



# Engagement of Healthcare Professionals in Voluntary Activities During COVID-19: A Cross-Sectional Study

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## Abstract

**Background:** The coming various disasters, especially probable pandemics, will need a large number of volunteers with different capabilities. Motivation of volunteers, as a driving force, will be very important for future pandemic disaster planning. The aim of this study was to determine the enablers and barriers to the engagement of healthcare professionals in voluntary activities during the COVID-19 pandemic.

**Methods:** This cross-sectional study was conducted at the General Internal Medicine Departments of Imam Khomeini Hospital Complex in Tehran, Iran. A 44-item questionnaire was designed based on the Literature Review and Experts Panel. Items were scored on a 5-point Likert scale, ranging from “strongly disagree (1)” to “strongly agree (5)”. Content validity and face validity of the questionnaire were checked by 10 experts and 10 respondents, respectively. Cronbach’s alpha of the items of stimulating and inhibitory factors’ section was calculated 0.83 and 0.92, respectively. A self-administrated paper-based questionnaire has been distributed among healthcare team members.

**Results:** Out of 105 health care professionals, 80 (76.2%) were female and 41 (39%) were married. The most significant demographic predictor of willingness to volunteering was having no child ( $p$ -value=0.001). History of infection, admission, or death of family members or friends in the current pandemic was an important factor to reduce the desire to voluntary activities significantly ( $p$ -value=0.019). Depressive disorders and using antidepressants had no relation with the attraction to volunteering, but anxiety disorders had a significant relation with the willingness to be a volunteer ( $p$ -value=0.04).

**Conclusion:** The most important demographic variables influencing the unwillingness to participate in voluntary activities during the COVID-19 crisis are parenting role, history of anxiety disorders, and history of hospitalization or death of relatives or friends. Furthermore, the voluntary participation of healthcare professionals is influenced by facilitating factors such as giving rewards, reducing the period of obligatory military service, having a sense of altruism, and helping others.

**Keywords:** COVID-19, Crisis, Pandemic, Participation, Volunteers

## Introduction

Today, COVID-19 disease is a viral infection that has created enormous challenges around the world (1,2). COVID-19 disease has affected our country from various dimensions, in a way reducing people's trust in each other, in objects and materials, and the surrounding environment (3,4). Furthermore, communities around the world face extraordinary challenges in reducing the prevalence of COVID-19 in order to maintain their healthcare systems (5). Supporting vulnerable communities and individuals is considered as an effective way to achieve results under intense pressure and to make progress on sustainable development goals (6). Evidence showed that healthcare system response during a crisis needs to be supported by governmental and non-governmental organizations and volunteers (7,8). The presence and participation of volunteers to provide health services has the potential to fill acute gaps and prevent the healthcare system from being overwhelmed during COVID-19 crisis (9). This situation raises a unique concern for experts and practitioners in understanding how to ensure adequate volunteers' cooperation and participation (10). The empathy and cooperation of volunteers can help reduce the workload of the healthcare system. The atmosphere of cooperation increases the vitality and density of positive energies in the environment (11-13).

In Iran, COVID-19, known as Corona, is expanding rapidly (14). Providing comprehensive patient care was difficult; not only because of the increase in the number of patients admitted to hospitals and the lack of adequate healthcare personnel, but also due to the complications of the disease itself (15,16). In recent years, our healthcare system has come to realize the value of leveraging volunteers to deliver health services. Following swiftly on the COVID-19 pandemic's heels was a wave of volunteers to engage in urgent on-the-ground duties ranging from the delivery of service, masks, and medicines in order to support frontline healthcare professionals (17). In such circumstances, a comprehensive approach to resource management as well as considering all the physical, mental, social, and spiritual dimensions of volunteering is essential to provide such services. Evidence shows that studies assessing factors

influencing the participation of volunteers during COVID-19 are relatively limited (18). Previous research has examined the challenges and opportunities that affect volunteering for COVID-19 on an online platform (19). Voluntary employment of skilled manpower in clinical fields in critical situations requires recognizing the factors affecting manpower motivation. Since the cooperation and participation of healthcare providers in times of crisis, such as the Coronavirus pandemic, is very important. Therefore, the aim of this study was to determine the enablers and barriers to the engagement of healthcare professionals in voluntary activities during the COVID-19 pandemic.

## Materials and Methods

### *Study design and setting*

We conducted a cross-sectional design. This study was conducted to examine the factors that stimulate and inhibit voluntary activities in healthcare professionals. A 44-item questionnaire was designed based on the literature review and experts panel as a data collection means. Literature review was done through databases including PubMed, Scopus, and SID, and Irandoc. Keywords used for literature review included: "Engagement OR participation" AND "Healthcare professional\* OR Healthcare member\* OR healthcare Team" AND "Voluntary work OR voluntary service OR deliberate work OR unpaid work OR voluntary act" AND "COVID-19 OR CORONA OR pandemic". Research papers consisted of original, reviews, and dissertation in English and Persian language were included. Lack of access to full text of articles and non-English and non-Persian papers were excluded.

### *Participants*

The study population was comprised of all physicians (faculty members, assistants, and interns), nurses, service staff, and secretaries of the general internal medicine ward at Imam Khomeini Hospital. Participants were recruited using convenience sampling. Inclusion criteria were (1) age  $\geq 18$  years, working in the General Internal Medicine ward, and consent to participate in the survey. Exclusion criteria were refusal of consent for the study, and incomplete questionnaire.

**Data collection**

This study was conducted from September to December 2021. A self-administrated paper-based questionnaire had been distributed among healthcare team members. Participants were asked to answer all questions and leave no questions unanswered. Students were asked to fold the questionnaire after filling, to maintain the privacy.

The questionnaire consists of three parts: 1) background factors, 2) stimulating factors, and 3) inhibitory factors. In order to investigate the background factors, the questionnaire included demographic information such as the level of education and salary, history of depressive and anxiety disorders, history of previous cultural activities, and history of chronic or incurable diseases. The questionnaire included stimulating and inhibitory factors based on a 5-point Likert scale (from strongly agree to strongly disagree). The content validity of the questionnaire was obtained by receiving qualitative comments of 10 experts (clinicians and medical educationist) in Internal Medicine and Medical Education. Furthermore, the face validity of the questionnaire was obtained by receiving the opinions of 10 respondents on the clarity and transparency of the questionnaire’s items. For evaluating the reliability of the questionnaire by internal consistency, the questionnaire was distributed among 40 volunteers and then Cronbach’s alpha of the items about stimulating and inhibitory factors was calculated respectively 0.83 and 0.92. There was a written consent for the participation of attendees in the study. All questionnaires were anonymous. The study was approved by the University Research Ethics Committee (IR.TUMS.VCR.REC.1399.101). Permission to distribute the survey questionnaires was received from the Hospital.

**Data analysis**

All questionnaire data were analyzed by SPSS 26 software. Quantitative variables were reported as mean and standard deviation, and qualitative variables were reported as abundance and percentage. Statistical significance level used was  $p \leq 0.05$ .

**Results**

Out of 105 healthcare professionals, 80 (76.2%) were female and 25 (23.8%) were male. 74 (70.4%) were physicians, 17 (16.1%) nurses, 6 (5.7%) service staff, 7 (6.6%) secretaries and one did not define his profession. Thirty-nine percent of the participants were married. Five (4.7%) people suffered from a chronic disease themselves and 16 (15.2%) people had family members suffering from it. Demographic information is summarized in table 1. Results showed that female willingness to volunteering was dominant (75.6 vs. 24.4%), but it was not statistically significant ( $p > 0.05$ ). Also, willingness to work as a volunteer in singles was more than married participants. It was not statistically significant too. The most significant demographic predictor of willingness to volunteering was having no child ( $p$ -value= 0.001); the more children somebody has, the less desire to be a volunteer.

History of infection, admission, or death of family members or friends in the current pandemic was an important factor to reduce desire to volunteering significantly ( $p$ -value= 0.019), but it was not significant in people who had a previous crisis history. Depressive disorders and using antidepressants had no relations with the attraction to volunteering, but anxiety disorders had a significant relation with the willingness to act voluntarily ( $p$ -value: 0.040). The demographic data and their relations

**Table 1.** Demographic data and their relation to willingness to volunteering

Variable	Willingness likely	Willingness unlikely	p-value	OR	95% Confidence Interval	
					Lower	upper
Sex:						
Male	21 (24.4%)	4 (21.1%)	1	0.82	0.24	2.76
Female	65 (75.6%)	15 (78.9%)				
Marital status:						
Single	56 (87.5%)	8 (12.5%)	0.07	0.39	0.14	1.07
Married	30 (73.2%)	11 (26.8%)				

Cont Table 1.

Have children:						
Yes	7 (8.1%)	7 (36.8%)	0.001	0.15	0.04	0.51
No	79 (91.9%)	12 (63.2%)				
Level of education:						
Under diploma	8 (9.3%)	1 (5.3%)	0.85	1.84	0.21	15.70
Above diploma	59 (90.7%)	37 (94.8%)				
COVID-19 morbidity or mortality of family members or friends:						
Yes	3 (3.48%)	4 (21.05%)	0.01	0.66	0.02	0.13
No	83 (96.52%)	15 (79.95%)				
Depression history:						
Yes	9 (10.5%)	1 (5.3%)	0.68	2.10	0.25	17.68
No	77 (89.5%)	18 (94.7%)				
Anxiety disorder history:						
Yes	7 (8.1%)	5 (26.3%)	0.04	0.24	0.06	0.89
No	79 (91.9%)	14 (73.7%)				
Past voluntary activities:						
Yes	24 (27.9%)	3 (15.7%)	0.38	2.06	0.55	7.72
No	62 (72.1%)	16 (84.3%)				
Past crisis history FH:						
Yes	2 (2.3%)	1 (5.3%)	0.45	0.42	0.03	4.98
No	84 (97.7%)	18 (94.7%)				
Incurable disease history in person:						
Yes	4 (4.7%)	1 (5.3%)	1	0.87	0.09	8.33
No	82 (95.3%)	18 (94.7%)				
Incurable disease history in the family:						
Yes	13 (15.1%)	3 (15.8%)	1	0.95	0.24	3.72
No	73 (84.9%)	16 (84.2%)				
Antidepressant drugs use:						
Yes	8 (9.3%)	0 (0%)	0.34	1.24	1.12	1.37
No	78 (90.7%)	19 (100%)				

(FH: Family History)

**Table 2.** The enablers for voluntary participation of health care professionals during COVID-19 pandemic

No	Enabling factor	p-value	OR	95% Confidence interval		t
				Lower	Upper	
1	Meeting lively colleagues at the workplace makes me eager to do voluntary activities in the hospital.	0.01	4.08	1.34	12.35	3.402
2	Provided protective equipment based on approved hospital protocol, increases my desire to cooperate voluntarily.	0.03	3.31	1.14	9.56	2.125
3	Provided protective equipment more than approved hospital protocol while providing service, increases my desire to cooperate voluntarily.	0.02	3.48	1.20	10.04	2.645
4	The fact that none of my colleagues who use protective equipment correctly has been infected persuades me to cooperate voluntarily.	0.02	3.88	1.28	11.76	.908
5	Colleagues' recovery persuades me to cooperate voluntarily.	0.001	13.22	1.68	103.66	.354

Cont Table 2.

6	Providing the necessary arrangements based on the treatment protocol for regularly disinfecting surfaces of medical centers to prevent the infection increases my desire to cooperate voluntarily.	0.008	4.48	1.54	13.04	2.599
7	Advertisements & Educations on TV persuades me to cooperate voluntarily.	0.08	3.89	0.83	18.04	-4.774
8	Advertisements & Educations in social networks persuade me to cooperate voluntarily.	0.17	2.76	0.74	10.25	-2.794
9	Knowing that my presence leads to reducing days & hours of serving in hospital staff increases the possibility of my voluntary cooperation.	0.005	5.85	1.58	21.55	1.316
10	Huge numbers of days & shifts of working do not prevent me from volunteering.	0.03	4.79	1.03	22.12	-2.236
11	Containing regular & nutritious meals for hospital staff persuades voluntary cooperation.	0.32	1.71	0.61	4.77	1.186
12	Giving additional merit pay & rewards to HCPs persuades voluntary cooperation.	0.76	1.25	0.40	3.94	6.869
13	The existence of effective benefits in the future of career for health care providers (such as shortening being the obligatory manpower of health ministry or military plan period or earning cultural points for the occupation) increases the possibility of voluntary cooperation.	0.57	1.34	0.45	3.96	7.419
14	The existence of Media Advertisements thanking health care providers increases the possibility of voluntary cooperation.	0.32	1.71	0.61	4.77	.651
15	People's cooperation in the city to comply with the quarantine increases the possibility of voluntary cooperation.	0.12	2.39	0.87	6.59	3.756
16	The feeling of altruism & helping others is a factor in voluntary cooperation.	0.003	5.19	1.82	14.82	6.362
17	Feeling of satisfaction & usefulness by serving affected people increases the possibility of my voluntary acting.	0.001	6.20	2.10	18.31	2.305
18	Feeling of professional & ethical duty & responsibility increases the possibility of my voluntary acting.	0.001	9.68	2.92	32.14	5.173

Table 3. The barriers for voluntary participation of health care professionals during COVID-19 pandemic

No	Barrier factors	p-value	OR	95% Confidence interval		t
				Lower	Upper	
1	The fear of transmitting the coronavirus to my first-degree family members or people I live with or my friends' obstacles to my voluntary acting.	0.02	0.25	0.07	0.82	2.823
2	My colleagues' infection & death obstacles to my voluntary acting.	0.01	0.26	0.09	0.75	-.952
3	Imagining that a single little fault of mine can infect me or other obstacles to my voluntary acting.	0.45	0.63	0.23	1.72	.201
4	Anxiety & fear from working in the hospital obstacles to my voluntary acting.	0.50	0.66	0.19	2.33	-6.975

Cont Table3.

5	Death of infected patients in the workplace hospital obstacles to my voluntary acting.	0.22	0.49	0.16	1.50	-6.256
6	Insufficient information about the coronavirus leads to not cooperating in voluntary activities.	0.38	0.61	0.20	1.83	-4.188
7	Inexistence of a vaccine or medication for definitive treatment obstacles to my voluntary acting.	0.001	0.14	0.04	0.41	-5.709
8	Media & TV announcing the increase of infected people obstacles to my voluntary acting.	0.01	0.22	0.06	0.74	-9.310
9	Fatigue & boredom obstacles to my voluntary acting.	0.009	0.22	0.07	0.67	.278
10	Physical fatigue obstacles to my voluntary acting.	0.02	0.28	0.10	0.83	.210
11	Observing COVID-19 signs in colleagues' obstacles to my voluntary acting.	0.006	0.20	0.06	0.62	-6.811
12	Fear from not being cured if getting infected to coronavirus obstacles to my voluntary acting.	0.09	0.38	0.13	1.06	-3.383
13	Persistent fear & anxiety in my colleagues' obstacles to my voluntary acting.	0.13	0.42	0.14	1.23	-5.213
14	Lack of adequate equipment while serving obstacles to my voluntary acting.	0.61	0.73	0.26	2.05	3.389
15	Prolonged wearing protective equipment for hours & its inconvenience obstacles to my voluntary acting.	0.01	0.25	0.08	0.70	-1.539
16	Feeling of losing relatives & friends by their infection to coronavirus obstacles to my voluntary acting.	0.13	0.44	0.15	1.22	.576
17	Lack of proper & regular nutrition due to protective equipment worn for hours of obstacles to my voluntary acting.	0.001	0.15	0.05	0.46	-1.466
18	A feeling of not belonging to society is one of the obstacles to volunteering in me.	0.05	0.28	0.08	1.01	-8.226
19	Lack of proper financial incentives is one of the obstacles to volunteering in me.	0.06	0.37	0.13	1.01	-.116
20	Feeling unseen seen & lack of spiritual encouragement are two of the obstacles to volunteering in me.	0.06	0.37	0.13	1.01	-1.599
21	Lack of adequate lounge is one of the obstacles to volunteering in me.	0.003	0.20	0.06	0.58	2.823

to willingness to volunteering were analyzed and are presented in table 1.

Every factor was measured by one-sample t-test (Table 2). Results indicated that advertisements and education on TV were significantly ineffective. Anxiety and fear from working in the hospital, death of infected patients in the workplace hospital, and insufficient information about the coronavirus were inhibitory factors that were significantly affecting the view of participants. Details of the data analysis are presented in tables 2 and 3.

## Discussion

In this study, we found that the main enabling factors were colleagues' recovery and feelings of professional and ethical responsibility. Also, two main barriers seem to be lack of adequate equipment in terms of serving obstacles and anxiety and fear of working in the hospital. The most important demographic variables influencing the unwillingness to volunteering during the COVID-19 crisis are parenting role, history of anxiety disorders, and history of hospitalization or death of relatives. Voluntary

participation in various crises, including epidemic crises, is one of the most important health categories that plays a key role in planning emergencies. Also, further recruitment of this type of participation will lead to improved treatment outcomes (20). This study aimed to determine the enablers and barriers affecting volunteer engagement during COVID-19.

Our study showed that females are more inclined to become a volunteer. It seems that the increase in women's willingness to participate and engaging in voluntary activities can be due to feeling more responsible for others, satisfying themselves by helping others, supporting their career aspirations or having more commitment to their society. In their research, Brightzol, and Erig state that female employees are more involved in volunteering than men. In contrast, in some studies, there is no direct relationship between gender and employee participation in voluntary activities (21). Also, McPhell and Bulls showed that women receive less support from the organization than men in volunteering. For example, women are less likely to be able to take flexible working hours or leave to do voluntary activities (22). Peterson also maintains that volunteering increases women's job satisfaction, whereas this is not the case for men (23). A recent Australian report on voluntary participation during the Coronavirus pandemic shows that the number of female volunteers was slightly higher than that of men in the 12 months to the end of the year 2019 who have participated voluntarily (12).

Marital status is also an effective demographic factor. Evidence showed that married employees are more involved in volunteering than single ones. In our study, the tendency of single people was greater than that of married people. Based on the results of our study, it seems that marriage, due to creating a greater sense of responsibility towards family members, as well as the multiplicity of expected tasks, can affect people's willingness to participate in voluntary activities. In the research of Gil-Lacruz *et al*, gender is one of the effective factors in staff participation in voluntary activities (24).

Our study demonstrated that insufficient information about the current critical situation is a deterrent to voluntary participation (25). This finding may be due to fear of harming oneself and others or concern for legal problems. Research has shown that most people who

have high social empathy and voluntary participation are less likely to find themselves incapable of planning for world events. People with higher social responsibility and empathy than others, have considered life events more controllable and calculable. Hence, increasing the level of awareness and knowledge of the situation and having enough information increases the power and empathy of people (12,13,26-28).

Another influential feature of volunteering is the job position of volunteer staff. Brightzol and Erig found that employees with higher occupations were more likely to participate in these activities (21). Ariza Montes *et al* looked at job characteristics and found that people whose positions were appropriately horizontal (with job rotation, diversity, and teamwork (or whose emotions were involved in their work) were more likely to participate in volunteering. In their study, the relationship between vertical job design (high authority and complexity) and managerial job positions with voluntary activities was not confirmed (29).

Voluntary work time is another factor in volunteering, while most participants believed that the number of days and shifts of work did not prevent them from volunteering in our study. A possible explanation for this might be that, despite the existence of high working hours, the motivations of individuals to participate in voluntary activities are effective in their voluntary engagement. Gomez and Ganderson indicated that the likelihood of participating in voluntary activities decreases when working in shifts. However, when working time is part-time, the likelihood of participating in voluntary activities increases (30).

According to the results of our study, financial incentives are one of the main motivating factors for voluntary participation. Also, effective benefits in the future of work, such as shortening the obligatory public healthcare providing or obligatory military service, has a highly potential role. The results of research in the section on methods of attracting participation and maintaining the continuity of volunteer work show that the most appropriate methods of attracting the participation of volunteers include monthly salaries, issuance of a valid card, periodic financial support, health insurance, and location and organizational structure for volunteers who are hospitalized. Therefore, the findings emphasize that the payment of a certain amount of money as a monthly salary for volunteers is a

priority to attract participants. In fact, with this method, we can be optimistic about the continuation of the volunteers' activities. The issuance of a valid card also includes cards for voluntary forces in order to be able to continue their activities and use the scores of these cards in medical centers and hospitals. The third method is financial support, which is called loans for volunteers if they need it. In this method, hospitals and the Ministry of Health and Medical Education must have a contract with a bank or a credit institution. Developing health insurance and issuing health insurance booklets for volunteers, as well as determining the appropriate organizational structure for the activities of volunteers, can be among other methods of continuing the activities of individuals (25,31-33).

Those with a history of anxiety disorder were less likely to become a volunteer. Fear and stress of activity in the hospital environment, death of patients at work, lack of a vaccine or definitive treatment, increase in the number of patients in the media, observation of symptoms of coronary heart disease in colleagues, fear of not being recovered, lack of adequate personal protective equipment and feeling of not belonging to the society are among the most important deterrents identified in this study. Studies have shown that people with higher levels of social anxiety are less likely to act as volunteers. Besides, people with high social anxiety prefer to sponsor worthy goals instead of spending their time in volunteering, and if they choose to be a volunteer, they do so with close friends (34).

Conducting such studies is faced with some limitations. Due to the lack of a standard questionnaire in this area, we used a self-administrated pre-validated questionnaire. Although we detected statistically significant differences in the tendency towards volunteering with some factors, our study sample was small. Another limitation is that the convenience sampling may not necessarily be representative of the population. This study helps to plan and facilitate the

conditions to increase the willingness to volunteer so that people are able to take advantage of voluntary activities and improve services in future crises.

## Conclusion

The most important demographic variables influencing the prevention of volunteering during the COVID-19 crisis are parenting role, history of anxiety disorders and history of hospitalization or death of relatives. Furthermore, the voluntary participation of individuals is influenced by facilitating factors such as giving rewards, reducing the period of obligatory military service, having a sense of altruism and helping others. Fear of infection, insufficient information about the disease, lack of vaccines or drugs, and lack of equipment are some of the deterrents involved in the healthcare professionals participating in voluntary activities during the COVID-19 crisis.

It is recommended that the psychological vulnerability of personnel be always considered by observers. People who have a history of anxiety disorders or have lost loved ones due to illness are especially vulnerable. Also, training medical staff on medications and treatment strategies, infection prevention and control, and the use of personal protective equipment can be a way to reduce barriers to volunteering.

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## Conflict of Interest

Not declared.

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