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Abstract

This survey aimed to evaluate the levels of trust and satisfaction among healthcare workers towards the national healthcare delivery system and whether it has been affected by the global disruption created by COVID-19. This was an analytical cross-sectional study that took place from January to October 2021 at a tertiary level health care facility in Rawalpindi, Pakistan, using an online data collection tool. Our sample included 10,133 healthcare workers of all cadres. Our study found a significant level of distrust of healthcare workers towards multiple aspects of the healthcare delivery system, particularly towards government agencies and other members of healthcare delivery. We noted a significant gender disparity between male and female respondents with males showing more trust than female healthcare workers. We conclude that significant efforts need to be made by policymakers in the government to alleviate this trust deficit before it worsens.

Keywords: COVID-19, Healthcare delivery, Healthcare system, Healthcare workers, Pakistan

1. Introduction

Healthcare systems around the world were pushed to the brink over the past two years due to the rapidly evolving healthcare system disruptions caused by the COVID-19 pandemic. Many countries faced unprecedented healthcare system delivery bottlenecks which resulted in both increased burden of patients on limited hospital resources and faster consumption of available resources leading to shortages in essential clinical materials and manpower.¹ Pakistan, being a low-middle-income country in South Asia, has one of the least satisfactory indicators for population-wide healthcare delivery and utilization.² Previous surveys have pointed out low satisfaction and trust

among patients regarding clinical care in the healthcare system.²⁻⁴ We present the first survey of trust among healthcare service providers towards the national healthcare system during the COVID-19 crisis. This survey aimed to evaluate the levels of trust and satisfaction among healthcare workers towards the national healthcare delivery system of Pakistan and whether it has been affected by the serious global situation created by COVID-19.

2. Methods

We conducted an online survey among Pakistani healthcare workers from January 2021 to October 2021. A snowball sampling technique was used for data collection. Our survey included responses from

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10, 133 participants who had completely and correctly filled in our data collection tool.

2.1. Data collection process

In-person data could not be collected by the researchers due to COVID-19 entry and exit restrictions enforced in many Pakistani hospitals to curb the spread of the disease. Consequently, we used a cloud-based Google Form to allow ease of access and timely submission to encourage a greater number of participant responses to be captured. Inclusion criteria were being a resident of Pakistan, over the age of 18 years, and enrollment in the healthcare sector of Pakistan, regardless of gender or role in healthcare delivery. All participants recorded their informed consent before proceeding to complete the survey. Participation was completely voluntary with no monetary compensation given. Ethical clearance was given by the Institutional Review Board of Foundation University (Study ID # FFH/21/DCM/24).

A self-administered questionnaire, based on the American Board of Internal Medicine Foundation 's initiative 'Building Trust' survey,⁵ was used. The questionnaire had seven sections, comprising demographic data, perceptions regarding general trust in the healthcare system, trust in the healthcare workforce, trust in patients, impact of COVID-19 on trust in the healthcare workforce, reasons for trust and mistrust, and finally, sources of information accessed routinely. Responses were measured on a 5-point Likert scale.

2.2. Statistical analysis

All data were analyzed using Statistical Package for the Social Sciences (SPSS) software version 26 (IBM Corp, Armonk, NY, USA.). Quantitative variables were presented as mean \pm standard deviation (SD) and qualitative variables as frequency (n) and percentage (%). Quantitative variables were tested with the Shapiro–Wilk test for normality and normally distributed variables were tested with Student's t-test while abnormally distributed variables were tested with Mann Whitney U test. Qualitative variables were tested with the Chi-square test. A p-value of <0.05 was considered significant.

3. Results

3.1. Sample and sociodemographic characteristics

A total of 10, 133 participants recorded their responses, of which 5267 were males (51.97%) while

4866 were females (48.03%). Mean age for male participants was 43.13 ± 19.56 years while mean age for female participants was 42.52 ± 18.78 . As seen in [Table 1](#), majority of the participants were from province of Punjab (n = 4, 640; 45.79%), married (n = 5, 410; 53.39%), being in specialty of Internal Medicine (n = 3, 220; 31.77%), involved in primary patient care (n = 6, 753; 66.64%) and working in government hospitals (n = 5, 470; 53.98%). Majority of our sample of respondents was involved in primary patient care, with more males (n = 3926; 74.53%) than females (n = 2827; 58.09%).

3.2. Trust

As illustrated in [Fig. 1](#), among the respondents of our sample, 50% did not trust the healthcare system as a whole, with only 48% of our sample reporting that they trusted healthcare leaders for COVID-19 related policies. Over 64% of our sample did not trust COVID-19 related healthcare government agencies. While 50% reported that their hospital ensured a safe working environment during the pandemic, 35% did not trust the management of their COVID-19 specialized health facility. 56% reported that their hospitals were transparent in their communications to staff and 54% reported their hospitals as having COVID-19 related patient prioritizing policies in place. However, this contrasted with the 59% respondents claiming that their hospitals did not provide equipment or appropriate technology, 69% who reported little coordination between departments for the care of COVID-19 patients, and a concerning 67% of our sample reporting they did not trust nursing staff while 63% reported that they did not trust hospice and palliative care staff. 50% of our sample reported not trusting their pharmacy and their protocols for dispensing medicines. Only 49% trusted the occupational and physical therapist at their hospital but 72% believed that their clinical team managed COVID-19 patients effectively. 66% of respondents did not believe that number of beds and intensive care beds has increased in the national healthcare system while 67% did not believe that disease testing infrastructure is up-to-date for COVID-19. Only 47% believed that national stockpiles of protective equipment had increased to meet requirements. As a matter of grave concern, 59% of our sample did not believe that there is increased investment in national and local public health. An overwhelming 82% of our sample reported that the pandemic decreased their level of trust in healthcare in the Global North. With regards to patients, 73% of our respondents strongly disagreed with the

Table 1. Demographic data. Continuous variables analyzed by Shapiro–Wilk test for normality. Normally distributed variables tested with Student's *t*-test and non-normally distributed variables test with Mann–Whitney *U* test. Categorical variables presented as frequency and percentages. *p* < 0.05 considered as significant.

Variable	Males (n = 5267; 51.97%)	Females (n = 4866; 48.03%)	p-value
Age (years); mean ± SD	43.13 ± 19.56	42.52 ± 18.78	0.079
Ethnic group; n (%)			
Punjabi	2122 (40.28%)	2518 (51.74%)	0.021*
Sindhi	385 (7.30%)	164 (3.37%)	0.036*
Balochi	1127 (21.39%)	694 (14.26%)	0.024*
Pashtun	1232 (23.39%)	1007 (20.69%)	0.065
Other	401 (7.61%)	483 (9.92%)	0.072
Marital status; n (%)			
Single	2672 (50.73%)	2738 (56.26%)	0.034*
Married	2595 (49.26%)	2128 (43.73%)	0.061
Specialty; n (%)			
Medicine and allied	1947 (37.47%)	1273 (25.42%)	<0.001*
Surgery and allied	1372 (26.04%)	1361 (27.96%)	0.082
Diagnostics	1204 (22.85%)	1096 (22.52%)	0.714
Other	744 (14.12%)	1136 (23.34%)	<0.001*
Place of work; n (%)			
Government hospitals	3168 (60.14%)	2302 (47.30%)	<0.001*
Private clinics	2099 (39.85%)	2564 (52.69%)	<0.001*
Job description; n (%)			
Primary patient care	3926 (74.53%)	2827 (58.09%)	0.003*
Support staff	1341 (25.47%)	2039 (41.91%)	0.010*
Education; n(%)			
Technical training	1124 (21.34%)	1100 (22.60)	0.252
High-school diploma	2045 (38.82%)	1951 (40.09%)	0.183
College degree	2098 (39.83%)	1815 (37.29%)	0.116

survey statement 'Patients are honest about the diagnosis of COVID-19 status' while 65% of respondents disagreed with the statement 'Patients and their attendants take bad news respectfully.' Only 48% of respondents believe that patients adhered to prescribed medications for COVID-19. There was a statistically significant gender disparity present between male and female respondents as illustrated by Table 2 with male respondents reporting trust in the healthcare system, healthcare policy, COVID-19 response teams, pandemic-related policies, national vaccination programs, and government hospital services than females.

4. Discussion

Pakistan's healthcare system has suffered from a lack of funding and policy oversight from decision-makers since its inception.⁶ Being the 6th most populous country in the world⁷ with a low-middle-income economy suffering from social turmoil, healthcare has often been at the lower end of priority-setting by each subsequent government.² With only 0.3% of the national GDP being dedicated to health, Pakistan presently has one of the worst healthcare workers to population ratios in the world with 1 doctor available for 1300 patients.⁷ This critical shortage has created an environment where

many patients from rural and peri-urban areas have no choice but to be treated by local faith healers, herbal medicine practitioners, and low-qualified paramedical staff,⁸ worsening outcomes and creating mistrust of patients towards the healthcare system overall. The year-long toll taken by the COVID-19 pandemic has exposed the glaring inequities currently present in the healthcare delivery system.^{2,9} Previous surveys from Pakistan have focused on patient perspectives of trust in the healthcare system, both private and government.^{3,4,10,11} Our survey is the first of its kind from Pakistan to focus on healthcare workers' perspectives of trust in the national healthcare system. Our findings are alarming— not only were healthcare workers facing the risk of exposure and mortality to COVID-19¹² along with unprecedented levels of violence during the pandemic¹³ but recent policies by the current government^{14,15} may drive this low level of trust even further down, leading to a worsening shortage of adequately trained healthcare workers, particularly male healthcare workers, similar to the respondents in our survey, who are leaving clinical medicine in Pakistan to better employment opportunities in the Global North,^{16,17} worsening quality of clinical care in the country. Similar to our study, another study from Pakistan found that males have more optimism and better



Fig. 1. Likert chart for questionnaire responses.

coping mechanisms towards the pandemic than females,¹⁸ suggesting that female healthcare workers may be more vulnerable than previously thought. Poor patient compliance is also a driver of growing dissatisfaction with the health care system, given the low literacy in Pakistan and with even lower health literacy rates among the economically disadvantaged population,^{19,20} served mostly by the government sector hospitals, who already struggle with resource allocation and human resource

management. However, a recent survey in the United States found that healthcare workers' trust in healthcare leaders has also declined²¹ along with similar variables as in our study, indicating that the global disruption in the healthcare system has worsened across the world, regardless of economic prosperity. Although in Pakistan, no previous data exists from which to collate future projections, our study can serve as an important barometer for future studies to assess whether the situation in

Table 2. Overall trust among genders in national health logistics. Analyzed using Chi-square and Fischer's exact test. $P < 0.05$ considered as significant.

Overall trust	Males (n = 5267; 51.97%)	Females (n = 4866; 48.03%)	p-value
Healthcare system	2534 (48.11%)	1631 (33.51%)	0.028*
Healthcare policy	2127 (40.38%)	1243 (25.54%)	0.032*
COVID-19 response teams	3183 (60.43%)	2127 (43.71%)	0.037*
Pandemic-related policies	2723 (51.69%)	1537 (31.58%)	0.024*
National vaccination program	3783 (71.82%)	2621 (53.86%)	0.019*
Government hospital services	1846 (35.04%)	1321 (27.14%)	0.042*
Private hospital services	2786 (52.89%)	2522 (51.82%)	0.312

What we already know

- Significant healthcare delivery disruptions have been experienced by healthcare systems around the world due to COVID-19.
- Healthcare workers have experienced low levels of trust in healthcare industry leaders and government policymakers.

What this article adds

- No previous survey on levels of trust of Pakistani healthcare workers towards the national healthcare system exists.
- Low levels of trust may significantly worsen the health inequity experienced by the population as a result of worsening healthcare delivery indicators.

Pakistan is improving or worsening. Furthermore, our sampled respondent's lack of trust in government institutions and hospital leadership indicates a growing long-term divide between clinicians and management cadres in healthcare delivery. Trust is bidirectional²² and nurturing by healthcare leaders will lead to perceptible gains at every level of the healthcare delivery system, with the most significant beneficiary being the patient.

There are multiple reasons for an increase in level of distrust among healthcare professionals. One of the big reasons is the lack of resources such as PPEs. Working in a setting of developing country with low wages, poor working conditions, and an increased load of patients creates extreme stress among the healthcare workers which contributes to further distrust.

5. Strengths and limitations

The major strength of our study is the robust sample size, along with a wide variety of ethnicities covered. However, the online nature of our study and the technical nature of our questionnaire may have resulted in including only a highly literate portion of Pakistani healthcare workers, at the cost of excluding critical members of healthcare delivery such as housekeeping and clinical waste management, leading to wider generalizability of our study results to be unlikely.

6. Recommendations and policy implications

Our findings identified a significant trust deficit to exist among healthcare workers towards the healthcare system of Pakistan. An evidence-based approach at the national level would do well to alleviate and decrease this mistrust among healthcare workers, to create a more efficient delivery of health services during this pandemic, and in the long-term, address the trust deficit that exists between higher management and clinical practitioners in Pakistani hospitals.

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Conflict of interest

The authors declare no potential conflict of interest with regards to the research, authorship, or publication of this article.

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