Access this article online

Quick Response Code:

Website: www.jmwan.org

DOI: 10.4103/jmwa.jmwa_13_21

Physicians' Trust in Health Systems during the COVID-19 Pandemic in Nigeria

Dabota Yvonne Buowari, Nana Awaya Emeribe[1], Vivian Ifeoma Ogbonna[2], Evonemo Susan Esievoadje[3], Chioma Laura Odimegwu[4], Ogechukwu Mary-Anne Isokariari[2], Mary Oluwakemisola Agoyi[5], Omoadoni D Emeagui[6], Aminat Oluwabukola Jimoh[7]

Department of Accident and Emergency, University of Port Harcourt Teaching Hospital, [2]Department of Community Medicine, University of Port Harcourt Teaching Hospital, Port Harcourt, Rivers State, [1]Department of Community Medicine, Jos University Teaching Hospital, Jos, Plateau State, Departments of [3]Family Medicine and [6]Paediatrics, Federal Medical Centre, Asaba, Delta State, [4]Department of Paediatrics, University of Nigeria, Faculty of Medical Sciences and University of Nigeria Teaching Hospital, Ituku Ozalla, Enugu State, [5]Port Health Services, Murtala Mohammed International Airport, Federal Ministry of Health, Lagos, [7]Department of Surgery, Ahmadu Bello University Teaching Hospital, Zaria, Kaduna State, Nigeria

Address for correspondence:
Dr. Dabota Yvonne Buowari, Department of Accident and Emergency, University of Port Harcourt Teaching Hospital, Rivers State, Nigeria.
E-mail: dabotabuowari@yahoo.com

Submitted: 03-Aug-2021
Revised: 05-Nov-2021
Accepted: 06-Dec-2021
Published: 29-Dec-2021

Abstract:

BACKGROUND: Trust in health systems is important in the practice of medicine and medical research. Healthcare workers including physicians need to have trust in healthcare systems during this COVID-19 pandemic.

RESEARCH METHODOLOGY: This is a cross-sectional study conducted in Nigeria among physicians practicing in Nigeria. The questionnaire used for this study was adapted from the World Health Organization Blue Print Novel Coronavirus Perceptions of healthcare workers regarding local infection prevention and control procedures for a COVID-19 research protocol. Participants were recruited online.

RESULTS: The number of participants in this study was 302, with 195 (64.6%) being females. There was no statistical relationship between the socio-demographic data and trust in health facilities ($P < 0.05$). There was a significant relationship between trust in the health facility and the provision of clear accessible policies and protocols with regard to infection prevention and control, personal protective equipment and support ($P = 0.003$). There was no relationship between trust in health facilities and location of health facility, job role or gender.

CONCLUSION: Clear accessible communication on policies and protocols, as well as the provision of personal protective equipment and support, would contribute greatly to trust in health facilities and the health system and can help curb the COVID-19 pandemic.

Keywords:

COVID-19, physicians, trust

Introduction

Severe acute respiratory coronavirus-2 has ravaged the world. It was initially detected in Wuhan, China, in December 2019 and subsequently declared a pandemic by the World Health Organization (WHO) in March 2020. Different categories of healthcare workers are at the frontline in the war against this novel virus. A novel beta-coronavirus was identified to be the cause of COVID-19 with varied clinical manifestations.[1,2] In the modern world, COVID-19 is a deadly threat,[3] leading to a global crisis.[4] More than 200 countries cutting across all continents of the world have been adversely affected, including Nigeria.[5]

Trust is essential to the functioning of the society. Trust in healthcare is very important. Higher levels of trust in public institutions in some nations were associated with decreased COVID-19 mortality rates.[6] The COVID-19 pandemic revealed

How to cite this article: Buowari DY, Emeribe NA, Ogbonna VI, Esievoadje ES, Odimegwu CL, Isokariari OM, *et al*. Physicians' trust in health systems during the COVID-19 pandemic in Nigeria. J Med Womens Assoc Niger 2021;6:129-35.

the weaknesses in health systems globally,[7] as well as the dichotomy between global health security and universal health coverage, in both developed and developing nations, and the global unpreparedness for emerging diseases, epidemics and pandemics.[8]

In medicine, trust can be institutional or interpersonal.[9] Institutional trust refers to the trust the medical workforce has for the administrators of health and the facility, while interpersonal trust is the trust the clients and patients have in the healthcare professional which in this case is the physician and the health system. Although often taken for granted, it is essential that both the users of the medical facility and the medical workforce trust the healthcare system they operate.[10,11]

According to Mbaba *et al*. (2021), the willingness of healthcare workers with doctors inclusive to continue working during the COVID-19 pandemic is affected by the trust they have in the health facility.[12] In the delivery of healthcare services, trust is important.[13] It is very important to assess the trust physicians have in the health system where they work. The promotion of healthcare services must involve the trust the physicians have in the health facility.

There is a need to investigate the correlation between trust and COVID-19. Although interpersonal trust is well researched,[14] there are scarce data on institutional trust with little empirical literature on trust in health systems by physicians during the COVID-19 pandemic.[15] Hence, this study investigated the trust Nigerian physicians had in their health institutions during the COVID-19 pandemic.

Research Methodology

This was a cross-sectional study conducted in Nigeria among doctors and dentists, irrespective of their nationalities and medical or dental specialities. All cadres of doctors were included in the study. The National Health Research Ethics Committee of Nigeria (NHREC) gave the ethical approval with the ethics approval number NHREC/01/01/2007-25/08/2020. A web-based self-administered semi-structured questionnaire was used for this study as the research participants were recruited online using social media platforms. Participation in the study was voluntary. The questionnaire was adapted from the WHO healthcare workers survey protocol, and the questionnaire was divided into two sections: section A comprising the socio-demographic data and section B comprising trust in health facilities, service demand, professional roles, social influence and environmental context and resources.

Trust was assessed with the following questions:

- The health facility where I work is ready to manage COVID-19
- The health facility where I work is being honest with staff when managing COVID-19
- The health facility where I work would act in the interest of its staff when managing COVID-19.

Service demand was assessed with the following questions:

- I am confident that the healthcare service where I work can manage current patient demand related to COVID-19
- I am confident that the healthcare service where I work can continue to manage patient demand related to COVID-19 over the next 3 months.

Professional role was assessed by asking:

- I feel it is my professional responsibility to take all measures necessary to care for COVID-19 patients.

Social influence was assessed by asking:

- Most of my colleagues regularly follow infection, prevention and control measures (for example, regular hand washing, use of personal protective equipment [PPE], proper disposal of equipment)
- It is expected that in my role as a healthcare professional that I will follow infection prevention and control measures
- I am encouraged and supported by senior colleagues to apply recommended infection prevention and control measures
- The local community where I currently live day-to-day are generally supportive of healthcare workers.

Environmental context and resources were assessed by asking:

- In the health facility where I work, I have access to clear policies and protocols for everyone to follow related to infection prevention and control procedures for COVID-19
- I can easily access PPE in line with standard infection control precautions, for example, gloves, gown, eye protection and medical mask for COVID-19 in the hospital where I work
- In the health facility where I work, there are dedicated isolation facilities for patients with suspected COVID-19
- The health facility where I work receives good support from national/regional/local public health authorities, who provide guidance and training on how to manage COVID-19.

Data were collected online through WhatsApp groups comprised of medical doctors and e-mails, from

24th September to 31st December 2020. The online survey was done using Google Forms. The questions were on a 3- and 5-Likert scale.

Results

The number of research participants who participated in this study was 302, comprising 195 (64.6%) females and 107 (35.4%) males. Most of the research participants were aged between 35–44 years (140, 46.4%) and 25–34 years (131, 43.4%) with a mean age of 36.1 + 7.4 years. Table 1 shows the socio-demographic features of the research participants, Table 2 shows the experience of COVID-19 or previous pandemic, Table 3 shows the analysis of trust in the health facility and Table 4 shows the statistical relationship between the service demand and socio-demographic data. There was a statistical relationship between the socio-demographic data and service demand as shown in Table 4. There was also a statistically significant

Table 1: Service demand, skills/beliefs about capabilities/professional role and trust in the health facility

Service demand					
Variable	**Response**				
	Strongly disagree	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
The facility can manage current patient demand related to COVID-19	27 (9.0)	53 (17.7)	58 (19.3)	97 (32.3)	65 (21.7)
The facility can manage COVID-19 patients for the next 3 months	28 (9.3)	59 (19.7)	65 (21.7)	96 (32.0)	52 (17.3)
Skill					
Received training for infection prevention and control of COVID-19	11 (3.7)	42 (14.0)	64 (21.3)	124 (41.3)	59 (19.7)
Received general training for infection, prevention and control procedures for other communicable diseases	8 (2.7)	21 (7.0)	27 (9.0)	153 (51.0)	91 (30.3)
Can correctly don and doff PPE to prevent transmission of COVID-19	23 (7.7)	44 (14.7)	73 (24.3)	92 (30.7)	68 (22.7)
Beliefs about capabilities					
Can follow recommended procedures related to PPE for COVID-19	3 (1.0)	16 (5.3)	49 (16.2)	126 (41.7)	108 (35.8)
Social/professional role					
Professional responsibility to care for COVID-19 patients	0 (0.0)	6 (2.0)	16 (5.3)	113 (37.4)	167 (55.3)
Beliefs about consequences					
Believe protective procedures are sufficient to manage COVID-19 in your facility	28 (9.3)	78 (25.8)	62 (20.5)	97 (32.1)	37 (12.3)
Believe adherence to preventive and control procedures will prevent COVID-19 infection	3 (1.0)	17 (5.7)	33 (11.0)	156 (52.0)	91 (30.3)
Believe adherence to preventive and control procedures will add more strain to workload	15 (5.0)	49 (16.3)	61 (20.3)	125 (41.7)	50 (16.7)

PPE: Personal protective equipment

Table 2: Relationship between the variables and socio-demographics (cadre)

Variables	Socio-demographics (cadre), *n* (%)									Total, *n* (%)	χ^2	*P*
	House officer	NYSC doctor	Medical officer	Senior medical officer	PM officer	CM officer	Registrar	Senior registrar	Consult			
Skill												
Agree	6 (2.0)	5 (1.7)	24 (8.0)	11 (3.7)	4 (1.3)	28 (9.3)	34 (11.3)	18 (5.6)	2 (0.7)	132 (43.5)	10.125	0.256
Disagree	11 (3.7)	6 (2.0)	44 (14.6)	18 (6.0)	1 (0.3)	38 (12.6)	31 (10.3)	21 (7.0)	0	170 (56.5)		
Total	17 (5.6)	11 (3.7)	68 (22.6)	29 (9.6)	5 (1.7)	66 (21.9)	65 (21.6)	39 (12.6)	2 (0.7)	302 (100)		
Belief about consequence												
Agree	10 (3.3)	6 (2.0)	38 (12.6)	21 (7.0)	4 (1.3)	42 (14.0)	47 (15.6)	22 (7.0)	2 (0.7)	191 (63.5)	8.258	0.409
Disagree	7 (2.3)	5 (1.7)	30 (10.0)	8 (2.7)	1 (0.3)	24 (8.0)	18 (6.0)	17 (5.6)	0	111 (36.5)		
Total	17 (5.6)	11 (3.7)	68 (22.6)	29 (9.6)	5 (1.7)	66 (21.9)	65 (21.6)	39 (12.6)	2 (0.7)	302 (100)		
Trust in facility												
Yes	13 (4.3)	8 (2.7)	63 (20.6)	23 (7.6)	4 (1.3)	50 (16.6)	44 (14.3)	28 (9.3)	2 (0.7)	234 (77.4)	13.292	0.102
No	4 (1.3)	3 (1.0)	6 (2.0)	6 (2.0)	1 (0.3)	16 (5.3)	22 (7.3)	10 (3.3)	0	68 (22.6)		
Total	17 (5.6)	11 (3.7)	69 (22.6)	29 (9.6)	5 (1.7)	66 (21.9)	66 (21.6)	38 (12.6)	2 (0.7)	302 (100)		
Service demand												
Agree	9 (3.0)	6 (2.0)	15 (5.0)	10 (3.3)	1 (0.3)	41 (13.6)	39 (12.6)	20 (6.6)	1 (0.3)	142 (46.8)	30.747	0.001
Disagree	8 (2.7)	5 (1.7)	53 (17.6)	19 (6.3)	4 (1.3)	25 (8.3)	27 (9.0)	18 (6.0)	1 (0.3)	160 (53.2)		
Total	17 (5.6)	11 (3.7)	69 (22.6)	29 (9.6)	5 (1.7)	66 (21.9)	66 (21.6)	38 (12.6)	2 (0.6)	302 (100)		

PM officer: Principal Medical Officer, CM officer: Chief Medical Officer, NYSC: National Youth Service Corps doctor

Table 3: Relationship between the variables demographics (location) and job role

Variables	Location, *n* (%)		Total, *n* (%)	χ^2	*P*
	Urban	Rural			
Belief about consequences					
Agree	15 (5.0)	177 (58.5)	192 (63.5)	0.619	0.431
Disagree	6 (2.0)	104 (34.6)	110 (36.5)		
Total	21 (7.0)	281 (93.0)	302 (302)		
Social influences					
Yes	9 (3.0)	154 (50.8)	163 (53.8)	1.092	0.296
No	12 (4.0)	127 (139)	139 (46.2)		
Total	21 (7.0)	281 (93.0)	302 (302)		
Trust in the health facility					
Yes	18 (6.0)	216 (71.4)	234 (77.4)	0.891	0.345
No	3 (1.0)	65 (21.6)	68 (22.6)		
Total	21 (7.0)	281 (93.0)	302 (302)		
Service demand					
Agree	8 (2.7)	134 (44.2)	142 (46.8)	0.694	0.405
Disagree	13 (4.3)	147 (48.8)	160 (53.2)		
Total	21 (7.0)	281 (93.0)	302 (100)		

Variables	Type of job role, *n* (%)					Total	χ^2	*P*
	Full-time	Part-time	Casual	Retired	Others			
Trust in facility								
Yes	181 (59.8)	28 (9.3)	20 (6.6)	1 (0.3)	4 (1.3)	234 (77.4)	2.950	0.566
No	57 (18.9)	8 (2.7)	3 (1.0)	0	0	68 (22.6)		
Total	238 (78.7)	36 (12.0)	23 (7.6)	1 (0.3)	4 (1.3)	302 (100)		
Service demand								
Agree	120 (39.9)	13 (4.3)	6 (2.0)	0	2 (0.7)	142 (46.8)	7.909	0.095
Disagree	117 (38.9)	23 (7.6)	17 (5.6)	1 (0.3)	2 (0.7)	160 (53.2)		
Total	238 (78.7)	36 (12.0)	23 (7.6)	1 (0.3)	4 (1.3)	302 (100)		

relationship between environmental resources and trust in health facilities ($P < 0.05$) as shown in Table 5.

The study also showed that 244 (80.5%) participants provided direct care to patients, with 69.3% of these attending daily to patients. 267 participants (88.4%) had contact with a COVID-19 patient, 179 participants (59.1%) provided direct clinical care to patients with COVID-19 and 137 (70.6%) of these participants had close contact with patients with COVID-19.

Discussion

The COVID-19 pandemic has ravaged the world as countries in every continent globally including Nigeria have been affected. Most Nigerian healthcare institutions were not prepared for the pandemic, and makeshift isolation centres were created to manage patients infected with severe acute respiratory syndrome coronavirus-2. These hastily-created facilities for a relatively unknown disease could have eroded physicians' trust in the healthcare facilities by adversely affecting the morale of physicians and led to increased cases of burnout.[16] Thus, there was no statistically significant difference in the relationship between trust in the healthcare facilities and any of the socio-demographic variables assessed [Tables 2-4].

However, there was a statistically significant relationship between trust in health facilities and the environmental context and resources ($P = 0.004$). This trust could have been based on the facts that a good number of the participants (174) had clear access to policies and protocols with respect to COVID-19, 204 participants could easily access personal protective equipment for standard infection prevention and control, 214 worked in health institutions with dedicated facilities for isolation of COVID-19 cases (suspected and confirmed) while 160 participants worked in health facilities with support from regional and/or federal public health authorities.

The study also found a significant statistical relationship between the gender of the participants and service demand in the health facility [Table 4]. More females disagreed that their health facility could cope with service demands during the pandemic. Overall, 53.2% of the participants felt that their health facility could not cope with the increased service demands during the pandemic ($P = 0.032$). This contrasted with the comparison on gender and trust where 77.4% of both males and females had trust in their health facility with respect to the pandemic. The latter finding was not statistically significant. The pandemic has been described as a litmus test of trust in the health system.[4]

Table 4: Relationship between gender and variables

Variables	Gender		Total	χ^2	*P*
	Male	Female			
Trust in facility					
Yes	79 (26.2)	155 (51.2)	234 (77.4)	1.215	0.270
No	28 (9.3)	40 (13.3)	68 (22.6)		
Total	107 (35.5)	195 (64.5)	302 (100.0)		
Service demand					
Agree	59 (19.6)	82 (27.2)	141 (46.8)	4.589	0.032
Disagree	48 (15.9)	113 (37.2)	161 (53.2)		
Total	107 (35.5)	195 (64.5)	302 (100.0)		
Relationship between trust in the facility and the variables					
Variables	**Trust in the health facility**		**Total**	χ^2	*P*
	Yes	No			
Environmental context and resources					
Agree	113 (37.2)	19 (6.3)	132 (43.5)	8.675	0.003
Disagree	121 (40.2)	49 (16.3)	170 (56.5)		
Total	234 (77.4)	68 (22.6)	302 (100.0)		
Social influences					
Agree	112 (37.2)	50 (16.6)	162 (53.8)	13.729	0.001
Disagree	122 (40.2)	18 (6.0)	140 (46.2)		
Total	234 (77.4)	68 (22.6)	302 (100.0)		
Intentions					
Yes	222 (73.8)	67 (22.3)	290 (96.0)	1.453	0.228
No	11 (3.7)	1 (0.3)	12 (4.0)		
Total	234 (77.4)	68 (22.6)	302 (100.0)		

Table 5: Bivariate regression analysis predicting the relationship between trust in the health facility and other variables

Variables	COR 95% CI (lower–upper)	*P*	AOR 95% CI (lower–upper)	*P*
Environmental context and resources	0.41 (0.233-0.755)	0.004*	0.48 (0.265-0.886)	0.019*
Social influences	3.00 (1.652-5.451)	0.001*	2.69 (1.472-4.946)	0.001*

CI: Confidence interval, AOR: Adjusted odds ratio, COR: Crude odds ratios, *: Significant

A study showed that hospitals in England coped with the increase service demand by cancelling elective surgeries, setting up field hospitals, deploying newly qualified and final-year medical and nursing students, use of private hospitals and return of former healthcare staff.[17] Tertiary centres in Japan coped by increasing the number of beds in their intensive care and critical care units.[18]

The COVID-19 pandemic exposed the fragile nature of the health systems of most countries, including the unpreparedness for emerging and re-emerging diseases.[8,19] Health workers are at the forefront of the fight against COVID-19. Physicians and other categories of healthcare professionals are at an increased risk of contracting the severe acute respiratory coronavirus-2 at their workplace due to the increased risk of exposure to the virus.[20] Hence, physicians should trust their health system and facility to provide a system of protection against occupational hazards. Clients and patients, in turn, should be able to trust the healthcare professionals and system, to make their welfare their highest priority.[21] Thus, institutional trust is an important element in all healthcare systems.[9]

In this study, most of the research participants provided direct care to patients, exposing them to the risk of contracting the novel virus at their workplace. During that critical point in time, every patient was considered infectious until the COVID-19 test result was seen. Most of the research participants (88.4%) work in a hospital that provides clinical care to a patient suspected or confirmed with COVID, while 55% cared for a patient with suspected or confirmed SARS-CoV-2. Further, most of the research participants (71.6%) had close contact with patients confirmed to be infected with COVID-19 although the study did not investigate if the physician was wearing a piece of personal protective equipment during the contact. This placed the physician at great risk of contracting the virus which could be transferred to members of their household.[22]

Findings from this study suggest that a significant number of the physicians believe that the healthcare facility would act in the best interest of its staff when managing COVID-19. This showed significant relationship between trust in the health facility and

environmental context and resources [Table 4, $P = 0.003$]. In spite of this, 92.7% of the physicians interviewed agreed that it is their professional responsibility to take all the protective measures available while caring for patients with COVID-19 [Table 1]. This latter finding correlated significantly with age ($\chi^2 = 12.913$, $P = 0.024$). Thus, physicians upheld their duty to treat patients despite the challenges they faced.[23]

The study also found that physicians were influenced by their colleagues with respect to adhering to infection prevention and control procedures as there was a significant relationship between trust in the health facility and social influences ($\chi^2 = 13.729$, $P = 0.001$). However, most of the physicians felt unsupported by their local communities during the pandemic. This poor support could be improved by effective communication strategies.[24,25]

Various studies have been conducted on the trust patients had in public healthcare facilities during the COVID-19 pandemic, but few studies exist on the trust physicians have in the health facilities. The maintenance of trust in health institutions by physicians, other cadres of healthcare workers and the public is integral to reduce the mortality and morbidity associated with the pandemic.[26]

Conclusion

This study investigated the trust physicians had in health facilities during the COVID-19 pandemic and its associated factors.

- Most physicians trusted that the facilities where they work could readily manage COVID-19 patients and could continue to manage COVID-19 patients over the next 3 months (duration of the study)
- They also believed that their health facilities were honest with staff and acted in their best interest when managing COVID-19 patients.
- Gender, job role, staff cadre and area of residence (rural or urban) were not significantly associated with physicians' trust in healthcare facilities
- However, environmental context and resources, as well as social influences, were significantly associated with physicians' trust in their health facilities
- Healthcare administrators and managers should ensure that there is clear accessible communication to staff on policies and protocols in the facility, as well as provide personal protective equipment and support, to healthcare workers
- More research should be done on institutional trust to determine other factors that could influence the trust health workers have in health facilities.

Limitations

There was an indifference to participating in surveys and research done online.

Acknowledgement

Dr. Mininim Oseji, President of the Medical Women's Association of Nigeria (2019–2021) is acknowledged for her supervisory role.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Pan L, Mu M, Yang P, Sun Y, Wang R, Yan J, *et al*. Clinical characteristics of COVID-19 patients with digestive symptoms in Hubei, China: A descriptive, cross-sectional, multicenter study. Am J Gastroenterol 2020;115:766-73.
2. Ajisegiri WS, Odusanya OO, Joshi R. COVID-19 Outbreak Situation in Nigeria and the Need for Effective Engagement of Community Health Workers for Epidemic Response. Global Biosecurity 2020;2. DOI: http://doi.org/10.31646/gbio.69.
3. Saechang O, Yu J, Li Y. Public trust and policy compliance during the COVID-19 pandemic: The role of professional trust. Healthcare (Basel) 2021;9:151.
4. Gopichandran V, Subramaniam S, Kalsingh MJ. COVID-19 pandemic: A litmus test of trust in the health system. Asian Bioeth Rev 2020;12:1-9.
5. World Health Organization. WHO coronavirus (COVID-19) dashboard. Available from: https://covid19.who.int. [last assessed 2021 Jun 01].
6. Perry J. Trust in Public Institutions: Trends and Implications for Economic Security. New York: United Nations Department of Economic and Social Affairs/Social Inclusion; 2021.
7. Akande OW, Akande TM. COVID-19 pandemic: A global health burden. Niger Postgrad Med J 2020;27:147-55.
8. Lal A, Erondu NA, Heymann DL, Gitahi G, Yates R. Fragmented health systems in COVID-19: Rectifying the misalignment between global health security and universal health coverage. Lancet 2021;397:61-7.
9. Chandra S, Mohammadnezhad M, Ward P. Trust and Communication in a Doctor-Patient Relationship: A Literature Review. J Health Commun 2018:3:36. DOI: 10.4172/2472-1654.100146.
10. Calnan M, Rowe R. Researching trust relations in health care. J Health Organ Manag 2006;20:349-58.
11. Gille F, Smith S, Mays N. Why public trust in health care systems matters and deserves greater research attention. J Health Serv Res Policy 2015;20:62-4.
12. Mbaba A, Ogolodom M, Abam R, Akram M, Alazigha N, Nwodo V, *et al*. Willingness of health care workers to respond to COVID-19 pandemic in Port Harcourt, Nigeria. Health Sci J 2021;15:802.
13. Gopichandran V. Trust in healthcare: An evolving concept. Indian J Med Ethics 2013;10:79-82.
14. Müller E, Zill JM, Dirmaier J, Härter M, Scholl I. Assessment of trust in physician: A systematic review of measures. PLoS One 2014;9:e106844.
15. Skinner G, Garett C, Shah JN. How has COVID-19 affected trust in scientists? Survey research for UK Research and Innovation

carried out during the COVID-19 Pandemic. IPSOS MORI. 2020.
16. Liu Q, Luo D, Haase JE, Guo Q, Wang XQ, Liu S, *et al.* The experiences of health-care providers during the COVID-19 crisis in China: A qualitative study. Lancet Glob Health 2020;8:e790-8.
17. McCabe R, Schmit N, Christen P, D'Aeth JC, Løchen A, Rizmie D, *et al.* Adapting hospital capacity to meet changing demands during the COVID-19 pandemic. BMC Med 2020;18:329.
18. Kokudo N, Sugiyama H. Hospital capacity during the COVID-19 pandemic. Glob Health Med 2021;3:56-9.
19. Sturmberg JP, Tsasis P, Hoemeke L. COVID-19 – An opportunity to redesign health policy thinking. Int J Health Policy Manag 2020:1-5. doi 10.34172/ijhpm.2020.132.
20. Shaukat N, Ali DM, Razzak J. Physical and mental health impacts of COVID-19 on healthcare workers: A scoping review. Int J Emerg Med 2020;13:40.
21. Garrubba M, Yap G. Trust in Health Professionals. Melbourne: Centre for Clinical Effectiveness; 2019.
22. Grijalva CG, Rolfes MA, Zhu Y, McLean HQ, Hanson KE, Belongia EA, *et al.* Transmission of SARS-COV-2 infections in households – Tennessee and Wisconsin, April-September 2020. MMWR Morb Mortal Wkly Rep 2020;69:1631-4.
23. Iserson KV. Healthcare ethics during a pandemic. West J Emerg Med 2020;21:477-83.
24. Williams G, Scarpetti G, Bezzina A, Vincenti K, Grech K, Kowalska Bobko I, et al. How are countries supporting their health workers during COVID 19? (Special Issue: COVID 19 Health System Response). Eurohealth 2020;26:58-62.
25. Tumpey A, Daigle D, Nowak G. Communicating during an outbreak or public health investigation. In. Rasmussen SA & Goodman RA (Ed).The CDC Field Epidemiology Manual. Oxford University Press, New York. Fourth Edition; 2020.
26. Udow-Phillips M, Lantz PM. Trust in public health is essential amid the COVID-19 pandemic. J Hosp Med 2020;15:431-3.