WILLINGNESS OF HOSPITAL STAFF TO WORK IN ISOLATION CENTRES

*Norbertta E Anegbe, Victoria T Akin-Dosumu, Olugbemiga L Abodunrin, Wasiu Adebimpe
Department of Community Medicine , LAUTECH Teaching Hospital, Ogbomosho, Oyo state, Nigeria.
*Corresponding Author: eknorb@yahoo.com

ABSTRACT
Background: *In disease control, isolation centres are needed to prevent the spread of diseases. There are factors that increase or reduce willingness of health care workers who are at the frontline of outbreak response to work in these isolation centres.*
Objective: *To ascertain the willingness of health care workers to work in isolation centres.*
Methods*: A cross sectional survey among 112 health care workers selected from four states within two geopolitical zones in Nigeria participated in the study with the use of Google forms using the convenience sampling method. Responses from google form was converted to Microsoft Excel and then exported to SPSS version 21.0 for analysis. Results were presented in the form of frequency tables and bivariate analysis done.*
Results: *The mean age of the respondents was 36.7±4.6years and 65(58.0%) of them were males while 96(85.7%) were currently married, 60(53.6%) belongs to Yoruba ethnic group. Only 60 (53.6%) and 63 (56.3%) reported that they will be willing to work in the isolation unit on permanent and rotational basis respectively. Reasons provided for willingness are the fact that it is part of their duty 46(73.0%) or being the area of interest 37(58.7%). Reasons for non-willingness are inadequate supply of PPE 10(90.1%) and the risk exposure they are likely to face 8(72.7%).There is no statistical significance of association between socio-demographic characteristics and the respondents' willingness to work in the isolation unit.*
Conclusion: *Socio demographic characteristics have no significant association in determining the health professional's willingness to work in isolation centres.*
Keywords*: Willingness to work, Isolation centre, Coronavirus disease-19, Personal protective equipment.*

INTRODUCTION

In health care facilities, isolation represents one of several measures that can be taken towards the prevention of contagious viral and bacterial diseases from being spread from a patient to other patients, health care workers, and others to a particular patient (reverse isolation).[1,2] Disease isolation is relevant to the work and safety of health care workers. There are three isolation categories that reflect the major modes of micro-organism transmission in nosocomial setting: contact, droplet and airborne. Sometimes, nosocomial infections are inevitable despite precautionary measures taken to minimize transmission.[3,4]

Isolation ward is a separate block of rooms in hospitals and other medical facilities used to separate patients suffering from highly contagious diseases. The unit is generally placed away from the main hospital, and only the assigned trained staff work in that unit.[1,3] A combination of standard precautions and isolation procedures represents an effective strategy in the fight against healthcare-associated transmission of infectious agents. Key factors in achieving effective containment of health care associated transmission in all hospitals are the availability of the necessary financial and logistic resources as well as the increase in compliance of health care professionals with stipulated guidelines.[2]Eligible patients for isolation include those with highly pathogenic infections such as Lassa fever infection, Severe Acute Respiratory Syndrome, EBOLA virus disease, Corona virus disease, Middle East Respiratory Syndrome among others.

Late 2019 brought about an emerging disease caused by SARS-CoV-2 (Severe Acute Respiratory Coronavirus -2) known as COVID-19 which is currently pandemic and requiring establishment of isolation centers in various places of a country, apart from the regular/traditional isolation wards in hospitals. As at the time this study was conducted in April 2020, Nigeria, has 112 treatment (isolation)centers with 5,324 beds as part of the government response to the COVID-19 pandemic.[5,6]There are 3 levels of isolation centers, Isolation 1 is for suspected cases of COVID 19 while awaiting results, this is also used to designate the mandatory quarantine facilities for those returning from abroad with negative results or those unable to self-isolate at home for 14days.Isolation 2 is for confirmed COVID-19 cases with mild or moderate symptoms which need little or no clinical management. Isolation 3 is for confirmed COVID-19 cases with severe or critical symptoms which need enhanced clinical management or intensive care.[6]

Guidelines for setting up isolation facility/ward amongst other points is that doctors, nurses and paramedics posted to isolation facility need to be dedicated, not to be allowed to work in other patient-care areas and must all be well trained in the use of personal protective equipment(PPE).[7]

Health workers are at the front line of COVID-19 outbreak response and as such are exposed to hazards such as pathogens, long working hours, psychological distress, fatigue, occupational burn out, stigma and physical and psychological violence.[8,9]It may therefore be too assuming that hospital staff will naturally be willing to work in an isolation centre.

The current COVID-19 pandemic in Nigeria has demonstrated infections and deaths of health workers. In April 2020 the Nigeria's Ministry of Health, disclosed that 113 doctors had tested positive for COVID-19. Overall in Nigeria, 812 health workers have been reported to have been infected as at April 2020 when the total number of confirmed COVID-19 cases in the country reached 10,819 with 314 deaths.[10]Previous studies also showed health professionals being infected while taking care of patients with highly contagious infections.[13,14]However,

some health workers feel it is a "professional duty" which is an obligation to work even in difficult and dangerous circumstances.[9,10] Thus Doctors, Nurses, Hygienists, Drivers, Nutritionist, and Cleaners among others are at high risk as they work in the various areas in the isolation centers.

This study could provide baseline evidence for policy making to address willingness to work in isolation centre – such as training, motivation, provision of incentives to hospital staff and availability of PPE in running the isolation centre effectively. This study therefore aims to assess the willingness of hospital staff to work in isolation centre with respect to the outbreak of COVID-19.

METHODOLOGY

The Study was conducted in the month of April, 2020 in two geo-political zones of Nigeria. These are Oyo and Osun states (South West zone) and Kwara and Kogi states (North central zone). The states have three public tertiary (Teaching) hospitals that have Isolation centres but in addition, there are other isolation centres set up to meet up with the demands in the recent outbreak of COVID-19.

It was a descriptive cross-sectional survey of health professionals in the Tertiary Hospitals in the selected states. Google forms were prepared to obtain their perception about an isolation ward and their motivators, barriers and willingness to work in such place with specific mention of the current COVID-19 pandemic. Forms were sent to various professional group platforms in the selected states. Sampling was basically convenience sampling method and all responses after the expiration of period given was accepted for analysis.

Sample size was calculated using Leslie Fishers formulae taking prevalence of knowledge of nurses working in Isolation unit as 92.8%[15] to give a sample size of 106. However, giving a non-response rate of 10%; 118 forms were sent out and had a total of 112 responses received back.

Responses from google form was converted to Microsoft Excel and then exported to SPSS version 21.0 for analysis. Results were presented in the form of frequency tables and bivariate analysis was done to identify possible demographic factors that may affect the willingness or otherwise with the level of significance set at $p < 0.05$. Responses were all confidential.

Ethical consideration: Though a formal ethical clearance was not obtained, ethical process was maintained with the participants.

RESULT

A total of 112 forms were returned filled and found appropriate for analysis.

The mean age of the respondents was 36.7±4.6years and 65(58.0%) of them were male while 96(85.7%) were currently married and 60(53.6%) belongs to Yoruba ethnic group. High proportions 92(82.1%) of the respondents were Christians and 89(79.5%) were medical practitioners while

those in nursing services were 63.4%. Highest proportion 22(19.6%) were working in the Community Medicine Department followed respectively by Family Medicine, 20 (17.9%) and Internal medicine 17 (15.2%). Eighty-seven (77.7%) of the respondents have worked for more than six years in the health sector with 91 (81.3%) reporting that their facility have an isolation unit (Table 1).

Table 1: Socio-demographic characteristics of respondents

Variables	Frequency	Percentage
Age(years)		
21-30	9	8.0
31-40	66	59.0
>40	37	33.0
Mean age = 36.7 ± 4.6 years		
Sex		
Male	65	58.0
Female	47	42.0
Marital Status		
Currently married	96	85.7
Currently unmarried	16	14.3
Tribe		
Yoruba	60	53.6
Non- Yoruba	52	46.4
Religion		
Christianity	92	82.1
Islam	20	17.9
Profession		
Medical Practitioner	31	27.7
Nursing/Midwifery/CHEW/CHO	71	63.4
Others	10	8.9
Department/Unit		
Accident and emergency	4	3.5
Community Medicine	22	19.3
ENT&Eye clinic	6	5.3
Surgery	10	8.8
Internal Medicine	17	14.9
Paediatrics	13	11.4
O & G	10	8.8
Laboratory	7	6.1
Family medicine	20	17.5
Psychiatry	5	4.4
Cadre		
Senior Nursing Staff	32	28.6
Nursing Staff	39	34.8
Consultant	11	9.8
Resident/Medical Officers	20	17.9
Others	10	8.9
Length of time working in the health sector (in years)	12	10.7
< 1 year	13	11.6
2-5 years	47	42.0
6- 10 years	40	35.7
>10 years		
Does your hospital have an isolation unit to take care of suspected cases of highly contagious epidemics	91	81.3
Yes	17	15.2

Only 60 (53.6%) and 63 (56.3%) reported that they will be willing to work in the isolation unit on permanent and rotational basis respectively. Reasons provided for willing to work are the fact that it is part of their duty 46(73.0%) or being the area of interest 37(58.7%). Reasons for non-willingness are usual inadequate supply of PPE 10(90.1%) and the risk exposure they are likely to face 8(72.7%). Factors that could encourage the respondents to work in the isolation unit include adequate PPE 103(92.0%), monetary incentive 53(47.3%) and an enabling environment 38(33.9%). Irrespective of the respondents' opinion, most of them, 73(65.2%) reported that they will accept the offer but 6 of them (5.4%) responded that they may resign their job(Table 2).

Table 2: Respondents willingness to work with and isolation unit

Variables	Frequency	Percentage
Will you be willing to be posted to the isolation centre on permanent basis?		
…	41	36.6
…	11	9.8
…	60	53.6
Will you be willing to be posted to the isolation centre on rotational basis		
Can't say yet	39	34.8
No	10	8.9
Yes	63	56.3
If no, reasons (11) (multiple responses)		
Too much stress	4	36.4
Risk exposure to me or/and family/too delicate	8	72.7
Not my specialty	2	18.2
Usual Inadequate PPE	10	90.1
If yes, reasons(n=63) (multiple responses)		
As part of my contribution to the pandemic	24	38.1
My part of my job	46	73.0
Purpose is to care for the whole man	19	30.2
My area of interest	37	58.7
Could there be conditions that will encourage you to function at this unit (multiple responses)		
Adequate PPE	103	92.0
Monetary incentives	53	47.3
Adequate provision of enabling environment	38	33.9
Do you think the skills/expertise of your profession could be needed by a patient in the isolation unit?		
Yes	97	86.6
No / Indifferent	15	13.4
Should you be posted there by the hospital management, what would you do		
I will put forward my concern	22	19.6
I will accept	73	65.2
If not well protected I will reject the offer	11	9.8
I may resign	6	5.4

None of the socio-demographic characteristics were statistically significant in determining the respondents' willingness to work in the isolation unit (Table 3).

Table 3: Association between respondents' socio-demographic characteristics and willingness to be posted to this centre.

Variables	Willingness to be posted to this centre		X^2	p-value
	No 49 (%)	Yes 63 (%)		
Age(years)			3.04	.2191
21-30	5 (55.5)	4 (45.5)		
31-40	32 (48.5)	34 (51.5)		
>40	12 (32.4)	25 (67.6)		
Sex			0.7046	.4012
Male	26 (40.6)	38 (59.4)		
Female	23 (47.9)	25 (52.8)		
Marital Status			2.667	.1025
Currently married	45 (46.9)	51 (53.1)		
Currently unmarried	4 (25.0)	12 (75.0)		
Religion			0.7385	.3902
Christianity	24 (40.0)	36 (60.0)		
Islam	25 (48.1)	27 (51.9)		
Profession			1.1694	.5573
Medical Practitioner	7 (22.6)	24 (77.4)		
Nursing/Midwifery/CHEW/CHO	20 (28.2)	51 (71.8)		
Others	4 (40.0)	6 (60.0)		
Length of time in the health sector	8 (66.7)	4 (33.3)	2.0267	.5669
<1	7 (53.8)	6 (46.2)		
2-5	26 (55.3)	21 (44.7)		
6-10	18 (45.0)	22 (55.0)		
>10				

*Statistically significant <0.05

DISCUSSION

This study evaluated hospital workers' willingness to work at the isolation centre. The study focused on factors associated with willingness of health workers to be stationed at the isolation centre either on rotational basis or permanently.

The study found out that a little above half of the respondents were willing to work at the isolation centre either on permanent and rotational basis with more than half having greater than 6 years of working experience. This enables the study to benefit from their expertise in the health care profession. A proportion of the health workers had views that working at the isolation centre is part of their job and responsibility while some believed that they have special interest in infectious diseases.In this study, more than half of health workers were willing to work at the isolation centre which is similar to a study where 60% of health professionals were willing to work during a pandemic.[9] However, another study done in the UK during Pandemic influenza showed that participants seemed to feel a strong sense of duty to work regardless of the circumstances due to either a professional ethic, a duty to help or a work ethic and confederate loyalty.[7] This similarity maybe due to the sense of obligation to work in even a serious situation that involves high risk.

Factors like inability of government to be able to provide adequate PPE and the risk of exposure of self and family members to the contagious disease were the major concerns that cause hesitation in working at the isolation centre. These barriers to willingness to work in isolation centre are the same to the ones highlighted in another study.[9]This includes the fear of contracting the infection and even spreading it to their family members. Possible reasons that could be implicated included non-compliance to standard precautions and unavoidable human errors by health workers.[16] However, hospital management and government inability to provide PPE and other basic tools for universal precautions to be well carried out has been implicated too.[17]In addition, the number of infection and deaths that has been recorded during this recurrent COVID-19 pandemic in Nigeria among health workers

has also backed up the fears of this group of professionals.[10] A previous study also showed health professionals being infected while taking care of patients with highly contagious infections.[13]

The importance of isolating infectious patient in order to curb the further spread of contagious disease by reducing the risk of spread to other patients, relatives and health workers alike is both hospital policy and career curriculum issues.[16] It is noted that far more health workers in all the professions are willing to work at the isolation centre though with a slightly higher proportion among the doctors. This may be associated with their awareness of their role in the care of patients as well as their training and oath taken. Their professional training therefore would have informed them of measures to take for adequate protection from such infectious diseases.[10,16]

It has been shown that increasing knowledge about preventing and dealing with the disease, development of more specific and treatment protocols, alongside training will contribute to improving the morale of healthcare workers dealing with the pandemic.[11]The fact that general working condition, monetary incentives and availability of adequate PPE increased willingness and lowered hesitation suggests that positive intervention in these aspects will have strong impact in reducing hesitation to work at the isolation centre. This will also encourage and boost the morale of healthcare workers generally.

Challenges that have been encountered by health care workers in other studies affecting their willingness to work in isolation centres include mental stress involved with poor sleep or having to stay away from their families for an extended period.[18] Discomfort in the use of the Personal Protective Equipment (PPE), especially if used for longer than usual time, stigma and lack of stipend or compensation on the job as hazard allowance or life insurance are other discouraging factors.[19,20]

Further research is required to identify the level of preparedness of health workers and their willingness to work at the isolation centre.

Although this survey was related to willingness to work at the isolation centre during this COVID-19 pandemic, the findings can be generalized to other contagious diseases and highrisk situations.

CONCLUSION

A substantial proportion of health care workers are willing to work in isolation centres if adequate personal protective equipment are provided as well as monetary incentives and good working condition.

LIMITATION OF THE STUDY

The limitation to the study is the non-probability sampling technique utilized due to the lockdown and restriction of movement which could have affected the even distribution of respondents by socio-demographic characteristics. Similarly, the survey are self-reported rather than practical and responses could vary after real life

experiences.

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