Changes in health perception of COVID-19 among patients with aortic diseases: a longitudinal study between the first and second wave of the COVID-19 pandemic

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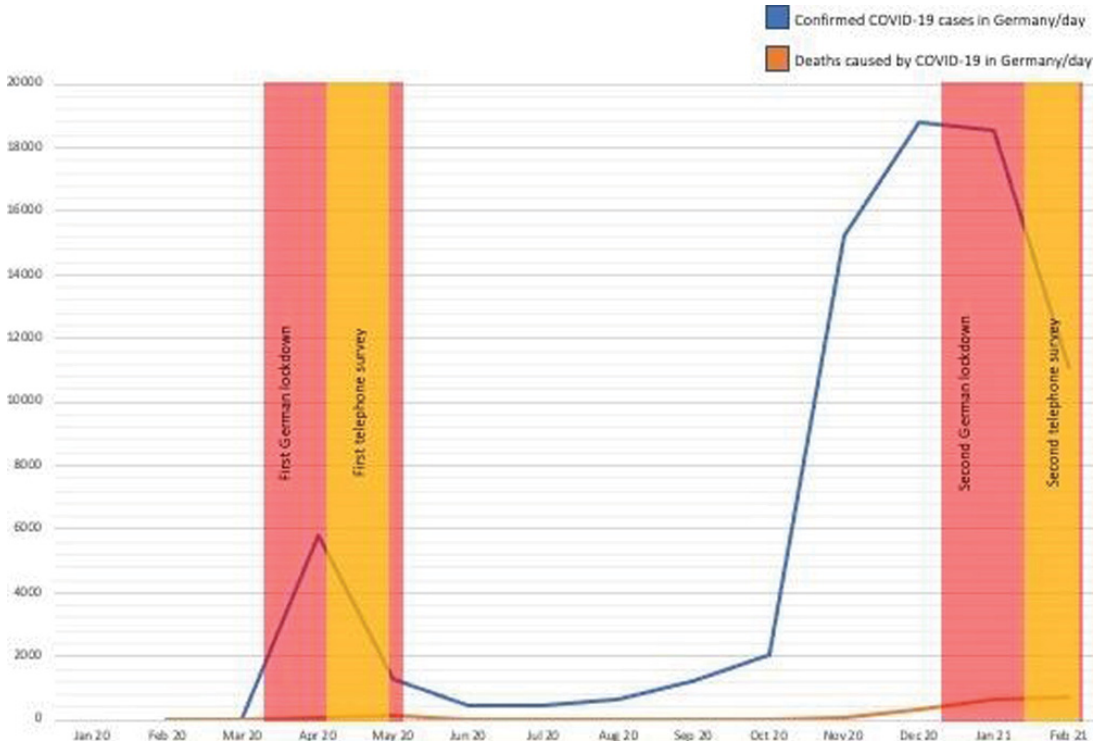
Background: The rapidly spread of the novel coronavirus disease (COVID-19) worldwide has become the most challenging global health pandemic since the 1918 flu. In Germany, more than 2.5 million cases are confirmed so far, with more than 70,000 deaths. An increased fatality rate was seen among patients with preexisting comorbid conditions, especially with cardiovascular diseases, representing this group at particular risk.
Purpose: Risk perceptions of public health crises like the COVID-19 pandemic can affect people's mental health, reveal gaps in support, and influences the adherence to regulatory requirements. The aim of this study was to evaluate changes in health perception among patients with aortic diseases during the first and second wave of the COVID-19 pandemic in Germany.
Methods: Patients (n=262) diagnosed with aortic disease participated in telephone interviews during the first (w1, April 6–April 29, 2020) and second wave (w2, January 11–January 29, 2021) of the pandemic in Germany. The perception of COVID-19 as a threat was examined using relevant items of the Brief Illness Perception (BIP) questionnaire to address four dimensions (consequences, control, personal control, and understanding). Relevant data focusing on different aortic diseases and cardiovascular risk factors were taken from patient records.
Results: Aortic diseases included mainly aortic aneurysm of the ascending (n=164, 62.6%) and the descending aorta (n=37, 14.1%). Patients with acute or chronic aortic dissection made up a third (n=41, 15.6%, and n=48, 18.3%, respectively). At baseline (w1), none of the participants had neither been quarantined nor were taken ill with COVID-19. At the second survey (w2), 24 participants (n=252, 9.5%) had already been quarantined and five (n=252, 2%) were diagnosed with COVID-19. The BIP score increased 9.18 (SD=7.132) to 14.58 (SD = 6.956) between w1 and w2 ($p<.001$). At the level of dimensions, that meant a significant difference between w1 and w2 regarding "consequences" (M=–2.821, SD=3.049, 95% CI [–3.200, –2.443], t(251)=–14.691, $p<.001$, d=0.92), "control" (M=0.908, SD=2.492, 95% CI [0.589, 1.218], t(249)=5.760, $p<.001$, d=0.36), and "concern" (M=–1.669, SD=3.349, 95% CI [–2.086, –1.253], t(250)=–7.898, $p<0.001$, d=0.50). Only "understanding" showed no significant difference (M=–0.032, SD=1.520, 95% CI [–0.220, 0.157], t(251)=–0.332, p=0.740).
Conclusion: Although patients with aortic diseases are highly at risk of having worse outcomes from COVID-19, their overall perception of COVID-19 as a threat was low in the beginning, but rising during the second wave. The main reasons were the increased effects on personal life and elevated concerns about the COVID-19 pandemic, but concerns did not include the educational aspect of COVID-19. Tailored risk communication strengthens the mental health of people in a public health crisis and ensures the success of governmental guidelines and policies.



Course of COVID-19 pandemic in Germany