

Health State Utility Values Related to COVID-19 Pandemic Using EQ-5D: A Systematic Review and Meta-Analysis

Authors : Xu Feifei

Abstract : The prevalence of COVID-19 currently is the biggest challenge to improving people's quality of life. Its impact on the health-related quality of life (HRQoL) is highly uncertain and has not been summarized so far. The aim of the present systematic review was to assess and provide an up-to-date analysis of the impact of the COVID-19 pandemic on the HRQoL of participants who have been infected, have not been infected but isolated, frontline, with different diseases, and the general population. Therefore, an electronic search of the literature in PubMed databases was performed from 2019 to July 2022 (without date restriction). PRISMA guideline methodology was employed, and data regarding the HRQoL were extracted from eligible studies. Articles were included if they met the following inclusion criteria: (a) reports on the data collection of the health state utility values (HSUVs) related to COVID-19 from 2019 to 2021; (b) English language and peer-reviewed journals; and (c) original HSUV data; (d) using EQ-5D tool to quantify the HRQoL. To identify studies that reported the effects on COVID-19, data on the proportion of overall HSUVs of participants who had the outcome were collected and analyzed using a one-group meta-analysis. As a result, thirty-two studies fulfilled the inclusion criteria and, therefore, were included in the systematic review. A total of 45295 participants and provided 219 means of HSUVs during COVID-19 were included in this systematic review. The range of utility is from 0.224 to 1. The study included participants from Europe (n=16), North America (n=4), Asia (n=10), South America (n=1), and Africa (n=1). Twelve articles showed that the HRQoL of the participants who have been infected with COVID-19 (range of overall HSUVs from 0.6125 to 0.863). Two studies reported the population of frontline workers (the range of overall HSUVs from 0.82 to 0.93). Seven of the articles researched the participants who had not been infected with COVID-19 but suffered from morbidities during the pandemic (range of overall HSUVs from 0.5 to 0.96). Thirteen studies showed that the HRQoL of the respondents who have not been infected with COVID-19 and without any morbidities (range of overall HSUVs from 0.64 to 0.964). Moreover, eighteen articles reported the outcomes of overall HSUVs during the COVID-19 pandemic in different population groups. The estimate of overall HSUVs of direct COVID-19 experience population (n=1333) was 0.751 (95% CI 0.670 - 0.832, I² = 98.64%); the estimate of frontline population (n=610) was 0.906 ((95% CI 0.854 - 0.957, I² = 98.61%); participants with different disease (n=132) were 0.768 (95% CI 0.515 - 1.021, I²= 99.26%); general population without infection history (n=29,892) was 0.825 (95% CI 0.766 - 0.885, I² =99.69%). Conclusively, taking into account these results, this systematic review might confirm that COVID-19 has a negative impact on the HRQoL of the infected population and illness population. It provides practical value for cost-effectiveness model analysis of health states related to COVID-19.

Keywords : COVID-19, health-related quality of life, meta-analysis, systematic review, utility value

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