

Willingness of Health Care Workers to Respond to Covid-19 Pandemic in Port Harcourt, Nigeria

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Abstract

Background: During a pandemic a health personnel may be unwilling to work due to a number of perceived risks. The aim of this study was to identify the various factors that can influence the health workers willingness to discharge their duties during a pandemic and to suggest options for changing the attitude of those who might be unwilling to work to facilitate evidence-based disaster planning.

Materials and Methods: A cross-sectional survey targeting healthcare workers in Nigeria was conducted using structured and self-completion questionnaire. Both the printed and an electronic version of the questionnaire were administered to the respondents.

Results: Out of 243 respondents, majority 46.5%, (n=113) were within the age group of 30-39 years. The respondents were made up of 46.1% (n=112) males and 53.9% (n=131) females. A majority of the respondents 77.78% (n=189) agreed that they are bound by the ethics of their profession to attend to the sick despite risk. The majority 53.91% (n=131) of respondents strongly agreed that they were at risk of infection by going to work during the pandemic. Also, 56.79% (n=138) of the respondents agreed that covid-19 pandemic have greatly affect their willingness to go to work.

Conclusion: The study revealed a strong sense of duty among the HCWs in time of a pandemic even with threat to their lives. It is hoped that the findings of this study will be found useful by the government and relevant agencies to design and implement policies that will focus on and promote HCWs willingness to work during a pandemic like covid-19.

Keywords: Covid-19 pandemic; Health care workers; Willingness

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Introduction

An outbreak of a novel coronavirus disease (abbreviated covid-19) was first reported in December, 2019, in Wuhan City in People's Republic of China [1,2]. The disease rapidly engulfed the world gripping it with fear and causing unprecedented destruction of lives as well as crippling the global economy. The World Health Organization categorized this novel scourge as a public health emergency on 30 January 2020 and a month later it was classified as a pandemic on 11 March 2020 [3]. Nigeria shared the same fate with other nations of the world with loss of many lives and deepening recession. Recovery from the nadir that accompanied this pandemic will take some time especially in low income setting.

The role of the Health Care Workers (HCW) in the struggle against any pandemic cannot be overemphasized. The HCWs are extremely strained during the course of any pandemic [4-6]

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because of their role as key players in response to a pandemic. Their ability and willingness to report for work despite increased personal risk are essential for pandemic response. By their professional obligation, they must be at their workplaces even if their health is at risk. The delivery of health care services will likely be challenged by the combination of increased patient care demands and staff shortages due to absenteeism induced by perceived threat to lives. Initial estimates in the UK and USA during the covid-19 pandemic suggested that front-line health-care workers could account for 10–20% of all diagnosed cases of covid-19 [7-9].

The reality of a pandemic response is that health care personnel may be unwilling to work due to perceived inadequate pandemic preparedness of their facility and work place safety. Voluntary absenteeism may stem from fear of infection, duties to one's family and loved ones [10]. Lack of resources and trust in the management of health care facilities and government may affect HCWs' perceptions and consequently willingness to work.

It cannot be taken for granted that the health care personnel will continue to work despite risk of exposure to emerging infectious diseases. This attitude was observed among health care workers during Ebola epidemic in West Africa [11,12]. Similarly, Stein et al [13], documented the unwillingness of some health workers to place themselves at the risk of exposure to infection during the 2003 SARS epidemic and the early years of the HIV/AIDS epidemic. In a survey of hospital employees in Germany during influenza pandemic, Ehrenstein et al [14] found 28% of professionals (clinical and non-clinical) may abandon work in favour of protecting themselves and their family. Furthermore, unwillingness to respond to a pandemic has also been demonstrated among health care workers in Nigerian and Ethiopian studies during the peak of the Covid-19 pandemic [2,15].

Perception of risk may greatly predict human attitude. During a pandemic a health personnel may be unwilling to work due to a number of perceived risks. There is need to know the barriers that may result in absenteeism and to establish interventions to mitigate them. To ensure effective running of health care services despite the challenges posed by the pandemic, it is essential that health care workers are willing to work. There is dearth of data on factors that may influence willingness of HCWs to work during a pandemic, especially in resource poor setting like ours. The aim of this study was to identify the various factors that can influence the health workers willingness to discharge their duties during a pandemic and to suggest options for changing the attitude of those who might be unwilling to work to facilitate evidence-based disaster planning.

Materials and Methods

A cross-sectional survey targeting healthcare workers in Port Harcourt, Nigeria was conducted. The data collection instrument was a 17 items structured and self-completion questionnaire designed by the authors according to the aim of the study. Twenty copies of the printed version of the questionnaire were pre-tested among selected healthcare workers before the commencement of data collation. A Cronbach alpha reliability value of 0.86 for internal consistency was obtained. The validity

of the questionnaire was calculated using the index of item objective congruence (IOC) method used by previous authors [2,16]. The content validity of the questionnaire was assessed by calculating the IOC. Based on the index parameters, an IOC score >0.6 was assumed to show excellent content validity. All the scores obtained in this study for all the items of the questionnaire after IOC interpretation were >0.6.

The questionnaire consisted of six parts

Part 1: It includes the set of elements describing the Socio-demographic variables of the respondents that include age, gender, years of experience, practice location, health sector, and profession.

Part 2: It includes a set of elements that measure the knowledge of healthcare workers of their responsibilities and jobs.

Part 3: It consists of a set of elements that measure Respondent's risk perception towards the Covid-19 pandemic.

Part 4: Includes a set of elements that measure Respondents work pattern and workplace safety during the COVID-19 outbreak.

Part 5: Includes knowledge of Respondents means of transportation to work and place of residence during this pandemic.

Part 6: Includes identifying Ways to increase the respondents willingness to work and mitigate absenteeism from work during this pandemic.

Both the printed and an electronic version of the questionnaire were administered to the respondents. The electronic version designed using the Enketo Express for Kobo Toolbox was used to obtain information from the participants who were not proximity with the researchers. The link of the electronic version of the questionnaire was sent to the respondents through their email addresses and WhatsApp platforms where they had access to fill the questionnaire. The printed version was administered to the respondents by direct issuance. The completed copy of the questionnaire was retrieved immediately after being filled out by the respondent while the responses from the electronic version were collated in an electronic spreadsheet.

The purpose of the study was explained in the questionnaire and the respondent's consent to participate in the study was sought before his participation. The respondent's private information was treated with confidentiality. The respondents were instructed to fill the questionnaire just once to avoid duplication of data and their participation in this study was entirely on voluntary bases.

Statistical analysis

The data generated in this study was analyzed using the Statistical Package for Social Sciences (SPSS) version 21.0 (SPSS Inc, ILL, USA, 2003). The data were analyzed using descriptive statistical tools such as frequencies and percentages and presented in tables and charts. Chi-square test was used to evaluate the relationship between the respondents' years of experience and their willingness to go to work during pandemic. The level of statistical significance was set at $p < 0.05$.

Results

Socio-demographic variables of the respondents

Out of 243 respondents, majority 46.5%, (n=113) were within the age group of 30-39 years. The respondents were made up of 46.1% (n=112) males and 53.9 % (n=131) females. A greater proportion of the respondents 69.55% (n=169) were married while 30.45% (n=74) were single. A majority of 38.27% (n=93) of the respondents had 5-9 years working experience. The respondents predominantly (71.6%), n=174) practiced in cities. The respondents were largely public sector employees (68.72%, n=167) (Figure 1).

Figure 2 shows the distribution of the respondents according to

their professions. A majority of the respondents 23.05% (n=56) were medical doctors, followed by nurse/midwives 19.34% (n=47) and the least were cleaners, admin and clerical staff and drivers, which was 0.82% (n=2) each respectively (Table 1).

Knowledge of healthcare workers of their responsibilities and jobs

Table 2 shows the respondent's knowledge of their responsibility and job. A majority of the respondents 77.78% (n=189) agreed that they are bound by the ethics of their profession to attend to the sick despite risk. A majority of the respondents 81.07% (n=197) agreed that they could be called upon to respond to duty during the pandemic. Greater proportion of the respondents 52.26% (n=127) rated themselves to be efficient in terms of

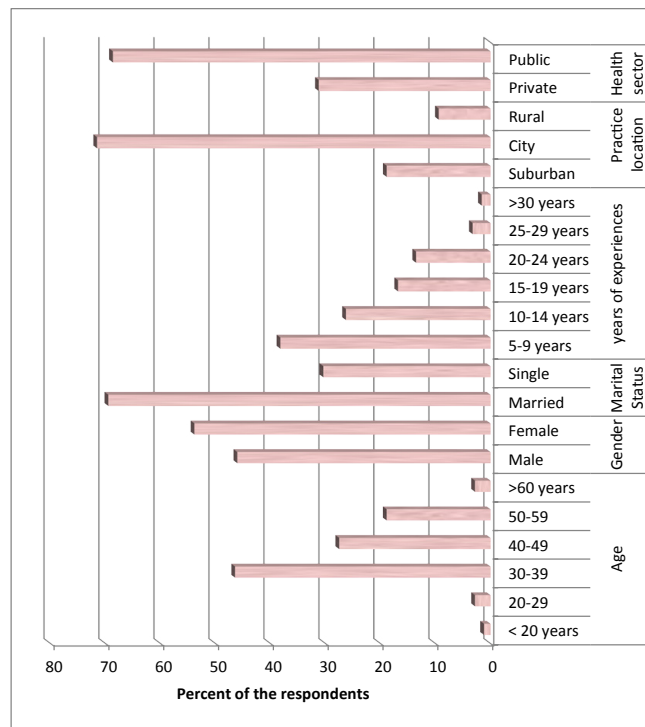


Figure 1 Socio-demographic variables in the respondents.

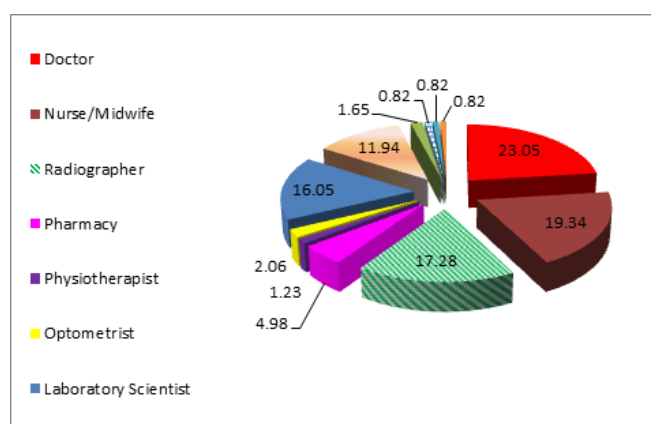


Figure 2 Profession diagram for the respondents.

Table 1 Respondent's risk perception.

Risk Perception	Frequency	Percentage
a. Do you see yourself at risk of infection by going to work these days?		
Strongly Agree	131	53.91
Agree	79	32.51
Not sure	31	12.76
Disagree	2	0.82
Strongly disagree	-	-
Total	243	100
b) Health workers are prone to having the infection?		
Strongly Agree	196	80.66
Agree	46	18.93
Not sure	1	0.41
Disagree	-	-
Strongly disagree	-	-
Total	243	100
c) There is no known risk in coming in contact with a Covid-19 patient?		
Strongly Agree	10	4.15
Agree	6	2.47
Not sure	12	4.94
Disagree	34	13.99
Strongly disagree	181	74.49
Total	243	100
d) Is your willingness to go to work these days affected by Covid-19 pandemic?		
Strongly Agree	50	20.58
Agree	138	56.79
Not sure	42	17.28
Disagree	4	1.65
Strongly disagree	9	3.7
Total	243	100
e) Is your willingness to go to work these days affected by Covid-19 pandemic?		
Strongly Agree	153	62.96
Agree	62	25.51
Not sure	15	6.17
Disagree	9	3.7
Strongly disagree	4	1.66
Total	243	100
f) Do you think having a number of dependents can affects ones willingness to work during a pandemic like covid-19?		
Strongly Agree	13	5.35
Agree	12	4.93
Not sure	10	4.12
Disagree	69	28.4
Strongly disagree	139	57.2
Total	243	100
g) Do you think your family is prepared to function without you?		
Strongly Agree	13	5.3
Agree	12	4.9
Not sure	10	4.2
Disagree	69	28.4
Strongly disagree	139	57.2
Total	243	4.2

Table 2 Respondents work pattern and workplace safety.

Pattern and work place safety	Frequency	Percentage
a. Working pattern		
How many days in a week do you go to work since the beginning of thepandemic-		
one	2	0.82
two	16	6.58
three	106	43.62
four	96	39.51
five	23	9.47
Total	243	100
How many days in a week do you normally go to work before this pandemic –		
one	1	0.41
two	6	2.48
three	18	7.41
four	97	39.9
five	121	49.79
Total	243	100
Do you have to change your working pattern for fear of contacting the infection?		
Yes	227	93.42
No	16	6.58
Total	243	100
b. Work place safety		
Do you think your health care facility is prepared to handle and manage covid-19 outbreak?		
Strongly disagree	179	73.66
Disagree	39	16.05
Somewhat agree	8	3.29
Agree	9	3.7
Strongly agree	11	3.3
Total	243	100
Do you think your work place Safety is adequate?		
Strongly disagree	106	43.62
Disagree	89	36.63
Somewhat agree	30	12.35
Agree	16	6.58
Strongly agree	2	0.82
Total	243	100
Hospital infection control policy is adequate?		
Strongly disagree	77	31.69
Disagree	56	23.05
Somewhat agree	103	42.32
Agree	7	2.94
Total	243	100
There is the possibility of getting the infection in the hospital:		
Strongly disagree	10	4.12
Disagree	6	2.47
Somewhat agree	8	3.29
Agree	92	37.86
Strongly agree	137	52.26
Total	243	100
Do you use PPE at work?		
Yes	112	46.09

Pattern and work place safety	Frequency	Percentage
No	131	53.91
Total	243	100
Do you wear your face mask while at work?		
Yes	198	81.48
No	45	18.52
Total	243	100
How do you relate with your colleagues at work these days of the pandemic?		
Freely (No restriction)	39	16.05
Restricted	189	77.78
No relation at all	15	6.17
Total	243	100
Has any of your colleague been infected by the covid-19?		
Yes	45	18.52
No	198	81.48
Total	243	100
What is the role of the admin to cater for the infected colleague-		
major role	56	23.6
some role	107	44.03
none	80	32.91
Total	243	100
In case of death who takes care of the colleagues dependents.		
You are on your own	197	81.07
government assist	16	6.58
no government assistance	30	12.35
Total	243	100

discharging their duties. A majority 98.35% (n=239) of the respondents agreed that their roles are important during a pandemic like covid-19 (Figure 3).

Risk perception for respondents

From Table 1, the respondents' perception of risk was evaluated in table 1 and the majority 53.91% (n=131) strongly agreed that they were at risk of infection by going to work during the pandemic. Also, 56.79% (n=138) of the respondents agreed that covid-19 pandemic have greatly affect their willingness to go to work. Chi-square test was done to evaluate the relationship between the years of experience and the respondent's willingness to work during the pandemic and the result revealed that there was statistically significant relationship between years of experience and respondent's willingness to work ($X^2=234.34$, $p=0.023$).

Respondents work pattern and workplace safety

With respect to the respondents' working pattern and work place safety assessed in table 2, greater proportion of the respondents 43.62% (n=106) said they went to work three days per week during the pandemic. A greater number of the respondents 39.91% (n=97) normally go to work four days per week before this pandemic. Out of 243 respondents, 93.42% (n=227) said changed their working pattern for fear of contacting the infection (Table 2). Majority of the respondents 73.66% (n=179) strongly disagreed that their health care facility is prepared to handle and manage covid-19 outbreak. The majority of the respondents 42.32% (n= 103) somewhat agreed that hospital infection control policy in their facility was adequate. Out of 243 respondents, 77.78% (n=189) said they had restricted relation with their colleagues at work during the pandemic (Table 2).

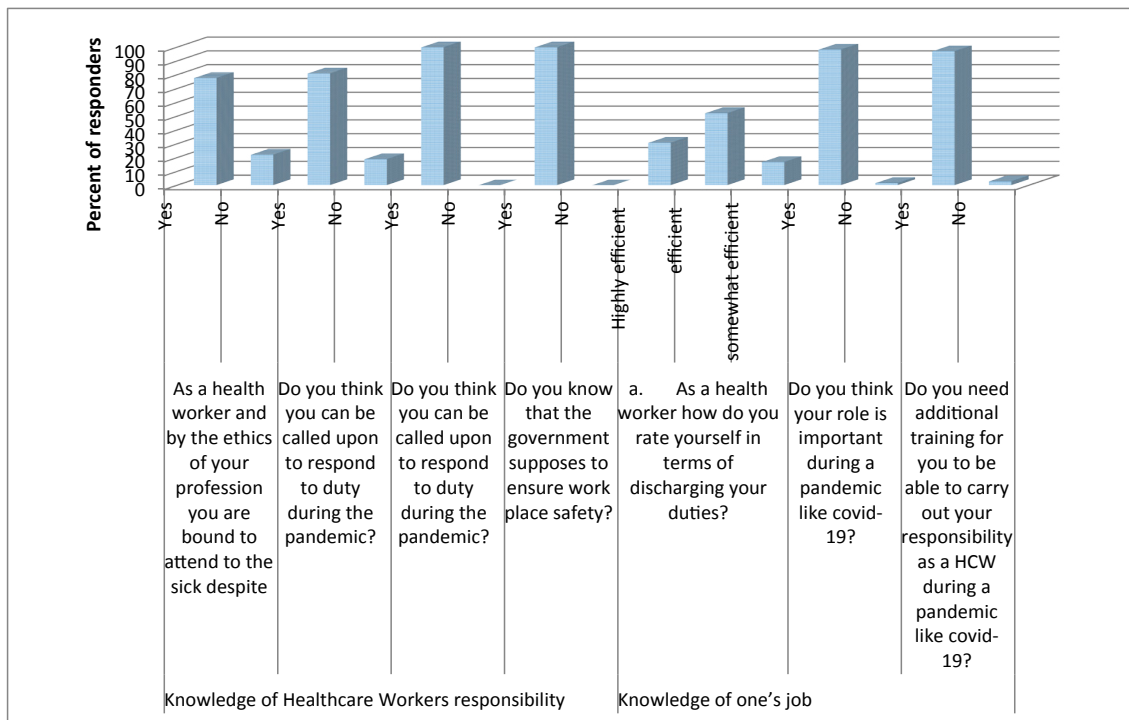


Figure 3 Knowledge of Healthcare Workers of their responsibilities and jobs.

Respondents means of transportation to work and place of residence

Table 3 shows the respondents' means of transportation to work and place of residence. Out of 243 respondents, 81.48% (n=198) agreed that their ability to get to work safely was a matter of their concern. Those that get to their work place by means of public transport were highest 57.20% (n=139). The majority of the respondents 90.12% (n=219) lived outside their work place. Greater number of the respondents 71.19% (n=173) perceived their living outside the hospital environment as enough reason to stay away from work especially during the pandemic when you think vis-a-vis of how to get to work (Table 3).

Ways to increase the respondents' willingness to work and mitigate absenteeism from work

From Table 4, which show the ways to increase the respondents' willingness to work and mitigate absenteeism from work, revealed that out of 243 respondents, 98.33% (n=239) agreed that the respondents should be provided with monetary inducement. The majority of the respondents 81.48% (n=198) agreed that

Table 3 Respondents means of transportation to work and place of residence.

Respondents means of transportation to work and place of residence	Frequency	Percentage
a) Transportation to work		
Do you think your ability to get to work safely is a matter of concern to you?		
Yes	198	81.48
No	45	18.52
Total	243	100
By what means do you get to your work place?		
Private car	93	38.27
Public transport	139	57.2
Trekking	11	4.53
Total	243	100
Do you think going to work in public transport should be avoided during this pandemic?		
Yes	210	86.42
No	33	13.58
Total	243	100
Is there other means of transportation other than public/private		
Yes	10	4.11
No	233	95.89
Total	243	100
b) Residence		
Where do you live?		
Inside the health care facility	24	9.88
outside	219	90.12
Total	243	100
Do you think living outside the hospital environment is enough reason to stay away from work especially these days of the pandemic when you think vis-a-vis of how to get to work?		
Yes	173	71.19
No	70	28.81
Total	243	100

professional bodies and unions incorporated in the provision of guidelines will increase their willingness to work. The majority of the respondents 97.53% (n=237) perceived the provision of cars or car loans to health care workers as a means of mitigating against healthcare workers absenteeism from work (Table 4).

Table 4 Ways to increase the respondents willingness to work and mitigate absenteeism from work.

Ways to increase the respondents willingness to work and mitigate absenteeism from work	Frequency(n)	Percentage (%)
a) How can willingness to work be increased		
Yes	239	98.35
No	4	1.65
Total	243	100
Having trust in the institution will increase willingness		
Yes	198	
no	45	
Total	243	
Professional bodies and unions should be incorporated in the provision of guidelines		
Yes	273	81.48
no	6	18.52
Total	243	100
b) How can absenteeism be mitigated		
Provision of cars or car loans to health care workers		
Yes	241	97.53
No	2	2.47
Total	243	100
Provision of specially arranged vehicle to convey health workers to and from the health facility.		
Yes	241	99.18
No	2	0.82
Total	243	100
Provision of accommodation within the health facility for all or key health workers.		
Yes	243	100
No	0	0
Total	243	100
Provision of accommodation within the health facility for all or key health workers.		
Yes	243	100
No	0	0
Total	243	100
Provide insurance scheme for health care workers in case of death in active service.		
Yes	243	100
No	0	0
Total	243	100

Discussion

Willingness of HCWs to respond to a pandemic is an essential component of health care preparedness to tackle a medical emergency. The treatment of the second phase of the COVID-19 pandemic is worrisome and evaluation of barriers that could militate against HCWs willingness to work is indispensable. The results of our study on the respondents' knowledge of their responsibility and

job as health care workers clearly showed that majority of the respondents knew their professional ethic and understood that they could be called upon to attend to the patients even during a pandemic like covid-19. A greater proportion of the respondents perceived themselves to be efficient to discharge their duties and also agreed that their roles are very essential especially during pandemic. These findings are not in agreement with the findings of the studies conducted by Barnett et al [17], Shaw et al [18] and Ives et al [19]. In their studies, they reported less than 50% of the respondents who were willing to work during a pandemic. The difference in our findings could be ascribed to the difference in the nature of our studies and geographical variations.

Our results on respondents' perception of risk of working during covid-19 pandemic revealed that majority of the respondents perceived themselves to be at risk of infection going to work during the pandemic and that this has greatly affected their willingness to go to work. These findings are in keeping with findings of similar studies conducted by Ogolodom et al [2] on knowledge, attitude and fears of HCWs towards covid-19 pandemic and Balicer et al [20] on local public HCWs perceptions towards response to influenza pandemic. These findings imply that the risk perceptions have a great influence on the HCWs willingness to work during the novel covid-19 pandemic.

There was a statistically significant relationship between the years of experience and the respondents' willingness to work during covid-19 pandemic. This implies that the willingness of the HCWs to work during covid-19 pandemic depends on their years of experience, meaning that those with higher working experience were highly willing to work during a pandemic when compared with people with lower years of working experience. This findings is in harmony with the observation noted in study conducted by Gee and Skovdal [12], According to Gee and Skovdal [12], high working experience are modifiers of risk perception, indicating that high working experience could act as a catalyst to willingness to work during a pandemic.

The respondents' working pattern and work place safety were assessed and the results showed that majority of them had reduced the number of days they go to work during the pandemic when compared to the pre-covid-19 pandemic days. This could be attributed to the fact that a greater proportion of the respondents perceived their healthcare facility as unsafe and unprepared to handle and manage covid-19 outbreak. These findings are consistent with the results of the studies conducted by Ogolodom et al [2], Annan et al [11] and Barnett et al [17]. According to Barnett et al [17] study, such ratings of the healthcare facilities by greater numbers of the respondents is an indication of lack of confidence in their facilities preparedness and readiness of the hospitals to handle potentially epidemic prone diseases.

Our results on the means of transportation to work and place of residence of the health care workers showed that over 80% of the respondents perceived that their ability to get to work safely was a matter of concern to them, as majority of them usually

goes to work by means of public transportation. Greater number of them live outside the healthcare facilities and this has greatly influenced their willingness to go to work during the pandemic. These findings are in consonance with similar observations documented by Draper et al [21] study on HCWs attitude towards working during influenza pandemic, noted that identifying types of provision such as housing at healthcare facilities for HCWs that would keep pools of nearby staff high, would help to resolve the travel problems and limit risks to workers and their families. Contrary to our findings, Barnett et al [17] study, reported that only 15% of their respondents felt they could not safely go to work. The discrepancies noted in our results could be ascribed to the fact that in our study, the majority of our respondents go to work by means of public transportation.

The results of the ways to increase willingness to work and mitigate absenteeism from work, showed that majority of the respondent perceived provision of monetary inducement, and incorporation of professional bodies and unions into the pandemic protocols formulation committee will help to increase their willingness to work during a pandemic. The respondents accounting for over 96% perceived provision of cars or car loans to HCWs as inducement to mitigate voluntary absenteeism from work. Despite the difference in the nature of our studies and the sample sizes, the findings of this study is in resonance with the findings of related studies carried out by Annan et al [11], Aoyagi et al [22], Ives et al [19] and Department of health[23].

A number of recommendations were made by our respondents as the way forward. These include promotion of health care workers, increase remunerations, provision of specially arranged transportation services, welfare packages, life insurance, personal protective equipment (PPE) and training among others.

Conclusion

The study revealed a strong sense of duty among the HCWs in time of a pandemic even with threat to their lives. The barriers to willingness to work as shown in this work included fears of work place safety and level of preparedness of the healthcare facility to handle a medical emergency. Public transportation and living outside the healthcare facility were also seen as obstacles to willingness to work during a pandemic. However, a multitude of approaches to increase willingness and mitigate voluntary absenteeism from work were suggested and these include addressing social factors such as need for transportation or housing that allows for social distancing. It is hoped that the findings of this study will be found useful by the government and relevant agencies to design and implement policies that will focus on and promote HCWs willingness to work during a pandemic like covid-19.

Conflicts of Interest

None was declared among the authors.

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