

COVID 19 and its association with “Chail” in Swabi KPK

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Back ground: The dotted chaddar ‘Chail’ worn by women in Swabi district, a symbol of respect, to fully cover the whole body and their faces as a veil or niqab, can also be a source of reduction in the transmission of covid-19 in females

Objective: To determine the frequency of COVID-19 in Swabi, in relation to the custom of wearing a “chail”.

Methodology: It was a retrospectively conducted, descriptive, cross-sectional analysis. It was conducted in department of Pathology (Microbiology/Virology), Bacha Khan Medical Complex, Swabi from June, 2020 to May, 2022, after obtaining permission from ethical review board of the institute. Samples from all the suspected cases, their contacts, and healthcare workers with COVID-19 symptoms were sent to Virology section of Pathology Laboratory located at Bacha Khan Medical Complex, Swabi. Preferably nasopharyngeal and in some cases oropharyngeal swabs were taken. All these samples were then subjected to be tested for SARS-CoV-2 by quantitative reverse-transcription-polymerase chain reaction (RT-PCR) to be reported either as, detected, (positive) OR, not detected, (negative).

Results: A total of 87632, nasopharyngeal /oropharyngeal samples were collected over a period of 24 months duration. Detection of COVID-19 using the Real time Polymerase chain reaction i.e. RT-PCR was carried out that yielded that out of the total of 87632 cases, 5716 (6.5%) were positive and 81554 (93.4%) were found to be negative. Out of the total number of positive cases i.e. 5716, a total of 4424 (77.4%) were males and 1286 (22.5 %) were females. Majority of the patients whether males or females were adults ranging from 19 years of age to 56 years of age.

Conclusion: The frequency of COVID-19 was higher in males than in females indicating the importance of “chail” playing a significant role in the prevention of COVID-19.

Key Words: COVID-19, Veil, Fabric masks, Infectious diseases, Personal protection, Polymerase Chain Reaction.

Introduction

It was in the city of Wuhan, located in the province of Hubei, in Southern part of China, where an alarming outbreak emerged in a market of seafood.⁽¹⁾ It was December 2019, when the initial outbreak involving about 66% of the staff in that seafood market was reported to be infected with flu like illness, spreading like a wild fire, leaving the entire globe in a state of despondency.¹ Our country Pakistan was also included, in this disastrous calamity, with Islamabad and Karachi reported as the first two cities to simultaneously report the first cases of COVID-19.² In the first instance, it was given the name of Wuhan-Hu-1-CoV and later as Coronavirus Disease-2019 abbreviated as COVID-19, by World Health Organization (WHO).^{2,3}

The original source of the Coronavirus infections that had occurred in the past including both SARS and MERS-CoV was reported to be the bats, the main reservoir of infection, but the rate at which transmission of SARS-CoV-2 responsible for COVID-19 took place, was reported to be much higher than SARS-CoV.⁴ Except for the structural spike glycoproteins in the structure of SARS-CoV-2, that are associated with a very high rate of variation, responsible for the severity of disease associated with coronavirus disease 2019 (COVID-19), all the other structural proteins are very well preserved.⁵

Major route by which SARS-CoV-2 is transmitted is by the formation of the respiratory droplets produced while an infected person would cough, sneeze or by coming in direct physical contact with the infected person.⁶ This linked the transmission of the Corona virus, with wearing masks in daily practice to be the most effective measure in order to minimize the person to person transmission.⁷

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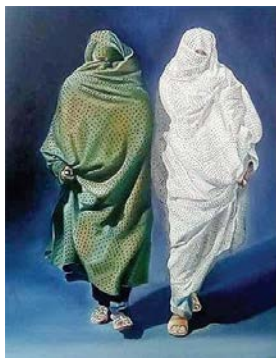
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In order to effectively minimize the transmission of the COVID-19 virus using a mask is also stressed upon in the guidelines by WHO, both in public places and in hospital settings.⁸ Not only a mask, multiple studies have proved the efficacy of many different types of cloth, to be used as a mask and being highly effective in reducing both the droplets as well as aerosol related transmission of COVID-19.⁹

Although, many COVID-19 patients are asymptomatic, and all have an incubation period usually from second day to full 2 weeks and patients being in this time period usually presented with no or minimum symptoms,¹⁰ but with highest viral titers being reported in the saliva of these patients in this time frame and therefore a potent source of transmission of the infection. Niqab is a piece of cloth worn by Muslim women as a part of their religious beliefs.¹¹ Suggested in one of the studies that benefit of wearing a covering i.e. niqab / veil, can reduce the likelihood of transmission of the virus, and thus reducing the harm expected to occur on acquiring the disease. The proposed mechanism for this involved the reduction of the outward transmission with a subsequent reduction in contaminating the environment.¹²

The dotted chaddar 'Chail' worn by women in Swabi district, a symbol of respect, to fully cover the whole body and their faces as a veil or niqab,¹³ can also be a source of reduction in the transmission of the disease in females. In spite of the availability of multiple vaccines of different types, the efficacy of these vaccines is a point of great concern. Therefore, prevention is definite, to be considered in various ways whether in terms of a mask, physical distancing, quarantine or vaccines.



Materials and Methods

It was a descriptive cross-sectional analysis conducted retrospectively after seeking approval from the institutional ethical review board.

Study was carried out in Pathology (Microbiology/Virology) Department Gajju Khan Medical College (GKMC)/Bacha Khan Medical Complex (BKMC), Swabi from 1st June, 2020 to 30th May 2022. Sample Technique used was Non probability consecutive sampling. A total of 87,264 samples were collected over the period of 24 months.

All suspected cases of corona virus, Contacts of cases of corona virus and Health care workers of Bacha Khan Medical Complex and Allied Hospitals, Swabi and their family members with symptoms of corona virus infection were included. Samples taken from other than Bacha Khan Medical Complex and Allied Hospitals, Swabi. Any samples repeated for the patient already included in the study were excluded.

Samples were sent to Virology section of Pathology Laboratory Bacha Khan Medical Complex, Swabi. Preferably nasopharyngeal and in some cases oropharyngeal swabs were taken and were tested for SARS-CoV-2 by quantitative reverse-transcription-polymerase chain reaction (RT-PCR) which is being used worldwide for the screening and confirmation, if a patient is suffering from corona virus. It was then reported as, detected, (positive) OR, not detected, (negative).

Nose and mouth being two main sites that are being used to take samples for PCR. Nose leading to the nasopharynx, which is located almost 10 cm behind the anterior nares and mouth leading directly to oropharynx. So, the person taking samples should have very good skills and also should wear proper personal protective equipment.¹⁴

Results

Total number of samples collected in the twenty four months duration were 87,264. Based on the results obtained from polymerase chain reaction, a total of 5710 were positive for Corona virus, while Corona virus was not detected in the remaining 81,554. Out of the total positive cases i.e. 5710, a total of 4424 were males and 1286 were found to be females.

Although COVID-19 may infect any age group, the mean age of the patients as recorded in our study was 36.53 ± 13.09 years.

Table 1: Percentage frequency of the PCR results

	Positive PCR Results	Negative PCR Results
Frequency	6.5%	93.4%

Table 2: Percentage frequency of the Males versus Females

	Positive PCR Results
Males	77.47%
Females	22.52%

Discussion

Mankind has faced a number of unparalleled challenges affecting the entire world and its population. Valuable lessons have been learnt in the past from each and every one of the challenges faced. Coronavirus pandemic is one of its kind that shook not only the scientific, but also the social as well as economic foundations globally.

Despite the advances in modern day lives and science, there had been a complete failure faced to stop the spread of this disease and therefore the ruinous and calamitous impact of COVID-19.¹⁵

Data of the patients who were confirmed to be suffering from SARS-CoV-19 infection, as diagnosed by RT-PCR were included in our study in order to determine their frequency and its associated increase or decrease on wearing a veil/niqab/fabric mask in terms of chail, a custom followed by women in Swabi. As seen in our study out of a total of 5710 which were positive for Corona virus infection, a total of 4424 were males and 1286 were females. These findings are highly similar to another study which also reported, more than 70% of the positive results for COVID-19 PCR to be males.¹⁶ Still another study conducted by Sharma et al.¹⁷ also reported more than 70% of the positive cases to be males and a much lower percentage was seen in females.

Observed in a study conducted in the year 2020 by Konda et al., that wearing even a single layer of fabric will provide with a considerable degree of protection against the transmission of many diseases including COVID-19.⁹ This fact is supplemented by many other studies conducted in the past like the study conducted on the filtration efficacy of using a single layer like sweat shirts, t shirts, towels etc and was reported to be between 10% to 40%.¹⁸

Face masks advised to be worn by the general public is to limit the spread of viral particles from respiration, and not to only prevent against acquiring an infectious disease.⁽¹⁹⁾ For the protection of the person wearing a

face mask a specific recommendation from Centers for Disease Control and Prevention specifically is in favor of using fabric face masks, in order to limit the spread of infection through the generation of respiratory droplets especially while coughing, sneezing or even talking.²⁰ As the acts of speaking, coughing and sneezing produce large sized particles, which may be either be aerosols if they <5 µm or droplets, when they are >5 µm in diameter, which are actually retained on the inner surface of the mask and thus are not available to hang in the air if of a smaller diameter i.e. an aerosol or dropped to a surface if larger in size i.e. a droplet.²¹

If not neglecting all the above mentioned studies it is clearly understood that many types of cloth, whether in terms of a veil, niqab or chail can reduce the transmission of multiple infectious diseases including Corona virus. Although not the only factor but, all the above mentioned studies definitely favor our assumption that “chail” worn as nikab / veil, made up of a thick cloth stitched for the purpose, as a custom followed proudly by the women of Swabi definitely plays some role in reducing the transmission of the disease and therefore lesser number of females being infected as seen in our study.

Conclusion

The frequency of COVID-19 was only 22.52% in females indicating the importance of “chail” playing a significant role in the prevention of COVID-19.

Limitations

“Chail” although definitely worn publically, but not being worn in the weddings, or other such events is definitely a limitation in the study.

Conflict of Interest: Authors declare no conflict of interest.

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- A. Conception/Study/Designing/Planning
- B. Active Participation in Active Methodology
- C. Interpretation/ Analysis and Discussion