

Professional Practices Promoting Health of Healthcare Workers: Comparison of Public and Private Hospitals in Pakistan

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Abstract

Background and Objectives: Health and safety of healthcare workers (HCWs) is a determinant of the quality of healthcare delivered to the population at large. This study aimed at comparing various dimension of HCWs' health and safety between public and private hospitals (PHs) in the Pakistan context.

Methods: A sample of 1146 HCWs from 2 public and 2 PHs in a metropolitan city were invited to response to a structured questionnaire, assessing various aspects of health and safety promotion practices in their hospital. Categorical data were compared using chi-square test or Fisher exact test or likelihood ratio tests.

Findings: According to the responders, lack of written policies and guidelines for health promotion was 84% in public hospitals (GHs) vs. 22% in PH ($P < .001$), communication of health policies, 64% vs. 42% ($P < .001$), lack of access to health policies, 68% vs. 40% ($P < .001$), lack of professional employees in safety 64% vs. 49%, lack of health promotion activities 91% vs. 51% ($P < .001$), and absence of encouragements to participate in health-related activities 87% vs. 24% ($P < .001$).

Conclusions: As revealed by our study, there is a large gap in HCWs' health and safety promoting practices between public and PHs. The situation calls for increased budget and focused program to improve health and safety of HCWs in Pakistan's GH.

Keywords: Healthcare workers, Health promotion, Promotional activities, Communication

Background and Objectives

The World Health Organization (WHO) promulgated Ottawa Charter for Health Promotion in 1986 that resulted in the development of health initiatives that included hospitals as a setting for health development.¹ This approach to healthcare development is about developing hospital based opportunities for HCWs at the hospital not only to receive treatment for their health issues but also be educated about how to live a healthier life style. This will change patient's perspective and behavior about his own health. The hospitals are expected to treat and educate regarding diseases for healthcare. They are supposed to function in unison with the community.² However, it was noted that hospitals tend to ignore health promoting role.³ Hospitals within the health care system have accumulated personal, professional and technological resources.

Hospital setting can be used for devising strategies of public healthcare, establishment of focus groups that are supportive of healthcare initiatives involving representatives of the community members, and development of skilled personal for promoting the health.

A healthy work place is one in which HCWs and managers collaborate to improve safety and psychosocial aspects of working environment and promote health of workers and provision of quality care.⁴ An ongoing audit of offered services and quality control exercises supported by the employer improve health of HCWs and their families and the community.⁴ In a previous study, data from 39 intensive care units (ICUs) in 23 US hospital showed that hospital profitability increased with monitoring nurses' working conditions, improving organizational climate and safety of the employee. In another study, risk of occupational injury with employment category varying from full time, part-time and casual workers was carried out within the healthcare sector.⁵ Among 8640 registered nurses (RNs) in acute care, full time workers had greater

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risk of injury 7.4 vs. 5.3 and 5.5 per 100 person years, respectively.⁶

HCWs are prone to diseases and health hazards during their work performance. WHO has given high priority to the development of healthy workplace strategies. An estimated 2 million die each year in occupational injuries and related illnesses.⁷ Healthy workplaces demonstrated good quality recruitment and retention as a result of quality of care and workers wellbeing, organizational performance and societal outcomes.⁸ Centre for communicable diseases clearly mentions in its manual of health promotion for health care workers, that the primary areas and issues employee is most prone to be affected should be the target of health promotion and safety programs and HCWs should have access to the guidelines to be followed for the prevention of any such injuries or diseases.⁹

In literature, any visible difference or variations in health promotion and safety activities for health care workers at private and public hospitals (GHs) is not mentioned. There exists a vast unfocused literature that relates directly or indirectly to health and well-being in the workplace.¹⁰ It is important to study this difference, as in our country GHs receive governmental funding for their functioning and providing healthcare to the patients while private hospitals (PHs) are operated as industry by individuals. The care provided by PHs is usually sustained by the individuals or by organizations in case they are employed by organizations that provide medical cover. Pakistanis spending on healthcare was 665 billion rupees in 2011 which was 14.5% higher than over the previous year.¹⁰ Pakistanis suffer heavy disease burdens even after spending 5% of gross domestic product (GDP).¹⁰

WHO standards require hospitals to have in place policy for health promotion that is implemented as organization standard of quality. The policy should aim for improved health outcomes. The policy must be communicated to HCWs and for its success should be in their easy access. Using a multiple of channels to communicate health messages is more effective than relying on a single resource e.g., print, electronic communication, orientation and training, staff meetings, public addresses.¹¹ HCWs are less likely to modify their lifestyle and engage in health promotion activities, although they have a sound knowledge of importance of health promotion and safety and how to implement simple things in their lifestyle.¹² Hence, this study focused on workplace health promotion (WHP) and safety of HCWs provided by specialized public and private consultative care centers and the differences between them.

Methods

A cross-sectional study was carried out in specialized cen-

ters offering several different services under public and private domain. The study extended from January to June 2013. Each of these hospitals has over 5000 employees who are involved in health promotion or wellness activities. GHs are run by the ministry of health, where treatment, food and medicine are provided free of charge. Examination, laboratory investigations are totally free. These hospitals are there for the benefit of poor people and are heavily frequented by people who cannot afford to attend PHs. In PHs, patients are either affluent or their healthcare is covered by their employers. PHs also offer healthcare to non-affording patients that is supported by local patient welfare societies that tends to bear part of the cost mitigated during healthcare provision to the patients.

The population included HCWs working at public and private sector tertiary hospitals facilities in the study district. In this study HCWs (doctors, nurses and paramedical staff members) were in direct contact with the patients or with equipments in used. HCWs stratified doctors (MBBS), who provided consultation and prescribed medication, nurses (all grades) practitioner's dispensed medicines via different routes; paramedical staff members, laboratory technologists and hospital attendants worked as the housekeeping staff. "Employee Health Officer" (EHO) was responsible for safety and dynamic health of all employees. Incidences that impact health of the employees are reported to them. They also look after occupational health of the institution employees; "Supervisors" are employees who exercise authority in the interest of the employer to direct employees such as nurses and paramedical staff members and adjust their grievances, or recommend such action; while the "departmental head" is responsible for the general conduct of doctors in his department and is expected to participate in its teaching, research, examining and administrative work - including performance management and appraisal.

In this study, doctors, nurses and paramedical staff members belonged to various departments, of the four tertiary care hospitals were interviewed. Technique used for sampling was convenient non-probability sampling. Data was collected through a structured questionnaire, comprising of three sections, first exploring the demographics, second exploring the current scenario of health promotion and safety practices at their hospital and third finding out employee's perspective of applying WHP practices at their hospitals. This questionnaire in different hospitals were distributed and collected via the post-dispatch desk. Fourteen hundred questionnaires were distributed in different types of hospitals and collected at regular intervals from the hospitals. Twelve hundred (86%) forms were returned. Of these 45 were excluded as they were incompletely

filled out leaving 1146.

WHP enabled people to increase control over and improve the factors that affect their health. It combined all stakeholders at the hospitals to work as a unit to improve working conditions. In the questionnaire, various WHP activities enquired about activities such as stress management, smoking cessation, substance abuse, physical activity, healthy eating, work life balance, active stretch breaks, health safety courses and qualifications, sports activity for employees, clubs, recreational games for employees, on-site health promotion or safety classes, workplace flyers or posters to remind health and safety messages, immunization, health check-ups, health-related treatments, place for on-site exercise or areas for walks.

The questionnaire also enquired about "safety" measures taken to protect from the risk of injury by use of wet floor signs, provision of information about needle stick injury, infection control, hand washing, universal precautions, respiratory isolation, blood and body fluid precautions, contact precautions, provision of personal protective equipment, sharp disposal, chemotherapy handling, radiation precaution, chemical handling, spill kit, fire-fighting and evacuation.

The health protection measures include the provision of food and water safe for human consumption, with healthy air and general environment which does not transmit any communicable diseases. Questionnaire enquired about access to safe drinking water, healthy food options, hand-washing facility, hand-washing steps and maintenance of work space in terms of cleanliness, design, lighting, surface, ventilation, aesthetically pleasing, and maintenance.

The questionnaire's reliability and validity was checked by conducting a pilot study testing on 50 participants. Face validity of the questionnaire was checked by 2 experts. Cronbach α test was used to check reliability statistics (Cronbach $\alpha = .835$). After checking for reliability and validity questionnaire was floated to other study participants for data collection.

The sample size was calculated to estimate the prevalence of workplace practices that promote health of HCWs. There was no existing literature about this topic in our population so we assumed a 50% to get a maximum sample size. Frequency of existing practices of promoting health of HCWs are assumed as 50% outcome factors of 50% and a bound on error of $\pm 5\%$ the estimated sample size will be 1068. The sample size required after account for non-responders by 10%, a final target sample size of 1174 HCWs.

Ethical Issues

For ethical considerations, permission was sought to conduct the research from Institutional ethics review board of each hospital. A written consent was obtained after explain-

ing the purpose of the study. Participants were free to sign and withdraw at any time from the study. Confidentiality was maintained by using coding.

Data Analysis

We entered data and performed analysis using SPSS version 19.0. Results were presented as mean \pm standard deviation (SD) for quantitative variables and number (percentage) for qualitative variables. Pearson chi-square test, Fisher exact test, or likelihood ratio test was used to compare 2 variables. $P < .05$ was considered statistically significant. Participation of the study participants was voluntarily.

Results

The questionnaire was responded to by 1146 HCWs comprising of 552 (48%) male and 594 (52%) female (Table 1). Their mean age was 33 ± 8 years and range of 18-59 years. Out of these 627 (55%) were working in public and 519 (45%) in PHs (Table 1). They included 436 (38%) doctors, 410 (36%) nurses and 300 (26%) paramedical staff members (Table 1). There was no difference in the responses of men and women in answering the questionnaire.

HCWs health related programs (HRPs) were reported by 780 (68%) of HCWs. There were hospital health policies in place reported by 483 (42%). Policies were communicated to 525 (46%) of the HCWs and 514 (45%) of them were accessing HRP (Table 1). No incentives were offered to HRWs to participate in these HRPs and neither were they reminded of HRPs at their annual appraisal.

The structure of employee health issue reporting in GHs was a supervisor 400 (64%) and departmental head in 86 (14%) compared to 259 (50%) to supervisor and 15 (3%) to departmental head in PHs, respectively ($P < .001$) (Table 1). There was a designated employee health officer for HCW's 141 (22%) in GH (Table 1). In GH, HCWs were not encouraged to participate in health related activities compared to 149 (71%) in PH ($P < .001$) (Table 1).

Classes for HCWs in PHs for stress-management was reported by 250 (48%) ($P < .001$); physical fitness by 259 (50%) ($P < .001$); smoking cessation by 253 (49%) ($P < .001$); healthy diet by 259 (49%) ($P < .001$); and health safety class by 255 (49%) ($P < .001$); regular health check-ups 255 (49%) ($P < .001$); and hand washing guidelines by 255 (49%) ($P < .001$) (Table 2). No education followed about substance abuse and work-life balance while all 420 (100%) HCWs reported education about safe drinking water. Personal policies offered at

Table 1. Distribution of Healthcare Workers in Hospitals

| | Hospitals | | P Value |
|--|--------------------|-----------------|---------|
| | Government No. (%) | Private No. (%) | |
| Healthcare worker | | | |
| Doctors | 237 (38) | 199 (38) | .871 |
| Nurses | 222 (35) | 188 (36) | |
| Paramedical | 168 (27) | 132 (26) | |
| Hospital healthcare program | | | |
| Yes | 335 (53) | 445 (86) | <.001 |
| No | 292 (47) | 74 (14) | |
| Hospital worker health policy | | | |
| Yes | 147 (23) | 336 (65) | <.001 |
| No | 480 (77) | 183 (35) | |
| Health policy communication | | | |
| Yes | 223 (36) | 302 (58) | <.001 |
| No | 404 (64) | 217 (42) | |
| Access to health policy | | | |
| Yes | 204 (33) | 310 (60) | <.001 |
| No | 421 (68) | 208 (40) | |
| Employee health personnel | | | |
| Yes | 225 (36) | 264 (51) | <.001 |
| No | 402 (64) | 255 (49) | |
| Health issue reporting | | | |
| Supervisor | 400 (64) | 259 (50) | <.001 |
| Departmental head | 86 (14) | 15 (3) | |
| Employee health personnel | 141 (22) | 245 (47) | |
| Encourage participation in program | | | |
| Yes | 82 (13) | 393 (76) | <.001 |
| No | 545 (87) | 126 (24) | |
| Mandatory participation in health policy | | | |
| Yes | 59 (9) | 75 (14) | .010 |
| No | 568 (91) | 444 (86) | |
| Promoting health policy on worksite | | | |
| Yes | 59 (9) | 252 (49) | <.001 |
| No | 568 (91) | 267 (51) | |

work included immunization and treatment for minor illness. HCWs did not report receiving education about activities such as active stretching during working hours or lunch time walk.

Comparison of HCWs in different hospitals to deal with onsite emergencies by education pertaining to needle stick injury prevention was reported by 504 (97%) ($P<.001$); sharp handling by 275 (53%) ($P<.001$); chemical spill by 274 (53%) ($P<.001$); radiation caution by 274 (53%) and chemotherapy 274 (53%) ($P<.001$); fire extinguisher by 104 (25%) ($P<.001$); disaster management by 274 (53%) ($P<.001$); wet floor by 255 (49%) ($P<.001$); and availability of personal protective gear by 379 (73%) ($P<.001$), re-

Table 2. Comparison of Facilities Available to Healthcare Workers at Different Hospitals

| | Hospitals | | P Value |
|---------------------------|--------------------|-----------------|---------|
| | Government No. (%) | Private No. (%) | |
| Stress management classes | | | |
| Yes | 86 (14) | 250 (48) | <.001 |
| No | 554 (86) | 269 (52) | |
| Smoking cessation | | | |
| Yes | 85 (14) | 253 (49) | <.001 |
| No | 542 (86) | 266 (51) | |
| Physical activity | | | |
| Yes | 70 (11) | 259 (50) | <.001 |
| No | 557 (89) | 260 (50) | |
| Healthy eating | | | |
| Yes | 69 (11) | 259 (50) | <.001 |
| No | 558 (89) | 260 (50) | |
| Health safety classes | | | |
| Yes | 18 (3) | 255 (49) | <.001 |
| No | 609 (97) | 264 (51) | |
| Health checkups | | | |
| Yes | 18 (3) | 255 (49) | <.001 |
| No | 609 (97) | 264 (51) | |
| Hand washing guidelines | | | |
| Yes | 18 (3) | 255 (49) | <.001 |
| No | 609 (97) | 264 (51) | |

spectively by HCWs in PHs (Table 3). All HCWs were satisfied with their premises cleanliness, layout, lightening, ventilation and aesthetics, respectively. HCWs in different hospitals were informed about infection control reported by 516 (99%) ($P<.001$); universal precaution by 379 (73%); blood and body fluid precaution by 255 (49%) and respiratory pathogen precaution by 255 (49%) ($P<.001$) in private compared to GH (Table 4).

Discussion

Pakistan has both public and private health care systems. The private sectors healthcare began as private practices and over time transformed into hospitals. Increasing population, rapid industrialization, resultant high level of environmental pollution that followed increased healthcare demands. Lack of focus on the development of a structured public health care system with its limited capacity is unable to meet the public healthcare demand in the country. With growing number of patients and lack of maintained healthcare infrastructure in public sector, an increased preference towards PHs has developed over the years. However, due to high quality services provided, private sector hospitals are comparatively very expensive and unaffordable for the large section of the population.

Table 3. Comparison of Healthcare Worker Training in Hospital to Deal With Onsite Emergencies

| | Hospitals | | P Value |
|----------------------------|--------------------|-----------------|---------|
| | Government No. (%) | Private No. (%) | |
| Needle stick injury | | | |
| Yes | 81(13) | 504(97) | <.001 |
| No | 546(87) | 15(3) | |
| Sharp handling | | | |
| Yes | 36(6) | 275(53) | <.001 |
| No | 591(94) | 244(47) | |
| Personal protective gear | | | |
| Yes | 24(4) | 379(73) | <.001 |
| No | 603(96) | 140(27) | |
| Chemotherapy handling | | | |
| Yes | 39(6) | 275(53) | <.001 |
| No | 588(94) | 244(47) | |
| Chemical spill handling | | | |
| Yes | 31(5) | 274(53) | <.001 |
| No | 596(95) | 245(47) | |
| Radiation handling | | | |
| Yes | 41(7) | 274(53) | <.001 |
| No | 586(93) | 245(47) | |
| Wet floor warning board | | | |
| Yes | 18(3) | 255(49) | <.001 |
| No | 609(97) | 264(51) | |
| Fire-fighting & evacuation | | | |
| Yes | 39(6) | 273(53) | <.001 |
| No | 588(94) | 246(47) | |
| Disaster management | | | |
| Yes | 36(6) | 274(53) | <.001 |
| No | 591(94) | 245(47) | |

Provincial health departments are the implementers of public sector health programs mainly planning and fund allocation.

This study showed HRP were more frequently in place in the PHs (Table 1). In keeping with this finding HCWs HRP were also significantly more common in PHs (Table 1). Hospital's health policies were communicated better to the HCW's in the PHs (Table 1). Hence, HCWs in PHs were utilizing these healthcare policies much more often. Specific employee health professionals were in place in the PHs and provided community health services. Health issue reporting involved communicating incidences e.g., needle sticks injuries, exposure to blood and blood products etc, to their shift supervisor, departmental head or employee health professional appointed in their hospital. Participation in the hospital's HCWs health policies was not mandatory in any category hospitals public or private. Private healthcare hospitals actively encouraged their HCWs to participate in health policies (Table 1). They also excelled GHs in offering stress management and smoking cessation classes to their HCWs (Table 2). Health oriented

Table 4. Comparison of Healthcare Worker Training in Hospital to Deal With Exposure to Infection

| | Hospitals | | P Value |
|------------------------------|--------------------|-----------------|---------|
| | Government No. (%) | Private No. (%) | |
| Contact precaution | | | |
| Yes | 135 (21) | 255 (49) | <.001 |
| No | 492 (79) | 264 (51) | |
| Respiratory isolation | | | |
| Yes | 18 (3) | 255 (49) | <.001 |
| No | 609 (97) | 264 (51) | |
| Blood and body fluid contact | | | |
| Yes | 18 (3) | 255 (49) | <.001 |
| No | 609 (97) | 264 (51) | |
| Universal precaution | | | |
| Yes | 43 (7) | 379 (73) | <.001 |
| No | 584 (93) | 140 (27) | |
| Infection control | | | |
| Yes | 103 (16) | 516 (99) | <.001 |
| No | 524 (54) | 3 (1) | |
| Radiation caution | | | |
| Yes | 18 (3) | 255 (49) | <.001 |
| No | 609 (97) | 264 (51) | |

culture was nurtured by encouraging regular physical activity and educating them about healthy diet by organizing workshops regarding healthy dietary habit. They were also offered regular health checkups and health safety classes that included hand washing guidelines, vaccination, etc (Table 2). Healthcare workers training in dealing with on-site emergencies such as needle stick injuries, sharp handling, handling of chemotherapy, chemical spill, radiation, fire-fighting & evacuation, disaster management, etc also exceeded those offered by GHs (Table 3). HCWs were also informed and trained about infection control, contact precautions, protection from respiratory pathogen, blood and body fluid contact and how to undertake universal precautions (Table 4).

The limitation of this study is that data was derived from few hospitals of each category allowing only tentative comparisons between public and PHs. An increase number of hospitals of different categories and HCWs would have better highlighted the practices in the different hospitals. The number of HCWs enrolled in the study was less though there was not disproportionate sampling. The response rate in survey was also of moderate rate as decline in response to questionnaire was also adequate. Other important aspects such as substance abuse and work-life balance were not addressed at all by the different healthcare services hospitals.

Our results show that there has been an improvement in the figures representing awareness about the needle stick injury in HCWs working in PH compared to those in

GHS. The knowledge of HCWs about the mode of transmission of blood borne pathogens and universal precautions were lacking in all healthcare providers.¹¹ An earlier study, assessing HCWs knowledge, attitude and practices about needle stick injuries demonstrated 94% of (282 subjects) had needle stick injuries.¹² It revealed inadequate knowledge amongst GHs HCWs about the risk associated with needle-stick injuries and practice of preventive measures.¹² The mark difference in the healthcare facilities made available to the HCWs in the public sector is attributed to the lack of development of a public health care system by national leadership. However, we studied selected few GHs, the state of all public sector hospitals made not be same.

Workplace practices to promote health and safety of health care workers are a key to successful hospitals and health care. As the Centre for Communicable Diseases (CDC), elaborates that healthy workforce will ensure, high productivity and quality patient care. It will also increase job satisfaction, retention, reduce absenteeism, extra health care cost and turnover. One of the biggest reasons for healthcare workers migration from developing countries is the poor working conditions and lack of health promotion and safety activities for healthcare workers.¹

Conclusions

As revealed by our study, there is a large gap in HCWs' health and safety promoting practices between public and PHs. The situation calls for increased budget and focused program to improve health and safety of HCWs in Pakistan's GH.

Abbreviations

Health care workers (HCWs); public hospital (GH); private hospital (PH); Intensive care units (ICUs); registered nurses (RNs); care aides (CAs); World Health Organization (WHO); Centre for communicable diseases(CDC); gross domestic product (GDP); Bachelor of Medicine and Surgery (MBBS); Employee Health Officer (EHO); Workplace health promotion (WHP); health related programs (HRPs).

Authors' Contributions

NJ, JY and SB conceived the idea; NJ and SB collected the data; NJ, JY and SB analyzed the data; NJ and JY wrote the manuscript; all authors reviewed and agreed on the final manuscript.

Competing Interests

The authors declare no competing interests.

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