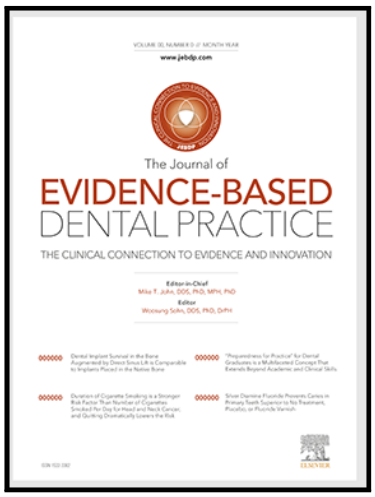
Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.



SARS-CoV-2 test outcomes among dentists and dental hygienists with COVID-19-like complaints - A retrospective analysis from the Netherlands

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- A retrospective analysis from the Netherlands–

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Data availability statement:
The data that supports the findings of this study are available in table 1 of this article.
The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflict of Interest
None declared.

Van der Weijden, de Bruin and Slot are members of the 'committee guideline oral care corona' (CLMC) in the Netherlands. De Gier is employee of Public Health and the Environment (RIVM) the Netherlands.
All other authors state that they have no further conflict of interest.

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Statement of Authorship
All authors gave their final approval and agreed to be held accountable for all aspects of the work, ensuring integrity and accuracy.

Van der Weijden: contributed to conception and design, analysis and interpretation, and drafted the manuscript.
De Bruin: contributed to the conception, analysis and critically revised the manuscript.
De Gier: contributed to design, data extraction, analysis and critically revised the manuscript.
Valkenburg: contributed to the statistical analysis and critically revised the manuscript
Slot: contributed to conception and design, analysis and interpretation, and critically revised the manuscript.

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Abstract

Objective: This retrospective analysis aimed to evaluate, among individuals with COVID-19-like symptoms, the percentage of SARS-CoV-2 positive oral healthcare workers relative to healthcare workers in general and a non-close-contact occupation reference group in the Netherlands.

Material and Methods: Data ~~were collected and analyzed retrospectively~~ was retrospectively analyzed based on data extracted from the CoronIT database. This contained mass testing data for those experiencing symptoms compatible with COVID-19 recorded from June 2020 up to February 2021. The total number of tests taken and the number of SARS-CoV-2 positive tests were assessed. Sub-analyses were performed for oral healthcare and healthcare workers based in professional working locations, long-term care facilities, hospitals, or elsewhere.

Results: In total, data from 1,999,390 tests were obtained. Overall, 9.4% tested positive for SARS-CoV-2 in the three occupational groups. This was 9.2% for oral healthcare workers, 9.5% for healthcare workers, and 9.3% for the non-close-contact occupation reference group. For the three occupational groups the adjusted odds ratio with the month as covariate varied from 0.76 to 1.12. The odds ratio for oral healthcare workers compared to healthcare workers was 1 [95%CI:0.95;1.05] and 0.97 [95%CI:0.92;1.02] compared to the non-close-contact occupation reference group. Interpretation of the magnitude of the odds ratio indicates that the observed differences are none to very small.

Conclusion: During the pandemic oral healthcare providers were required to adhere to the COVID-19-specific amendments to the national infection control guidelines. Based on the data gathered, dentists and dental hygienists with COVID-19-like symptoms do not test SARS-CoV-2 positive more often than other healthcare workers or those with a non-close-contact occupation. This supports the assumption that working during the pandemic using the Dutch standard hygiene guideline supplemented with the COVID guideline for oral health care is adequately safe.

Clinical Relevance

Scientific Rationale for the Study

It is suggested that oral healthcare workers are at an increased risk to become infected with SARS-CoV-2 due to contamination by a high frequency of aerosol-generating procedures -.

Principal Findings

Based on the outcomes of tests among those experiencing SARS-CoV-2 symptoms in the Netherlands, the prevalence of oral healthcare workers testing positive is comparable to that of healthcare workers and workers with a non-close-contact occupation.

Practical Implications

The standard guideline, Infection Prevention in Oral Healthcare Practices, supplemented with the COVID guideline for oral healthcare, seems to provide sufficient protection in a working environment with a high frequency of aerosol-generating procedures that may possibly be highly contaminated.

Introduction

On 27 February 2020, the first case of COVID-19 was diagnosed in the Netherlands. The incidence rapidly increased, resulting in a nationwide lockdown being implemented on 12 March. A peak of 20 new COVID-19 hospitalizations per 100,000 people was reached in the week of 22–28 March 2020 [1]. Simultaneously, oral healthcare was faced with the difficult choice of temporarily closing dental offices or keeping them open. On March 15, the four main associations of Dutch oral healthcare providers (Koninklijke Nederlandse Maatschappij tot Bevordering der Tandheelkunde[KNMT], Associatie Nederlandse Tandartsen[ANT], Nederlandse Vereniging van Mondhygiënisten[NVM-mondhygiënisten], Organisatie van Nederlandse Tandprothetici [ONT]) unanimously advised their members to suspend their routine clinical activities and work solely on dental emergencies [2].

On 22 April, the oral healthcare practices were reopened with the support of ~~a guideline~~[3], the Dutch corona guideline for dental care professionals[3], specifically composed to be able to work under potential severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) transmission circumstances. This guideline acted as a supplement to the prevailing guideline, 'Infection Prevention in Oral Healthcare Practices'[4], adding amongst other minor measures, that staff with COVID-19-like symptoms remained at home, social distancing outside the dental operatory of 1.5 m, triage of patient before they were allowed to enter the practice, and a preprocedural mouth rinse for patients. From 01 December 2020 onwards, according to version 6.0 of the 'Corona Guideline for Dental Care Professionals' in the Netherlands, that both staff and patients wear specific mouth/nose masks not only in the dental operatory but ~~already~~ upon entering the practice premises ~~wearing specific mouth/nose masks became obligatory for both staff and patients~~ [5].

Unique to the dental healthcare setting is the profound generation of aerosol during most treatment procedures. An aerosol contains liquid or solid particles, which can be responsible for micro-organism transfer. Thus, since the 1980s, with the emergence of HIV/AIDS and hepatitis-B infections, oral healthcare workers have been working with personal protective equipment, such as surgical masks (type IIR), gloves, and work glasses. Based on a summary of the available literature, it was concluded that the risk of transmission in oral healthcare practice resulting in infection is unknown but could not be ruled out. Therefore, it was recommended to strictly adhere to the customary high standard of infection prevention measures in the interests of the

patient and practitioner, as stipulated in the Netherlands in the 'Guideline Infection Prevention in Oral Care Practices' [6].

When reviewing the literature on COVID-19 infection prevention measures, it is striking that many articles have been written about measures introduced in various countries. They are often based on the same principles within a similar protocol in a slightly different (oral) healthcare system. However, many of these recommendations lack scientific substantiation, and in almost all cases, an evaluation relating to possible risks is also lacking. Within the last 2.5 years, a tsunami of information about the SARS-CoV-2 virus and COVID-19 has appeared. A brief search on PubMed indicates that as of May 1st 2022 254,230 articles have been published concerning 'COVID-19'. Putting this overwhelming urge to publish into a perspective figure 1 shows how this relates to publications related to field of dentistry. The evaluation of implemented infection prevention measures and preparation of comprehensive guidelines should be considered by oral health researchers and policymakers in order to prevent the dissemination of misinformation.

Based on the limited available literature on COVID-19 concerning oral care in March 2020, about 50 articles, it appeared that the dental setting is probably not a place where SARS-CoV-2 infections arise. At the time, in one of the first articles concerning experiences from Wuhan, the city where the global pandemic started, the authors write that there were no known cases of oral care professionals being infected with the coronavirus [7]. Early information from the Netherlands during the initial phase of the pandemic only concerned medical personnel from an area with a high infection rate [8]. Of 9,705 healthcare employees, 1,353 were tested for fever or respiratory complaints. Of these, 86 (6%) were infected with the SARS-CoV-2 virus. Most of the infected employees had only mild complaints. Dental care professionals were not considered in this analysis, while the presumed risk of infection was high at that time.

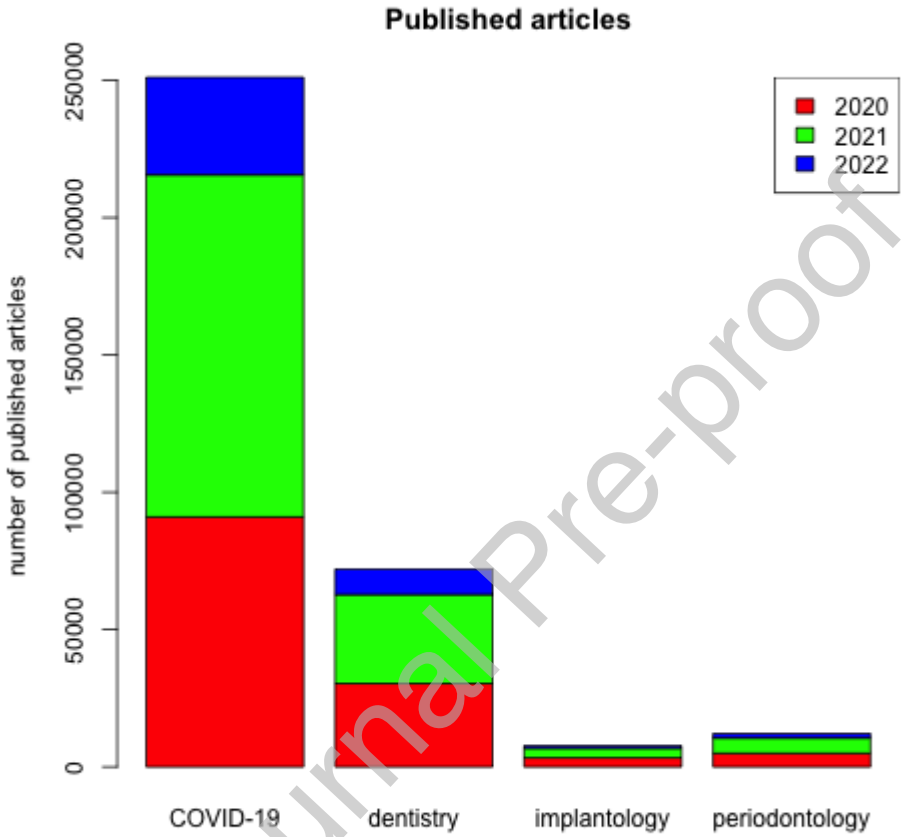
Since 01 June 2020, the Netherlands has made ~~severe acute respiratory syndrome coronavirus 2~~ SARS-CoV-2 PCR testing available for anyone experiencing symptoms compatible with COVID-19 as well as for source and contact tracing. Test results including demographic data, such as occupation field, are nationally registered. This includes the results of all tests that are provided free of charge nationwide, which encompasses around 80% of all SARS-CoV-2 tests in the Netherlands. Based on this material it appears appropriate to evaluate whether there is an increased risk for SARS-CoV-2 virus infections in oral healthcare providers.

Therefore, the purpose of this retrospective analysis was to evaluate the percentage of SARS-CoV-2 positive oral healthcare workers compared with the corresponding percentage for a non-

close-contact occupation reference group based on data extracted from the CoronIT database related to healthcare workers in general.

Figure 1

Graphical illustration of the number of COVID-19 papers as it relates to the field of dentistry in the period 2020-2022 on May 1st 2022.



Material and Methods

This report is an observational retrospective analysis. The STROBE [9] and RECORD [10] guidelines and checklists for observational studies were used. This study complies with the relevant ethical guidelines at university, national, and global levels as described in the 1964 Helsinki declaration [11] and its later amendments [12]. The data were retrieved in aggregated form and, consequentially, irreversibly de-identified. This made revealing any information potentially related to a specific individual, impossible. This manuscript follows up the data presented earlier regarding test-positivity rates by occupation in general in the Netherlands [1].

Procedure

In the Netherlands, individuals experiencing symptoms compatible with COVID-19 (fever, cough, sore throat, shortness of breath, myalgia, runny nose, and sudden loss of smell or taste) can request a test via an online portal or a call center. A question is asked regarding their occupation. The question is posed as follows: "Have you worked in the past two weeks in the capacity of," followed by a list of employment categories potentially associated with SARS-CoV-2 infection risk. If an individual reports having recently worked in healthcare or a close-contact profession, requiring contact with other persons within 1.5 m, a follow-up question is triggered requesting the respondent to select a specific healthcare or close-contact profession. The categories analyzed for the present evaluation are oral healthcare workers (specifically dentists and dental hygienists), healthcare workers, and those with a non-close-contact occupation (for instance: office workers). For dentists, dental hygienists, and healthcare workers, the work setting was registered as a hospital, long-term care facility, or elsewhere. Individuals were categorized in an occupational group only if they reported active work in the 2 weeks before their test.

The 25 regional public health services (PHSs) perform sampling at public test locations. Demographic data including occupation and category of work setting, dates of testing, and laboratory results were entered into a dedicated IT system (CoronIT). The National Institute for Public Health and the Environment (RIVM) accesses the anonymized data in CoronIT for surveillance purposes. For this study, aggregated tables with the number of tested persons and number of positives per month, from June 2020 up to February 2021, were received from the

RIVM. As vaccination in the Netherlands started by the middle of January 2021 the present analysis was only performed on the time period when vaccination was not readily available.

Data organization and statistical analysis

The following variables for this study as recorded at the time of the test results were obtained:

- SARS-CoV-2 test outcome being positive or negative. Test results used are based on polymerase chain reaction (PCR), loop-mediated isothermal amplification (LAMP), and antibody test outcomes.
- Occupational category: dentists or dental hygienists, healthcare worker, and non-close-contact occupations
- If applicable, work setting: hospital, long-term care facility, elsewhere.

Data were statistically analyzed in SPSS (IBM SPSS Statistics for Windows, Version 25.0, Released 2017, Armonk, NY: IBM Corporation). Tested people not included in the groups that were compared groups are excluded from the analysis. Initially, the descriptive statistics using the numbers of negative and positive tests and proportions of positive tests were calculated per occupational category: dentists and dental hygienists, healthcare workers, and non-close-contact occupations were calculated. Individuals who reported working in a non-close-contact occupation were used as a reference group. Healthcare workers and dentists or dental hygienists were further stratified by the setting in which they worked (hospital, long-term care facility, or elsewhere). Differences regarding the test outcomes of the occupational category compared to the reference group and a comparison of dentists and dental hygienists with healthcare workers were evaluated using a chi-square test; p-values were considered statistically significant when $p \leq 0.05$. Additionally, adjusted odds ratios between groups were calculated using the Cochran-Mantel-Haenszel chi-square test. The month was considered as a covariate for this analysis. The stratum specific ratios of month were the same. For this analysis the statistical package R was used (R Core Team, 2021, R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria.URL https://www.R-project.org/.) with epiR [13]. For the interpretation of the magnitudes of the odds ratios the guide as published by Chen et al. 2010 [14] was followed.

Results

Demographics

In total, 1,999,390 people were tested from June 2020 up to February 2021 in the three occupational categories. The total number of tests and the number of positive tests per category are provided in Table 1. Moreover, details on a further distinction based on work settings for dentists and dental hygienists as well as healthcare workers are presented. Taking all the available test results for the three occupational groups together, the mean percentage of positive tests was 9.34 %. Healthcare workers overall presented a numerically higher average percentage of positive tests (9.45%), based on 506,267 tests, than dentists and dental hygienists in regular dental practices, which was 9.24% based on 16,487 tests. The data also show that the highest percentage was found for dentists and dental hygienists in a long-term facility, 11.76% (527tests), and the lowest for those working in a hospital setting, 6.40% (766tests). Figure 2 represents a graphical display of the proportions over time.

Figure 2

The percentage of positive Sars-Cov-2 tests over the 8 month evaluation period in the three occupational categories and with healthcare separated for long care and hospital care.

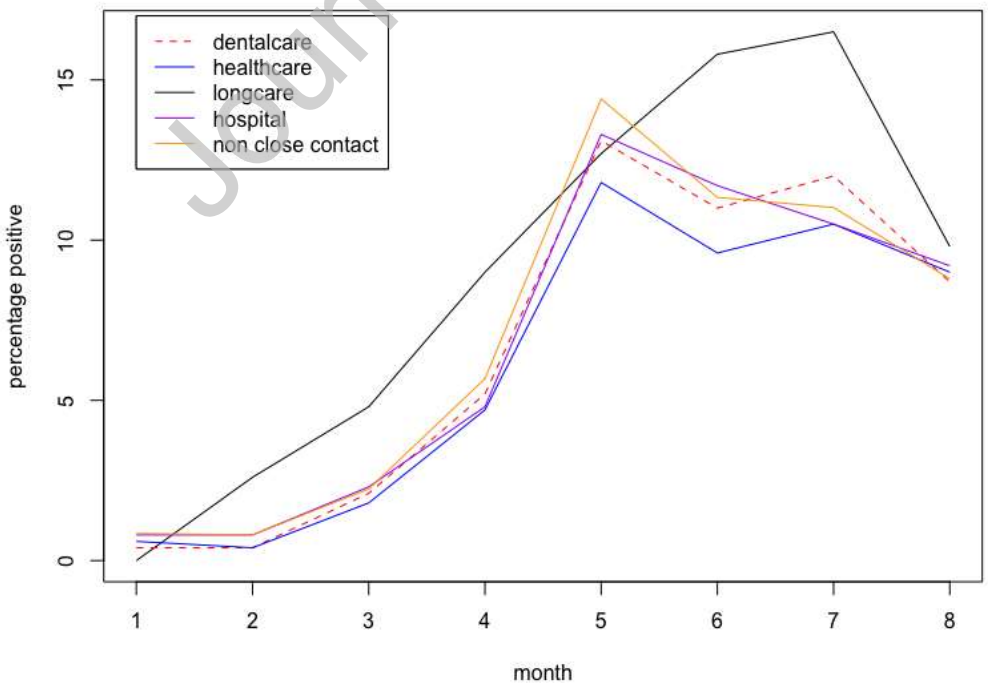


Table 1

Overview of the number of SARS-CoV-2 PCR tests and results for the following occupational categories: dentists and dental hygienists, healthcare workers, and non-close-contact occupations, overall and subdivided per work location

June 2020 up to February 2021		**Total tested**	**Positive tested**	**Percentage positive (%)**
Dentists and dental hygienists	Elsewhere	15,194	1,413	9.3
	Long-term care facility	527	62	11.8
	Hospital	766	49	6.4
	Subgroup overall	**16,487**	**1,524**	**9.2**
Healthcare workers	Elsewhere	313,181	27,468	8.8
	Long-term care facility	140,719	15,869	11.3
	Hospital	52,367	4,520	8.6
	Subgroup overall	**506,267**	**47,857**	**9.5**
Non-close-contact occupation reference group	**Subgroup Overall**	**1,476,636**	**137,317**	**9.3**
Overall		**1,999,390**	**186,699**	**9.3**

Statistical outcomes

The chi-square testing between occupational groups overall (see Table2) showed no difference when dentists and dental hygienists were compared to non-close-contact occupations ($p = 0.82$) nor with healthcare workers ($p = 0.37$). However, sub-analysis per working location showed a significant difference between dentists and dental hygienists working "elsewhere/hospital" and healthcare workers "elsewhere/hospital." Specifically, for these subgroups the proportions over time are graphically presented in figure 3 and 4. Figure 3 illustrates that dental care and health care follow almost the same pattern whereas figure 4

shows that dental care has a lower percentage in almost all months but has a small peak at 7 months.

The adjusted odds ratios with the month as covariate varied from 0.76 to 1.12 (see Table2). The odds ratio for dentists and dental hygienists compared to the non-close-contact occupation reference group was 0.97 [95% CI:0.92;1.02], and compared to healthcare workers, 1.00 [95% CI: 0.95;1.05]. The sub-analysis per working location showed the highest odds ratio between dentists and dental hygienists working “elsewhere” and healthcare workers “elsewhere.” However, based on the magnitudes of the odds ratios found, the probability of a difference in infection rates among occupational groups was interpreted as “no” to a “very small” association [14].

Table 2

Overview of the comparisons between occupational groups regarding the positive and negative tests evaluated using the chi-square test, adjusted odds ratio with the month as covariate, the 95% confidence interval, and the interpretation of the magnitude of the odds ratio.

Comparison		Chi-square test p-value	Adjusted odds with month as covariate	95% confidence interval	Odds ratio interpretation (according to Chen et al. 2010)
Dentists and dental hygienists overall	Non-close-contact occupation reference group	0.82	0.97	0.92; 1.02	None to very small
Dentists and dental hygienists overall	Healthcare workers overall	0.37	1.00	0.95; 1.05	None to very small
Dentists and dental hygienists elsewhere	Healthcare workers elsewhere	0.02	1.12	1.05; 1.18	None to very small
Dentists and dental hygienists long-term care facility	Healthcare workers long-term care facility	0.78	1.07	0.82; 1.39	None to very small
Dentists and dental hygienists hospital	Healthcare workers hospital	0.03	0.76	0.57; 1.02	None to very small

Dentists and dental hygienists elsewhere	Non-close-contact occupation reference group	1	0.97	0.92; 1.03	None to very small

Figure 3

The percentage of positive Sars-Cov-2 tests over the 8 month evaluation period separated for healthcare workers and dentists and dental hygienists working outside of the hospital (elsewhere).

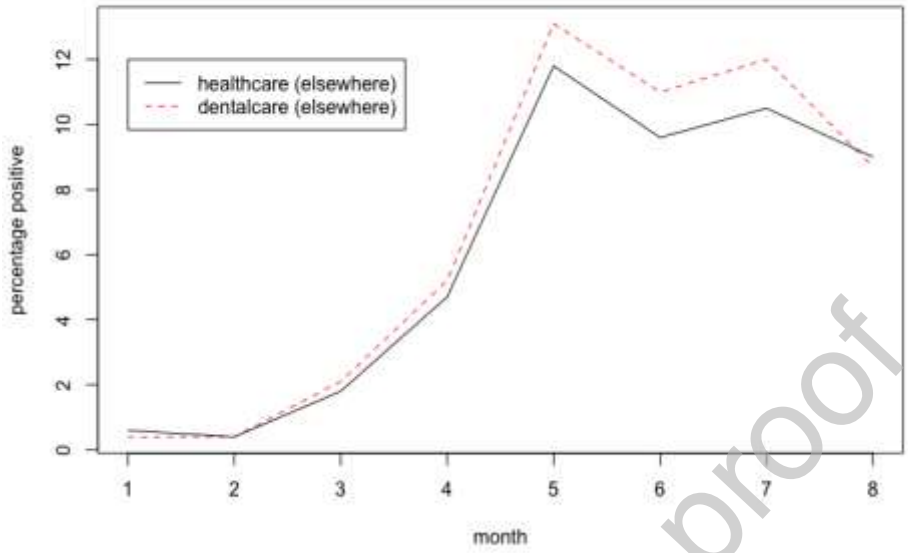
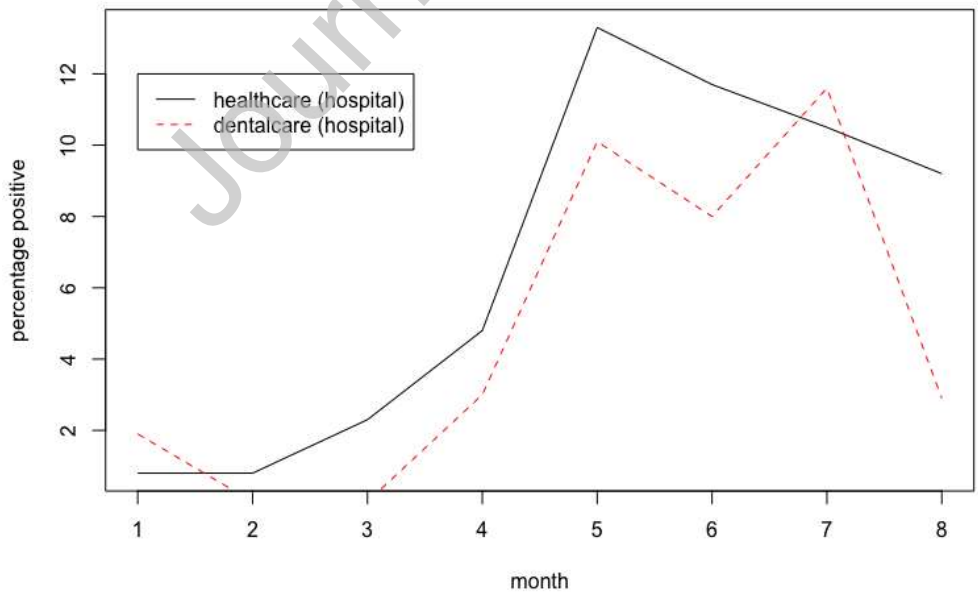


Figure 4

The percentage of positive Sars-Cov-2 tests over the 8 month evaluation period separated for healthcare workers and dentists and dental hygienists working in hospital care



Discussion

Summary of Key Findings

Overall, the percentage of SARS-CoV-2 test-positivity among dentists and dental hygienists when experiencing COVID-19-like symptoms was not higher than among healthcare workers or those with non-close-contact occupations. Working during the pandemic using the Dutch standard hygiene guideline supplemented with the COVID guideline implied adequate personal protective measures and included the following measures in addition to the prevailing guideline: triage before the dental care appointment, 1.5m social distancing, and wearing type II(R) masks on the work floor. An exception was the dental operatory chair, where the patient did not wear a mask, and the 1.5m distance could not be adhered to. The presumption that an dentists and dental hygienists in the Netherlands, working environment with a high frequency of aerosol-generating procedures, are at an increased risk of SARS-CoV-2 contamination due to aerosol-generating procedures does not seem to be supported based on the present results.

Aerosol

At the beginning of the pandemic, dental practices closed their doors, initially fueled by concerns that aerosol-generating dental procedures potentially increase the risk of transmitting respiratory pathogens through saliva [15]. On 15 March 2020, the New York Times even called dental hygienists the workers who face the greatest risk of SARS-CoV-2 virus infection, followed by dental assistants and dentists. This was based on assumptions about how close workers in these professions are to other people and that their work frequently involves aerosol-generating procedures [16]. Based on the results of the present retrospective analysis, it can be concluded that the assumption of an increased risk within the Netherlands was incorrect. An explanation can be found in the results of a recent study, which show that in contrast to the expectation that saliva particles are present in the dental procedural aerosol, 78% of the microbiota in aerosol condensate could be traced to the dental irrigant, while saliva contributed to 0% of aerosol microbiota [15]. These authors also did not identify the SARS-CoV-2 virus in aerosol generated from asymptomatic patients, although the virus was present in low numbers in the saliva. They summarize that when infection control measures such as preoperative mouth rinses and intraoral high-volume evacuation are used, dental treatment does not appear to be a factor increasing the risk of transmission of SARS-CoV-2 from asymptomatic patients. Standard

infection control practices appear sufficiently capable of protecting personnel and patients from exposure to potential pathogens.

Quality of the Present Data

The data from CoronIT are a source for surveillance of the COVID-19 epidemic. Additionally, they allow evaluation of specific subpopulations and occupational groups. Trends and the impact of prevention measures can be assessed. Population-level and subgroup-specific surveillance data can also be considered helpful information for other countries, particularly for those with no similar data. Based on the presented information policy, decisions can be made to reduce COVID-19 infections [1]. Those registered as healthcare workers in CoronIT and considered in the present retrospective analysis were as follows physicians, audiologists, dieticians, physical therapists, occupational therapists, remedial therapists, podiatrists, (clinical) anesthetists, speech therapists, optometrists, nurses, and caregivers [1]. Dentists and dental hygienists are viewed as one subcategory in CoronIT. Denturists, dental assistants, and prophylaxis nurses are categorized as close-contact professionals. Depending on choices made by the interviewer or those who complete the digital form themselves, it cannot be excluded that dental assistants and prophylaxis nurses may have been categorized as dentists and dental hygienists. This would introduce a bias but can be viewed as a limitation, particularly as there are more dental assistants working in the Netherlands than the sum of dentists and dental hygienists [19]. A strength of the database used is that it contained data gathered from June 2020 up to and including March 2021. As oral healthcare offices had reopened from 22 April 2020, the analyzed data contained all oral care professionals who had been back at work for at least 1 month.

Papers on risks for dentists

There are a number of papers addressing the risk of a SARS-CoV-2 infection or COVID-19 for oral care providers. A publication from Italy describes the risk to dental staff in Milan, the epicenter of the COVID-19 outbreak. None of the involved dentists developed COVID-19 [20]. A paper from the American Dental Association describes an estimate of the COVID-19 prevalence among American dentists [21]. A questionnaire was sent via the internet and answered by 2,195 dentists. The answers showed that 92.8% of the dentists had performed aerosol-generating dental procedures in the month before the survey. The prevalence of COVID-19 and positive test results among dentists was found to be low. The same research group also evaluated the cumulative

prevalence and incidence rates of COVID-19 among dentists in a longitudinal study. Over 6 months, the COVID-19 infection prevalence rate was 2.6%. The incidence rates ranged from 0.2% to 1.1% each month. The proportion of dentists tested for the SARS-CoV-2 virus increased over time, as did the rate of dentists performing aerosol-generating procedures. Therefore, the authors concluded that adherence to enhanced infection control procedures resulted in low rates of cumulative prevalence of COVID-19[22]. An online survey was conducted within a population of French dental care professionals. In total, 4,172 dentists responded to the survey. The reported prevalence of laboratory-confirmed COVID-19 was 1.9%. The authors concluded that dentists were not at higher risk of COVID-19 than the general population [23]. A survey form Mexico found the prevalence of COVID-19 among dentist, 14 months into the pandemic, to be 1.6% [24]. A study on COVID-19 seroprevalence in UK oral healthcare workers concluded that enhanced personal protection equipment and infection control practices reduced the risk of occupational exposure to SARS-CoV-2 to background population levels [25]. Based this data it is not possible to know whether dentist were infected with the virus during patient care. However, a study from Israel found the transmission rate of SARS-CoV-2 in dental settings to be very low for both patients and dental staff members [26].

Papers on risks for dental hygienists

A survey from Italy reported that seven out of 2,869 dental hygienists (0.24%) had contracted COVID-19 [27]. A study from the United States included 4,776 dental hygienists from all 50 states and Puerto Rico. Of the respondents, 3.1% had tested positive for SARS-CoV-2 or been diagnosed with COVID-19. Most respondents (99.1%) who practiced dental hygiene reported their practice had enhanced infection prevention or control efforts in response to the pandemic. They concluded that the estimated prevalence rate of dental hygienists in the US having had COVID-19 was low [28]. The results of the present retrospective analysis from the Netherlands, which shows that dentists and dental hygienists appear not to be at a higher risk of SARS-CoV-2 infection than non-close-contact workers, is consistent with the limited information presented above. Whether this can be applied in general to other countries depends on the protocols adhered to for infection prevention and the available personal protective equipment.

Limitations

Several limitations are recognized regarding the retrospective analysis. SARS-CoV-2 testing in the Netherlands during the study period was recommended only when experiencing symptoms compatible with COVID-19 or after contact with a confirmed case. Presymptomatic and asymptomatic people were not tested and consequently not evaluated in the present study. Data on presymptomatic patients is difficult to obtain due to the phenomenon of being without symptoms itself. However, it can be assumed that the percentage of infections resulting from a presymptomatic patient is higher than from an asymptomatic patient. [29,30,31] Compared to March 2020, more is known about asymptomatic patients. Available data suggest that the percentage of people who become infected with SARS-CoV-2 but remain asymptomatic during infection is approximately 20-30% [32, 33, 34]. Longitudinal studies suggest that nearly three quarters of persons who receive a positive PCR test result but have no symptoms at the time of testing will remain asymptomatic [34]. The unit of observation was the number of tests and not the number of persons taking tests. This creates considerable uncertainty and risk of bias because it is unclear whether differences exist across occupational groups such that the number of tests are not directly proportional to the number of persons taking tests. Variation in test behavior may have occurred due to differences in risk perception of individuals in the different occupational groups. Early in the pandemic, it was suggested that oral healthcare workers were more at risk of SARS-CoV-2 contamination. This may have enhanced the willingness of dentists and dental hygienists for testing and increased the number of tests taken and subsequently the relative number of negative test results. Those individuals employed by a hospital or long-term care facility with direct links to a hospital were provided the opportunity to be tested via their employer (the hospital laboratory). This may have introduced a selection bias as these tests were not registered in the CoronIT database and are therefore not included in the analysis. Data obtained based on contact tracing were not considered for this analysis as the RIVM did not consider this necessary for professions using adequate personal protective equipment, such as is the normal procedure for dentists and dental hygienists.

Conclusion

The CoronIT system provides the unique potential for detailed nationwide surveillance of SARS-CoV-2 by the population subgroup of dental care providers in the Netherlands. During the pandemic oral healthcare providers were required to follow~~ed~~ the COVID-19-specific amendments to the national infection control guidelines which in addition included: triage

before the dental care appointment, 1.5m social distancing, and wearing type II(R) face masks on the work floor. Based on the data gathered dentists and dental hygienists with COVID-19-like symptoms did not test SARS-CoV-2 positive more often than other healthcare workers or those with a non-close-contact occupation. This supports the assumption that working during the pandemic using the Dutch standard hygiene guideline supplemented with the COVID guideline for oral health care is adequately safe.

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