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Research Article

Awareness and Anxiety towards COVID-19 in Indian Population

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ABSTRACT

The Novel Corona Virus Disease i.e. nCoV-19 originated from China in December 2019 and spread rapidly, crossed borders and infected lakhs of people universally. The World Health Organization (WHO) declared it as a medical emergency and named it pandemic. The increasing number of cases and death has heightened the level of stress among the people. The present study made an attempt to analyse the awareness and anxiety levels among the Indian population during this pandemic situation using online questionnaire technique and getting it filled by snowball sampling method. In total 502 responses were received, which were analysed through descriptive statistics and principal component analysis (PCA). The analysis suggested that there is a need of the awareness programme among the people and also some mindfulness programmes are required for reducing stress and anxiety as situation of COVID-19 is getting worse day by day in India.

Keywords: Coronavirus; COVID-19; PCA; Snowball; Awareness; Anxiety

INTRODUCTION

Initially the cases have been reported as constellations of pneumonia of unknown etiology. In association with the World Health Organization (WHO) new name was given to the virus i.e. Novel Corona Virus (2019-nCoV). Further, China declared on11th January 2020 the first death of a 61 year old man related to COVID-19, who was exposed to the seafood market, this novel coronavirus outbreak is believed to be initiated from the animal source in individuals and then to the community. Over the period this outbreak started spreading to all the countries, on 30th Jan 2020 WHO declared Public Health Emergency of International concern. Further, WHO, declared a situation pandemic on 11th March 2020 as 114 countries were affected till date [1-4].

There is no medicine/antidote for this virus till date, only there are few precautionary measures to maintain hygiene and social distancing. Since cases are increasing worldwide and conditions of the lockdown also exist. Henceforth, this virus is posing a global threat to the community. The various online courses about awareness were initiated by WHO for the health care workers. The global economy has been affected brutally, because of the lockdown in many parts of the world. Educational institutions have been shut down, which has increased the stress in the younger minds because of uncertainty and postponement of examinations. This pandemic has broken the developed countries, so, in context to India if the situation goes similar to the USA, it will be very difficult to handle and overcome. In addition to this, the situation of lockdown and continuously watching the news of COVID-19 has eventually increased the anxiety levels. Considering all the above factors, it was aimed to evaluate the awareness and anxiety level of the COVID19 pandemic in India. Several such types of studies have been previously reported at the time of other outbreaks such as Ebola, swine flu etc [5-7]. Several such studies have been reported by Masih, J., and Verbeke, W. On immune system function and how depression is related to it. In one of articles they have focused on mood configurations and their relationship to immune system responses [8-10].

METHODOLOGY

In the present work, the cross sectional study was carried out using the snowball sampling technique. This study has covered many states of India. For this, with the help of google form an online structured questionnaire was developed. A link was forwarded by social media like WhatsApp, Facebook, E-Mail, by all the authors to the first point of contacts and so on. The participants were further fortified to roll out the survey to as many people as possible. After the respondents accepted to take the survey they filled up the demographic details. Then, there is set of several questions awareness and anxiety related to COVID-19. The data has been collected from 17th April 2020, to 20th April 2020 and 502 responses have been received. There were 13 questions, 9 on awareness and 4 on anxiety level. Descriptive statistics and for examining the difference and similarity in the answers from

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the different age groups as well as awareness and anxiety due to similar situations the principal component analysis (PCA) using ClustVis; have been used. These type of methodologies have been used by several researchers such as Xu Zhang et al, Sören Segan et al, Aleksandra Tomova et al etc [11-14].

RESULTS

An online survey, related to awareness and anxiety during the corona pandemic, was conducted in the Indian population. A total of 502 responses were recorded. The study included only those participants who understood English and had access to the internet. The majority of the participants were Post graduate followed by Graduate, up to 12th Class, Ph.D.

The data was segregated as per the age groups. The first part of the questionnaire was about the awareness among the people regarding, when they have they have to report to the health officer? There were three questions in the three categories, firstly when you have any travel history in last 15 days?. The second and third question in these categories is 'when you had contact with anyone confirmed covid-19 in the last 14 days? and 'When you have a fever (greater than 100.4 degrees Fahrenheit or 38.0 degrees Celsius) Or symptoms of lower respiratory illness such as cough, shortness of breath, difficulty in breathing or sore throat?' the majority of the answers to these questions was no, which quite surprising that in spite too much advertising by government and on various social media, why there is no awareness among the people or the other reason may be the people might be scared of going to the hospital. To save the country from the COVID19, the foremost thing is the people should be aware and come forward and report themselves if they have any symptoms (Figures 1A and 1B).

The next section was awareness about hygiene and precautions for COVID 19. This category includes the six questions, which were 'Do you wash your hands with soap and water for at least 20 seconds?'; Are you maintaining the gap of 6 feet while talking to a person? (Social distancing); 'Are you covering your face with mask while going outside?

Are you in favour of lockdown?'; 'Are you aware about Aarogya Setu app initiated by Govt. of India?' 'Have you installed Aarogya Setu app in your phone?'

There were the two options to all these questions YES or NO, the maximum have answered yes and its good sign that people are at least maintaining good hygiene and following all the precautions to save themselves from COVID-19.

The next level section was anxiety level during COVID-19. In this category the first question was 'Do you have any behavioural changes caused by nCOV19 stress such as restlessness, inattention, reduced ability to solve problems, slow action, and frequent anger?' The changes are faced by the some extent by the people having the age 60 and above. In the age group of 16-28 there are 108 respondents having behavioural changes because of COVID-19. The next question in this category was 'Do you have any physiological responses, such as poor sleep, weakness and fatigue?' It's good to note that maximum respondents are feeling no physiological responses.

The third question is 'Do you believe that anxiety and depression are common psychological phenomena in any disaster and can be a barrier to rational medical and mental health interventions?' the maximum respondents feel that anxiety and depression can be the barrier to a rational medical and mental health interventions. The fourth question is 'Do you believe that maintaining a daily routine is necessary for dealing with pandemic?' the respondents believe in large extent that maintaining a daily routine is necessary for dealing

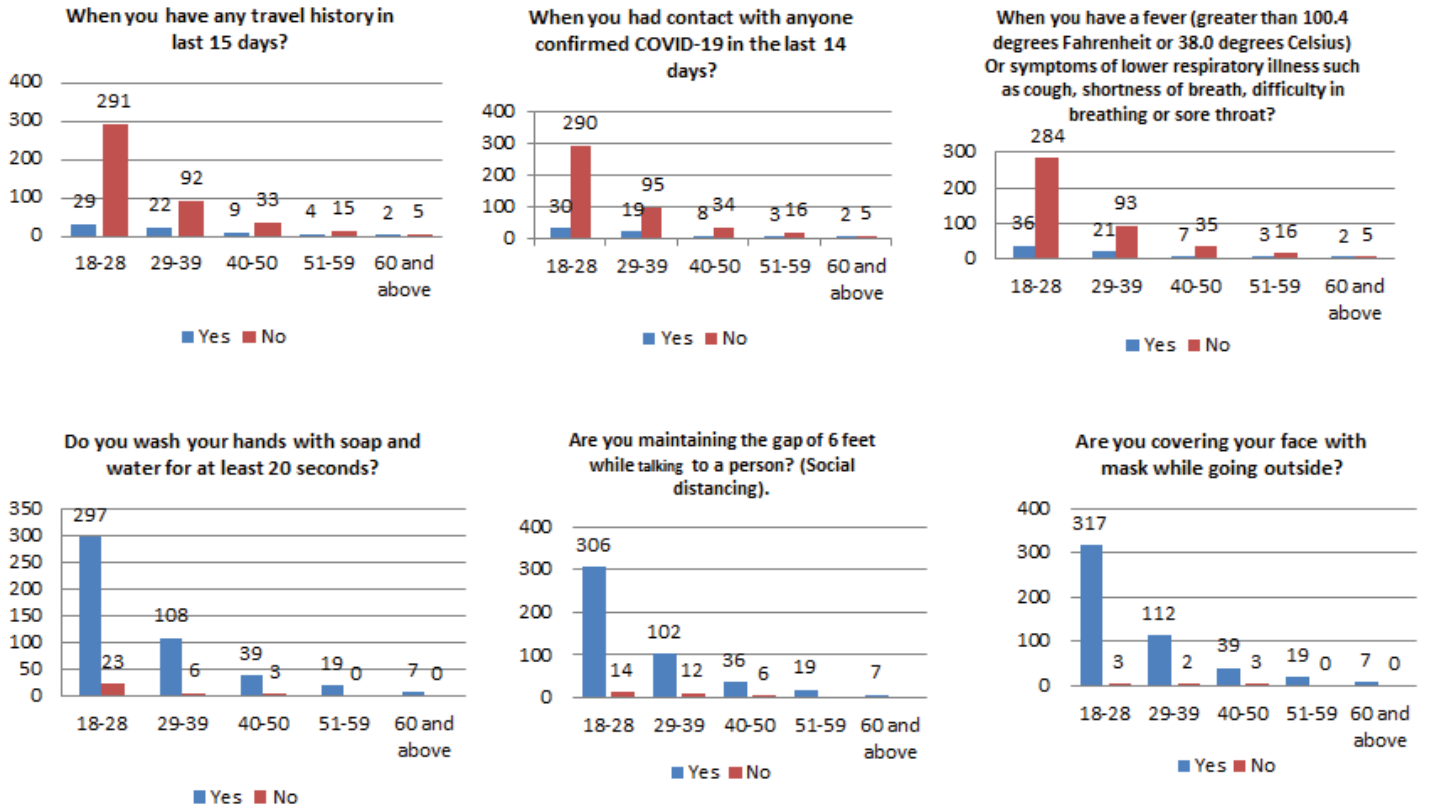

Figure 1A: Response to questions.

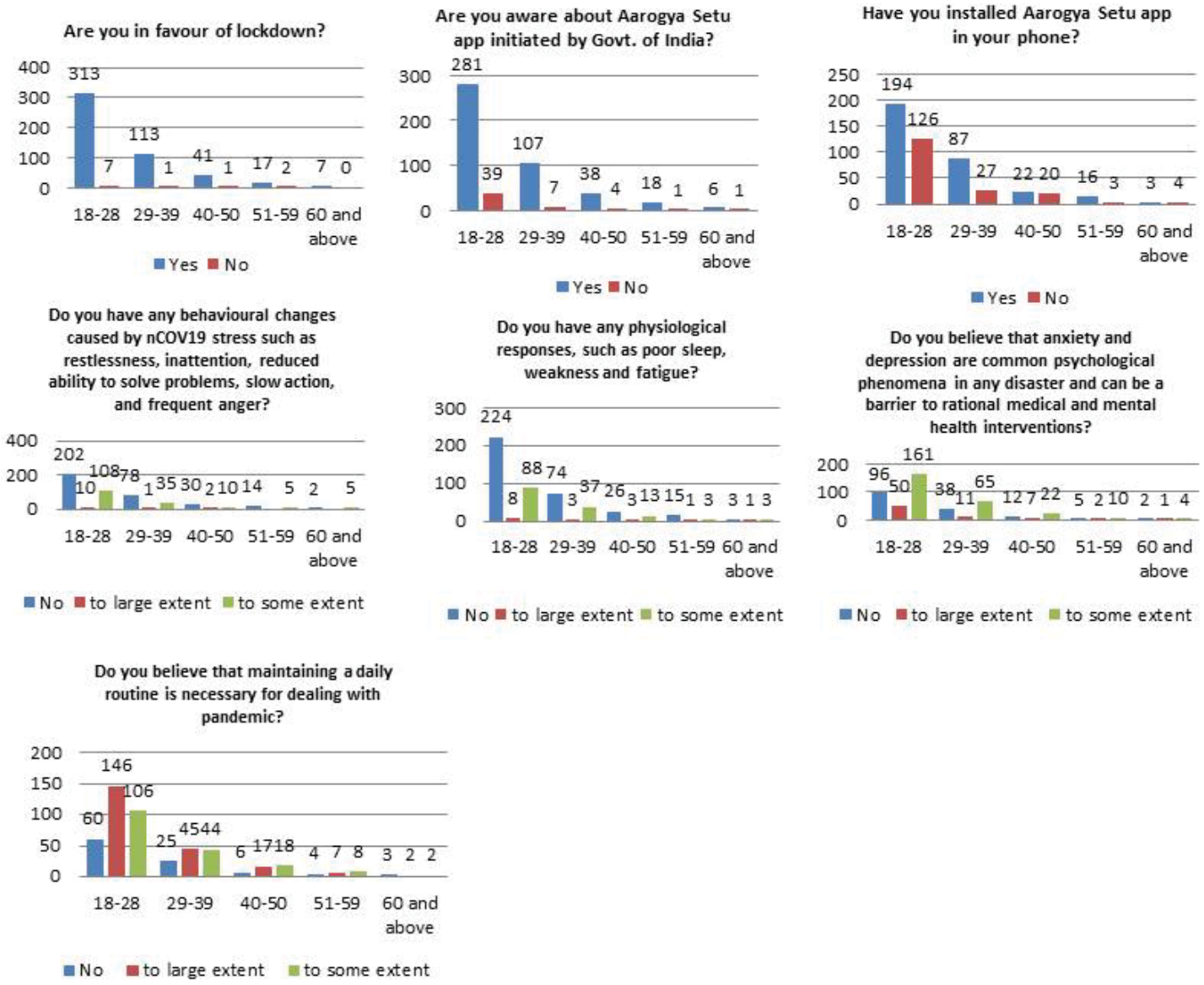

Figure 1B: Response to questions.

for dealing with pandemic.

For further analysis, and to know that is there any similarity in between the responses of the different age group and responses of different question by all age groups, the PCA was performed by using NIPLAS algorithm and two principal components (PCs) were used for PCAs.

Principal component Analysis with respect to age and question responses for the question responses 1-9

For this, unit variance scaling was applied to rows; Nipals PCA is used to calculate principal components. X and Y axis show principal component 1 and principal component 2 that explain 45% and 33.2% of the total variance, respectively. N = 5 data points (Figure 2).

Unit variance scaling was applied to rows; Nipals PCA is used to calculate principal components. X and Y axis show principal component 1 and principal component 2 that explain 97.2% and 2.4% of the total variance, respectively. N = 9 data points (Figure 3).

It can be observed that for the questions 1, 2, 3 are exactly similar. These questions were to know that do they have travel history / contact with COVID 19 positive patients or any direct symptom.

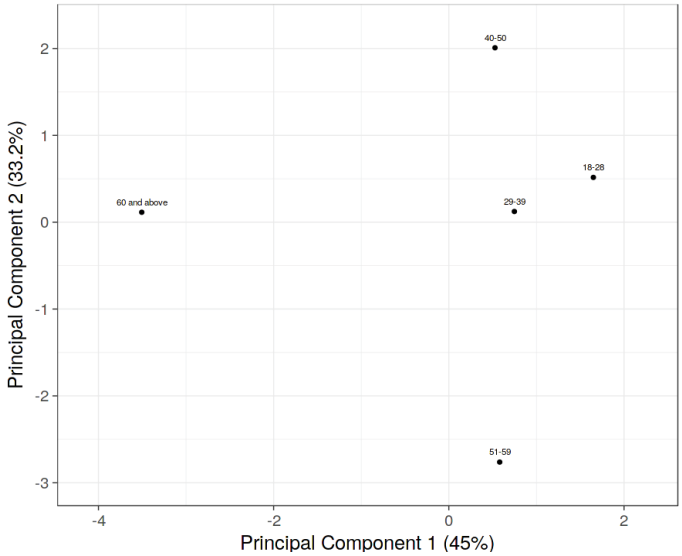

Figure 2: Principal component analysis for Q1-Q9 with respect to age of respondents.

The observation showed that for all age groups there were 9-29 % people who had a direct contact / history of travel or any serious

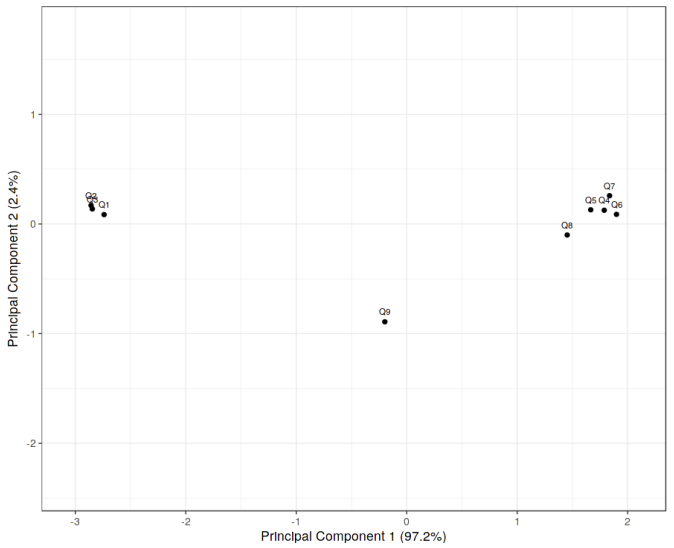

Figure 3: Principal component analysis for Q1-Q9 with respect to the Question responses for all the respondents.

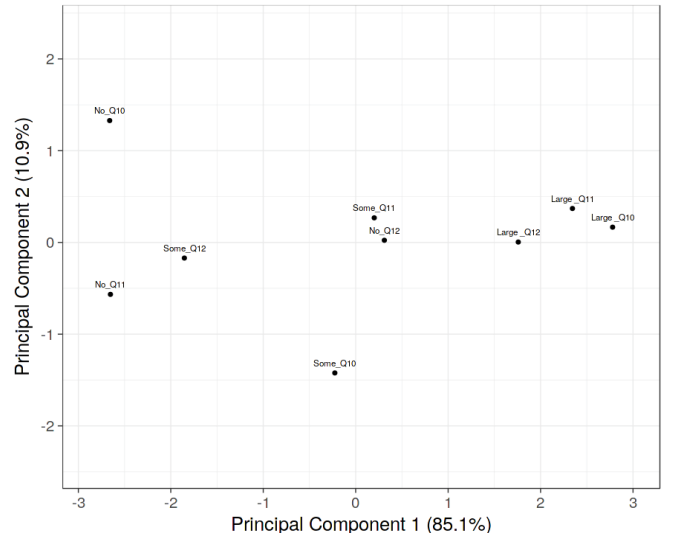

Figure 4: Principal component analysis for Q10-12 with respect to age of respondents.

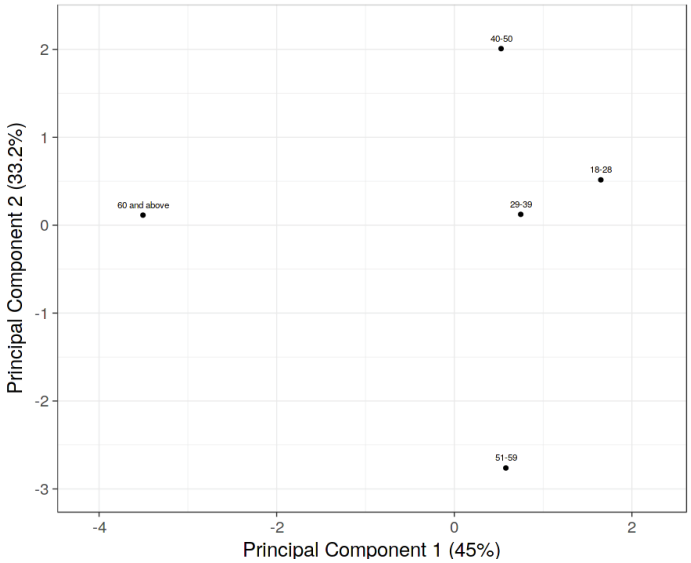

Figure 5: Principal component analysis for Q10-12 with respect to the Question responses for all the respondents.

symptom. Further it was observed on comparison with the age of the candidates that the percentage was minimum for the 18-28 age group and increases with the age group, with the 60 and above being the highest. The trend can be seen in the PCA wrt age where the percentage level increases from right to left.

Further for question 4-8, which were regarding the awareness, health care, safety measures and precautions it was observed that all the candidates had opposite response as compared to the Q1-3 (from PCA wrt question). This shows that the response was positive (85-100%) by all age groups with again maximum percentage for the elder age groups.

It was observed from the PCA wrt questions that the Question number 9 had less positive response as compared to Q4-8. The question was about the installing of Arogya ap in their mobile. The positive percentage was less and highest for the elder age groups.

Principal component Analysis with respect to age and question responses for the question responses 10-12

Unit variance scaling is applied to rows; Nipals PCA is used to calculate principal components. X and Y axis show principal component 1 and principal component 2 that explain 85.1% and 10.9% of the total variance, respectively. N = 9 data points (Figure 4).

PCA for the stress and ncovid 19 relation shows that the values decrease from left to right on the PCA plot. Thus the response to the question (10-12) related to the linkage between the anxiety, stress and nCOVID 19 shows that irrespective of age, maximum percentage of the samples responded that no there is no behaviourial changes or effect on sleep due to nCOVID situation but the samples do agree that anxiety and depression are common psychological phenomena in any disaster and can be a barrier to rational medical and mental health interventions.

Unit variance scaling is applied to rows; Nipals PCA is used to calculate principal components. X and Y axis show principal component 1 and principal component 2 that explain 82.4% and 17.4% of the total variance, respectively. N = 5 data points (Figure 5).

Further when analysis was done with respect to the age for the questions relating anxiety / behavioural changes and nCOVID-19. It was observed that the age groups 18-28, 29-39, 51-59 have similar response giving average value in PCA, where the PCA covers around 99.8% of the whole data. It was observed that the response of two age groups was exactly opposite namely 40-50 and 60 and above, with 60 and above having more respondents towards the thought that there is effect of nCOVID-19 and other disaster to a large extent on stress / anxiety and there are behavioural changes.

CONCLUSION

The COVID-19 has changed the life of everyone worldwide. It has stopped the progress of the many countries including India. Further condition of lockdown has broken economically. The results indicated that there is the need of awareness among the people when to report to health care professionals. Still the people hesitate to come forward to health care professional if they, have the symptoms of coronavirus. Further, most of the respondents were aware about hygiene process, but still more awareness programmes are needed. Till now, few people feel have symptoms of anxiety, but the long term of lockdown and as the no cases and

risk is increasing the anxiety level and depression can be increased in come future. Thus, it has been suggested along with awareness programme some meditation, calmness, yoga program should be planned for the better health of people, Not only this, the health care professional, paramedical staff, frontline warriors like police officers, army officers etc. should be boosted up and continuously appreciated for work too hard. This COVID-19 fight can be won, by fighting together.

REFERENCES

1. WHO. Pneumonia of unknown cause – China, 2020. Retrieved from: https://www.who.int/csr/don/05-january-2020-pneumonia-of-unkown-cause-china/en/
2. WHO. Coronavirus disease 2019 (COVID-19) Situation Report – 46, 2020. Retrieved from: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200306sitrep-46-covid-19.pdf?sfvrsn=96b04adf_2
3. WHO. Rolling updates on coronavirus disease (COVID-19), 2020. Rettrieved from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-theyhappen
4. WHO. Coronavirus disease 2019 (COVID-19) Situation Report – 70, 2020.
5. Abebe TB, Bhagavathula AS, Tefera YG, Ahmad A, Khan MU, Belachew SA, et al. Healthcare professionals' awareness, knowledge, attitudes, perceptions and beliefs about Ebola at Gondar University Hospital, Northwest Ethiopia: a cross-sectional study. J Public Health Afr. 2016;7.
6. Ilesanmi O, Alele FO. Knowledge, attitude and perception of Ebola virus disease among secondary school students in Ondo State, Nigeria, October, 2014. PLoS currents. 2016;4:8.
7. Johnson EJ, Hariharan S. Public health awareness: knowledge, attitude and behaviour of the general public on health risks during the H1N1 influenza pandemic. J Public Health. 2017;25:333-337.
8. Jolly M, Verbeke W. Immune System Function and its Relation to Depression: How Exercise can Alter the Immune SystemDepression Dynamics. J Depress Anxiety. 2018;7:325.
9. Masih J, Verbeke W. Exploring Association of Opioid Receptor Genes Polymorphism with Positive and Negative Moods using Positive and Negative Affective States Scale (PANAS). Clin Exp Psychol. 2019;5.
10. Masih J, Belschak F, Verbeke JW. Mood configurations and their relationship to immune system responses: Exploring the relationship between moods, immune system responses, thyroid hormones, and social support. PloS one. 2019;14:e0216232.
11. Zhang X, Huang F, Yang D, Peng T, Lu G. Identification of miRNA-mRNA Crosstalk in Respiratory Syncytial Virus-(RSV-) Associated Pediatric Pneumonia through Integrated miRNAome and Transcriptome Analysis. Mediators of Inflammation. 2020;2020.
12. Segan S, Jakobi M, Khokhani P, Klimosch S, Billing F, Schneider M, Martin D, Metzger U, Biesemeier A, Xiong X, Mukherjee A. Systematic Investigation of Polyurethane Biomaterial Surface Roughness on Human Immune Responses in vitro. BioMed Res Int. 2020;2020.
13. Tomova A, Soltys K, Kemenyova P, Karhanek M, Babinska K. The Influence of Food Intake Specificity in Children with Autism on Gut Microbiota. Int J Mol Sci. 2020;21:2797.
14. Tort FL, Castells M, Cristina J. A comprehensive analysis of genome composition and codon usage patterns of emerging coronaviruses. Virus Res. 2020:197976.