Screening of Persons for Covid-19 Infection - Implications and the Confusions

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More than half of acute respiratory diseases are caused by viruses which could be rhinovirus, coronavirus, respiratory syncytial viruses (RSV), parainfluenza virus, adenovirus and the metapneumovirus [1]. Bacteria are rarely implicated as the primary cause of acute respiratory illnesses; they commonly cause secondary infections of the respiratory system. Corona viruses account for 10 - 35% of common colds with increased prevalence in late fall, winter and early spring [1]. Seven strains of coronavirus are currently known to afflict man; four of them namely HCoV-229E, HCoV-OC43, HCoV-NL63 and HCoV-HKU1 cause self-limited upper respiratory tract infection [2] while three of them (Middle East respiratory syndrome-coronavirus, MERS-coV, severe acute respiratory syndrome coronavirus 1 (SARS-COV-1) and the novel virus, severe acute respiratory syndrome coronavirus 2, SARS-COV-2) cause lower respiratory tract infection and lead to severe respiratory illnesses [3-5]. Severe acute respiratory syndrome - coronavirus 2 (SARS-COV2) is the virus responsible for the COVID-19 infection which originated from Wuhan, China in late 2019 and got spread to virtually all parts of the world within the first quarter of 2020. This prompted the WHO, on March 11, 2020, to declare COVID-19 infection a pandemic.

The most common reported clinical symptoms of covid-19 infections were fever (in 77.6% of the cases), dry cough (64.8%), fatigue (27.2%), breathlessness (21.2%) and sputum production (in 18%) [6]. These symptom combinations are not specific or diagnostic of covid-19 infection. Acute malaria (especially in the malaria-endemic regions of the world), community acquired pneumonia, other viral respiratory infections, acute coronary syndrome, congestive heart failure, acute exacerbation of COPD and acute obstructive airway diseases are important differential diagnosis of covid-19 infection. There is, therefore, a need to make/confirm diagnosis of covid-19 infection to guide treatment, isolation (self or facility) and disease prevention. Persons of all ages can be infected by the SARS-COV2 but it has been reported that elderly patients and those with underlying illnesses are more vulnerable to being severely ill with the SARS COV2 [7].

One of the preventive measures put in place to check the spread of covid-19 infection is the screening of both asymptomatic and symptomatic patients because it was found that infected persons who are not manifesting symptoms are capable of transmitting the infection to other persons [8]. The principle of the three major screening methods for covid-19 infection include nucleic acid amplification test via reverse transcriptase polymerase chain reaction, antigenic testing for the protein content of the coronavirus and antibody testing in which antibody formed against the covid-19 infection is sought and detected.

Screening for covid-19 infection in both the asymptomatic and symptomatic patients as is practiced all over the world today has lots of implications.

Firstly, because the symptoms of covid-19 infection are non-specific, so many tests are performed on so many suspected cases but only few turn out to be positive cases. For example, several thousand persons may be screened in a week and less than a hundred persons may be positive. A lot of resources including personnel, testing kits, time, paperwork, etc. are wasted in carrying out these seemingly wild goose chases.

Secondly, because the seven strains of human coronavirus have similarities in their nucleic acid and antigenic (cell wall protein) contents, persons that test positive for the SARS-COV2 may actually be having the other strains of human coronavirus. In the light of the above,

antibody response of the different human strains of coronavirus may, also, be similar. The resultant effect of all these is that there are many false positive cases of covid-19 infections being made on a daily basis.

As a consequence of possible numerous false positive cases of covid-19 infection, many persons are wrongly labeled infected, are self-quarantined or admitted in isolation centres for the wrong reasons with cost implications for their feeding, medications, care and man-hour loss. The false positive cases may even get infected while in the isolation centres while those on self-isolation at home suffer the emotional and psychological trauma of persons on "house arrests".

Testing positive for covid-19 infection is associated with lots of anxiety, depression and tension in the affected individuals, their families and the community because it is known to be a deadly viral infection which has claimed millions of life globally. The fear and stigma of testing positive to covid-19 infection is a source of great worry to many persons.

Finally, corona virus data are being generated on a daily basis showing number of positive cases, deaths and survivors in the different countries of the world. These data are viewed in national dailies, televisions, cables and social media platforms. The figures being reeled out create confusion, anxiety and hopelessness all over the world.

In conclusion, there is no doubt that screening of persons for covid-19 infection has its own drawbacks and worrisome consequences despite the intended purposes. In a bid to help limit the global confusions created by the coronavirus pandemic, it is recommended that the data/figures generated by the coronavirus screening centres should be kept with the infectious disease control units in each country for use by researchers, epidemiologists and scientists. Those data should not be aired freely to the public who actually cannot utilize the data for any purpose.

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