Letter to editor:

Herd Immunity could save the world from COVID-19!

Abdul Sattar Khan[1]
1. Head & Assistant Professor, Family & Community Medicine Department.
College of Medicine, King Faisal University

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Corresponding Author:
Dr. Abdul Sattar Khan, Head & Assistant Professor, Family & Community Medicine Department. College of Medicine, King Faisal University. Email.amkhan@kfu.edu.sa

Sir, many strategies have been applied to break the spread and management of COVID 19 after declaring the pandemic of COVID 19. [1] These debates extended to the arguments of the economy and eventually about herd immunity. [2] This herd immunity is a strategy to allow the infection to spread into the population at a certain level, but at the same time protects the most vulnerable age group or with co-morbidities. [3] There are many issues pinned up with all kinds of strategies for controlling this deadly virus, and every strategy has its own consequences. Moreover, these consequences are indeed different in different countries depending upon their circumstances. Thus, it is stated precisely, there is no thumb rule, which can be applied to all countries straightforwardly. However, before initiating any strategy, there is a need to check the basic reproductive rate or number (R_0), or concisely the real-life effective reproductive number (R_t) for a given community. [4] Many articles have been written for these estimations and all calculations are available for all countries. Here it is needed to just overview these estimations for some developing countries where still a peak is awaited, and cases are increasing rapidly.

To pursue for the further discussion, we need to calculate the minimum percentage (Y) of population required to be immune for realizing herd immunity.[4] and for this estimation, we may use this formula [$Y= (R_0-1) / R0 X 100$]. These estimates may not be applicable to all countries and even seems higher in the whole world because those patients who have COVID-19 depict mild symptoms or could go undetected and improve in two to three weeks. This could be similar to the case of SARS-CoV-2 for instance and might describes why some individuals (perhaps a group of people recently recovered from the seasonal viral infection) may present

with milder or asymptomatic infections. [5] Therefore, all estimations are based on rough estimates of the basic reproductive (R_0). Hence, if we take the basic reproductive (R_0), 2 to 3 that is determined by different studies. [6] Then it would be roughly [Y= (2 – 1) / 2 × 100] = 50% of the population required to be immune to have herd immunity. Until now as to date almost 12% (10,000,00) cases have been reported and confirmed from the total 7.8 billion population of the world. Having said that, certainly it requires adequate finance, and other resources for the governing of the diseases. While only 12% affected cases are almost smashed the health systems and economy of even those countries, which claim that they are a huge economy ranging per capita income from 75000 dollars to 120,000 dollars, and have excellent health care system. Therefore, what would happen if 50% population means almost 4 billion people will be suffering to achieve the herd immunity, can we afford it?

Moreover, the story does not end here it will begin from here and make the situation worst, if only 10 to 20% of the affected 4 billion people may require admission and intensive care. So far, we cannot directly measure the economic burden due to utilization of health resources on focusing for the management of the COVID-19 patients. [7] The Latest literature showed that adjusting for patient and hospital characteristics, the mean incremental cost of mechanical ventilation in the intensive care unit (ICU) was 1,500 to 2000 dollars per day. Consequently, expected 10 to 20% out of 50% people of the world may need ICU admission and ventilators so the cost only for intensive cares could be in a billion dollars per day. [7] At last but not the least, we cannot calculate the cost of the loss of lives only in numbers during this pandemic. However, if we use analogy of number needed to treat (NNT) for our understanding and explicates it as number needed to save (NSS) for herd immunity, it outweigh the benefits of herd due to reaches to the level of unacceptable point. Consequently, if we consider the case fatality rate (CFR) of COVID-19 in between 0.25-3.0 percent of a country then estimated number of people who could potentially die from this deadly virus in that country, by the time community reaches to the herd immunity[3], could be adorable?

To conclude, leaving people in the hands of COVID-19 for getting maximum numbers of cases to achieve herd immunity is a catastrophe plan concerning losses of lives as well as economy. There are still so many questions left unanswered about COVID-19, in fact, it is not yet known how long this virus's survivor might have the required protection for herd immunity. How-

ever, it was mentioned earlier, that different countries have different circumstances. Nonetheless, I would strongly recommend World Health Organization should take a decision unanimously, with the representatives from all countries and ensures an effective lockdown for two weeks especially in those countries, which are on upsurge now days. Undeniably, it seems difficult to apply this strategy in some poor economic countries, but still a best solution of the problem. In addition, identify the hot spots, and then allow gradually relaxation in lockdown with strict application of all preventive measures, instead of waiting to develop 50% affected cases for herd immunity.

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