

The Impact of Covid Pandemic on Trauma and Orthopedic Surgeons in Morocco

Ismail El Antri^{1*}, H. Rkain², A. Bennis³, O. Zaddoug³, M. Benchakroun³, S. Bouabid³, M. Boussouga³, B. Chagar³

¹Department of Traumatology-Orthopedic Surgery, Mohammed V Military Training Hospital, Faculty of Medicine and Pharmacy, Hassan II University, Casablanca, Morocco

²Department of Rheumatology, El Ayachi Hospital, Faculty of Medicine and Pharmacy, Mohammed V University, Rabat, Morocco

³Department of Traumatology-Orthopedic Surgery, Mohammed V Military Training Hospital, Faculty of Medicine and Pharmacy, Mohammed V University, Rabat, Morocco

*Corresponding author: Ismail El Antri

| Received: 01.10.2024 | Accepted: 07.11.2024 | Published: 15.11.2024 |

Abstract: COVID-19 pandemic was a global health crisis without precedent, it had caused a severe human suffering. In this study we evaluated the impact of this pandemic on the quality of life of the trauma and orthopedic surgeons in Morocco. An anonym online questionnaire was sent, by e-mail, to the 645 surgeons' members of the Moroccan society for orthopedic and trauma surgery. The questionnaire comprised 34 structured questions that inquired sociodemographic information and indicators of the quality of life of surgeons including: bad feeling, depression, anxiety, insomnia, bad diet, sedentary lifestyle, happy lessness and financial problems. SPSS 23 software was used to descriptive analysis of the data, and assessment of factors associated with bad quality of life of surgeons. The questionnaire was completed by 220 surgeons, for a mean response rate of 34%. The mean age of the respondents was 44±12 year, 45.4% were public, 12.3% military and 42.3% liberal. 78.2% of surgeons worked in the zone with high risk of epidemic. Sedentary lifestyle, anxiety, financial problems, bad diet, and insomnia were the main problems encountered respectively by 70.9%, 40.5%, 35%, 25% and 21.4% of surgeons. The juniors' doctors were more exposed to the problems of sedentary lifestyle, bad diet and insomnia, than the seniors ($p < 0.05$). The liberal doctors were more concerned by the financial problems (55.9%), than the public (21%) and military (14.8%) ($p < 0.001$). Finally, the trauma and orthopedic surgeons in Morocco didn't escape to the bad effect of the COVID-19 pandemic on the hole humanity. Several measures are needed to decrease the impact of future pandemic.

Keywords: Impact, Covid, Trauma, Orthopedic, Surgeons, Morocco.

INTRODUCTION

The COVID-19 pandemic was a global health crisis without precedent, the number of deaths was at least 3 million [1] the pandemic also caused a severe human suffering. It has, not only, put a strain on the most of health systems all over the world. But also caused a devastating impact on the standards of daily living limiting economic, social, educational, and sport activities. Several studies have analyzed the impact of this pandemic on the quality of life of people and patients [2, 3]. In this paper we tried to study the impact of this pandemic on the quality of life of trauma and orthopedic surgeons in Morocco.

MATERIAL AND METHODS

The target population comprised the residents (doctors in training) and specialists in trauma and orthopedic surgery in the 12 regions of Morocco. The

study instrument was an anonym online questionnaire addressed by e-mail to the 645 surgeons' members of the Moroccan society for orthopedic and trauma surgery (205 residents and 440 specialists). The questionnaire comprised 34 structured questions that inquired sociodemographic information and the impact on the quality of life of surgeons, during the COVID-19 pandemic.

The sociodemographic information comprised the age, the category (resident or specialist), the surgeons' experience in years of exercise, the sector of activity (public, private, or military), and the place of exercise in the 12 regions of Morocco classified on two zones by the government, Zone (1) with a low number of covid-19 active cases, and Zone (2) with significant number of active cases.

Quick Response Code



Journal homepage:
<https://saspublishers.com/>

Copyright © 2024 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

Citation: Ismail El Antri, H. Rkain, A. Bennis, O. Zaddoug, M. Benchakroun, S. Bouabid, M. Boussouga, B. Chagar (2024). The Impact of Covid Pandemic on Trauma and Orthopedic Surgeons in Morocco. *Cross Current Int Peer Reviewed J Human Soc Sci*, 10(9), 184-187.

The evaluation of the quality of life of the surgeons consisted of the research of the presence, or no, of 09 indicators of bad quality of life represented by: bad general state of health, depression, anxiety, insomnia, bad diet, sedentary lifestyle, financial problems, pessimism about the future, and no learning.

Finally, we analyzed the factors associated with bad quality of life of the surgeons during this pandemic.

Data were analyzed with SPSS 23. An analysis of descriptive statistics was conducted to illustrate the sociodemographic characteristics of the respondents. The Pearson Chi-Square was used to compare the frequency of indicators of bad quality of life between residents and specialists, public, military and private

sectors, surgeons in zone1 and zone2, and finally between surgeons who have participated or not to covid patient care. The association between the indicators of bad quality of life in one side and age and years of experience in the other side, was searched respectively by Independent-Samples T and The Mann-Whitney Tests. A two-tailed p<0.05 was considered statistically significant.

RESULTS

The questionnaire was completed by 220 orthopedic surgeons, for a mean response rate of 34%. The table 1 shows sociodemographic characteristics of the study population.

Table 1 : sociodemographic characteristics of the study population

N=220
Age (year) 44 [26-75] ±12
Category (%)
Resident 20
Specialist 80
Experience (year) 16 [1-45] ±11
Sector (%)
Public 45.4
Military 12.3
Private 42.3
Zone with High risk of Covid (%)
Yes 78.2
No 21.8
Period of response (%)
Unlock 30
Post-unlock 70

The table 2 resumes the prevalence of the most important indicators of bad quality of life of the trauma orthopedic surgeons during the COVID-19 pandemic.

Table 2: Prevalence of indicators of bad quality of life of the trauma orthopedic surgeons during the COVID-19 pandemic

Indicators	Bad feeling	Happy lessness	Depression	Anxiety	Insomnia	Bad diet	Sedentary lifestyle	Financial problems
% N=220	13.6	7.7	15.5	40.5	21.4	25	70.9	35

The table 3 shows the signification of the difference observed in the prevalence of indicators of bad

quality of life according to the category, the sector and the zone of practice of surgeons.

Table 3: Signification of the difference observed in the prevalence of indicators of bad quality of life, according to the category, the sector and the zone of activity of surgeons

Indicators	N=220	Residents	Specialists	p	Public	Military	Private	p	Zone 1	Zone 2	p
Bad feeling	13.6%	13.6%	NS	13%	7.4%	16.1%	NS	12.5%	14%	NS	
Depression	22.7%	13.6%	NS	14%	14.8%	17.2%	NS	14.6%	15.7%	NS	
Anxiety	43.2%	39.8%	NS	47%	37%	34.4%	NS	35.4%	41.9%	NS	
Insomnia	36.4%	17.6%	0,01	27%	29.6%	12.9%	0,03	20.8%	21.5%	NS	
Bad diet	40.9%	21%	0,01	27%	22.2%	23.7%	NS	20.8%	26.2%	NS	
Sedentary life	84.1%	67.6%	0,04	76%	74.1%	64.5%	NS	68.8%	71.5%	NS	
Style											
Financial problems	22.7%	38.1%	NS	21%	14.8%	55.9%	< 0.001	25%	37.8%	NS	
Happy lessness	6.8%	8%	NS	7%	0%	10.8%	NS	6.3%	8.1%	NS	

The table 4 shows the signification of the difference observed in the prevalence of indicators of bad quality of life according to the age of surgeons.

Table 4: Signification of the difference observed in the prevalence of indicators of bad quality of life, according to the age of surgeons

Quality of life	Age (years)	
Yes No p		
Bad feeling	48±14 44±11	NS
Depression	43±13 44±11	NS
Anxiety	44±11 44±11	NS
Insomnia	42±12 44±11	NS
Bad diet	42±12 45±11	NS
Sedentary life Style	43±11 47±11	0,04
Financial problems	50±12 41±10	<0,001
Happy lessness	47±16 44±11	NS

DISCUSSION

During Covid pandemic, several studies pointed out a sizable portion of healthcare workers, reaching the cutoff levels of distress, anxiety, and depression [20, 21]. The rapidly global spread of Covid-19, caused a devastating psychosocial and mental wellbeing impact on all healthcare profession [8,9]. The aim of our study was to assess the quality of life of orthopedic trauma surgeons during COVID-19 pandemic in Morocco. The mean response rate to our questionnaire was 34%, it was a low but acceptable rate. Specialist public surgeons, working in the zone with high risk of Covid, were the main respondents. Sedentary lifestyle, anxiety, financial problems, bad diet, and insomnia were the main problems encountered respectively by 70.9%, 40.5%, 35%, 25% and 21.4% of surgeons.

Sedentary lifestyle was the first problem reported by 70,9% of participants in the survey, that can be explained by the set of measures and the complete lockdown implemented by the Moroccan public authorities to control the country's epidemiological situation. To note that juniors' surgeons were more exposed to the problems of sedentary lifestyle ($p < 0.05$).

Anxiety and insomnia were also big problems encountered respectively by 40.5% and 21.4% of trauma and orthopedic surgeons. The combination of psychosocial distress, complete lockdown and the fear of potential COVID19 infection can explain the high rate of anxiety and insomnia among the participants in our study. Other studies suggested that the fear of potential COVID19 infection associated to several inadequate aspects of the work environment, such as incomplete or inexistent personal protective equipment, increase the risk of experiencing burnout among surgeons and other healthcare professional [17-20]. In other countries where the number of COVID-19 cases were extremely high, authors have shown incredibly elevated numbers of frontline healthcare practitioners experiencing different symptoms of burnout [12-34].

Financial problems were another challenge for Moroccan trauma and orthopedic surgeons, with 35% of participants reporting a reduction in their income, for course the liberal doctors (55.9%) were more concerned by the financial problems, than the public (21%) and military (14.8%) ($p < 0.001$). A Medical Group Management Association (MGMA) survey revealed that 97% of physician practices experienced a negative financial impact from COVID-19 outbreak [27]. Other study showed that 91.8% of respondents reported being concerned about their financial health, with 62.7% of them having their largest source of income from private practice. Guirouy *et al.*, found similar numbers in a cross-sectional study of the impact during the COVID-19 outbreak among spine surgeons in Latin America [31]. Other studies have pointed out the negative economic impact brought up by the pandemic to both healthcare workers and healthcare systems [11].

An interesting finding in our study that, the juniors' doctors were more exposed to the problems of sedentary lifestyle, bad diet and insomnia, than the seniors ($p < 0.05$). These findings can be attributed to the fact that surgeons in training were in the frontline in the fight against the pandemic. In addition, there was a dramatic reduction in the number of elective trauma and orthopedic operations they participate in, therefore significant reduction in surgical skills training. Other survey reported that the majority (67%) of participants, reported that teaching and study leave has been cancelled in the acute phase of the UK COVID-19 response.

CONCLUSION

The trauma and orthopedic surgeons in Morocco didn't escape to the devastating impact of the COVID-19 pandemic on the hole humanity. Several measures are needed to minimize the psychosocial, mental health, and financial impact of future pandemic especially in young people.

Competing Interests: Authors declared they have no conflict of interest.

REFERENCES

1. <https://www.who.int/data/stories/the-true-death-toll-of-covid-19-estimating-global-excess-mortality>. World health organization. April 2022.
2. Poudel, A. N., Zhu, S., Cooper, N., Roderick, P., Alwan, N., Tarrant, C., ... & Yao, G. L. (2021). Impact of Covid-19 on health-related quality of life of patients: A structured review. *PloS one*, *16*(10), e0259164.
3. Kasar, K. S., & Karaman, E. (2021). Life in lockdown: Social isolation, loneliness and quality of life in the elderly during the COVID-19 pandemic: A scoping review. *Geriatric Nursing*, *42*(5), 1222-1229.
4. Karampelias, V., Karonis, D., & Psaroudi, V. (2020). The psycho-emotional impact of COVID-19 on surgical staff working in emergency departments. *European Journal of Trauma and Emergency Surgery*, *46*, 747-749.
5. Zhang, S. X., Liu, J., Jahanshahi, A. A., Nawaser, K., Yousefi, A., Li, J., & Sun, S. (2020). At the height of the storm: Healthcare staff's health conditions and job satisfaction and their associated predictors during the epidemic peak of COVID-19. *Brain, behavior, and immunity*, *87*, 144-146.
6. Galbraith, N., Boyda, D., McFeeters, D., & Hassan, T. (2020). The mental health of doctors during the Covid-19 pandemic. *BJPsych Bull*, 1-4.
7. Simons, G., & Baldwin, D. S. (2020). Covid-19: doctors must take control of their wellbeing. *BMJ*, *369*, m1725.
8. Kumar, S. (2016). Burnout and doctors: prevalence, prevention and intervention. *Healthcare (Basel)*, *4*(3), 37.
9. Jahanshahi, A. A., Dinani, M. M., Madavani, A. N., Li, J., & Zhang, S. X. (2020). The distress of Iranian adults during the Covid-19 pandemic—More distressed than the Chinese and with different predictors. *Brain, behavior, and immunity*, *87*, 124.
10. Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., & Wei, N. (2019). Factors associated with mental health outcomes among health care workers exposed to coronavirus disease. *JAMA Netw Open*, *3*(3), e203976.
11. Shah, K., Chaudhari, G., Kamrai, D., Lail, A., & Patel, R. S. (2020). How essential is to focus on physician's health and burnout in coronavirus (COVID-19) pandemic?. *Cureus*, *12*(4).
12. Zerbini, G., Ebigbo, A., Reicherts, P., Kunz, M., & Messman, H. (2020). Psychosocial burden of healthcare professionals in times of COVID-19—a survey conducted at the University Hospital Augsburg. *GMS German Medical Science*, *18*.
13. Guiroy, A., Gagliardi, M., Coombes, N., Landriel, F., Zanardi, C., & Camino, W. G. (2020). COVID-19 impact among spine surgeons in Latin America. *Global Spine J*, 2192568220928032.
14. Rossi, R., Soggi, V., Pacitti, F., Di Lorenzo, G., Di Marco, A., Siracusano, A., & Rossi, A. (2020). Mental health outcomes among frontline and second-line health care workers during the coronavirus disease 2019 (COVID-19) pandemic in Italy. *JAMA network open*, *3*(5), e2010185-e2010185.
15. Lee, R. T., Seo, B., Hladkyj, S., Lovell, B. L., & Schwartzmann, L. (2013). Correlates of physician burnout across regions and specialties: a meta-analysis. *Human resources for health*, *11*, 1-16.
16. Zarefsky, M. (2020). 97% of practices feel COVID-19 financial sting: where to get help. *American Medical Association*.
17. Giordano, V., Belangero, W., Godoy-Santos, A. L., Pires, R. E., Xicara, J. A., Labronici, P., & Group, C. D. R. C. S. (2021). The hidden impact of rapid spread of the COVID-19 pandemic in professional, financial, and psychosocial health of Latin American orthopedic trauma surgeons. *Injury*, *52*(4), 673-678.
18. Anoushiravani, A. A., O'Connor, C. M., DiCaprio, M. R., & Iorio, R. (2020). Economic impacts of the COVID-19 crisis: an orthopaedic perspective. *JBJS*, *102*(11), 937-941.
19. Khan, H., Williamson, M., & Trompeter, A. (2021). The impact of the COVID-19 pandemic on orthopaedic services and training in the UK. *European Journal of Orthopaedic Surgery & Traumatology*, *31*, 105-109.