

Children and young adults key to transmitting coronavirus - Study

New Delhi, Oct 01 (India Science Wire): Number of novel coronavirus cases is surging in the country and researchers are trying to understand the potential spreaders and the possible routes of the spread of the virus to arrive at a viable and evidence based policy. A study based on contact-tracing says that more than five lakh people in India who were exposed to the novel corona virus SARS-CoV-2, suggests that the virus' continued spread is determined by only a small percentage of those who become infected.

According to the study, children and young adults were found to be potentially much more key sources of transmission of the virus especially indoors. The researchers found that 71% of infected individuals did not infect any of their contacts, while a mere 8% of infected individuals accounted for 60% of new infections.

Ramanan Laxminarayan, Lead researcher, and a senior research scholar at Princeton Environmental Institute (PEI), said that the paper is the first large study to capture the extraordinary extent to which COVID-19 hinges on "superspreading," in which a small percentage of the infected population passes the virus on to much larger population, while most do not spread to any others. "Our study presents the largest empirical demonstration of superspreading that we are aware of in any infectious disease. Superspreading events are the rule rather than the exception when one is looking at the spread of COVID-19, both in India and likely in all affected places" said Dr Laxminarayan.

Researchers from PEI, Johns Hopkins University and the University of California-Berkeley worked with public health officials in the southeast Indian states of Tamil Nadu and Andhra Pradesh to track the infection pathways and mortality rate of 5,75,071 individuals who were exposed to 84,965 confirmed cases of SARS-CoV-2. It is thus far the largest contact-tracing study undertaken anywhere in the world. The study documented the people who came into contact with the primary infected person. The secondary contacts were followed up to find if they developed the infection from the primary contact.

The findings provide extensive empirical insights into the spread and deadliness of COVID-19 in countries such as India -- which has seen over 90,000 (98,678 deaths as on 1.10.2020) from COVID-19 -- that have a high incidence of resource-limited populations, the researchers reported. They found that coronavirus-related deaths in India occurred, on an average, six days after hospitalization compared to an average of 13 days in the United States. Also, deaths from coronavirus in India have been concentrated among people aged 50-64, which is slightly younger than the 60-plus at-risk population in the United States.

The researchers also reported, however, the first large-scale evidence that the implementation of a country-wide shutdown in India led to substantial reductions in coronavirus transmission.

The researchers found that the chances of a person with coronavirus, regardless of their age, passing it on to a close contact ranged from 2.6% in the community to 9% in the household. The researchers found that children and young adults -- who made up one-third of COVID cases -- were especially crucial to transmitting the virus in resource-limited populations.

"Kids are very efficient transmitters in this setting, which is something that hasn't been firmly established in previous studies. We found that reported cases and deaths have been more

concentrated in younger cohorts than we expected based on observations in higher-income countries”, said Laxminarayan.

Children and young adults were much more likely to contract coronavirus from patients their age, the study found. In general, same-age contacts across all age groups greatly increased the chance of infection, with the probability of catching coronavirus from low- to high-risk contacts ranging from 4.7-10.7%, respectively.

The study has been published in the journal *Science*. The work was supported by the National Science Foundation and the Centers for Disease Control and Prevention. (India Science Wire)

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