Institutional Realities and Health Emergency Care: A Study of the Experiences of Nurses in the Government Hospitals of Delhi

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Abstract: *This study looks at the real-life experiences of nurses working in government hospitals across Delhi during the COVID-19 pandemic. To understand what they went through, interviews of 150 nurses were conducted from fifteen different hospitals in Delhi. The findings show that nurses faced major challenges, such as working long overtime hours, wearing uncomfortable PPE kits for hours, and constantly worrying about bringing the virus home to their families. On the positive side, they felt supported by the public while doing their duties. A cross?sectional, descriptive research design was employed, utilizing semi-structured interviews. Findings indicate that while these nurses showed incredible dedication and strength, some major improvements are required such as better working conditions, reliable safety gear, and proper training to protect frontline workers and handle future health crises safely.*

Keywords: Nurses, Public Health Crisis, Covid-19, Pandemic, Healthcare Infrastructure

INTRODUCTION

The Covid-19 pandemic was a difficult time that brought many serious challenges before the healthcare administration in India. The second wave of the Covid-19 pandemic was even more an exceptionally challenging period that brought difficulties for people across all walks of life (Shringare & Fernandes, 2020). Frontline health workers played an important role during that time. They came forward to manage the crises effectively, especially, the nurses (Behera et al., 2020). Indian nurses did crucial work. They were the ones who constantly managed and provided direct care to the patients. Their working schedule changed and extended into long working hours. They were required to work for longer hours while wearing PPE kits. Consequently, nurses experienced physical exhaustion while working during their shifts. Apart from the physical exhaustion, they faced emotional and mental burden, which also included catching the virus themselves and passing it to their family members (Gupta & Sahoo, 2020). This paper examines the lived experiences of nurses within the government hospitals of Delhi during the Covid-19 pandemic.

LITERATURE REVIEW

After independence, it was the task before the Indian government to establish a public health infrastructure for its citizens. As a result, in 1947, the Indian Nursing Council Act was established in order to regulate the nursing education and practice across the country. In the later years, several nursing programs were also started. Today, India has one of the largest nursing workforces in the world. India has also seen nurse migration primarily towards the Gulf nations in the 1970's and 1980's. In the recent years, the migration patterns have shifted away from the Gulf towards the West like the United States (Sharma et al., 2022). Nursing has remained a female-dominated occupation in India. This is because the care work is generally associated with women. Class plays an important factor in this occupation. Most women enter into this occupation due to economic necessity and provide extra household income (Gill, 2018). After independence, various committees were mad to structure and improve nursing education in India. For example, Shetty committee, 1954. The nursing sector was also included in India's Five-Year Plans. One of the major problems that nursing sector in India is faces today is that of workforce shortages. In order to address this problem, various efforts are required on part of the state- ensuring proper working conditions, or career mobility (Bagga & Abraham, 2013).

METHODOLOGY

Study setting

This study includes approximately 150 interviews conducted across fifteen government hospitals in Delhi,

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using purposive sampling to select the participants. Participants were selected using purposive sampling, a non-probability sampling strategy to ensure that respondents possessed firsthand experience with the phenomenon under investigation. A total of 150 interviews were conducted, a sample size determined by data saturation to ensure comprehensive analysis of the findings. The primary data was collected through direct interviews conducted with participating nurses across selected hospitals. In order to ensure statistical reliability, a univariate analysis was performed by using arithmetic means and medians (p50) to establish baseline response levels. One-sample t-tests were conducted across all sub-variables to test population means against the neutral midpoint, resulting in statistically significant outcomes.

Description of variables

This study examines how the experiences of nurses during the Covid-19 pandemic in India – specifically regarding working conditions, availability of resources, and personal safety – shaped their recommendations for structural improvements in healthcare infrastructure that can also help in effectively managing future health emergencies.

I) Dependent variable : - p8 (Improvements in healthcare infrastructure). This is the primary outcome variable of the study. It measures the recommendations of nurses for better hospital infrastructure.

II) Independent variable: - The independent variables are divided into three parts; working conditions, availability of resources, and personal safety. The independent variables are further divided into sub-variables/ latent variables.

1. Working conditions *(wc)*
   - *wc1* – pandemic work satisfaction
   - *wc2* – fear of infection among nurses
   - *wc3* – shift scheduling
   - *wc4* – overtime shifts
   - *wc5* – rest periods
   - *wc6* – special institutional training provided
   - *wc7* – public support
2. Availability of resources *(r)*
   - *r1* – essential safety resources
   - *r2* – critical healthcare infrastructure availability
   - *r3* – ventilator functionality
   - *r4* – safety protocol compliance
   - *r5* – Personal Protective Equipment (PPE) kit impact on work efficiency
   - *r6* – workplace challenges
   - *r7* – stress management techniques
3. Personal safety *(p)*
   - *p1* – personal Covid-19 test history
   - *p2* – source of the virus
   - *p3* – workplace value and recognition
   - *p4* – public appreciation
   - *p5* – job quitting consideration
   - *p6* – occupational health and safety concerns
   - *p7* – persistent challenges

Statistical tools

In order to identify broader trends and consensus among nurses regarding three dimensions: working conditions, availability of resources, and personal safety, descriptive analysis has been used. It refers to statistically describing and presenting some specific charachteristics of a data or the basic relationships between them. It focuses on simplifying large amount of collected data into manageable formats. It is divided into three main levels of examination: *univariate analysis,* which describes single variables using measures of frequency distributions, central tendencies (mean, mode, median), and dispersion (range and standard deviation); *bivariate analysis,* which examines the relationship between two variables using correlation coefficients and cross-tabulation tables; *multivariate analysis,* which observe patterns across multiple variables using tools like correlation matrix (Sidel et al., 2018).

Statistical software

MS Excel by Microsoft, Statistical Package for the Social Sciences (SPSS 20) by IBM are used for analysis.

Data collection

The primary data collection took place with the help of semi-structured interviews. The use of semi-structured interview for this study helped in two ways. Firstly, it provided a list of standard questions to be asked from each participant. Secondly, it provided the flexibility to participants to share their personal experiences in detail. Before beginning the data collection process, fifteen government hospitals were selected across Delhi – north, south, east, west, and central – to ensure a geographically representative sample. Interviews were scheduled at times that were most convenient for the participants. Each interview lasted between 10 to 15 minutes.

A questionnaire was prepared beforehand which consisted of total twenty-two questions. Before beginning the interview, some general questions like age, gender and family members were asked. The questionnaire mainly covered three important aspects to understand the lived experiences of nurses during the pandemic time: their working conditions, availability of resources to them, and their personal safety.

Data analysis

Each interview was carefully analyzed to reach to a comprehensive and accurate understanding of the responses as provided by the participants.

Ethical considerations: -

Consent of the participants was taken for participating in this study. Participation in this study was completely voluntary. Prior to each interview, participants were provided with a detailed information about the study's objectives and methods. The consent was taken before conducting interviews with them. Each participant was assured of the confidentiality of the responses and any other related information that they provided.

RESULTS

I. Descriptive Analysis: Assessing Core Dimensions of Working conditions, Availability of resources, and Personal safety

Table 1: A descriptive analysis depicting mean trends of nurses for working conditions, availability of resources, and personal safety.

Variables		N (N=150)	Mean	p50	t-value
Working conditions *(Panel 1)*	Pandemic work satisfaction *(wc1)*	150	2.32	2	47.8045***
	Fear of infection among nurses *(wc2)*	150	1.026667	1	77.78707***
	Shift scheduling *(wc3)*	150	2.893333	3	84.3557***
	Overtime shifts *(wc4)*	150	1.053333	1	57.22174***
	Special institutional training provided *(wc6)*	150	1.04	1	45.33864***
	Public support *(wc7)*	150	2.878378	3	52.33459***
Availability of resources *(Panel 2)*	Essential safety resources *(r1)*	150	1.763889	2	38.1708***
	Critical healthcare infrastructure availability *(r2)*	150	2	2	56.12741***
	Ventilator functionality *(r3)*	150	3.42	3	64.65259***
	Safety protocol compliance *(r4)*	150	1.286667	1	30.93136***
	PPE kit impact on work efficiency *(r5)*	150	1.013333	1	107.8427***
	Workplace challenges *(r6)*	150	1.060403	1	54.15053***
	Stress management techniques *(r7)*	150	2.76	3	53.55511***
Personal safety *(Panel 3)*	Protecting family members *(p2)*	150	1.845638	1	19.40679***
	Workplace value and recognition *(p3)*	150	1.393333	1	34.81711***
	Public appreciation *(p4)*	150	1.567568	2	31.96421***
	Occupational health and safety concerns *(p6)*	150	1.173333	1	36.18994***
	Persistent challenges *(p7)*	150	4.25	4	17.18062***
	Improvements in healthcare infrastructure *(p8)*	150	3.113475	2	17.70877***

*wc – working conditions; r – availability of resources; p – personal safety; p50 – median, t-value represents significance at 1% level (³2.57***), 5% level (³1.96**), and 10% level (³1.64*)]*

Table 1 presents a descriptive analysis of the 150 surveyed nurses, using three primary statistical measures: the arithmetic mean, the median (p50), and calculated one sample t-values. The purpose is to see the overall trends and find out where most of the nurses agree about regarding their collective experience during the Covid-19 pandemic. The variables are systematically measured on a standard 5-point Likert scale, where scores below 2.5 indicates lower satisfaction, and scores above 2.5 represent comparatively well satisfied respondent. The data is categorized into three key variables: working conditions, availability of resources, and personal safety. Each of the three primary variables consists of several distinct sub-variables, which are analyzed individually within their respective thematic panels. Every sub-variable across all three panels displays t-value marked with triple asterisks (***).

Working conditions

The specific variables measuring working conditions vary individually. The score for three variables; *wc2(Mean=1.026667),wc4(Mean=1.053333)*, and *wc6(Mean=1.04)*is low, depicting the lower levels of satisfaction. *Wc2* here represents the fear of infection among nurses, *wc4* shows the overtime shifts that nurses were required to take, and *wc6* explains the special institutional training provided to nurses during the pandemic. The results depict that nurses were under constant fear of contracting the virus while on duty, they were required to work for extra-hours, and received less specialized training to treat infectious patients. On the other hand, the score for *wc3(Mean=2.893333)* and *wc7(Mean=2.878378)* is comparatively higher which indicates higher level of satisfaction among nurses for these two variables. *Wc3* depicts shift scheduling and *wc7* shows public support. These were the two areas where nurses showed adequate levels of satisfaction. The higher score in *wc3* indicates that nurses experienced a more stable work rotation. This allowed them to get adequate rest and manage their physical fatigue during the crisis. A higher score in *wc7* means nurses experienced a satisfactory level of respect, trust, and cooperation from the public.

Availability of resources

Similarly, variables measuring availability of resources vary individually (Panel 2 in Table 1). The score for *r1(Mean=1.763889)*, *r2(Mean=2),r4(Mean=1.286667*), *r5(Mean=1.013333),* and r6 *(Mean=1.060403)* is low, depicting lower levels of satisfaction among nurses. These variables represent; *r1* – essential safety resources, *r2* – critical healthcare infrastructure availability, *r4* – safety protocol compliance, *r5* – PPE kit impact on work efficiency, *r6* – workplace challenges. The results indicate that nurses experienced lower levels of satisfaction regarding essential safety resources, critical healthcare infrastructure availability, safety protocol compliance, impact on work efficiency, and workplace challenges. On the other hand, the score for *r3(Mean=3.42)* and *r7(Mean=2.76*) is higher which indicates comparatively higher levels of satisfaction among nurses. *R3* represents ventilator functionality, and *r7* depicts stress management techniques. Results show that nurses were comparatively well-satisfied when it came to the functionality of the ventilators available for infected patients during the crisis. They also found stress management techniques like seeking mental health support to be helpful.

Personal safety

A similar variation can also be observed across variables measuring personal safety. The score for *p2(Mean=1.845638),p3(Mean=1.393333),p4(Mean=1.567568*), and *p6(Mean=1.173333)* is low, showing lower levels of satisfaction among nurses regarding protecting family members, workplace value and recognition, public appreciation, and occupational health and safety concerns respectively (Panel 3 in Table 1). On the other hand, score for *p7(Mean=4.25)* and *p8(Mean=3.113475)* is comparatively higher showing higher levels of satisfaction among nurses regarding persistent challenges and improvements in healthcare infrastructure. It means that though nurses faced significant challenges, yet the overall workplace environment remained manageable for them. Furthermore, nurses are satisfied that there is a need for improving healthcare infrastructure in order to deal with future health emergencies effectively. If evaluated together, high scores in *p7* and *p8* tells if there are persistent challenges for nurses while they carry out their duties, then there is a need to bring improvements in the overall healthcare infrastructure.

DISCUSSION

This section provides a final evaluation of the data by looking closely at working conditions, availability of resources, and personal safety. It brings forward several interconnected themes for analytical discussion, as discussed in the following section. To understand the experience of nurses during the Covid-19 pandemic in India, it is essential to examine what successfully supported them and what did not. The Covid-19 pandemic showed how dedicated the nurses were towards their job. Analyzing the dimension of working conditions, a major success within this dimension was the positive impact of public support. Such kind of support reinforced their dedication to their duty. This dedication was most visible in their shift scheduling. Nurses were willing to work whether in morning shifts, night shifts or both kind of shifts. However, this dedication among nurses was restrained by a continuous fear of transferring the virus to their family members. They were less worried about themselves and more afraid of passing the virus to their family members. Working overtime also made them completely exhausted. They also wanted more specialized training from their institutions which could have helped them in handling the situation more effectively. This helps policy makers to formulate effective health administration strategies.

Looking at the availability of resources for nurses, the major success within this dimension was the functionality of life-supporting machinery like ventilators. During the second wave of the Covid-19 pandemic in India, several challenges related to ventilators were faced by hospitals across India. The surveyed nurses expressed satisfaction that the ventilators in their hospitals were functioning. However, nurses reported dissatisfaction with the supply of essential safety resources, and everyday workplace challenges. Wearing PPE kits for longer periods significantly impacted their work efficiency, causing physical discomfort and exhaustion.

The last dimension – personal safety – illustrates that nurses were able to manage the unpredictable challenges that arose daily in their wards. They found ways to adapt to the challenges on their own. What worried most of them was protecting their family members from the virus which could happen by ensuring long-term occupational health and safety for nurses.

CONCLUSION

This study looks at the real-life experiences of nurses in fifteen government hospitals in Delhi during the Covid-19 pandemic in India. The results explain that while nurses showed great strength during that challenging time-they also faced major challenges. For example, wearing PPE kits while dealing with the patients, long overtime hours, and the fear of bringing the virus home to their family members. The study concludes that in order to deal with any future health crises, beforehand preparation is required: ensuring proper emergency supplies, good working conditions, and training in order to protect healthcare workers.

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