

## **Probing Society Expectations to Manage COVID-19 Pandemic**

by

**Fariba Ghorbani**

Tracheal Diseases Research Center (TDRC), National Research Institute of Tuberculosis and Lung Diseases (NRITLD), Shahid Beheshti University of Medical Sciences, Tehran, Iran  
Email: [iran.dr.f.ghorbani@gmail.com](mailto:iran.dr.f.ghorbani@gmail.com)

**Esmail Vaziri**

University of Zabol, Faculty of Humanities, Department of Information Science and Knowledge Studies, Zabol, Iran  
Email: [evaziri@ut.ac.ir](mailto:evaziri@ut.ac.ir)

**Shadi Shafaghi**

Lungs Transplantation Research Center, National Research Institute of Tuberculosis and Lung Diseases (NRITLD), Shahid Beheshti University of Medical Sciences, Tehran, Iran  
Email: [shafaghishadi@yahoo.com](mailto:shafaghishadi@yahoo.com)

**Seyedamirmohammad Lajevardi**

Faculty of Health, York University, Toronto, Canada  
Email: [amir.m.lajevardi@gmail.com](mailto:amir.m.lajevardi@gmail.com)

**Makan Sadr**

Tracheal Diseases Research Center (TDRC), National Research Institute of Tuberculosis and Lung Diseases (NRITLD), Shahid Beheshti University of Medical Sciences, Tehran, Iran  
Email: [makansadr@yahoo.com](mailto:makansadr@yahoo.com)

**Mansoureh Feizabadi<sup>1</sup>**

Sabzevar University of Medical Sciences, Faculty of Medicine, Sabzevar, Iran  
Email: [feizabadi\\_mns@ut.ac.ir](mailto:feizabadi_mns@ut.ac.ir)

### **Abstract**

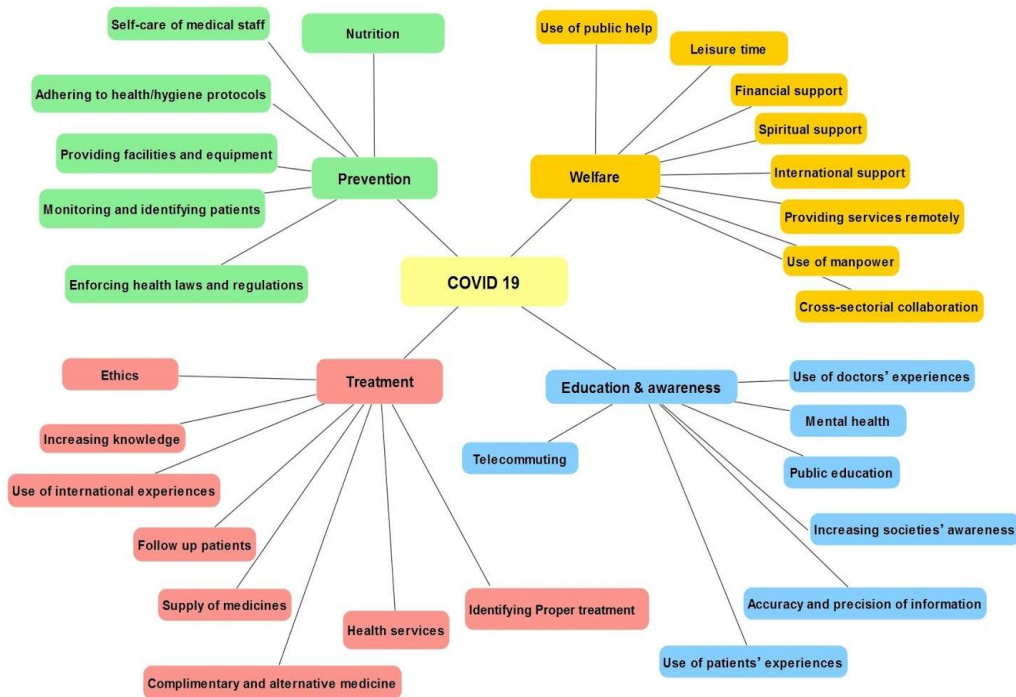
To manage all aspects of COVID 19 and stop viral transmission, different regulations have been recommended. More feasible plans will result in more achievement of the mentioned goals. In this qualitative question-based study, we aimed to reveal people's suggestions regarding COVID 19 pandemic. Following the circulation of an open-ended question in cyberspace, a total of 5690 people provided their suggestions, 3,645 of those had comments related to the COVID-19 epidemic and their expectations. Others were related to appreciate health care workers. Gathered data were analyzed employing MAXQDA12.3. Then Co-occurrence analysis was applied to evaluate the recommendations' keywords used by participants in their comments. All suggestions were classified into 4 main categories of education and awareness, prevention, treatment, and welfare. Each category was divided into concepts and consequently divided into small units. The

---

<sup>1</sup> Corresponding author

most frequent codes were attention to increase public awareness, public education, accuracy and precision of the information, preventing rumors and false news, enforcing health laws and regulations, self-care of medical staff, professional ethics, financial and psychiatric support. Now, the main request of people is related to control the disease and managing the early outcomes of the pandemic whereas the late outcomes should be considered too.

**Keywords:** COVID-19; society; impact; expectations, emergency situation, etc.



**Figure 1: Graphical abstract The categorization of people's expectations regarding the COVID 19 epidemic. All suggestions were classified into 4 categories and each contained some concepts. There were also some units (codes) that corresponded to each concept.**

**Introduction:**

COVID-19 pandemic is a social phenomenon that led to high heterogenic large-scale behavior change in almost all sectors of societies (Olcer et al., 2020; Aucejo et al., 2020). Besides personal adaptation, such as hand washing, wearing the mask, face-touching, and self-isolation, peoples’ social responses to COVID-19 disease and interactions with each other such as canceling or postponing mass gathering events in different aspects of sport, music, and religion are revealing new social and cultural relations (McCloskey et al., 2020). Imposed changes in the personal and social life of individuals can be somewhat anxious or worrying and confuse people that should not be overlooked (Baud et al., 2020).

Although reducing the viral transmission risk is a key concern for governments and health authorities, managing public anxiety and promoting behavioral compliance with different regulations should be noticed (Olcer et al., 2020; Liao et al., 2020).

On the other hand, governments need enhanced capabilities in some areas to resolve current and future uncertainties; including identifying public demands to create new opportunities, providing quick solutions and, withstanding disruptions. According to extensive review, international public health responses and strategies for the COVID-19 outbreak can be covered four critical issues; including monitoring, education, social distancing, and facilities for patient care (Tabari et al., 2020). Providing a secure environment for different people in the community to express their concerns, questions, doubts, criticisms, and even suggestions has an effective role in analyzing the public perceptions related to better health protection.

The rapid spread of SARS-CoV-2 has created a strong need for discovering efficient analytics methods and classification techniques for identifying the flow of information and the development of human communications in pandemic scenarios. Qualitative methods via open communication platforms can explore true insight into the current situation to fully understand the COVID-19 pandemic and find appropriate strategies to overcome and manage this challenging crisis effectively (Hammarberg et al., 2016). In such a situation, each community suggestion is associated with its strengths and weaknesses. Moreover, as there is no definite antiviral drug or adequate available vaccine to be used against this viral outbreak (Shereen et al., 2020) it seems society should learn to tolerate and cope with this situation may be for many months.

Now, people are living in a gloomy period of the health situation, education, work, economy, sport, and so on. There are some overlooked items that should be managed at this time. Therefore, our study aims to understand the subjective experience of the community is facing and controlling COVID-19 through online questionnaires and analyzing the data, and providing a fundamental approach regarding the public insights to optimize the performance of control strategies (Abdelaziz et al., 2020). The extracted comments may be helpful for policymakers and researchers and frontline agencies especially health care systems to address evolving behavioral issues.

### **Method:**

This study was approved by the ethical committee of the national research institute of tuberculosis and lung diseases. IR.SBMU.NRITLD.REC.1399.057

### **Data sources:**

During the pandemic, a questionnaire was created to record and to review people's expectations in regards to the healthcare system and crisis management in the country. The questionnaire distributed through the society online via multiple social platforms. Only the questionnaires that were fully completed by the participants have been included in the study.

### **Methodologies:**

The survey consisted of one open-ended question in an online base format. The question was circulated in cyberspace and the public was invited to collaborate to complete it. Communication channels have been utilized as social messaging platforms including websites, and WhatsApp, Instagram, etc. After a period of 10 days, the results were reviewed and analyzed

Respondents wrote their expectations and opinions in essay-type format. Therefore, in order to convert the qualitative data to quantitative data, we used an application on which assigned a **topic (code)** to the qualitative responses. Then by doing so, we were able to count

how many times a particular topic was mentioned in respondents' answers in total. The gathered suggestions via the content analysis method were assessed. In the method of content analysis, 2 main elements should be considered; analysis unit (code) and analysis category. A unit of analysis in content analysis is the smallest component of the text in which characteristics and concepts are mentioned. For any research, it is necessary to define the units of analysis at the syntactic and semantic levels. Syntactically defined units can be word, sentence, full text and semantic units can include person and phrase. After determining the unit of analysis, it must be determined how the extracted units are classified. The titles that are considered for these classifications constitute the category of analysis.

In order to analyze the data quantitatively and qualitatively, the software of content analysis MAXQDA12.3 was used.

At the first step, the initial coding was performed. Due to the fact that the unit of analysis in this study was sentences, the suggestions were examined line by line and one code was assigned to each item. Furthermore, the analysis of the new comments was compared with the previous codes; if there were similarities, the same code and in case of differences, a new code for a particular comment was considered. As the research process continued, categories and the relationship between concepts were gradually formed. Finally, a number of codes formed a concept based on the similarity in their original meaning, and the identified concepts led to the definition of categories. In this study, a total of 73 primary codes (frequency of 3798), 29 concepts and 4 general categories were identified.

To be more precise, some codes were classified into a **concept**; and concepts were classified into a **category**.

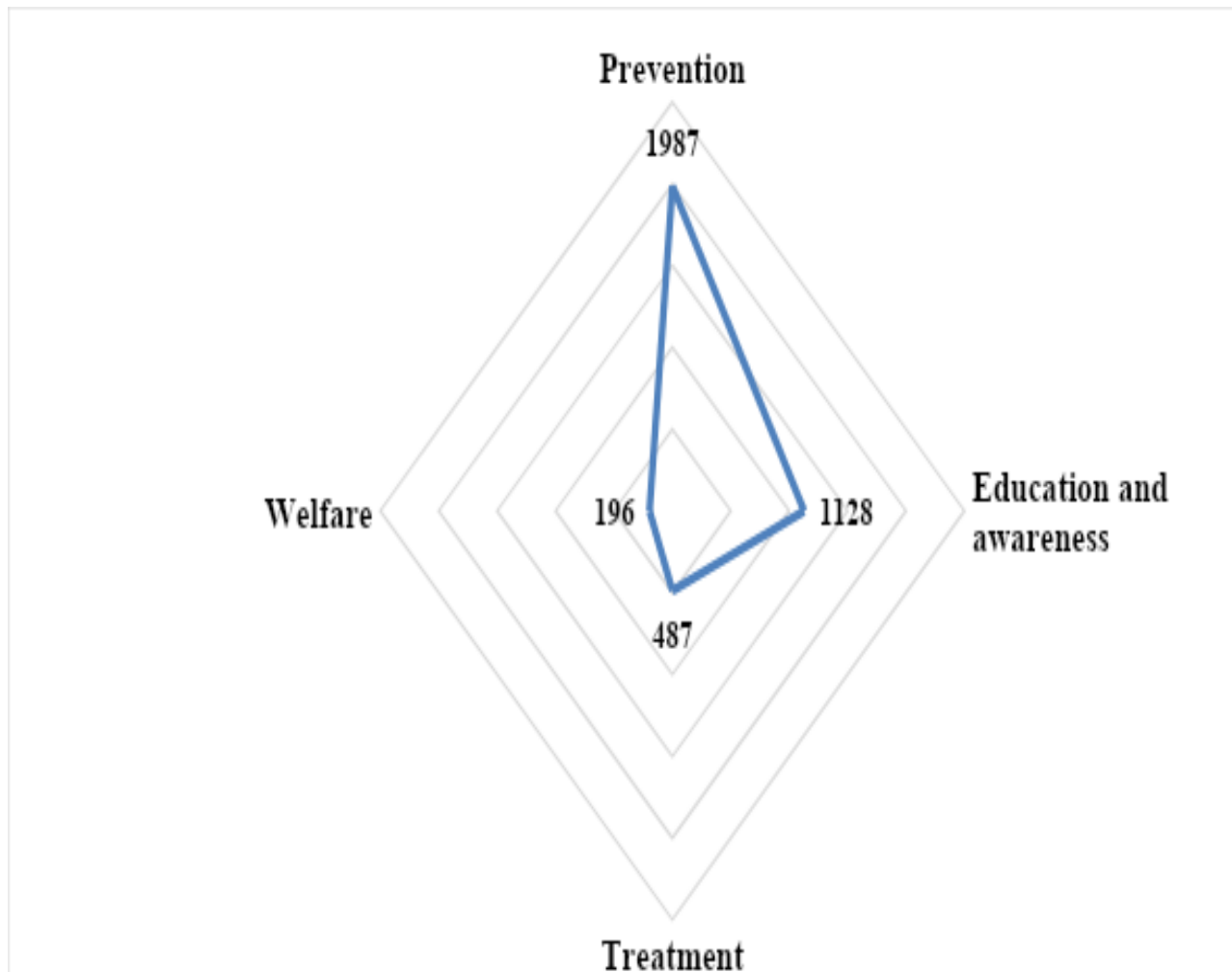
### **Mapping:**

Co-occurrence analysis was applied to evaluate the recommendations keywords (codes and concepts) used by participants in their comments.

Then, Bibexcel was employed to prepare and clean the data, determine the co-occurrence matrix, and organize network output files. VOSviewer 1.6.1 was used for keyword mapping and clustering the themes.

### **Findings:**

In this study, a total of 5690 people provided their suggestions, however, 3,645 of those had comments related to the COVID-19 epidemic and their expectations. The rest were more appreciative and thanks to the medical staff and were therefore left out for content analysis. Evaluation of the respondents' answers has been classified into 4 main categories of education and awareness, prevention, treatment, and welfare. Each category was divided into concepts (**Figure 2**). And, that how many times a concept was mentioned in participants' responses is summarized in tables 1 to 4. For more clarification, density visualization shows different concepts (**Figure 3**) and Network visualization of the codes mentioned by participants is depicted in **Figure 4**.



**Figure 2: Different ratios of items obtained from people's suggestions**

In summary, based on respondents' perspective, it was apparent that respondents valued "prevention" and "Education & awareness" more than "treatment" and "welfare." It is worth noting that the least valued category was "Welfare" during the Covid-19 pandemic.

#### **Education and Awareness:**

As table 1 shows **Attention to increasing public awareness and public education** were two of the most repetitive concepts. People also considered the **accuracy and precision of the information** as well. **Preventing rumors and false news** also seemed an important matter from society's perspective. **Attention to mental health** was also one of the concepts that society expected to address in this category.

It should be noted that telephone and online counseling and training with the help of experts and, of course, monitoring of these trainings were highly emphasized by the community in the category of education and information under the concept of **remote education**.

To convey the patients' e experiences, some people in the community also suggested introducing patients and showing the severity of the disease under the concept of the **use of doctor's experiences**.

**Table 1: Detailed information about concepts and their related codes regarding Education and awareness**

Concept	Code	Frequency
<b>Accuracy and precision of information</b>	Honesty in providing accurate information and statistics of patients	<b>212</b>
	Avoid rumors and false news	20
	Scare people about the effects of the disease	6
<b>Increasing societies' awareness</b>	Providing reliable information and raising public awareness	482
	Education and information through mass media and social networks	88
	Providing Information through radio and television	30
	Providing Information about medical centers	8
	Inform public about new therapeutic findings	6
<b>Mental health</b>	Reduce stress and increase peace of mind	72
	Strengthen mentality and increase hope	62
<b>Public education</b>	Preparation of training programs and packages	10
	Teaching how to keep and maintain patients at home	10
	Training in offices and organizations	1
<b>Remote education</b>	Monitoring consulting via telephone and online training with the help of experts	52
<b>Use of doctors' experiences</b>	Transfer the experiences of the medical staff regarding the disease	22
	Invite medical experts in mass media	7
	displaying patients and show the severity of the disease / transfer patients' experiences	40

### Prevention:

In this category (table-2), **enforcing health laws and regulations** was a repeating concept on which included some of the highly mentioned codes such as *staying at home, closure of offices, factories and universities, identifying individuals who do not pay attention to the health protocols and dealing with them. Furthermore, social distancing, avoiding traffic jams and congestion, as well as inspections of busy places* were other codes that were considered in this concept, however by a lower frequency.

In the category of prevention, the concept of **monitoring and identifying patients** and the concept of **adhering to health protocols** were items extracted from the various people's suggestions. **Nutrition** and **providing facilities and equipment** were also concepts that were mentioned in people's suggestions.

In the concept of **monitoring and identifying patients**, *the facility of perform VOVID 19 test for all people at home and dedicating locations for diagnose and management of the disease* were two of the most frequent mentioned codes.

In the concept of adhering to health/hygiene protocols, two of important codes *were ensuring that the disease was not spread by the treatment staff in the community, as well as waste management*, were considered by the people.

The other concept worth to mention in this category was **providing facilities and equipment**.



**Table 2:** Detailed information about concepts and their related codes regarding prevention

Concept	Code	Frequency
<b>Adhering to health/hygiene protocols</b>	Ensure that the disease is not spreading by the treatment staff in the community	5
	Observance of health and prevention by the people	50
	Disinfection of houses, offices and streets with standard materials	32
	Waste management	2
<b>Enforcing health laws and regulations</b>	Enforcement of quarantine	241
	Stay at home	105
	Closure of offices, factories, businesses and universities	95
	Identify people who do not pay attention to health protocols and deal with them	57
	Social distancing	31
	Isolation of patients to prevent the spread of the disease	14
	Avoid unnecessary traffic and congestion	14
	Mandatory use of masks	12
	Communicate and apply health protocols in departments and organizations	11
	Prevent unnecessary presence of people in hospitals	11
Inspection of busy places	3	
<b>Monitoring and identifying patients</b>	Testing of suspects / patients' families and isolating them	86
	Provide COVID19 test for all people	84
	Possibility of test Covid-19 and monitoring at home	47
	dedicate locations for COVID 19 test and diagnosis locally	42
	Monitoring in offices and organizations	10
	Test for Covid-19 of medical staff and their families	4
<b>Nutrition</b>	Proper nutrition for patients and treatment staff	22
<b>Providing facilities and equipment</b>	Making health items available to the public	185
	Provide equipment and facilities for medical staff	107
<b>Self-care of medical staff</b>	Promoting hygiene and self care of the staff	717

**Treatment:**

In this category (table-2), **enforcing health laws and regulations** was a repeating concept on which included some of the highly mentioned codes such as *staying at home, closure of offices, factories, and universities, identifying individuals who do not pay attention to the health protocols and dealing with them. Furthermore, Social distancing, avoiding traffic jams and congestion, as well as inspections of busy places* were other codes that were considered in this concept, however by a lower frequency.

In the category of prevention, the concept of **monitoring and identifying patients** and the concept of **adhering to health protocols** were items extracted from the various people's suggestions. **Nutrition** and **providing facilities and equipment** were also concepts that were mentioned in people's suggestions.

In the concept of **monitoring and identifying patients**, *the facility of performing the COVID 19 test for all people at home and dedicating locations for diagnoses and management of the disease* were two of the most frequently mentioned codes.

In the concept of adhering to health/hygiene protocols, two important codes *were ensuring that the disease was not spread by the treatment staff in the community, as well as waste management*, were considered by the people.

The other concept worth mentioning in this category was **providing facilities and equipment**.

**Table 3: Detailed information about concepts and their related codes regarding Treatment**

Concept	Code	Frequency
<b>Complementary and alternative medicine</b>	Use of Complementary and alternative medicine	56
<b>Ethics</b>	Sense of responsibility of medical staff	118
	Compassionate and decent treatment of patients	50
<b>Follow up patients</b>	Follow up on improved and suspicious patients	25
<b>Health services</b>	Provide health care services at home	39
	Keep patients until complete treatment/recovery in the hospital	13
	Provide safe treatment centers for other diseases	8
	Receiving the results of COVID 19 testings fast	4
	Patient prioritization	4
<b>Identifying Proper treatment</b>	Attempts to produce vaccines / drugs / treatments	56
<b>Increasing knowledge</b>	Doing research on the disease	10
	Increasing the awareness of the medical staff about the disease	5
<b>Supply of medicine</b>	Distribution of Covid-19 medicine among all people	2
	Observing equality in the delivery of medicine and medical facilities to all patients	16
	Supply of required medicines	13
<b>Use of international experiences</b>	Using the experiences of other countries	42
	Application of effective international treatment methods and protocols	26

## Welfare

In this category, the people mentioned **financial and psychiatric support** for the medical staff and its affiliated groups, such as laboratories in their responses.

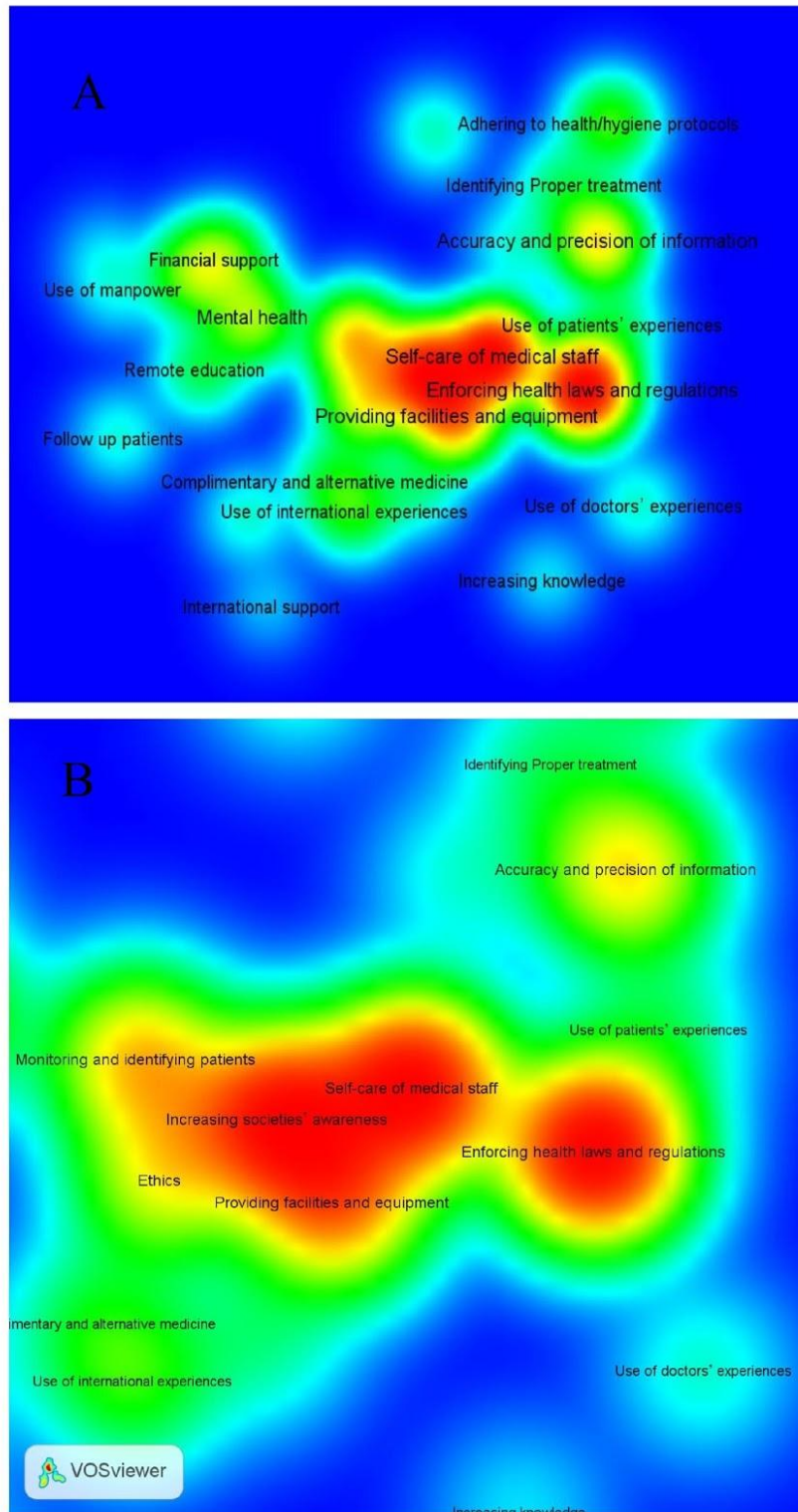
Likewise, some people considered the *use of retirees, students, and volunteers as workforces*. Others mentioned *reduce the working hours of the medical staff and provide adequate rest to maintain the possibility of continuing medical services*.

Accepting support from international organizations, government support, and government funding was among the mentioned codes in this category as well.

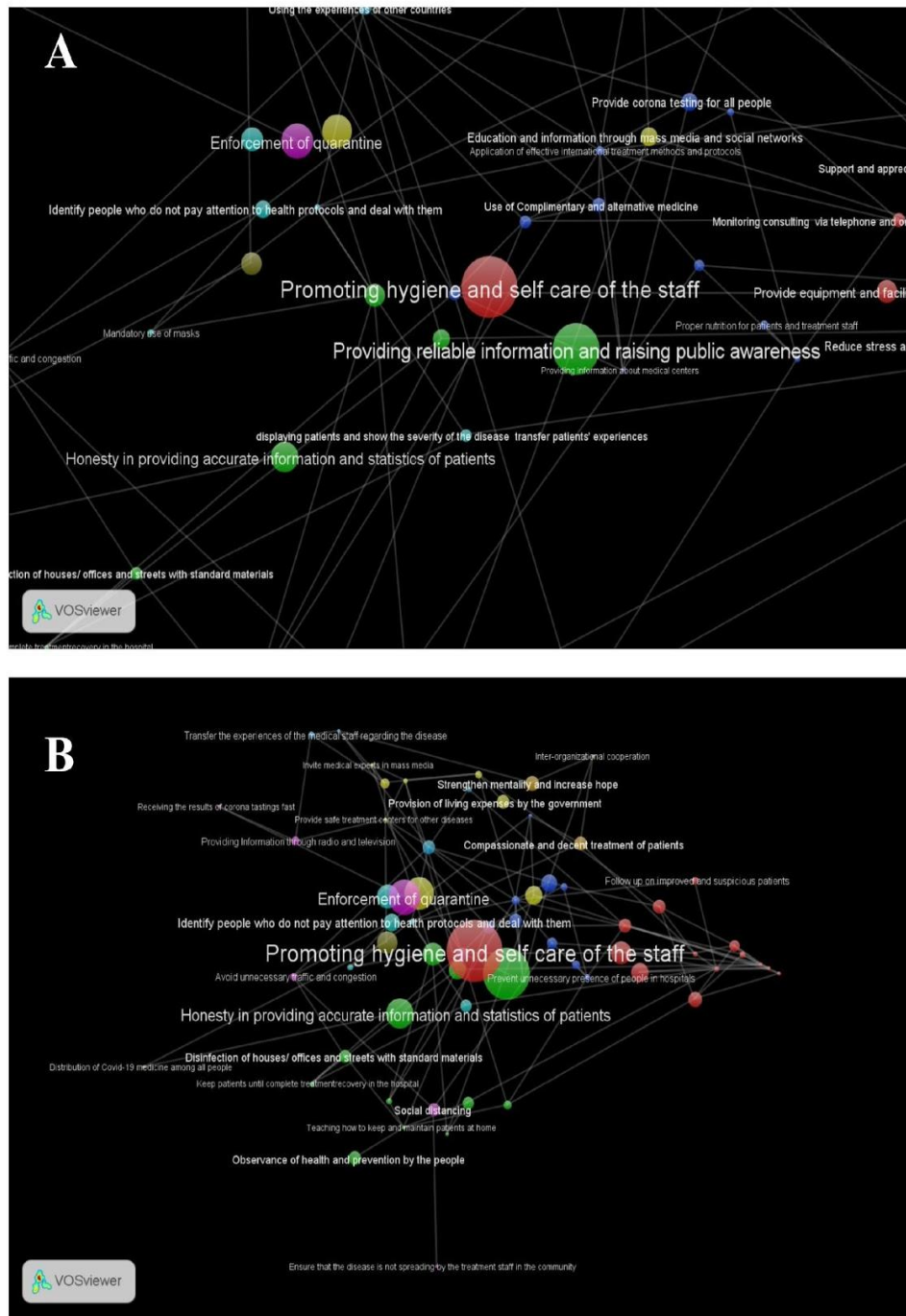


**Table 4: Detailed information about concepts and their related codes regarding Welfare**

Concept	Code	Frequency
<b>Cross-sectorial collaboration</b>	Giving authority to the Ministry of Health and cooperation of other sectors	5
	organizational cooperation-Inter	4
<b>Financial support</b>	Provision of living expenses by the government	32
	Increase the salary of medical staff	19
	Government support and funding	11
	treatments 19Forgiveness on paying for COVID	9
<b>International support</b>	Accepting the support of global organizations	7
<b>Leisure time</b>	Broadcast attractive TV programs to entertain people	3
<b>Providing services remotely</b>	university and supermarket services remotely ,Providing office	4
<b>Psychiatric support</b>	Support and appreciation of the medical staff by the people and officials	27
	Support and Pay attention to the family of the medical staff	2
	Reduce working hours of medical staff and provide adequate rest	38
<b>Use of manpower</b>	taffAdequate number of medical s	12
<b>Use of public help</b>	students and volunteers ,Use of retirees	23



**Figure 3: Density visualization of different concepts; A: Minimum total link of strength is 30 and 29 concept met this criteria; B: the lower layer of the visualization revealed more items corresponded to society expectations. Red and yellow colors are related to more frequent items than green and blue ones.**



**Figure 4: Network visualization of the codes mentioned by participants. A: Each bubble shows a code which has been extracted from participant’s opinion. The larger it is, the more people point to it; B: the lower layers of the visualization revealed more items and their connections.**

## Discussion:

This study revealed that the participants have expectations regarding 4 categories of education; treatment, prevention, and welfare.

On the whole, the COVID 19 pandemic has greatly affected all aspects of lives. However, due to the severe isolation and lock-down regulations, this disease causes more inconveniences other than clinical problems. To be more clarified, in the global economy about \$ 2.7 trillion loss has been estimated for a standstill situation as stated by Orlik and his colleagues (Orlik et al., 2020). Indeed, all people beyond their nationality face the consequences of this disease either directly or indirectly. Given the changes created by COVID 19, a stage for fear, anxiety, and stress in all societies is a common feature so governments have declared an unprecedented state of emergency (Singh & Singh, 2020).

To control this situation, enormous coordinated efforts via different aspects are necessary. For example, individuals should follow the guidelines provided by the government and WHO, even though they are unpleasant ones (Bayod et al., 2020). Hence, people's accountability wildly impacts crisis management. Consequently, discovering the needs of the community would lead to considering more feasible planning by decision-makers. Note that control is impossible until the regulations and guidelines are enforced and executed.

This study showed that in the first months of the pandemic, people mainly focused on methods for cessation of the transmission and patient's treatment. At this moment, globally, millions of students do not have a good quality of education due to the disadvantages of social distancing. If this pandemic continues, the needs and demands of the people could be more focused on education and welfare issues. Therefore, we recommend this study be conducted periodically to gather updated results to reduce some of the burden of disease for society (Stankovska et al., 2020).

It is worth mentioning, not all society's needs require huge budgets. Some of the needs could be supported by proper attention and planning. Some replacement strategies and adaptation methods may be able to reduce the cost and expenditure.

This study has some limitations. We have a response rate of 67%. It means that approximately two-thirds of the people who read the question answered it. So, their concerns and expectations are not included. Also, some of the people's expectations depend on the time and the events that corresponded to that time period. For example, some expectations would change during the reopening of schools or religious events. But in general, preventing the spread of false news and rumors, enforcing the intended laws and emphasizing its observance, monitoring and identifying patients, medical staff feeling responsible, financial and psychiatric support are things that society places great emphasis on. Furthermore, vaccination is another concern among society that needs accurate information regarding different types and brands.

Undoubtedly, the experience of shifting real life to virtual ones on the internet is traumatic for people. And how a person responds to this stressful situation can depend on his or her personality and the community the person lives in (Haris, 2021; Mamzer, 2020). Each society has its own expectations and should be considered by policymakers. So, it seems that we need to evaluate all impacts of the COVID 19 pandemic on society for future insight. Now, the main request of people is related to control the disease and managing the early outcomes of the pandemic whereas the late outcomes should be considered too. We must hear from society to be able to tell to the society. Indeed, as Imran stated "there is a need for collective efforts globally

without any religious discrepancy to fight against such diseases in the future” (Ali & Alharbi, 2020).

## References

- Abdelaziz, A. B., Benzarti, S., Achouri, M. Y., Nouira, S., Mlouki, I., Yahia, F. (2020). Counter-COVID-19 pandemic strategy in the maghreb central. Qualitative study of the perceptions of health professionals. *Tunisie Medicale*, 98(4). Retrieved June 12, 2021 from <https://covid19.elsevierpure.com/fr/publications/counter-covid-19-pandemic-strategy-in-the-maghreb-central-qualita-2>
- Ali, I., & Alharbi, O. M. L. (2020). COVID-19: Disease, management, treatment, and social impact. *Science Total Environment*. Retrieved June 3, 2021 from <https://doi.org/10.1016/j.scitotenv.2020.138861>
- Aucejo, E. M., French, J., Araya, M. P. U., & Zafar, B. (2020). The Impact of COVID-19 on Student Experiences and Expectations: Evidence from a Survey. *Journal of Public Economy*. Retrieved June 2, 2021 from [https://www.nber.org/system/files/working\\_papers/w27392/w27392.pdf](https://www.nber.org/system/files/working_papers/w27392/w27392.pdf)
- Baud, D., Qi, X., Nielsen-Saines, K., Musso, D., Pomar, L., & Favre, G. (2020). Real estimates of mortality following COVID-19 infection. *Lancet Infectious Diseases*, 20 (7), 773-779.
- Bayod, R. P., Forosuelo, E. J. D., & Sanchez, M. E. S. (2020). People’s personal ethics and responsibilities during the pandemic: stories and experiences of recipients of social amelioration program (SAP) of Digos City. *Eubios Journal Asian International Bioeth*, 30(6):320-325.
- Hammarberg, K., Kirkman, M., & de Lacey, S. (2016). Qualitative research methods: when to use them and how to judge them. *Human Reproduction*, 31(3):498–501.
- Harris, M. (2021). *Familiar Patterns and New Initiatives: UK Civil Society and Government Initial Responses to the Covid-19 Crisis*. Retrieved June 3, 2021 from [https://www.researchgate.net/publication/348708476\\_Familiar\\_Patterns\\_and\\_New\\_Initiatives\\_UK\\_Civil\\_Society\\_and\\_Government\\_Initial\\_Responses\\_to\\_the\\_Covid-19\\_Crisis](https://www.researchgate.net/publication/348708476_Familiar_Patterns_and_New_Initiatives_UK_Civil_Society_and_Government_Initial_Responses_to_the_Covid-19_Crisis)
- Liao, Q., Yuan, J., Dong, M., Yang, L., Fielding, R., & Lam, W. W. T. (2020). Public Engagement and Government Responsiveness in the Communications About COVID-19 During the Early Epidemic Stage in China: Infodemiology Study on Social Media Data. *Journal of Medical Internet Research*, 22(5):187-196.
- Mamzer, H. (2020). Postmodern Society and Covid-19 Pandemic: Old, New and Scary. *Society Register*, 4(2):7–18.
- McCloskey, B., Zumla, A., Ippolito, G., Blumberg, L., Arbon, P., & Cicero, A. (2020). Mass gathering events and reducing further global spread of COVID-19: a political and public health dilemma. *Lancet*, 395 (10230), 1096–1099.

- Ölcer, S., Yilmaz-Aslan, Y., & Brzoska, P. (2020). Lay perspectives on social distancing and other official recommendations and regulations in the time of COVID-19: a qualitative study of social media posts. *BMC Public Health*. Retrieved June 2, 2021 from <https://bmcpublichealth.biomedcentral.com/track/pdf/10.1186/s12889-020-09079-5.pdf>
- Orlik, T., Rush, J., Cousin, M., and Hong, J. (2020). *Coronavirus could cost the global economy \$2.7 Trillion. Here's how*. Retrieved June 3, 2021 from <https://www.bloomberg.com/graphics/2020-coronavirus-pandemic-global-economic-risk/>
- Shereen, M. A., Khan, S., Kazmi, A., Bashir, N., & Siddique, R. (2020). COVID-19 infection: Origin, transmission, and characteristics of human corona viruses. *Journal of Advanced Research*, 24:91–8.
- Singh, J., & Singh, J. (2020). COVID-19 and its impact on society. *Electronic Research Journal of Social Sciences and Humanities*. 2(I):168–72.
- Stankovska, G., Memedi, I., & Dimitrovski, D. (2020). Coronavirus Covid-19 Disease, Mental Health and Psychosocial Support. *Society Register*, 4(2):33-48.
- Tabari, P., Amini, M., Moghadami, M., & Moosavi, M. (2020). International Public Health Responses to COVID-19 Outbreak: A Rapid Review. *Iranian Journal Medical Sciences*, 45(3):157–69.