical College, Pakistan

Abstract

Corona Virus disease termed as COVID-19 is an emerging highly contagious respiratory disease that is caused by novel corona virus 2019nCoV. To understand the basic mechanism of rapid transmission of this menace we have to develop the database to know the ratio of positivity of the disease among the asymptomatic, symptomatic patients and in patients with history of travel to an infected area or contact with positive COVID-19 patients. Based on the above concept valuing the clinical presentation, proper history taking to reach a clinical diagnosis of the disease among the strong suspects, we did a clinical intervention to determine the ratio of viral infectivity in our population. We observed that 114 (18.1%) case out of 629 suspects attended the COVID-19 clinic or followed after the positive cases including their close contacts or family members of the COVID-19 Positive. When the same ratio was determined in strong suspects where only the patients who were tested through nasophayngeal swabs for 2019-nCoV PCR, we observed that 114 (29.6%) out of 385 were confirmed positive. There was a significant relationship of viral infectivity with an increase in age (p=0.006). Hence we concluded that a higher proportion of the suspects and patients with close contacts with infected patients are positive irrespective of the clinical presentation.

***Corresponding author:** Hamzullah Khan

Tel: 03344802902

hamzakmc@gmail.com

Department of Hematology, Director of Research & Development Wing, Nowshera Medical College, Pakistan.

Citation: Khan H (2020) Frequency of Covid-19 in Population of District Nowshera, Pakistan. J Prev Med Vol. 5 Iss No. 4: 13

Received: May 20, 2020, **Accepted:** August 21, 2020, **Published:** August 29, 2020

Introduction

COVID-19 is pandemic respiratory infectious disease with unknown etiology, was first reported to the WHO office on Dec 31st 2019, from Wuhan, a metropolitan city in the province of Hubei China [1]. Case fatality rate of 2.3% has been reported from china that is lower than SARS (9.5%), MERS (34.4%) and H7N9 (39%) [2].

In Pakistan the virus entered on 26th February, 2020, when Government of Pakistan officially declared a student of university of Karachi diagnosed as COVID-19 positive, with a travel history of Iran [3]. In Pakistan the literature so for covering the prevalence and incidence is deficient and we found no published data, In Pakistan the so for reported data from government sources declares 30941 confirmed cases with 667 deaths. Punjab is the province with highest number of corona cases crossing 11568 cases followed by Sindh (11480), KP (4669) and Balochistan with 2017 confirmed cases [4]. In order to help the clinicians and to understand the burden of the disease, we analyzed the cases of District Nowshera where so for 385 cases PCR results.

Present pilot study was designed with the objectives as:

1. To determine the frequency of positivity of the cases in the asymptomatic patients attending the COVID-19 clinic of a tertiary care hospital and
2. Frequency of positivity of the cases in cases with strong history of contact/travel to an epidemic or patients in district Nowhsera.

Material and Methods

This cross sectional study was conducted from 10th Feb 2020 to May 8th, 2020 in district Nowshera and its only Medical Teaching Institution, Qazi Hussain Ahmed Medical Complex MTI Nowshera. A total of 243 patients whose PCR report was received were included in this pilot study.

Ethical approval was obtained from the institutional ethical review board of Nowshera Medical College hospital administration before the execution of the study.

Prior informed consent was obtained from all suspects and they were assured of confidentiality.

All samples were sent under strict observance of protocols to the Public health research laboratory of Khyber medical university Peshawar (a designated Lab for PCR of 2019nCoV by the Government of Khyber Pukhtunkhwa).

Data was entered in SPSS 25th version and descriptive and correlation statistics were applied. The frequency and proportion

of numerical and categorical and were presented in percentages. Descriptive statistics was used for age to determine the mean with standard deviation. Chi-square test was applied to show a relationship of viral infectivity in age.

Results and Discussion

The mean with SD of age was 36 years+16 years; the minimum age of the suspects was 2 years with a maximum 0f 85 years and range of 83 years.

We enrolled a total of 629 patients in district Nowshera in COVID-19 data system. Out of total, 337(53.6%) were enrolled from the COVID-9 clinic of Qazi Hussain Ahmed Medical Complex and 292(46.4%) were selected from the from the district surveillance system.

Out of the total suspects 114/629 (18.1%) were COVID-19 Positive **(Table 1a).**

Tian S et al reported from the Beijing China a lower prevalence rate of COVID-19 among the asymptomatic individuals in the early days of epidemic was 5% [5,6]. While another study from Japan reported a higher proportion in asymptomatic of 17.9% (95% confidence interval (CI: 15.5-20.2%). They further stated that infection in majority of patient have occurred before they join quarantine6. Luo L et al reported that the frequency of COVID-19 in his study at 10% that coincides our findings [7]. In many countries they keep in mind certain risk factors in the form of age, gender, travel history, higher markers level like d-dimers and serum ferritin etc. are the clues that helps clinicians to identify patients for further trial, before advising the patient PCR under limited resources.

We further observed that out of 385 cases, PCR was advised, among those strong suspects who were shortlisted for testing on the basis of a scoring system due to limited viral transport media (VTM), The ratio of positivity was 114/385 (29.6%) **(Table 1b)**. Anzari A et al also reported 30% infectivity rate in their tested population [8]. They studied patients with history of travel to epidemic areas and patients with history of positive contacts.

We applied Chi-square test and a statistically significant difference was noted among the age groups (p=0.006) for positive cases **(Table 2)**.

A CDC report from China showed 80% of the causalities (deaths) due to COVID-19 were in the adults aged>60 years as compared to 0.1% in person aged <19 years [9]. Similarly Italy is the second mostly affected country in the world, with more thah40000 cases of SARS-CoV infection. They reported a higher mortality in aged people as compared to younger population that identifies an immunity gap [10] **(Table 3)**.

That is the point where the message to "**stay at home**" comes true, as whenever an individual has more history of travel he exposes himself to a higher infectivity with 2019-nCoV, by coming across with contacts of COVID-19 patients. Therefore the best only option to contain the virus is to reduce mobility, to reduce contacts and to appraise the message of social distancing.

There were some un-avoidable limitations in the study like limited resources, limited VTM/UTM, short duration of study and low number of positive cases, though we had an acceptable population of suspects.

Conclusion

We concluded that infection with 2019-nCoV is more in aged population as compared to younger population that identifies its opportunistic nature and love for immunity gap. Similarly it has a strong correlation with travel history to an infected area and positive contact history.

Table 1a: Frequency of positive cases: Positive cases in suspects, attending the COVID-19 Clinic (n=629).

	Frequency	Percent	Valid Percent	Cumulative Percent
Negative	229	36.4	36.4	36.4
Positive	114	18.1	18.1	54.5
Awaited	39	6.2	6.2	60.7
not done	244	38.8	38.8	99.5
Inconclusive	3	0.5	0.5	100
Total	629	100	100	

Table 1b: Frequency of positive cases in the strong suspects whose PCR was done (n=385).

	Frequency	Percent	Valid Percent	Cumulative Percent
Negative	229	59.5	59.5	59.5
Positive	114	29.6	29.6	89.1
Awaited	39	10.1	10.1	99.2
Inconclusive	3	0.8	0.8	100
Total	385	100	100	

Table 2: Relation of viral infectivity with age.

		age categories		Total
		<60 years	>60 years	
PCRCAT	Positive	97	17	114
	Negative (includes awaiting and non-conclusive cases)	254	17	271
Total		351	34	385
Chi-Square Tests				
	Value	df	Asymptotic Significance (2-sided)	
Pearson Chi-Square	7.439[a]	1	0.006	
N of Valid Cases	385			

Table 3: Pcrct * age 2 Crosstabulation.

Count		age2		Total
		1	2	
pcrct	1	97	17	114
	2	254	17	271
Total		351	34	385

There is need for integrated approach through advocacy and social mobilization for social distancing. Therefore it is further suggested that special care should be given to suspects with higher risks like in age <5years & age >60 years, patient with close contact, suspects with history of travel to an epidemic area and patients with weak immune status.

References

1. Guo YR, Cao QD, Hong ZS, Tan YY, Chen SD, et al. (2020) The origin, transmission and clinical therapies on corona virus disease 2019 (COVID-19) outbreak - an update on the status. Mil Med Res 7:11.
2. Munster VJ, Koopmans M, van Doremalen N, van Riel D, de Wit E (2020) A Novel Coronavirus Emerging in China - Key Questions for Impact Assessment. N Engl J Med 382:692-694.
3. Pakistan prepares to fight back as two coronavirus cases emerge in country (2020) Arab News PK.
4. Coronavirus in Pakistan - Confirmed Cases (2020) Government of Pakistan.
5. Tian S, Hu N, Lou J, Chen K, Kang X, et al. (2020) Characteristics of COVID-19 infection in Beijing. J Infect 80:401-406.
6. Mizumoto K, Kagaya K, Zarebski A, Chowell G (2020) Estimating the asymptomatic proportion of coronavirus disease 2019 (COVID-19) cases on board the Diamond Princess cruise ship, Yokohama, Japan, 2020. Euro Surveill 25:2000180.
7. Luo L, Liu D, Liao XL, Wu XB, Jing QL et al. (2020) Modes of contact and risk of transmission in COVID-19 among close contacts. medRxiv 03.24.20042606;
8. Anzai A, Kobayashi T, Linton NM, Kinoshita R, Hayashi K, et al. (2020) Assessing the Impact of Reduced Travel on Exportation Dynamics of Novel Coronavirus Infection (COVID-19). J Clin Med 9:601.
9. CDC COVID-19 Response Team. Severe Outcomes Among Patients with Coronavirus Disease 2019 (COVID-19) - United States, February 12-March 16, 2020. (2020) MMWR Morb Mortal Wkly Rep 69:343-346.
10. Porcheddu R, Serra C, Kelvin D, Kelvin N, Rubino S (2020) Similarity in Case Fatality Rates (CFR) of COVID-19/SARS-COV-2 in Italy and China. J Infect Dev Ctries 14:125-128.