



ORIGINAL ARTICLE

Experience of the surgical team in COVID-19 in a tertiary care hospital in Pakistan.

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ABSTRACT ... Objective: To analyse experience of the surgical team in COVID-19 in a tertiary care hospital in Pakistan. **Study Design:** Analytical Observational study. **Setting:** Department of Surgery, Tertiary Care Hospital, Sialkot, Pakistan. **Period:** March to September 2020. **Material & Methods:** After the permission of ethical review committee (ERC/12/2020), data was collected by all four groups surgeons, Resident and internees, paramedical staff and other staff of surgical teams. A simple, 6 question-questionnaire, manually typed, was distributed to all members willing to complete and return the questionnaire. Data was analyzed by using SPSS-23. **Results:** Majority (91.27%) of the surgical team members got satisfactory training to handle with Covid-19 Cases. The 80 % was in fear to contract the disease while working in isolation and COVID-19 wards and about (76%) were well adjusted to their newly assigned duties. About 85% of surgical team members experienced prolong duty hours (12 hours a day) related stress and similar percentage participated in the management of surgeries done during this period. **Conclusion:** Surgical Team participated and adapted to meet the newly assigned duties to look after the isolation and COVID-19 wards. Team members experienced stress and fear of contracting disease was a matter of concern. However, it has taken care of all trauma, life-threatening emergencies and oncological cases adhering to use of principles of use of PPEs.

Key words: COVID-19, Employment, Pandemic, Surgeons.

INTRODUCTION

The Coronavirus (COVID-19) Disease burden is enormous. It has affected about 72,572,992 people worldwide with 1,617,826 deaths.¹ As of 13 Dec 2020 Pakistan has 4, 38425 confirmed cases and 8,796 deaths.² WHO declared it as Public Health Emergency of International Concern (PHEIC) on 30 Jan 2020.³ WHO reported that two badly hit areas are finance and medicine for Pakistan.⁴ In latter, we concentrate its impact on surgeons and surgical team in a tertiary care hospital during six months period since 20th March 2020 in Pakistan. Surgical practices affected in terms of employment of surgical team members, duty hours, physical and mental fatigue, stress, fear of inflicting disease and deferring elective surgical procedures. COVID-19 primarily is not a surgical disease but it has changed the surgical practice in many aspects in Pakistan.^{5,6}

Surgical patients and surgical care-providers' duties were prioritized as per re-defined needs by institutions and delivery of health care systems of the state, considering the prevalence of active cases.⁷ This was a global challenge with ever changing, guidelines from local, national and international agencies. The four tier action plan: awareness, personal protective measures, movement restriction (lockdown) and management of the active cases, was adopted.⁸ Hence, the role of surgeons was shifted to basic medical care with added responsibility. Surgical teams and wards were incorporated in the general pool for isolation and COVID-19 tested positive cases.⁹ This article analyses the employment of surgical teams, preparedness for this task and outcomes on surgical team members in first phase of COVID-19 in six months in a tertiary care hospital sitting in Pakistan.

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MATERIAL & METHODS

This study was conducted at the Department of Surgery, Tertiary Care Hospital, Sialkot, Pakistan. It spanned over Six months from 20 March 2020 to 19 Sept 2020 the study was approved by ethical committee (ERC/12/2020). A bilingual (English and Urdu), simple and an easy Six question-questionnaire was formulated and distributed in four groups of the surgical team, to assess the response. Groups were surgeons (Group I), residents (Group II), paramedical staff (Group III) and other staff (Group IV). Their responses were tabulated and analyzed as depicted in Table-I. All persons related to the surgical team who consented to fill and return the questionnaire were included in the study.

Percentages were worked out for all available data. Data was analyzed using SPSS 23. The effect of the COVID-19 on the surgical team was assessed through the simplest means to attract the maximum number of participants.

RESULTS

This study is based on responses by 275 surgical team members surgeons, Resident and interneers, paramedical staff and other staff of our hospital. It included (178) 64.72% males and (97) 35.72% females. The paramedical staff made the bulk of participants, 182 participants (66.1%) of whole surgical team. Forty five (16.4%) were doctors, among them 21 (7.6%) were surgeons and 24 (8.8%) were residents and interneers. Forty-eight (17.5%) participants were ward boys, ambulance drivers and other staff.

During training, gowning, donning and proper disposal of PPEs after use was the hallmark of Training. The majority (91.27%) of the surgical team members got satisfactory training to handle with COVID-19 Cases. Surgeons, residents and house-officers were hundred per cent trained. All four groups were trained to deal with the suspected or proven cases of COVID. The least trained or aware was group four (79.16%).

The four fifth (80.70%) among participants were in fear of contracting the disease while working in isolation and COVID-19 wards. This concern was

100% among group II and least in group IV. In group I this concern was 76%.

Provision and then the use of these of PPEs by all was mandatory. All, 45 (100 %) respondents in the first two groups used PPEs. While this percentage was reduced to nearly 171 (94%) and 43 (89 %) in group III and IV, respectively. Overall, the use of PPE stood at (94.18%).

Surgeons, the group I adjusted well to newly assigned duties (100%), rest of three groups had little difficulties in coping with their new assignment, Groups I, II and III were satisfied up to 70.83, 70.87 and 89.59%, respectively.

Regarding duty hours, 235 (85.45%) surgical team members experienced prolong duty roster (12 hours a day). The major burden was noticed in group II where all 24 doctors underwent the stress of lengthy duty timings. A similar experience was shared by group II and III, where the proportion of extended duty timings were reported by 86.26% and 87, 5% respondents, respectively. In contrast, about half (57%) of surgeons had to work for prolonged hours.

All 48 (100%) respondents of surgical team of group IV actively involved in dispensing medicines, documentation, provision of food and transportation of patients in the hospital. Similarly, for the same considerations, 149 (81.86%) from group four were involved in cases requiring surgeries. Seventeen surgeons (81%) had taken part in surgeries in the operation theatre. Group III was least committed in operation theatres and 16 doctors (66.66%) participation noticed in the management of surgeries done during this period. Overall, Use of PPEs was made to the maximum and adjustment to the new duties was a little challenging job for all.

DISCUSSION

All medical setups, including surgical were affected by COVID-19 pandemic. Hence, the surgical department needed to triage the surgical consultations, admissions and procedures.¹⁰

In this frightening crisis, we were reminded of

Group	Team Member	Gender%		Total (%)	Training for combating COVID No. and (%)	Fear of infection No. and (%)	Use of PPEs No. and (%)	Adjustment to new duties/wards No. and (%)	Prolong Duty – Hours related stress No. and (%)	Participation in trauma and Oncological cases
		M No (%)	F No (%)							
I	Surgeons	15	6	21 (7.6)	21 (100)	16 (76.2)	21 (100)	21 (100)	12 (57.14)	17 (80.95)
II	Residents and House Officers	17	7	24 (8.8)	24 (100)	21 (100)	24 (100)	17 (70.83)	24 (100)	16 (66.66)
III	Paramedical staff	115	67	182 (66.1)	168 (99.3)	153 (81.06)	171 (93.95)	129 (70.87)	157 (86.26)	149 (81.86)
IV	Ward boys, Ambulance Drivers, other staff	31	17	48 (17.5)	38 (79.16)	32 (66.66)	43 (89.58)	43 (89.58)	42 (87.5)	48 (100)
Total and (%)		178 (100)	97 (100)	275 (100)	251 (91.27)	222 (80.70)	259 (94.18)	210 (76.36)	235 (85.45)	230 (83.63)

Table-I. Response, perspective, Participation and adjustment of surgical team members in COVID-19.

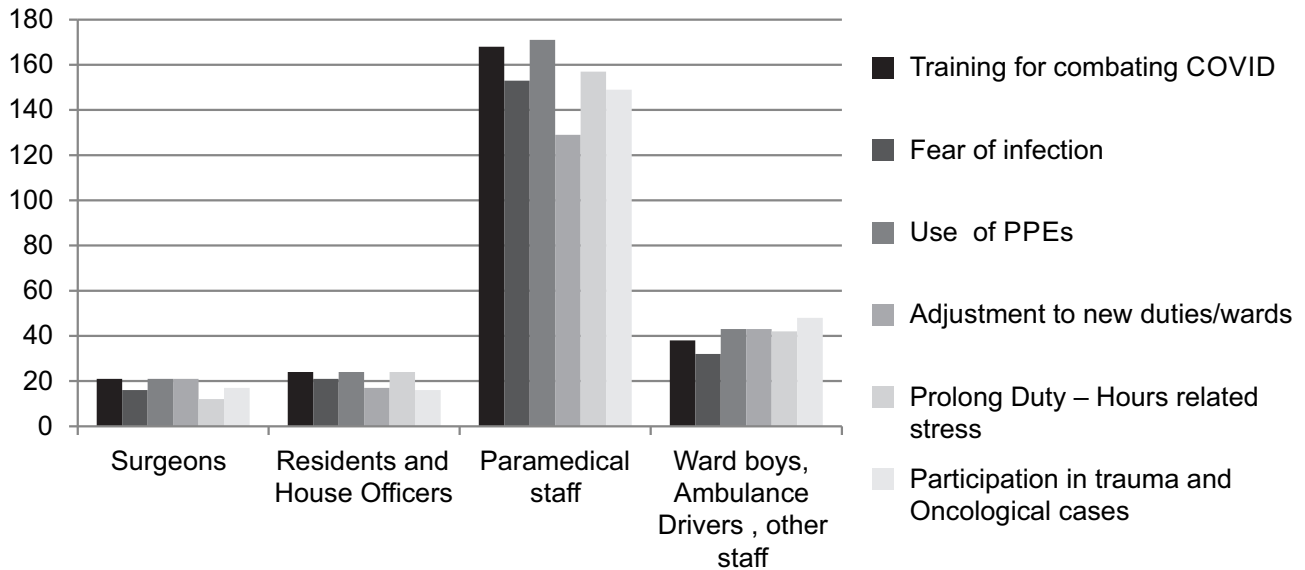


Figure-1. Response, perspective, participation and adjustment of surgical team members in COVID-19.

ourselves as physicians to work with medical colleagues to fight at the frontline against COVID-19.¹¹ Utilization of surgical facilities and staff were employed to meet the ever-increasing demand of hospital beds and human resource, respectively.¹² Trauma, emergencies and Oncological surgeries continued with COVID testing of patients undergoing surgeries. Health care professionals including surgical team accepted and adapted the modified role according to new guidelines.¹³

Foremost action was to cancel the elective surgeries by surgical teams to spare themselves for new commitment and responsibilities.^{14,15} Training-how to deal with suspected and proven cases of COVID, was devised under auspices of WHO as well as by national advisory to make health care personnel aware of the disease transmission and how to protect themselves.¹⁶ Hospital preparedness was hallmark to combat COVID-19.¹⁷ It is pertinent to say that the beginning of the pandemic there were difficulties to meet the

unprecedented sky-rocketing demand of PPEs.¹⁸ With time one to one ration PPEs were being utilized and the recommendation was unified.^{19,20}

Fear of infection remained high in general public and persons working in health care facilities.²¹ Chou R and Dana T et al have described in detail which is in line with our findings.²² Anaesthetists were at increased risk of inflicting the disease as they have proximity while intubating patients.^{23,24,25}

Adjustments to new duties/wards were met excellently by all tiers of the surgical teams. Whether neurosurgeons, plastic, urologists or orthopaedic surgeons, all accepted the new role to the demand of the health care system.²⁶ Surgeons worked with physicians to prevent, treat and rehabilitate the pandemic hit persons. Doctors and surgeons have adapted to changing professional assignments to cope with hospital needs.²⁷

Prolong Duty – Hours related stress was experienced both in developing and developed world.²⁸ Petzold MB et al have documented mental health effects caused by various factors including the prolonged stay at work-place.²⁹ This is consistent with our study. The exponentially increased number of patients and limited numbers of health care providers was the hallmark of this phenomenon.³⁰ Here again awareness comes to play for optimal outcome.³¹

To save the lives of patients in need of surgery like trauma and Oncological cases, the enhanced protective measures were taken by surgical teams in theatres and wards to meet the accepted safety standards for surgical patients and for themselves.³² This was consistent with De Simone B et al study.³³

CONCLUSION

The implications of COVID-19 on a surgical team performance have been challenging and remarkable. Timely awareness campaigns, training and use of PPEs, effectively enhanced the motivation and working competencies of the surgical team. Surgical Team participated and adapted to meet the newly assigned duties

to look-after the isolation and COVID-19 wards. Team members experienced stress and fear of contracting disease was a matter of concern. However, it has taken care of all trauma, life-threatening emergencies and oncological cases adhering to use of principles of use of PPEs.

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2	Muhammad Afzal Chowhan	Proof reading, Referencing.	