Knowledge about the COVID-19 pandemic among undergraduate medical and dental students in Lalitpur, Nepal

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Abstract

Background The number of cases of coronavirus disease-19 (COVID-19) is still increasing especially in South Asia. There is an urgent need to measure the knowledge of the disease among health science students who may be required to play an active role in pandemic control. The research was conducted to answer how does Nepalese medical students' knowledge about coronavirus compare to medical students in other countries and what are the educational needs of medical students who may be called in to support the treatment of COVID-19 in Nepal.

Methods A cross sectional study was performed during the third week of June among first to final year medical and dental students. As the country was in lockdown, a structured online questionnaire was used to obtain data. The responses obtained were cleaned, coded, entered in IBM SPSS Statistics for Windows and the normality of the data checked using one-sample Kolmogorov Smirnov test ($p<0.05$). The demographic parameters were tabulated and total score compared among different subgroups of participants. The frequency of different measures mentioned by respondents to control the pandemic were also noted.

Results Out of the 565 participants, 336 (59.6%) were females followed by 229 (40.4%) males. Nearly half of the participants, 282 (49.8%) were belonging to age group 21-23 years. Majority 415 (73.5%) were undergraduate medical and 150 (26.5%) were undergraduate dental students. The largest number of respondents, 140 (24.9%) were from second year of study and 344 (60.9%) were from urban areas. The median total score was 21 and the interquartile range 4. The maximum possible score was 30. The scores among students belonging to different years of study were significantly different ($p=0.033$). Total scores were not significantly different among other subgroups of respondents.

Conclusions The knowledge of the participants was good. Deficiencies in knowledge were noted in certain areas and these should be addressed through an educational intervention. In countries where epidemic is on the rise, strategies to keep health science students updated with proper information related to COVID-19 is important. Similar studies can be undertaken in other medical colleges in the country and in nursing and pharmacy colleges also.

Background

COVID-19, a global pandemic has affected many people's health and economy and is caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) [1]. The double stranded RNA virus can cause different symptoms and affects various organs like lungs, liver, intestine and neurons. [2,3]
Transmission is thought to occur via respiratory droplets from close contact with a person suffering from the disease. The incubation period is between 2 and 14 days and individuals are most contagious when symptoms are worst. Transmission can also occur after contact with asymptomatic people.

Asymptomatic individuals without symptoms have the same viral load as the infected patients and may possess similar infectivity. [4,5] Transmission from touching contaminated surfaces and then touching

one's face is also suspected. [6] The disease is highly infectious and the main clinical symptoms include malaise, pyrexia and difficulty in breathing with cough. This can lead to several respiratory complications and death if left untreated in some cases. [7,8]

Public knowledge about COVID-19 and its prevention is important. Information is available at the website of Ministry of Health and Population Nepal as a treatment guideline for healthcare professionals. They also have information about the causative factor, the signs and symptoms and the preventive measures. Information about physical distancing, regular handwashing, sanitization, and respiratory etiquette are regularly provided through radio and television. Information is also disseminated via mobile phones by the national telecommunication providers to spread awareness about the disease.

Medical students can also be a part of the treatment care practices and increase the efficiency of inadequately staffed clinics by taking patient histories, providing patients with laboratory test results, educating patients, documenting visits, and answering questions about COVID-19. [9] Patients with chronic diseases also need routine care even during pandemics. Pregnant women need routine checkups. Medical students can provide care to the inpatients who are not suffering from COVID-19 reducing the burden on house officers and junior doctors. Hence, senior medical students can maximize the availability of other clinicians to treat patients with COVID-19. [10]

Medical Schools Council (MSC) of the United Kingdom and the Association of American Medical Colleges (AAMC) of the United States have published guidelines regarding the participation of medical students. [11,12] Medical students can work as volunteers with adequate training and take part in managing the pandemic within their competencies under the supervision of seniors with adequate personal protective equipment (PPE). [12] Many medical students have taken part in efforts towards managing this pandemic. [13] Medical students from the medical schools in United States, Italy and United Kingdom are graduating early, so that they can serve as physicians during this pandemic. [10]

Data is still awaited about the effectiveness of social distancing, the transmission of the virus and the development of new therapies and vaccines. As the number of cases of COVID-19 is still increasing, it may be better to involve the medical students before the healthcare system reaches a breaking point. Medical students are future doctors of the country. They are the educated members of the community and will be an important taskforce towards managing pandemics like COVID-19.

In Nepal, both the undergraduate medical and dental programs are of four and half years' duration followed by a year of rotating internship. Students join the Bachelor of Medicine and Bachelor of Surgery (MBBS) and Bachelor of Dental Surgery (BDS) programs after completing twelve years of schooling. [14, 15] Medical students can be provided online training on infectious disease epidemiology, infectious disease control and outbreak response with special reference to COVID-19. Therefore, to facilitate outbreak management and design educational programs, there is an urgent need to understand the knowledge of COVID-19 among medical students. The current situation of the educational provision at

the time of survey was different from normal due to covid-19 pandemic. The regular teaching and learning activities were suspended and students were learning online using internet facilities.

Therefore, this study was undertaken to answer how does Nepalese medical students' knowledge about coronavirus compare to medical students in other countries, and what are the educational needs of medical students who may be called in to support the treatment of COVID-19 in Nepal.

Methods

Study design: A cross-sectional survey was done assessing the medical and dental student's knowledge, regarding the COVID-19 pandemic.

Study duration: The data collection was done during 20th June to 26th June, 2020, when the country was under lockdown due to COVID-19.

Sample selection: Students from first year to final year MBBS and BDS were selected for the study. Written consent was obtained from the participants.

Sample size: The institution has a total of 506 medical students excluding interns and a total of 162 dental students making a total of 668 students. All students were approached for this study.

Sampling method and Technique: All students willing to participate were included after obtaining written, informed consent.

Inclusion and exclusion criteria: All students from first year to final year MBBS and BDS from the institution. Any student unwilling to respond to the survey was excluded. Interns and alumni were excluded.

Study questionnaire: The study questionnaire was designed by the researchers based on the literature and referring to WHO guidelines on COVID-19. [16] The questionnaire had three sections. Section I contained the written consent part. Section II contained demographic details for age, gender, year of study, study stream and area of residence. Section III contained questions regarding knowledge of COVID-19 among the students. Questionnaire had questions to assess the knowledge about clinical symptoms, routes of transmission, use of medicines and about prevention and control of COVID-19 using face masks, sanitizers and quarantine measures. Twenty questions were single best response multiple choice questions having 5 distractors. One question was an opinion poll regarding the best method to control corona infection. Ten questions were of true/false type. True answers were scored as '1' and false answers as '0'. Same scoring system was followed for all the multiple-choice questions and Yes/No types of questions. Similar type of scoring was used in another study from Turkey done among nursing students. [17] The survey instrument developed was also similar to that used in studies from Jordan and India, which had 26 questions related to the demographics and about the quarantine period, the disease

itself and also about the disease transmission routes, clinical features, recovery rates and the use of medicines etc. [18, 19] The questionnaire has been attached as a supplementary file.

Pretesting of the questionnaire: The study questionnaire was validated for content by the researchers and by experts of General medicine department. The validity was assessed by pilot testing the questionnaire by administering to sixty students (alumni) who had already passed the MBBS course. The reliability was assessed by calculating the Cronbach alpha. The data from pilot testing was not included in the final analysis. The value of Cronbach alpha was 0.7.

Data Collection methods: Since the study was conducted during lockdown it was not possible to collect the responses directly from the students, hence a structured online questionnaire was used as a data collection tool. An online questionnaire was constructed using Google form. The online questionnaire was sent to the participants via their e-mail and social networking accounts. Class representatives of each year were contacted. Similar method was used in another study, where class representatives were also involved in forwarding and sharing the questionnaire link to their friends. [20]

Students completed the questionnaire at leisure within the period of the study. They signed an integrity pledge that they will answer the questions by themselves and would not consult other resources and with their friends and family members while answering the same.

Data analysis: The responses obtained from the questionnaire were entered in IBM SPSS Statistics for Windows, Version 26 and the normality of the data checked using one- sample Kolmogorov Smirnov test ($p<0.05$). The total score was calculated by adding the scores of all the questions except question 25 which was asking participant's opinions. Each correct answer was given a score of 1 and the maximum possible score was 30. The total score and the individual scores were noted not to follow a normal distribution and median scores were calculated. Comparisons of total scores among different subgroups of students was performed using appropriate non-parametric tests ($p<0.05$). The demographic parameters were analyzed descriptively and tabulated as number and percentage.

Results

Out of the six hundred and sixty-eight students, five hundred and sixty-five participated. The survey response rate was 84.6%. The demographic characteristics including age, gender, stream of study, year of study and area of residence has been presented in Table 1. Out of the 565 participants, 336 (59.6%) were females followed by 229 (40.4%) males. Nearly half of the participants, 282 (49.8%) belonged to the age group 21-23 years. Majority of the participants, 415 (73.5%) were from MBBS stream and 150 (26.5%) students were from BDS stream. The largest number of respondents, 140 (24.9%) were from second year of study and 344 (60.9%) were from urban areas.

Table 1. Demographic characteristics of respondents (n =565)

Characteristic	Number (percentage)
Age (in years)	
17-20	53 (9.4)
21-23	282 (49.8)
23-26	223 (39.4)
26 years and above	7 (1.2)
Gender	
Male	229 (40.4)
Female	336 (59.6)
Education	
MBBS	415 (73.5)
BDS	150 (26.5)
Year of Study	
First Year	100 (17.9)
Second Year	140 (24.9)
Third Year	127 (22.7)
Fourth Year	112 (19.9)
Final Year	86 (15.2)
Area of residence	
Rural	72 (12.7)
Urban	344 (60.9)
Semi urban	149 (26.4)

The median total score was 21 and the interquartile range was 4. The maximum possible score was 30. The median scores among different subgroups of respondents has been shown in table 2 along with the interquartile range and the P values. The scores among students of different years of study were significantly different (p=0.033). The median total scores were significantly different among third and fourth year, second and fifth year, second and fourth year and first and fourth year students.

The areas having good level of knowledge (>70%) among the students were about the causative factor of the disease, the nature of the virus, common symptoms of COVID-19, concentration of alcohol in sanitizers, transmission routes, method of hand hygiene, self-isolation time period, effective mask type used for prevention, and effective measure for protecting oneself and vulnerable individuals having comorbidities from COVID-19. Similarly, the knowledge scores for the true/false questions dealing with

the similarity between SARS and MERS causative factors, non-availability of specific drugs for treating corona infections, use of antibiotics in COVID-19, use of remdesivir, use of convalescent plasma therapy, risk of infection transmission and use of homeopathic medicine arsenicum album 30C in preventing corona infection were found to be good.

The areas where the students had less knowledge scores were about isolation period for COVID-19 patients as recommended by WHO, the type of personal protective equipment (PPE) recommended for Physician/Staff running fever/screening clinics, estimated proportion of people who recovered without need of hospital stay, meaning of “Self-isolate” in COVID-19 infection, recommended test for early case detection of COVID-19, survival of virus on different surfaces, use of thermal scanners, the R number and the distance required to maintain social distancing according to WHO. Similarly, the knowledge for responses from true/false type of questions were about COVID-19 treatment guidelines developed for healthcare professionals working at hospitals in Nepal, use of betahistine and ibuprofen in COVID-19 were also found to be low.

Table 2. Median scores among different subgroups of respondents

Characteristic	Median score (Inter quartile range)	P value
Age (in years)		
17-20	21 (4)	0.340
21-23	21 (3)	
23-26	21 (4)	
26 years and above	22 (7)	
Gender		
Male	21 (4)	0.375
Female	21 (4)	
Education		
MBBS	21 (4)	0.732
BDS	21 (3)	
Year of Study		
First Year	21 (4)	**0.033**
Second Year	20.5 (4)	
Third Year	20 (4)	
Fourth Year	21.5 (3)	
Final Year	21 (3)	
Area of residence		
Rural	21 (3)	0.309
Urban	21 (4)	
Semi urban	21 (4)	

Figure 1 shows strategies suggested by students for managing the COVID-19 pandemic.

The most common response was sealing international borders as the human movement will be reduced and the risk of community transmission minimized. Second was increasing laboratory and diagnostic facilities as these may help to diagnose the cases early and can reduce the risk of transmission. Similar responses were obtained with regard to increasing hospital facilities which can help in treating the infected COVID-19 patients. Community mitigation came as fourth followed by drafting legislation for control. Community mitigation is done for reducing the rate of infection transmission from person to person contact and includes the social distancing measures.

The number of respondents providing correct responses to individual questions has been mentioned in tables 3 and 4. Table 3 deals with multiple choice questions while table 4 is concerned with true-false questions.

Table 3. Number of students providing correct answers to multiple choice questions

Q. No	Statement (Correct answer)	Number and % of respondents answering correctly (n =565)
1.	The virus causing COVID-19 infection is called as: [SARS-CoV-2]	540 (95.6)
2.	Corona virus is a: [Single stranded RNA virus]	524 (92.7)
3.	The most common set of symptoms of COVID-19 are: [Fever, Dry Cough and Tiredness]	443 (78.4)
4.	The minimum concentration of alcohol in hand sanitizers to kill the virus should be: [70%]	399 (70.6)
5.	According to current evidence, the “commonest” mode of transmission of COVID-19 infection is: [Respiratory droplets]	400 (71)
6.	Preferred method of hand hygiene to reduce COVID-19 transmission is: [Hand rub with soap and water for 20 secs]	467 (82.7)
7.	WHO recommended self-isolation period for COVID-19 is: [14 Days]	517 (91.5)
8.	Which of the following is recommended by the WHO for isolation of a patient with confirmed case of COVID-19 infection? [Airborne infection isolation room with exhaust]	198 (35)
9.	In Nepal, for Physician/Staff running the fever/screening clinics the PPEs recommended does not include: [Respirator N95]	155 (27.4)
10.	Most effective mask for preventing corona infection would be: [N-95 face mask]	533 (94.3)
11.	In COVID-19 infection, an estimated proportion of people who recovered without need of hospital stay are: [80%]	175 (31)
12.	“Self -isolate” in COVID-19 infection means: [Persons with COVID-19	203 (35.9)

	symptoms stays at home and does not go to work, school or public places]	
13.	Recommended test for early case detection of COVID-19 infection is: [Molecular test (PCR)]	201 (35.6)
14.	Corona virus can survive up to 72 hours in: [Plastics and stainless steel]	189 (33.5)
15.	Thermal scanners are used to detect raised temperature from: [Any infection]	328 (58.1)
16.	Live COVID-19 map is used to: [Update estimate of geographic spread by country]	324 (57.3)
17.	An important measure for protecting oneself from COVID-19 is: [Regular hand hygiene and avoiding crowded places]	561 (99.3)
18.	Which of the following individuals has the highest risk of mortality from COVID-19? [An 80-year-old suffering from diabetes and hypertension]	539 (95.4)
19.	The R number refers to: [The average number of people who can be infected by one infected person]	378 (66.9)
20.	How much distance should two persons be apart to maintain social distancing according to WHO? [3 feet]	233 (41.2)

Table 4. Percentage of respondents providing correct answers to true or false questions

Q. No	Statement (Correct answer)	Number and % of respondents providing the correct response
1.	Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS) are caused by similar viral species as COVID-19. [True]	449 (79.5)
2.	COVID-19 treatment guidelines have been developed for healthcare professionals working at hospitals in Nepal. [True]	175 (31)
3.	There are specific drugs available to treat corona virus infection. [No]	521 (92.2)
4.	Antibiotics can cure corona virus infection. [False]	437 (77.3)
5.	Convalescent plasma therapy can be used in treating corona infections. [Yes]	397 (70.3)
6.	Betahistine shows promise in treating corona virus infection. [No]	68 (12)
7.	Remdesvir is a new antiviral drug still in clinical trials for corona virus treatment. [Yes]	495 (87.6)
8.	Ibuprofen is recommended as an anti-inflammatory agent in COVID-19. [No]	203 (35.9)
9.	Can COVID-19 be transmitted from a person who has no symptoms? [Yes]	536 (94.9)
10.	The homeopathic medicine Arsenicum album 30C can effectively prevent COVID-19. [No]	512 (90.6)

Discussion

COVID-19 pandemic has severely impacted individuals and health care workers throughout the world. At the end of June 2020, cases are slowly decreasing in countries where there was early outbreak of the pandemic, while in Nepal the number of cases has started to rise rapidly. This study was conducted to

ascertain the current status of students' knowledge about the COVID-19 pandemic. Most students had good knowledge about the corona virus disease, its signs, and symptoms. Students from MBBS and BDS stream were aware of facts like the causative factors for the COVID-19 disease (95.6%) and the type of virus causing this infection (92.7%). This was in accordance with a recent study from Turkey and Pakistan [17, 21], where majority of students, (97.4%) were aware about the causes and the viral nature of the disease and also with another study from India, which showed 92.7% of the participants' had good knowledge. [22] Our study showed that only 71% of students were aware about the mode of transmission of this virus, which is lesser compared to a similar study from India among students, where 91% knew about the transmission modes and the signs and symptoms of the disease.[22]

A study from Jordan evaluated the knowledge of transmissions of infection from one infected individual to others.[19] Our study did not have such type of question. In the present study 78.4% of participants knew about the signs and symptoms of COVID-19, which is lesser compared to a study from India, in which 86.7% of participants were aware of these symptoms and from Uganda, where 95% of students were aware of it. [22, 23] In the present study 99.3% of participants were aware about the important protective measures like avoiding crowds and maintaining hand hygiene. This is also in accordance to a study from India, where 96.9% of participants knew about preventive measures. Similar observations were seen for the recommended 14 days of isolation period for the affected patients. [22]

In this study, medical and dental students had acceptable (70% of maximum) knowledge about coronavirus. Good knowledge about the causative factors, the virus, and the routes of transmission can be attributed to the availability of information in the electronic media such as television, radio, social networking sites, and different websites. These findings were also seen in a study done among university students in Jordan. [20] Studies have shown that availability of information in mass and social media can be a source of information for the students. [22] Respondents, (91.5%) were also aware of the cautionary actions, self-isolation period as per WHO guidelines and the effective use of mask for preventing corona infection (94.3%). These results were like those from other published studies. [24,25] The knowledge levels regarding these questions were high in our study as compared to another study, where the knowledge for social distancing and wearing a mask was found to be 62.64% and the same for hand sanitization was 66.42% [26].

The results showed that for the questions regarding self-isolation in COVID-19 infection and recommended test for early case detection, a smaller number of participants responded correctly. The correct responses were only from 35% of participants. Similarly, for the statements for WHO recommendation for isolation of a patient with confirmed case of COVID-19 infection, and the survival of corona virus on plastic and stainless-steel surfaces, only 35% of participants responded correctly. Results were better for the statements regarding thermal scanners; 58.1% of participants responded that these were used to detect raised temperature from any infection. Social distancing issues were responded correctly by only 41.2% of students.

The knowledge levels among interns and graduated students were higher as compared to the students who are studying in other years according to another study from Iran. [27] The scores for the medical and dental students were significantly different according to years of study (p=0.033). Median score was significantly higher among those in the higher years of study. This may be due to content and curricula during the years of study created better understanding about diseases. [28] There was no difference in total score among BDS and MBBS students (P value=0.732). This may be due to access to various sources of information including government health authorities and social media which plays pivotal role in knowledge gain. [29] Similar findings were indicated in a study where older students in a higher year of study showed better knowledge as compared to the younger students from initial years of medical education. [18]

Regarding the treatment of corona virus by antibiotics, our study has shown that 77.3% of participants have responded correctly, which is lesser compared to a similar study from Jordan and Italy, where 88.6% and 80.7% of participants responded correctly. [18, 30] Similarly, the responses for a question regarding the specific drugs available for treating corona virus, in our study correct responses were obtained from 92.2% of respondents, which was better than the Italian study, where the correct responses were only 69.7%. [30]

The median knowledge score in our study was 70% (21 out of 30). The study conducted in Debre Birhan University, Ethiopia showed that the knowledge score was 73.8% [31], while it was 88.2% in a multicenter study from Ethiopia. [32] The knowledge score depends on a number of parameters including the respondents and the questions used to assess knowledge and understanding. Another study from Jordan showed a high knowledge of more than 80% and a Turkish study revealed a higher knowledge levels in female midwifery students compared to the present one. [17, 18]

The areas where the participants were having lesser knowledge were on PPE and facilities for proper management of COVID-19 at health facilities. In today's circumstances when there is high demand of PPEs, health science students must have correct knowledge on types of PPEs recommended at various work stations at health facilities. [30] Also only 31% of respondents were aware that COVID-19 treatment guidelines have been developed for healthcare professionals working at hospitals in Nepal. [33] These are the areas where educational interventions can be targeted for better level of knowledge and also to fill in the gaps of knowledge related to COVID-19. Thus, student knowledge in our study is lower compared to that noted in other studies in the literature as mentioned. Some of the questions used in our study were similar while others were different from previous studies. The overall knowledge score was above 70% of the total.

Universities and medical colleges also share information about COVID-19 with students for better understanding of the disease along with its preventive measures. The students have not yet been placed in clinical settings for volunteering to help with the pandemic. An informal survey was done prior to conducting online learning at the institution to assess the availability of stable internet and the devices needed such as smart phones, laptops and desktops. Majority of the students had the access needed for

successful conduct of online learning. Very few students (less than 2%) were not able to attend online learning due to slow internet speed. The institution is situated in the Kathmandu valley and most students are from within the valley and other urban centers. Medical and dental colleges in the country have shifted to online learning according to the authors' informal discussions with educators in other institutions.

Universities in Nepal had instructed affiliated medical colleges to conduct online teaching and learning to reduce any delays and disturbances in academics due to the pandemic. [34] Various online software was used for initiating online teaching and learning sessions by the faculty members. This process was full of challenges for both the educators and the learners especially considering the unstable internet and less knowledge in the areas of digital learning. [34]

The knowledge gap mentioned above should be addressed through designing an educational intervention. Regular education programs covering areas where student knowledge was lower can be considered. The education process can be made more interesting through activities and group work. The major problems were noted in practical clinical and prevention and control aspects of COVID-19. A short module about these aspects of the pandemic can be offered by the 0departments of Community medicine and General medicine. Online videos and other resources are available for some diagnostic and treatment procedures and these can be incorporated into the module. The knowledge gaps can be addressed by preparing the guidelines and standard operating procedures with a clear detail towards the roles of medical and dental students in managing such pandemics. [35] Dental students face the risk of airborne and respiratory droplet borne infections during dental procedures and this should be properly addressed during the course. [36]

Students may not have a secure and private space for participating in digital learning due to the presence of family members due to the lockdown. Online learning can be considered as half a loaf of bread is better than nothing especially in the Nepalese context. [34] A recent article mentions about the challenges of online learning in low- and middle-income countries. [37] Most are applicable in the Nepalese context also. Online learning has not been used much previously in the institution. Online resources and an online library are absent. A learning management system is also not available. The institution has not conducted any assessments online. A situation similar to ours we believe may be prevalent in many medical and dental schools in developing countries. We are not sure how the pandemic will progress but medical and dental students can be a useful addition to the health manpower (with an emphasis on keeping them safe and only carrying out tasks under supervision and within their abilities). A similar study could be conducted in other institutions in developing nations to identify possible knowledge gaps and develop learning programs to address these.

Strength and limitations: Good response rate was the strength of the study. The study also had limitations. Student knowledge was tested only by using a questionnaire and the information was not triangulated with that obtained from other sources. The study was cross-sectional and was conducted

only in a single institution. Despite the integrity pledge we are not completely sure that students did not consult other information sources or their friends and family members while answering the questionnaire.

Conclusion

Our study showed that there is good knowledge about COVID 19 among medical and dental students. More than 90% of the respondents had correct knowledge about causative agent and strain, effective mask for corona protection, self-isolation period, effective preventive measures like avoiding crowd and frequent hand washing. Surprisingly, only 71% on respondents correctly stated that respiratory droplet is the source of infection for COVID-19. This knowledge gap among 29% respondents is very crucial for medical and dental students as they are focal persons to work with community and share their knowledge correctly with them.

In countries where epidemic is on the rise, strategies to keep health science students updated with proper information related to COVID-19 is important. The lacunae noted can be addressed through educational sessions. Similar studies can be undertaken in other medical colleges in the country and in nursing and pharmacy colleges also.

List Of Abbreviations

AAMC: association of American Medical colleges; BDS: Bachelor of dental surgery; COVID-19: Corona virus idease-19; ; IBM SPSS: International Business Machines statistical package for social sciences; MBBS: bachelor of medicine and bachelor of surgery; MERS: Middle east respiratory syndrome; MSC: Medical schools council; PPE: personal protective equipment**;** RNA: ribonucleic acid; SARS-CoV-2: severe acute respiratory syndrome corona virus-2; WHO: World Health Organization

Declarations

Ethics approval and consent to participate: The research proposal was approved by the Institutional Review Committee (IRC) KIST Medical College with reference number 2076/77/39. The participants were informed about the purpose of the research and written consent obtained prior to enrolling them. Anonymity was maintained throughout the research and no information related to individual respondents are available in public domain.

Consent for publication

We have not used any personal information or images. So, this is not applicable for this manuscript.

Availability of data and materials

The datafile is available at https://figshare.com/articles/Untitled_Item/12643085

Competing interest

The authors declare that they have no competing interests.

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Authors' contributions

NJ, NS and PRS conceived and designed the study. The concept of the study was discussed with and modified as per inputs received from the other authors. NJ and PRS finalized the methodology. NS, OB, PD and TM finalized the tool used. NJ collected the data. PRS, NJ analysed the data. NJ, SK and PRS drafted the manuscript. OB, PD and TM made significant contributions to writing the manuscript and reviewing the literature. All authors were involved in revising the manuscript. The final manuscript has been read and approved by all the authors.

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Figures

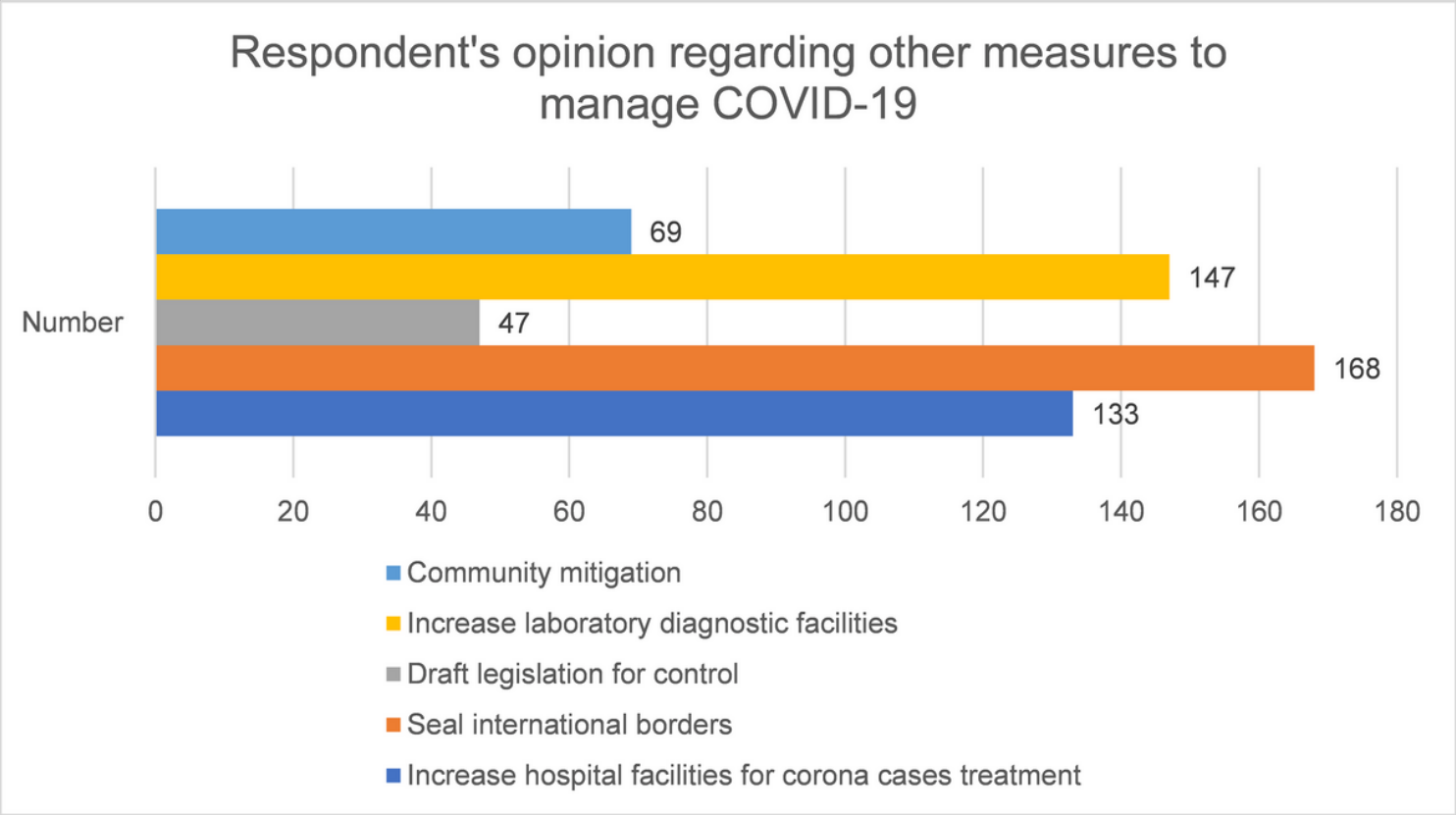

Figure 1

deals with responses suggested by the participants for the management of corona virus disease-19 (COVID-19) other than those provided by the authors in the questionnaire.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- Questionnaire.pdf