

Respiratory health in the Syrian conflict: findings from a scoping review and analysis of routinely collected data from Syrian American Medical Society facilities



L. Basha¹, A. Socarras², W. Akhtar², M. Hamze³, A. Albaik³, I. Hussein³, A. Tarakji², M. Hamadeh², M. Azzouz², M. Kewara³, R. Loutfi², A. Abbara²

¹University of Aberdeen, Aberdeen, UK; ²Syrian American Medical Society, Washington, USA; ³Syrian American Medical Society, Gaziantep, Turkey



Up to 38% of consultations were for respiratory presentations

Introduction

- Respiratory conditions are an important cause of morbidity and mortality internationally; this is exacerbated in conflict settings.
- In Syria, pre-conflict factors such as smoking rates and the non-communicable disease burden are compounded by conflict-related factors, including overcrowding, inadequate shelter, use of chemical weapons, potentially increased smoking rates, and the inhalation of dust and rubble.
- We aimed** to explore publications on respiratory health in Syria and review trends in respiratory diseases in Syria using data from a humanitarian organisation operating in Syria during the conflict.

Methods

- A scoping review of academic and grey literature pertaining to respiratory health in Syria since the onset of the Syrian conflict (taken as 2011) was performed.
- Electronic bibliographic databases were searched using detailed inclusion and exclusion criteria to select relevant papers.
- This was followed by a retrospective analysis of respiratory presentations from health facilities run by the Syrian American Medical Society (SAMS) in northwest Syria between March 2017 and June 2020.

Ethics: This work fulfilled the exemption criteria set by the MSF Ethics Review Board (ERB) for a posteriori analyses of routinely collected clinical data, and thus did not require MSF ERB review.

Results

Literature review

- We identified 23 papers (19 peer-reviewed, 4 grey); see PRISMA figure.
- Key themes identified included the impact of conflict on asthma diagnosis and management, the burden of respiratory tract infections (RTI's), the impact of chemical weapon use and those relating to the destruction of the health system.

Quantitative analysis

- Data were available from 22 hospitals, 22 PHC's and 3 mobile clinics.
- Of 5,058,864 consultations, there were 1,228,722 cases with respiratory presentations (24.3%).
- 332,398 (27%) were among adults and 896,324 (73%) were among children aged 17 years or under.
- Respiratory disease burden accounted for 17-38% of all cases.
- Infectious presentations were the most common respiratory category in all facilities among all age groups.
- There were a median of 1,160 (IQR: 1,032-1,347) asthma cases per month, mostly recorded in hospitals and PHC's.
- Figure 1 shows the trends of total consultations per month with a steep decline in late 2019/early 2020; this correlated with escalation of violence and the forced displacement of one million residents in northwest Syria during that time.
- Figure 2 shows the percentage of monthly consultations caused by respiratory presentations by facility type.

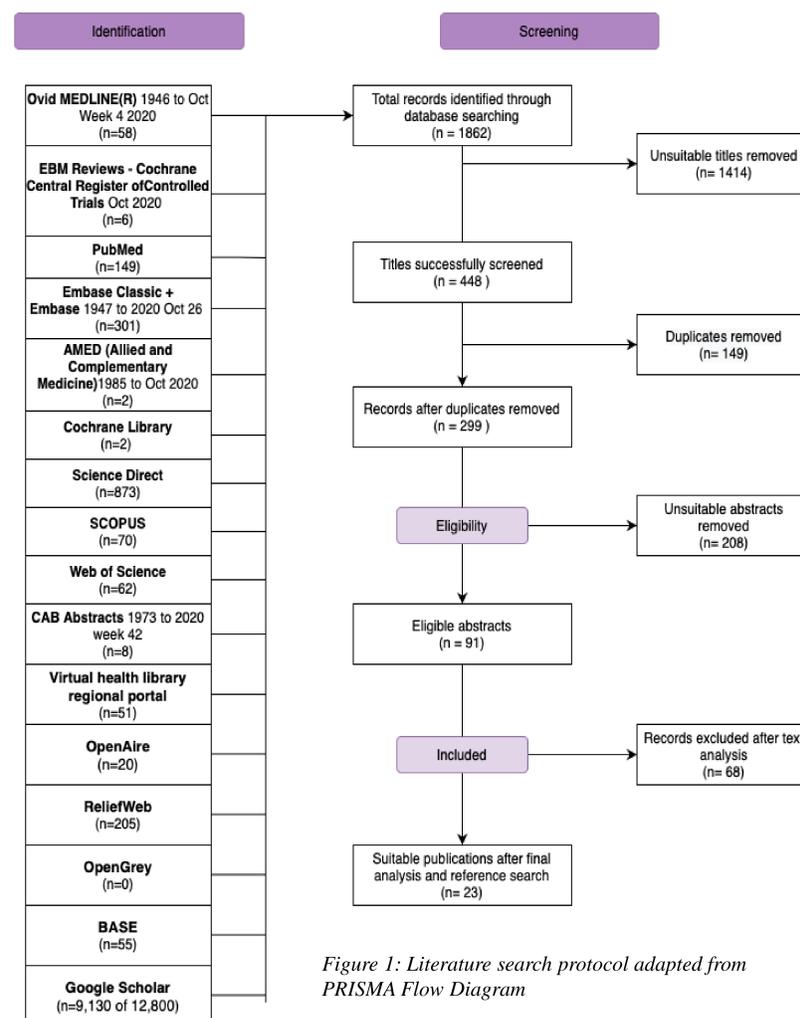


Figure 1: Literature search protocol adapted from PRISMA Flow Diagram

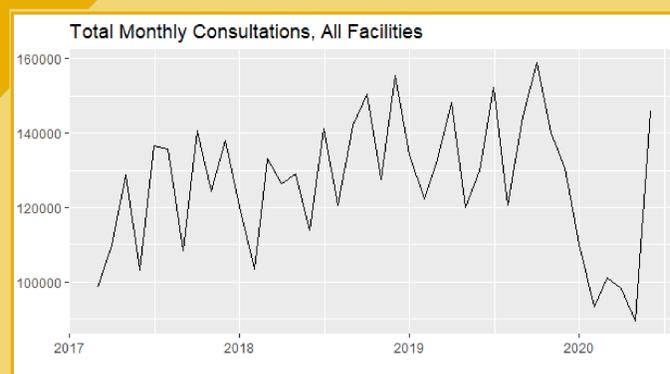


Figure 2: Total consultations from all facilities per month recorded during the study period. The decline in monthly cases at the end of 2019 occurred alongside an escalation of violence between Dec 2019 and Feb 2020 in which one million people were forcibly displaced.

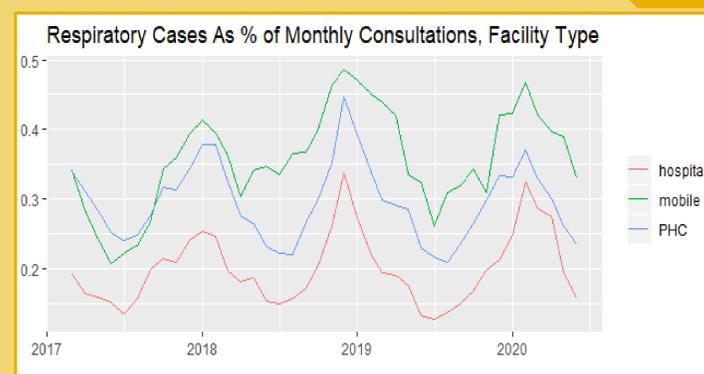


Figure 3: Respiratory cases as a percentage of the total monthly consultations in each facility type

Discussion

- The literature review demonstrated an under-exploration of respiratory health in Syria despite its importance as a cause of morbidity and mortality.
- The retrospective quantitative data noted that respiratory diseases accounted for up to 38% of all presentations to health facilities run by SAMS.
- As expected, there was a clear seasonal trend with higher rates in winter. In the Syrian conflict, inadequate shelter, poor ventilation and overcrowding may exacerbate respiratory diseases, particularly during the winter.
- The drop in consultations at the end of 2019 and start of 2020 coincided with a surge in attacks in Idlib governorate in northwest Syria which forcibly displaced around 1 million people among the 4.2 million people in the area. As such, it does not suggest a decrease in presentations but a shift away from these health facilities.
- There was a peak of inhalational cases in April 2017 which occurred in the same month as the Khan Sheikhoun chemical attack in northwest Syria.

Conclusion

- The dearth of quality information around respiratory health during the Syrian conflict indicates an important public health gap. This includes improvements to shelter, ventilation, and public health campaigns to address smoking and protection of the civilian population from attacks on civilian and healthcare infrastructures.
- There is also a need for improved training of healthcare staff, the provision and maintenance of diagnostic equipment and protocols to support respiratory health in Syria.

Acknowledgements

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