

Clinical features and outcome of Covid-19 in individuals without Comorbidities. Do children have the advantage?

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Objective: Information regarding clinical characteristics and the natural course of COVID-19 amongst individuals without comorbidities is scarce. We therefore conducted a retrospective observational study to decipher the disease profile in two different age groups, middle-aged (40-59 years) and children (up to 12 years). **Method:** Study was conducted by reviewing the medical records of all patients in the desired age groups and excluding all those with preexisting illness (called comorbidities). **Result:** A total of 154 and 27 patients were enrolled and studied in the middle-aged adults and children group respectively. Males dominated in both groups with a sex ratio of 2.9 in adults and 1.7 in children. Most of the children (92.5%) had a history of exposure from an infected family member, while in the adult group history of contact was present in 71.4% of patients. 62.9% of children had an asymptomatic infection which was significantly higher than 22.8% in adults. Cough and fever were the most common symptoms in both age groups, but adults were more likely to have respiratory complaints when compared with children. 11 (7.1%) patients in the adult group had severe disease while in the children group none had severe disease. Similarly in the adult group 11 patients required ICU admission, but none in the children group. The mean duration of RTPCR positivity was similar in both groups. There was 1 (0.6%) expiry in the adult group whereas none in children. **Conclusion:** Healthy individuals in both middle-aged and children group tend to have milder disease and both harbour the virus for the almost same duration but adults are more symptomatic in comparison to children and hence children are more likely to be potential asymptomatic carrier and transmitter of infection.

Keywords: COVID-19, Comorbidities, RTPCR, Middle aged, Children

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Unilateral infiltrates	14(9.0)	2(7.4)	
Bilateral infiltrates	15(9.7)	1(3.7)	
Outcome			
Death	1(0.6)	0	1.00
Discharge	153(99.4)	27(100)	
Mean duration of disease #	12.48 (± 3.73)	12.28(±5.69)	0.409

All values in No. (%) ,except median (IQR)

Duration in days: Mean (standard deviation)

*P value <0.05 was considered statistically significant

Discussion

The study investigates the clinical characteristics of covid-19 infection, in healthy individuals in two age groups, middle-aged and children, and tries to decipher the sole impact of age on the natural course of the disease. In the middle-aged group, the sex ratio was more skewed in favour of males than in the children group. This may be because this is the earning age group of society where males are more exposed to the infection. This sex ratio was comparable to previously reported Indian study [6].

In the children group also male preponderance was noticed, similar to previous studies [3,7]. The median age group of adults in our study was higher than previous reports [6,8], because we only included middle-aged individuals between 40 to 59 years in our adult study group. Most children acquired the disease from infected family members. Such family clustering of pediatric cases has also been documented previously [3,7,9] But in adults many patients had no traceable contacts (28.6% in our study), indicating wider exposure sources for this age group.

62.9% of children in our study were asymptomatic, this is higher than the numbers reported in a previous study [10,11], which may be because we excluded children with comorbidities. However the number of asymptomatic patients in the adult group was 22% which is lower than the number reported previously (44.4%) in a North Indian study [6].

This may be because our study population was relatively older with a median age of 50 years when compared to the mean age of their study population (40.1 years). These findings do confirm the fact that as age increases chances of symptom manifestation increases.

In our study also, the children group had a significantly higher proportion of asymptomatic cases in comparison to the adult group. These findings reiterate the fact that covid-19 is a mild disease in children as previously observed in several studies.[3,7,9,10,12]. Cough and fever have previously been reported as the most common symptom in both age groups [6,12,13], however we found that an adult with Covid -19 was more likely to have respiratory symptoms in comparison to a child.

In our study, the mean duration of RT PCR positivity in the adult group was 12.4 days. This is comparable to the duration previously reported in a study from Singapore [14]. However this duration was lower than other reports from India [6] and the US [15]. This may be because of no pre-existing illness in our study population, leading to better immunogenic response and quicker viral clearance. However mean duration of disease had no significant difference in the two age groups in our study population reflecting the fact that children may have an advantage over adults when it comes to the severity of disease but they harbour the virus for a similar duration in their body and act as asymptomatic carrier and transmitter of virus.

Conclusion

Covid 19 is a mild disease in healthy individuals in both children and adults. Although children tend to have more symptom-free infection in comparison to adults, the duration of viral clearance is the same in both age groups. Because of the asymptomatic nature of the infection, children possibly are an important transmitter of Covid-19 infection.

What this study adds to the existing knowledge

- The duration of Covid-19 infection is similar in children and adults without pre-existing comorbidities.
- Children tend to harbour more asymptomatic infection in comparison to adults