Awareness on COVID-19 outbreak and its preventive strategies among a group of Sri Lankan social media users: A Descriptive Cross-Sectional Study
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ABSTRACT

Introduction: Corona Virus Disease-19 (COVID-19) discovered in December-2019 soon became a pandemic and was declared a global public health emergency.

Objectives: The study assessed the public awareness on COVID-19 outbreak among a group of Sri Lankan social media users.

Methods: This cross-sectional survey was conducted in late March-2020, using a self-administered online-questionnaire shared in social media.

Results: Out of 174 respondents, 97 (55.7%) were male and the mean age was 36.1 years. Most were from western province (n=109, 62.7%) and with higher education (64.5%). All of the common transmitting modes were identified by only 141 (81%). Respondents identified fever (97.7%) and cough (93.7%) as features of COVID while 131 (75.3%) knew about asymptomatic patients. Even though 170 (97.7%) knew the duration of quarantining period 24.6% had a misconception on indications for quarantine. Majority (158, 90.8%) thought that herbal drinks are beneficial. Majority (n=153, 87.9%) knew the indications for using masks and 165 (94.8%) were aware about social distancing. Majority (n=162, 93.1%) were satisfied about the initial COVID-19 control-measures by the government.

Discussion: The level of overall knowledge on the COVID-19 was satisfactory among the participants with some deficiencies including all the modes of transmission. This shows the space for further awareness for controlling the virus better.

Key words: COVID-19, Modes of transmission, Public awareness, Social media use

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This new virus and disease were unknown before the outbreak reported as cluster of cases of pneumonia in Wuhan, China, in December 2019. In late January with the spread of the disease, the WHO Director General declared the novel coronavirus outbreak (2019-nCoV) a Public Health Emergency of International Concern (PHEIC).²

The disease spreads primarily from person to person through small droplets from the nose or mouth, expelled when a person with COVID-19 coughs, sneezes or speaks. These droplets are relatively heavy, do not travel far and quickly sink to the ground. People can become infected by touching the objects or surfaces where these droplets land, then touching their eyes, nose or mouth.³

Once infected, the most common symptoms of COVID-19 are fever, dry cough and tiredness. Other symptoms that are less common and may affect some patients include aches and pains, nasal congestion, headache, conjunctivitis, sore throat, diarrhoea, loss of taste or smell. These symptoms are usually mild and begin gradually. Some people become infected but only have very mild symptoms.
Most people (about 80%) recover from the disease without needing hospital treatment. Around 1 out of every 5 people who get COVID-19 becomes seriously ill and develops difficulty breathing. Older people and those with underlying medical problems like high blood pressure, heart and lung problems, diabetes or cancer, are at higher risk of developing serious illness. Practicing 'hand and respiratory hygiene' and maintaining the social distance at least a 1-meter distance between two persons are the best ways to protect from the disease. Hence, primordial prevention with health education to promote safe and hygienic health practices in day to day life activities is the most suitable mode of prevention considering the socio-economic impact the disease can cause. By end October 2020, most (216) countries, areas or territories are affected with the COVID-19, with 46 million confirmed cases and just under 1.2 million confirmed deaths globally with an disease specific fatality rate of 3.16%. By the beginning of November 2020, after nine months of emergence of the infection in the country, Sri Lanka had 11,774 total confirmed cases, with 23 deaths giving rise to a disease specific fatality rate of 0.20%. Community transmission of the disease was not declared by the health authorities because the new cases could be linked to previous patients.

### Table 1- Socio demographics of the sample

| Gender       | Number | %     |
|--------------|--------|-------|
| Male         | 97     | 55.7% |
| Female       | 76     | 43.7% |
| Total        | 173    | 100%  |

| Age group     | Number | %     |
|---------------|--------|-------|
| <20 years     | 2      | 1.1%  |
| 20-29 years   | 23     | 13.2% |
| 30-39 years   | 110    | 63.2% |
| 40-49 years   | 29     | 16.7% |
| 50-59 years   | 6      | 3.4%  |
| 60 years and above | 4 | 2.3%  |

### District of Residence

| District       | Number | %     |
|----------------|--------|-------|
| Colombo        | 76     | 43.7% |
| Gampaha        | 33     | 19.0% |
| Matara         | 21     | 12.1% |
| No Response    | 12     | 6.9%  |
| Anuradhapura   | 5      | 2.9%  |
| Kalutara       | 5      | 2.9%  |
| Other          | 22     | 12.5% |

### Educational Qualifications

| Qualification     | Number | %     |
|-------------------|--------|-------|
| Grade 11 or less  | 1      | 0.6%  |
| GCE O / L         | 8      | 4.6%  |
| GCE Advanced Level| 20     | 11.5% |
| Diploma or other  | 31     | 17.8% |
| professional qualification |   | |
| University degree | 57     | 32.8% |
| Postgraduate or higher | 52 | 29.9% |
| Total             | 174    | 100.0% |
seventy four (174) participants responded to the self-administered questionnaire. Mean Age of the respondents was 36.1 years (range: 10-69). Majority were Male- (n=97, 55.7%) with one respondent not disclosing the gender. Majority of participants were from Colombo (n=76, 46.9%), followed by Gampaha (n=33, 20.4%) and Matara (n=21, 13%). Out of the respondents, 57 (33.7%) were degree holders while 52 (30.8%) had Postgraduate diploma or other higher education qualifications (n=31, 18.3%). Twenty (11.8%) participants were educated up to GCE Advanced Level. Socio demographic details are shown in Table 1.

### Table 1 - Socio-demographic Characteristics of the participants

| Characteristic                  | Number |
|--------------------------------|--------|
| Age (years)                    | 36.1 (range: 10-69) |
| Gender                         | Male: 97 (55.7%), Female: 77 (44.3%) |
| Gender not disclosed           | 1       |
| Education Level                | Degree holders: 57 (33.7%), Postgraduate diploma: 52 (30.8%), Other: 31 (18.3%) |
| City of residence              | Colombo: 76 (46.9%), Gampaha: 33 (20.4%), Matara: 21 (13%) |

### Knowledge on COVID-19

The respondents' knowledge on COVID-19 infection and related factors is shown in Table 2. All 174 participants correctly identified Corona as a Virus and that the current situation is being called a pandemic. However, 163 (94.8%) knew that a global public health emergency had been declared. The most common Transmitting modes were identified by 141 (81%). Some (n=32, 19%) didn't think that close proximity and common use of personal belongings can cause virus to spread. Others (n=31) thought the virus can only transmit through respiratory droplets by air.

The majority of the respondents were able to identify the symptoms of the disease except for diarrhoea. Eighty-six (49.4%) participants thought diarrhoea can be a symptom. The participants identified breathing difficulties as the commonest symptom (98.9%) followed by fever (97.7%), throat pain (96%), dry cough (93.7%) and nasal congestions (58.6%).

### Table 2 - Knowledge about the Corona virus infection and related factors

| Factor                          | Number | %  |
|--------------------------------|--------|----|
| Incubation period               |        |    |
| 2-14 days                       | 155    | 89.1 |
| 2-4 weeks                       | 17     | 9.8 |
| 1-2 days                        | 2      | 1.1 |
| Quarantine period               |        |    |
| 14 days                         | 170    | 97.7 |
| 21 days                         | 3      | 1.7 |
| 7 days                          | 1      | 0.6 |
| Symptoms of COVID*              |        |    |
| Dry Cough                       | 163    | 93.7 |
| Nasal Congestions               | 102    | 58.6 |
| Throat pain                     | 167    | 96  |
| Diarrhea                        | 86     | 49.4 |
| Fever                           | 170    | 97.7 |
| Breathing difficulties          | 172    | 98.9 |
| Can COVID patients be asymptomatic? |     |     |
| Yes                             | 131    | 75.7 |
| No                              | 18     | 10.4 |
| Don't know                      | 24     | 13.9 |
| At risk communities*            |        |    |
| Family members of patients      | 162    | 93.6 |
| Health care workers             | 134    | 77.5 |
| No change                       | 158    | 91.3 |
| General public                  | 3      | 1.7 |
| Elderly population              | 171    | 98.3 |
| Persons with chronic diseases ie Diabetes | 162 | 93.1 |
| Children                        | 73     | 42.0 |
| Youth population                | 14     | 8.0 |

### Table 3 - Knowledge on preventive aspects of COVID 19

| Preventive measures*            | Number | %  |
|--------------------------------|--------|----|
| Wearing face masks              | 172    | 99.0 |
| Avoid touching face frequently  | 169    | 97.7 |
| Frequent handwashing with soap and water | 171 | 98.8 |
| Cleaning frequently touched surfaces | 145 | 83.8 |
| Food safety                     | 72     | 41.6 |
| Avoiding large crowds           | 172    | 99.4 |
| When should a person wear a facemask* |     |     |
| Taking care of COVID patients   | 166    | 96  |
| When someone shows symptoms of COVID | 171 | 98.8 |
| People who stay at home         | 14     | 8.1 |
| Who are indicated for quarantine*|       |    |
| Close contacts of patients      | 164    | 94.2 |
| Family members of patients      | 168    | 96.5 |
| Returnees from a COVID prevalent country | 149 | 84.8 |
| People living near quarantine center | 45  | 24.6 |

Quarantine process

When it comes to knowledge on the quarantine period, the majority (n=170, 97.7%) correctly identified it as 14 days and three respondents thought its 21 days while one thought its 7 days. The vast majority of the participants correctly identified that the family members...
(n=168, 96.5%) and close contacts of COVID patients (n=164, 94.2) should be quarantined. Despite repeated media educating the public, 26 (15.2%) thought persons coming from a COVID19 prevalent country need not be quarantined. Forty-five (24.6%) thought that residents around the infectious disease hospital treating COVID19 patients should be quarantined.

**Treatment for COVID 19**

The majority (n=144, 82.8%) knew that there are no particular drugs for COVID and 20 (11.5%) didn’t know about drugs and 10 thought there is a particular drug. Majority (n=158, 90.8%) thought the herbal drinks are beneficial for recovery from COVID 19 and only 14 thought that those will make no difference. However, smoking was identified by 173(99%) as harmful.

**Preventive measures for COVID**

Majority (n=153, 87.9%) correctly identified the indications for using masks as advised by the health authorities at the time of data collection. Fifteen (18.9 %) thought it is best to use masks at all times irrespective of other conditions. When it comes to the minimal distance that should be maintained between two individuals to prevent transmission of COVID, 165 (94.8%) identified the minimal distance as one meter while nine thought it is two meters.

Majority (n=154, 88.5%) selected 20 seconds as recommended duration that should be spent for hand-washing while some thought the minimal time should be 2 minutes (n=11) and 20 minus (n=8) respectively.

On inquiry about factors that may have a beneficial or harmful effect on prevention / development of the disease, 117 (67.2%) identified alcohol as harmful while 5 (2.9%) thought its beneficial and 9 thought there is no difference. Herbal drinks were thought to be beneficial by the majority with 90.8% selecting it as beneficial.

**Discussion**

Social media plays a big role in disseminating public health related information throughout the communities worldwide. It was evident that online sources played a major role in informing the general public in the prevailing COVID 19 epidemic as well. However, there was no understanding of the level of awareness on COVID 19 epidemic related information among the social media users.

This study revealed that the level of knowledge on the COVID 19 was found to be relatively high among the social media users who responded to the questionnaire.

All the participants were aware of the pandemic and the fact COVID is caused by a virus. The majority were able to identify the incubation period and the transmission dynamics of the virus. However, only 81% of the participants were able to identify all the modes of transmission. Inability to identify all the modes of transmissions was a common deficiency of the general public as found in international studies as well. \(10\text{-}12\) This shows that further awareness should be carried out on the modes of transmission of the disease. This is vital in battling the pandemic since the knowledge on transmission dynamics plays a major role in preventing spread of the disease. Satisfactory level of awareness was also demonstrated on treatments, preventive measures and quarantine process of COVID 19. This may be due to the fact that there were lengthy discussions and debates going on regarding treatment options and the quarantine process.

There was a strong debate going on online platforms regarding herbal drinks that may play a major role in preventing as well as giving a good prognosis for the patients with COVID 19. The patients were encouraged to drink herbal drinks like Kottamalli/ Coriander(\textit{Coriandrum sativum}) by various institutions.

**Table 4- Factors that may affect prevention and the prognosis of COVID 19**

| Factor                  | Number | %   |
|-------------------------|--------|-----|
| Alcohol                 | 5      | 2.9%|
| Beneficial              |        |     |
| Harmful                 | 117    | 67.2%|
| No change               | 9      | 5.2%|
| Smoking                 | 1      | 0.6%|
| Beneficial              | 173    | 99.4%|
| Harmful                 | 3      | 1.7%|
| No change               | 0      |     |
| Plenty of Water         | 168    | 96.6%|
| Beneficial              | 3      | 1.7%|
| Harmful                 | 0      |     |
| No change               | 0      |     |
| Herbal Drinks           |        |     |
| \textit{Coriandrum sativum/Kottamalli} |            |
| Beneficial              | 158    | 90.8%|
| Harmful                 | 1      | 0.6%|
| No change               | 14     | 8.0%|
It seems that these inputs have had an impact on the participants, which is seen by 90.8% of the participants believing that herbal drinks are beneficial. The fact that alcohol is used to deactivate the virus may have been the reason for 5 participants to comment that alcohol may be beneficial. This is a clear indicator that the online sources and mainly the social media can influence the thinking process of its users.

It was obvious that the participants thought that the initial government response towards the COVID 19 was very satisfactory. Only a few had thought otherwise. This may be explained by the fact that the number of COVID 19 cases in the county was relatively low with only 3000 cases being identified within the first 6 months. 9

Since this study was carried out in the early days of the pandemic, the general public would not have received inputs on the disease as at the time of writing in November 2020. One of the major limitations in this study was that the participants were restricted to persons with online access. The same fact must have resulted in selection of a sample with a higher than average level of education and access to public health information.

Even though this study demonstrated satisfactory level of awareness on the COVID 19, the results indicate that there is room for improvement. Hence, it is recommended to strengthen the public awareness programmes. Further, it is recommended to carry out more representative studies among general public to understand the status better.

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