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RESEARCH ARTICLE

Change in Orthopedic Trauma Practice under Strict Lockdown due to COVID-19 Pandemic Strict Lockdown

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Abstract:

Introduction:

The COVID-19 pandemic has led to remarkable changes in several aspects of medical practice. Elective surgeries, including orthopedic surgery, were deferred worldwide, allowing hospitals to accommodate higher numbers of COVID-19 patients and reduce the possible risk of infection among healthcare workers. However, healthcare systems aimed to continue providing emergency services at similar standards. In this study, we aim to highlight the impact of lockdowns secondary to the pandemic on orthopedic trauma practice in a country that was described to have one of the strictest lockdowns worldwide. We aim to examine the trends of change in number and type of orthopedic trauma cases and the changes to decision making and patient care among orthopedic surgeons.

Methods:

This cross-sectional study is based on a survey that was designed and delivered to orthopedic surgeons from different health sectors i.e. governmental, military, private and university hospitals. The questionnaire was distributed through the official Jordan orthopedic association WhatsApp group by the end of the 4th week of strict lockdown. A total of 256 orthopedic surgeons were invited to participate and responses were limited to one per participant. 147 replies were received with a response rate of 57.4%. Data were analyzed using the Statistical Package for the Social Sciences Version 23 (SPSS Inc., Chicago, IL) statistical software.

Results:

A total of 147 surgeons participated in the study with a response rate of 57.4%. The mean age of the participants was 39.8 years, with the majority being between 30 and 40 years (n=70; 48%). There was a significant decline in the number of trauma cases admitted to the Emergency Departments (ER), especially cases with polytrauma. During this period, the most common reported fractures were proximal femur fractures (47.6%) followed by distal radius fracture (17%). 30% of participants used to perform more than 10 trauma operations per week. This percentage dropped to 7.5% during the pandemic lockdown. 25% did not operate at all during the lockdown period. Outpatients practice was significantly affected with almost 40% of orthopedic surgeons not managing any single patient. Regarding the use of Personal Protective Equipment (PPE), 85% of the surgeons used face masks and gloves only during their patient's encounter. Inside the operating room, only 9.5% of surgeons used fully protective PPEs. Regarding the changes in practice, 62% of surgeons reported an increased tendency toward non-operative management with a significant delay in follow up of patients. The use of telemedicine was effective in the management of less than 50% of patient encounters, according to our participants. Private practice respondents reported more than 50% drop in their income during the lockdown.

Conclusion:

Strict lockdown in Jordan led to significant changes to orthopedic trauma practice in terms of the number and type of cases. Emergency and outpatient services were similarly affected. Orthopedic surgeons developed a tendency towards more conservative management and less surgical treatment. There is a need for stricter implementation of guidelines regarding the use of PPE especially in the operating theatre. Telemedicine use in management and follow up of trauma patients needs further assessment in terms of its efficacy and efficiency to patients and to healthcare professionals with regards to its medico-legal aspects.

Keywords: COVID-19, Elective surgery, Orthopedic trauma, Telemedicine, Trauma care, Emergency departments.

Article History

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Appendix A. This is a survey for orthopedic surgeons both in public and private sectors about change in orthopedic trauma practice at the time of COVID 19 pandemic in country with strict curfew rules.

*** Required**

1. Type of practice *

Mark only one oval.

- Public
- Military
- Private sector
- Public and private

2. Position *

Mark only one oval.

- Resident
- Fellow
- Specialist (1-10 years experience)
- Consultant (>10 yrs experience)

3. Age *

4. Post board years of experience *

Mark only one oval.

- 1-5
- 5-10
- 10-15
- More than 15

5. Surgeon medical morbidities (DM ,HTN ,Cardiac disease , asthma , COPD ,,,,etc) *

Mark only one oval.

- None
- One morbidity
- Two morbidities
- Three or more morbidities
- Option 5

6. Smoker *

Mark only one oval.

- No
- Yes

7. Marital status *

Mark only one oval.

- Married
- Single

Trauma practice

8. Number of cases of trauma treated per week in ER before lockdown *

Mark only one oval.

- 1-5
- 5-10
- 10-20
- More than 20

9. Number of cases of trauma treated per week in ER after lockdown *

Mark only one oval.

- 1-5
- 5-10
- 10-20
- More than 20
- None

10. Percentage of complex or multiple trauma cases seen in ER before lockdown *

Mark only one oval.

- <10%
- 10-30%
- 30-50%
- >50%

11. Percentage of complex or multiple trauma cases seen in ER after lockdown *

Mark only one oval.

- <10%
- 10-30%
- 30-50%
- >50%

12. Number of trauma cases treated in outpatient clinic per week before lockdown *

Mark only one oval.

- 1-10
- 10-20
- 20-30
- 30-40
- More than 40

13. Number of trauma cases treated in outpatient clinic per week after lockdown *

Mark only one oval.

- 1-10
- 10-20
- 20-30
- 30-40
- More than 40
- None

14. Number of trauma surgeries done per week before lockdown *

Mark only one oval.

- 1-3
- 3-6
- 6-10
- More than 10

15. Number of trauma surgeries done per week after lockdown *

Mark only one oval.

- 1-3
- 3-6
- 6-10
- More than 10
- None

16. Percentage of upper limb to all cases treated before lockdown *

Mark only one oval.

- 10-20%
- 20-40%
- 40-60%
- 60-80%
- 80-100%

17. Percentage of hip and pelvis to all cases treated before lockdown *

Mark only one oval.

- 10-20%
- 20-40%
- 40-60%
- 60-80%
- 80-100%

18. Percentage of lower limb to all cases treated before lockdown *

Mark only one oval.

- 10-20%
- 20-40%
- 40-60%
- 60-80%
- 80-100%

19. Percentage of upper limb to all cases treated after lockdown *

Mark only one oval.

- 10-20%
- 20-40%
- 40-60%
- 60-80%
- 80-100%

20. Percentage of lower limb to all cases treated after lockdown *

Mark only one oval.

- 10-20%
- 20-40%
- 40-60%
- 60-80%
- 80-100%

21. Percentage of hip and pelvis to all cases treated after lockdown *

Mark only one oval.

- 10-20%
- 20-40%
- 40-60%
- 60-80%
- 80-100%

22. What was the most common fracture seen at ER during the lockdown period *

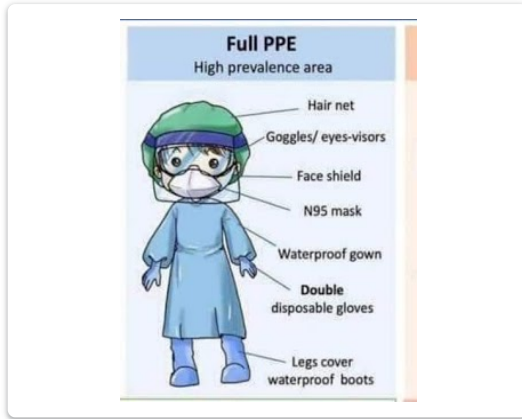
23. type of personal protective equipment used during interaction with patients *

Mark only one oval.

- Face mask alone
- Gloves alone
- Face mask and gloves
- Full PPE
- Nothing

24. use of full PPE during surgery (including face shield or goggles) *

Mark only one oval.



Yes

No

25. the percentage of patients seen in ER were actually emergency cases *

Mark only one oval.

10-20%

20-40%

40-60%

60-80%

80-100%

26. the percentage of patients seen at ER that needed admission to ward *

Mark only one oval.

10-20%

20-30%

30-50%

>50%

27. Did the COVID 19 pandemic and curfew affected your decision making considering operative vs conservative management of trauma cases *

Mark only one oval.

- Increased toward conservative
- Increased toward operative
- Had no effect

28. Did the lockdown affected your follow up of trauma patients *

Mark only one oval.

- No effect
- Mild Delay in follow up
- Severe delay in follow up
- No follow up is done

29. Did you treat patients diagnosed with COVID19 or under curfew for close contact with COVID 19 patient *

Mark only one oval.

- Yes
- No

30. Do you work in institution that treat COVID 19 patients *

Mark only one oval.

- Yes
- No

31. the percentage of patients you could solve their problems using telemedicine (by phone) *

Mark only one oval.

10-20%

20-30%

30-50%

50-70%

>70%

32. the change in monthly income during the lockdown period

Mark only one oval.

Increase by 10%-30%

Increase by 30-50%

Increase by >50%

Decrease by 10-30%

Decrease by 30-50%

Decrease by >50%

No change