

Psychological Impact of COVID-19 and the economic burden of Rheumatic and Musculoskeletal diseases

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Background

The COVID-19 pandemic has significantly impacted on mental health both in the general population and in specific vulnerable groups. In particular, patients with Rheumatic and Musculoskeletal diseases (RMDs) have been shown to be more vulnerable, as the interruption of clinical activities during the pandemic strongly impact on the management of these diseases, moreover these patients often exhibit co-occurring mental disorders. As a consequences criticalities posed by the pandemic might have severe psychological consequences that also might impact on the economic burden of disease.

Objective

The present study aims to explore the impact of Post-Traumatic Stress Disorders (PTSD) on the economic burden of RMDs during the COVID-19 pandemic in Italy.



Results

Out of the 237 RMD patients considered in the present study, 126 (53.2%) reported a PTSD. Overall cost (comprising both direct and indirect costs) related to the disease was estimated to be €2,583 (0; 40,529) per patient/year and costs were about 29% higher in patients with PTSD. Indeed results from multivariate regression analysis showed that the amount of costs related to the disease significantly increased in patients with PTSD ($\beta=0.448$ (std.err.=0.162), p-value< 0.001) independently of age, type of RM disease and educational level.

Methods

As part of the activities of the PERMAS prospective observational



project (Research proposal on COVID funded by the Tuscany Region, Italy) information about resources used and related to direct and indirect costs were collected from RMDs patients enrolled from May 2020 to April 2022 in the Rheumatology Unit of the University Hospital of Pisa (Italy).

Direct costs estimated included direct health costs, out-of-pocket expenses and other direct non-health costs related to assistance, transportation, food or accommodation needed for visits.

Direct costs were estimated based on National Tariffs. Cost for informal assistance were estimated using proxy-good method.

Indirect costs estimated were related to productivity losses and they were estimated using Human Capital Approach.

All costs were referred to 2021.

The impact of PTSD (assessed by the Trauma and Loss Spectrum- Self Report Scale) on costs was evaluated considering a two-part model to account for the large proportion of patients resulting in costs equal to zero. In details, a Probit model was used for the first part and a Generalized Linear Model with a Gamma distribution and log link in the second part. Data were adjusted for age, gender, type of RMDs and education level.

Conclusions

The impact COVID-19 has had on mental health of Rheumatic and Musculoskeletal diseases patients has the potential to impact also on the economic burden of disease.

Main message

Evaluation and management of the mental health consequences of COVID-19 on RMD patients should be carefully considered to avoid detrimental effect on the clinico-economic burden of the disease.

References

- Dell'Osso L, Carmassi C, Rucci P et al. A multidimensional spectrum approach to post-traumatic stress disorder: comparison between the Structured Clinical Interview for Trauma and Loss Spectrum (SCI-TALS) and the Self-Report instrument (TALS-SR). Compr Psychiatry. 2009 Sep-Oct;50(5):485-90.
- Favalli et al., Incidence and clinical course of COVID-19 in patients with connective tissue diseases: a descriptive observational analysis. J Rheumatol. August 2020, 47(8) 1296.

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