

## Oral Health Affected by Covid-19 Pandemic in Germany

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### Abstract

This study's aim was to research the relationship between oral health and life expense during the COVID-19 pandemic and to look into any potential links to social components such as social stress and signs of anxiety and depression. Secondary research concerns included whether oral hygiene practices were altered during the COVID-19 pandemic and the degree to which dental symptoms predated the epidemic and developed. In order to measure stress, depression, and anxiety in a German cohort for this cross-sectional investigation, a survey has been devised. Implemented are validated questionnaires such as the OHIP-G14, PHQ-Stress, and PHQ-4. The survey was completed by 1178 people in total between May and August 2020. Good OHRQoL was indicated by the overall OHIP-G14 sum score of 48 to 75. A toothache was reported by 21% of participants, mucosal issues by 23%, tooth sensitivity by 31%, and myofascial pain by 27%. A low degree of tension was indicated by the PHQ-Stress score. Mild to moderate levels of depression and anxiety have been experienced by 38% of the individuals. They claimed that they felt more emotionally burdened than they did before the outbreak. For stress, anxiety, and depression levels, there are statistically significant differences between people with more, equal, or less emotional load relative to pre-pandemic. Lower OHRQoL appears to be associated with COVID-19 history and heightened feelings of depression, anxiety, and stress. Further research into the psychosocial effects of pandemics and how they relate to oral health is necessary.

**Keywords:** Oral health; COVID-19; Dental symptoms; OHRQoL

### Introduction

The respiratory illness coronavirus disease 2019 (COVID-19) is brought on by the SARS-CoV-2 virus. In March 2020 the World Health Organization classified it as a pandemic. The disease has a complex and variable course. Aside from asymptomatic infections, mild to moderate courses and severe progressions with pneumonia leading to lung failure and mortality were also noted [1]. Public life in Germany was severely constrained beginning in March 2020 in order to control the fast rising number of infections and prevent a strain on the health system. People were therefore urged to stay inside and follow the contact limitations. Numerous businesses and services were forced to temporarily close [2]. In the interim, there was very little outpatient dental care available. Teaching in classrooms in schools and childcare in day-care facilities for kids was both temporarily cancelled [3]. As a result, social and professional circumstances changed. As of May 2020, public life was gradually allowed to resume due to declining instances, although with on-going severe restrictions. On the sense of social stress and mental health, as well as on the aggravation of pre-existing mental illnesses, the COVID-19 pandemic and its countermeasures' effects were demonstrated.

Although the relationship between social stress and mental disorders like depression and anxiety disorders and the development of dental problems like periodontitis or functional difficulties has not been clearly proven, numerous studies do indicate a correlation [4]. On the one hand, stress is frequently linked to inflammation and has the potential to affect the immune system. Contrarily, psychosocial variables can have a detrimental impact on health-related behaviours such as preventive oral hygiene, which in turn might increase infection or exacerbate already present inflammation [5].

The impact on a patient's quality of life might be overlooked when evaluating oral health or disease in general from an objective, clinical perspective. The idea of oral health-related quality of life is a more patient-reported but arbitrary outcome [6]. As a result, this measure cannot show the clinical oral status; rather, it reveals how the individual feels about their oral health and how it affects their daily lives. It must be viewed as a multifaceted notion that includes oral health-related bio-

psychosocial factors. Age, sex, and the cultural setting can have an impact. The patient-perceived impact is captured by instruments like the most popular Oral Health Impact Profile (OHIP) [7].

In order to determine whether there is a link between perceived psychosocial stress, symptoms of depressive disorders, and generalised anxiety disorders, this study looked at how German adults rated their OHRQoL during the COVID-19 pandemic [8]. Secondary research concerns included whether or whether people altered their oral hygiene practices during the COVID-19 pandemic and to what extent oral symptoms such as toothache, mucosal discomfort, dental hypersensitivity, or myofascial pain existed and evolved compared to pre-pandemic.

### Discussion

Dental care was in part restricted in Germany during the COVID-19 epidemic, and critical oral health care and disparities were debated. The findings of the current study highlight the on-going need for dental care. In talks about mental health care, respondents also mentioned toothaches (21%), mucosal issues (23%), hypersensitivity (31%), and myofascial pain (27%) [9].

The absence of clinical data in favour of questionnaire-based data for evaluation is one of the study's limitations. The majority of the questionnaire, however, includes questions that have been approved for use in epidemiological studies, including the OHIP-G14, the PHQ-Stress, the PHQ-4, and the proposed DG PARO periodontitis risk score [10]. The known confounders for periodontitis and oral conditions,

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which can significantly affect OHRQoL, were also taken into account.

Given that the psychosocial effects of the COVID-19 epidemic are frequently discussed in societal discourse<sup>32</sup>, it is also important to take into account a potential Hawthorne effect [11]. Due to the fact the paper-based version of the questionnaire was specifically given to older persons without internet access, differences between the two testing formats digital vs paper-based have been demonstrated.

## Conclusion

Inside a confine of this study, the intensity of sadness and tension are classified as mild to moderate, and the feeling of pressure during the first wave of the COVID-19 pandemic in Germany is scored as medium. In addition to an amplified level of despair, stress, and mental pressure becomes inversely connected with a COVID-19 history. The oral circumstances illustrated emphasise the on-going need for dental care during pandemics. The emotional effects and how they relate to oral health must be taken into account as the COVID-19 pandemic and its effects unfold, as well as in light of the potential for future pandemics.

## Acknowledgement

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## Conflict of Interest

None

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