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Original Article

# Effects of Mask Usage During the COVID-19 Pandemic on Sign and Symptoms of Temporomandibular Joint Disorder: A Survey Study

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**Main Points**

- During the use of N95 respirator masks, an increase in mouth breathing and mask-related parafunctional movements was observed.
- The increase in pain during the pandemic period in individuals who selected N95 respirators as their professional mask was higher than in those who used surgical masks.
- The increase in temporomandibular joints pain and muscle pain at rest during the pandemic period was higher in those who chose N95 respirators than in those who chose to wear a single surgical mask.

## ABSTRACT

**Objective:** To evaluate possible temporomandibular disorders (TMD) symptoms that may occur due to mask use in dentists during the coronavirus disease-2019 pandemic period and identify potentially effective factors.

**Methods:** An online questionnaire consisting of three parts was sent to dentists and clinical dental students. The first part included questions regarding sociodemographic information. In the second part, questions were asked to evaluate stress levels, TMD symptoms, and treatment of TMD, if any, before (T0) and during the pandemic (T1). In the last part, professional mask choice, mask-related parafunctional movements, and breathing patterns while wearing a mask were evaluated.

**Results:** TMD symptoms and stress levels were significantly higher at T1. An increase in mouth breathing and mask-related parafunctional movements was reported during the use of N95 masks compared with daily life in dentists whose professional mask selection was an N95 respirator. The change in temporomandibular joints pain and muscle pain at rest between T0 and T1 was higher in those whose professional mask choice was N95 respirators than in those who chose to wear one surgical mask.

**Conclusion:** The increase in mouth breathing and mask-related parafunctional movements during the use of N95 respirators may increase TMD.

**Keywords:** COVID-19, N95 respirators, surgical mask, temporomandibular joint disorder

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## INTRODUCTION

The novel Coronavirus disease-2019 (COVID-19) was first detected in Wuhan City, China, and the World Health Organization (WHO) China Country Office was informed of cases of pneumonia with unknown etiology on December 31 2019.[1] WHO announced COVID-19 to be a pandemic on March 11, 2020.[2]

Studies have shown that interpersonal transmission of the coronavirus causing COVID-19 (severe acute respiratory syndrome-coronavirus-2) occurs through respiratory droplets, contact, airborne, and fomite transmission; thus, governments have either recommended or made compulsory that facemasks be used in public areas.[3] Wearing facemasks in public areas was compulsory in Turkey between September 8, 2020, and April 27, 2022.[4] Researchers have reported that although standard surgical masks are sufficient during daily activities, FFP2 or more protective masks are necessary in occupations that involve exposure to respiratory droplets.[5]

An article titled "The Workers Who Face the Greatest Coronavirus Risk" was published by the New York Times in March 2020 with a chart demonstrating that dentists and other dental care workers who face the greatest risk of getting infected by the new coronavirus highlighted their frequency of exposure to the disease and physical proximity to others, in this case, patients.[6]

According to the report of the WHO science briefing in July 2020, transmission through aerosols has necessitated the use of filtering facepiece respirators, such as FFP2/N95 or FFP3/N99 respirators, during aerosol-generating procedures in the field of healthcare.[3] Additionally, it has been reported that healthcare workers should use personal protective equipment such as face shields/goggles, and gowns during these procedures.[7]

Ong et al.[8] noticed that the prolonged use of masks increased the prevalence of headaches, especially for individuals with a history of headaches; however, they also found that long-term mask use does not reduce the oxygen saturation level in the blood. In addition to headaches, other discomforts reported while wearing a mask include nasal bridge scarring,[9] facial itching,[9] rash/irritation,[10] and discomfort related to increased facial temperatures.[11] In the study conducted by Luximon et al.,[12] participants reported an increase in humidity, breathing difficulty, and overall discomfort while wearing facemasks, especially while wearing the N95 mask and in situations that required speaking.

The increase in the number of patients with temporomandibular disorder (TMD) who presented to our clinic during the pandemic period and the reporting that parafunctional habits such as clenching, mouth breathing, and keeping the mask in place or fixing it became more frequent among our colleagues, especially during the use of N95 respirators, led us to conduct this study. The aim of this study was to evaluate possible TMD symptoms that may occur due to mask use among dentists during the COVID-19 pandemic period and identify potentially effective factors.

## METHODS

This study was approved by the Turkish Ministry of Health (2021-04-07T11_42_33) and the Bezmialem Vakıf University Non-Invasive Ethics Committee (approval no.: 2021/168, date: 29.04.2021). A questionnaire was created online through Google Forms (Google LLC, Mountain View, CA, USA) and sent to dentists and clinical dental students via e-mail, WhatsApp, and social media platforms (Instagram, Twitter). Dentists who were not working during the pandemic period and preclinical dental students were excluded from the study.

The questionnaire consisted of three parts. The first part included questions on demographic information, including age, sex, status, institution, and weekly working hours. In the second part, questions were asked to evaluate stress levels and TMD symptoms (limitation of mouth opening, temporomandibular joints (TMJ) and masticatory muscle pain at rest and function, alteration during function, TMJ sounds, jaw locking, or luxation), and treatment of TMD if any of individuals for before (T0) and during the COVID-19 pandemic period (T1). Individuals were requested to score their stress levels, pain levels, and levels of limitation of mouth opening on a visual analog scale of 0 (none) to 10 (high). In the last part, professional mask choice, mask-related parafunctional jaw movements (lateral or protrusive positioning of the mandible, grinding, repetitive mouth opening and closing, involuntary mouth opening), and breathing pattern while wearing a mask were evaluated. The last two criteria were also questioned regarding mask usage in their routine lives. A sample of the questionnaire is included in Appendix 1. The data were collected from May 25 to August 15, 2021.



### Statistical Analysis

A total of 554 individuals filled out the questionnaire. Fifty-nine of them stated that they were not actively working; thus, these individuals were excluded from the analyses, and the statistical analyses were conducted on the data collected from 505 individuals.

The analyses were performed using IBM SPSS Statistics software (version 22.0; IBM Corp., Armonk, NY). The data are expressed as mean and standard deviation or frequency with percentage values for the variables. Data normality was assessed using the Shapiro-Wilk test. Comparison of limitation of mouth opening, TMJ, and masticatory muscle pain during rest and function in different periods (T0: before the COVID-19 pandemic, T1: during the pandemic) was performed using the Wilcoxon Signed-Rank test. Changes in terms of TMD symptoms between the periods (ΔT0/T1) in the groups formed according to their mask preferences while performing dental procedures (Group 1: one surgical mask, Group 2: two surgical masks, Group 3: N95/FFP2

or N95/FFP2 + surgical mask) were analyzed using the Kruskal-Wallis test. The Bonferroni post-hoc test was used to determine the source of the differences that were found to be significant.

McNemar's test was used to compare breathing patterns and parafunctional movements (keeping mouth open, teeth clenching, lateral or protrusive movement of the mandible, opening and closing the mouth repeatedly to adjust the mask) while performing dental procedures and in daily life between the groups. Spearman's rank correlation coefficient was used to examine the correlation between weekly working hours and TMD symptoms. The level of statistical significance was accepted as $p<0.05$.

## RESULTS

The distributions of the participants' demographic characteristics, including age, sex, status, institution, weekly working hours, and professional mask choice, are given in Table 1. The results of the comparison of TMD symptoms, including limitation of mouth opening, TMD and masticatory muscle pain during rest and function, and stress levels between T0 and T1, are shown in Table 2. All these symptoms and stress levels were found to be significantly higher at T1 than at T0 ($p<0.001$).

While the number of participants reporting no alteration in function decreased during the COVID-19 pandemic period, an increase was observed in the number of individuals who reported functional alterations (TMJ sounds, locking, or luxation). Furthermore, the number of participants with painless function decreased, and those who experienced pain during one or more movements (opening or closing the mouth, lateral or protrusive movement of the mandible) increased from T0 to T1. While 52 of the participants reported that they had received treatment for TMD (painkillers, anti-inflammatory drugs, muscle relaxants, oral splints, physical therapy, TMJ surgery, or Botox injections) before the pandemic, 53 participants reported that they had received treatment during the pandemic period (Table 3). Among the participants who received treatment for TMD during the pandemic, 29 individuals started treatment during the pandemic period without having received any prior treatment, whereas 24 individuals had received treatment before the pandemic and continued their treatment during the pandemic period.

Changes in TMD symptoms between the periods (ΔT0/T1) in the groups formed according to mask preferences while performing dental procedures are demonstrated in Table 4. The results revealed a statistically significant difference in the change in TMJ pain at rest ($p=0.01$) and masticatory muscle pain at rest ($p=0.008$) only between Group 1 and Group 3. The results of the comparison of breathing patterns and parafunctional activities while performing dental procedures and in daily life within the groups are shown in Table 5. Statistically significant differences in breathing patterns and the presence of parafunctional activities were detected only in Group 3 ($p<0.001$). No correlation was found between working hours and TMD symptoms ($p<0.05$).

**Table 1.** Socio-demographic characteristics of the participants (n=505)

| Age (years) | n | Percentage |
|---|---|---|
| 20-25 | 175 | 34.7% |
| 25-30 | 141 | 27.9% |
| 30-40 | 86 | 17% |
| 40-50 | 46 | 9.1% |
| 50-60 | 37 | 7.3% |
| 60+ | 20 | 4% |
| **Gender** | | |
| Female | 346 | 68.5% |
| Male | 159 | 31.5% |
| **Type of institution** | | |
| Governmental oral and dental health center | 47 | 9.3% |
| Private dental office | 103 | 20.4% |
| Private dental polyclinic/hospital | 114 | 22.6% |
| University | 241 | 47.7% |
| **Profession** | | |
| Clinical dental student | 139 | 27.5% |
| Postgraduate student | 71 | 14.1% |
| Dentist | 194 | 38.4% |
| Dental specialist | 101 | 20% |
| **Weekly working time** | | |
| <10 hours | 100 | 29.8% |
| 10-20 hours | 89 | 17.6% |
| 20-30 hours | 63 | 12.5% |
| 30-40 hours | 123 | 24.4% |
| 40< hours | 130 | 25.7% |
| **Professional mask choice** | | |
| One surgical mask | 44 | 8.7% |
| Two surgical masks | 80 | 15.8% |
| N95/FFP2 or N95/FFP2 + surgical mask | 381 | 75.5% |

**Table 2.** Comparison of TMD symptoms and stress levels between T0 and T1

| | T0 | | T1 | | |
|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | p-value |
| Limitation of mouth opening | 0.37 | 0.81 | 0.64 | 1.05 | **<0.001*** ** |
| TMJ pain at rest | 0.77 | 1.45 | 1.21 | 1.83 | **<0.001*** ** |
| TMJ pain in function | 0.76 | 1.31 | 1.36 | 2.00 | **<0.001*** ** |
| Muscle pain at rest | 0.87 | 1.46 | 1.49 | 2.07 | **<0.001*** ** |
| Muscle pain in function | 0.96 | 1.56 | 1.62 | 2.24 | **<0.001*** ** |
| Stress level | 4.30 | 2.22 | 6.03 | 2.32 | **<0.001*** ** |

***p<0.001
TMD, temporomandibular disorder; TMJ, temporomandibular joints

**Table 3.** Distribution and frequency of the treatment of TMD, functional alterations, and pain status in T0 and T1

| | | T0 | | T1 | |
|---|---|---|---|---|---|
| | | n | % | n | % |
| Functional alterations | Normal function | 386 | 76.4% | 348 | 68.9% |
| | TMJ sounds (clicking or crepitus) | 119 | 23.6% | 150 | 29.7% |
| | Jaw locking or luxation | 0 | 0% | 7 | 1.4% |
| Pain during function | Painless function | 462 | 91.5% | 404 | 80% |
| | Pain during one movement* | 36 | 7.1% | 76 | 15% |
| | Pain during at least 2 movements* | 7 | 1.4% | 25 | 5% |
| Treatment of TMD | Presence | 52 | 10.3% | 53 | 10.5% |
| | Absence | 453 | 89.7% | 452 | 89.5% |

*Opening the mouth, closing the mouth, lateral or protrusive movements of the mandible
TMD, temporomandibular disorder; TMJ, temporomandibular joints

## DISCUSSION

Temporomandibular disorders are multifactorial conditions affecting both soft or hard tissues. Trauma,[13] emotional state,[14,15] malocclusion[16,17] and oral parafunctions[18,19] can be counted among the known etiological factors for TMD. Oral, masticatory, and facial behaviors that do not serve any functional purpose are generally referred to as oral parafunctions.[20] These behaviors are usually harmless; however, when their frequency or the forces induced by them exceed physiological tolerance, they can cause harmful effects on joints and muscles. Commonly reported oral parafunctions include teeth clenching and grinding, nail biting, and gum chewing.[21,22] The aim of this study was to evaluate possible TMD symptoms that may occur due to mask use among dentists during the COVID-19 pandemic and to identify potentially effective factors, including parafunctional movements associated with mask preference.

TMD presents with bilateral or unilateral symptoms such as muscle pain, headaches, TMJ sounds, jaw locking or luxation, tinnitus, and restricted mouth opening.[23,24] Some conditions, such as toothaches, earaches, maxillary sinusitis,



**Table 4.** Intergroup comparison of the change in TMD symptoms between the periods (ΔT0-T1)

| (ΔT0-T1) | Group 1 (n=44) | | Group 2 (n=80) | | Group 3 (n=381) | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | p-value | Post-hoc p-value | |
| ΔLimitation of mouth opening | 0.06 | 1.06 | 0.2 | 0.8 | 0.3 | 0.9 | 0.19 | | |
| ΔTMJ pain at rest | -0.02 | 1.48 | 0.27 | 0.01 | 0.52 | 1.35 | **0.01**** | Group 1-3 | **0.02*** |
| ΔTMJ pain in function | 0.34 | 2.03 | 0.46 | 1.01 | 0.65 | 1.47 | 0.23 | | |
| ΔMuscle pain at rest | 0.04 | 0.65 | 0.32 | 0.91 | 0.74 | 1.61 | **0.008**** | Group 1-3 | **0.04*** |
| ΔMuscle pain in function | 0.18 | 2.03 | 0.47 | 1.00 | 0.76 | 1.50 | 0.05 | | |

*p<0.05; **p<0.01
T0, before the pandemic; T1, during the pandemic; TMJ, temporomandibular joints; SD, standard deviaiton

**Table 5.** Intragroup comparison of breathing patterns and parafunctional movements while performing dental procedures and in daily life

| | | | Daily life | | Performing dental procedure | | |
|---|---|---|---|---|---|---|---|
| | | | n | % | n | % | p-value |
| **Group 1 (n=44)** | **Breathing pattern** | Nasal breath | 21 | 48% | 20 | 45% | 0.51 |
| | | Mouth breath | 4 | 9% | 3 | 7% | |
| | | Nasal and mouth breath | 19 | 43% | 21 | 48% | |
| | **Parafunctional movement** | Presence | 29 | 66% | 29 | 66% | 1 |
| | | Absence | 15 | 34% | 15 | 34% | |
| **Group 2 (n=80)** | **Breathing pattern** | Nasal breath | 37 | 46% | 39 | 49% | 0.47 |
| | | Mouth breath | 12 | 15% | 13 | 16% | |
| | | Nasal and mouth breath | 31 | 39% | 28 | 35% | |
| | **Parafunctional movement** | Presence | 50 | 63% | 55 | 69% | 0.33 |
| | | Absence | 30 | 38% | 25 | 31% | |
| **Group 3 (n=381)** | **Breathing pattern** | Nasal breath | 195 | 51% | 145 | 38% | **<0.001***** |
| | | Mouth breath | 25 | 7% | 55 | 14% | **<0.001***** |
| | | Nasal and mouth breath | 161 | 42% | 181 | 48% | **0.03*** |
| | **Parafunctional movement** | Presence | 234 | 61% | 297 | 78% | **<0.001***** |
| | | Absence | 147 | 39% | 84 | 22% | |

*p<0.05; ***p<0.001

carcinomas, neuralgias, salivary gland diseases, acromegaly, Eagle syndrome, migraine, and high blood pressure, mimic the symptoms of TMD.[25] This study excluded clinical examinations and was based on the self-reports of the participants. To prevent confusion of TMD symptoms with the other conditions mentioned above, the questionnaire was administered only to dentists and clinical dental students. The participants were asked to evaluate their TMD signs and symptoms in one specific period (before and during the COVID-19 pandemic period).

The participants in this study reported an increase in TMD symptoms during the pandemic compared with those before the pandemic. Etiological factors such as professional mask preferences, duration of mask use, parafunctional habits that could be formed due to wearing a mask, and stress were investigated in this study.

Of the participants, 75.5% reported that their choice of professional mask was N95/FFP2 or N95/FFP2 + surgical mask, 15.8% chose to wear two surgical masks on top of each other, and 8.7% preferred one surgical mask. In the comparison of the TMD symptoms among the groups created according to their professional mask choices, there was no significant difference in terms of the limitation of mouth opening or TMJ and masticatory muscle pain at function. However, the difference in the change of TMJ pain and masticatory muscle pain at rest was higher in Group 3 than in Group 1.



The participants in Group 3 stated that their mouth breathing and mask-related parafunctional movements (lateral or protrusive positioning of the mandible, grinding, repetitive mouth opening and closing, involuntary mouth opening) increased compared with daily life during the use of N95 masks. Neither of the other groups reported a significant difference. This result also indicated the impact of FFP2/N95 use on breathing patterns and parafunction, which may explain the increase in TMJ and masticatory muscle pain at rest during the pandemic period among individuals who preferred N95 respirators as their mask preference (Group 3) compared with those who preferred one surgical mask (Group 1). Supporting the findings of this study, there are studies reporting a significant relationship between parafunctional habits, mouth breathing, and TMD.[26,27] Kojima et al.[28] reported that involuntary mouth opening, like bruxism, may play a role in the development of TMDs. Scheid et al.[24] reported that the sustained use of masks increased the prevalence of headaches in individuals with a history of headaches but also noticed that long-term mask usage does not reduce oxygen saturation levels in the blood. This finding led to the suspicion of other causes of headaches that could be related to mask use. The increasing number of patients who consulted our clinic with TMJ complaints during the COVID-19 pandemic and our colleagues reporting the adoption of parafunctional behaviors during mask use prompted the need to investigate the effects of facemask use on TMJ.

The present study explored the possible effects of prolonged mask usage on TMD during the COVID-19 pandemic. To evaluate the relationship between professional mask-wearing duration and TMD signs and symptoms, the participants were asked about their weekly working hours. No significant correlation was found between weekly working hours and TMD symptoms. Although the weekly working hours of the participants were expected to provide information about the duration of their professional mask usage, this period may not completely reflect the time worked with the mask or long-term use of masks in daily life, which may explain the lack of correlation.

The association between depression and stress and different physical symptoms of TMD is widely acknowledged.[14,15] A study on patients with TMD revealed that increased stress levels during the pandemic led to an increase in parafunctional habits (awake and sleep bruxism, clenching) and sleeping disorders (variation in the quality and duration of sleep, fatigue).[29] A recent meta-analysis of 13 studies showed that depression, anxiety, and insomnia were highly prevalent among healthcare professionals.[30] Considering this information, it should be noted that stress is a significant factor for TMD. According to the self-reports of the participants in this study, their stress levels increased during the pandemic compared with pre-pandemic period.

### Study Limitations

Although the purpose of this study was to investigate the effects of mask usage on TMD, a limitation of our study is that the etiology of TMD is multifactorial, and one factor cannot be evaluated alone. Another limitation is that the TMD symptom data in this study were not based on clinical examinations, but were recorded according to the self-reports of the participants. Additionally, information about the pre-pandemic period was collected during the pandemic period.

## CONCLUSION

The results of this study indicated that an increase in TMD was observed in dentists during the pandemic period. The degree of change in TMJ pain and masticatory muscle pain at rest between the periods (ΔT0/T1) was higher in participants whose professional mask choice was N95 respirator or an N95 respirator with a surgical mask cover than in those who chose to wear a surgical mask. An increase in mouth breathing and mask-related parafunctional movements was reported during the use of N95 respirator masks compared with daily life in dentists who selected N95 respirators as their professional masks.

### Ethics

**Ethics Committee Approval:** This study was approved by the Turkish Ministry of Health (2021-04-07T11_42_33) and the Bezmialem Vakıf University Non-Invasive Ethics Committee (approval no.: 2021/168, date: 29.04.2021).

**Informed Consent:** A survey study.

**Author Contributions:** Concept - E.S.A., İ.A., E.D.Ş.; Design - E.S.A., İ.A., E.D.Ş.; Data Collection and/or Processing - E.S.A., İ.A., E.D.Ş.; Analysis and/or Interpretation - E.S.A., E.D.Ş.; Literature Review - E.S.A., İ.A.; Writing - E.S.A., İ.A.

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| Appendix 1. The samples of the questionnaire used in this study | |
|---|---|
| **Questions asked to assess temporomandibular joint (TMJ) and stress level both before and during the pandemic** | |
| **Questions** | **Answers** |
| - Your level of limitation in mouth opening before/during the pandemic<br>(Pandemiden önce/pandemi döneminde ağız açmadaki kısıtlılık seviyeniz) | (Normal range) 0-1-2-3-4-5-6-7-8-9-10 (Severely restricted movement) |
| - Pain in your TMJ at rest before/during the pandemic<br>(Pandemiden önce/pandemi döneminde istirahat halindeyken temporomandibular ekleminizdeki (TME) ağrı) | (None) 0-1-2-3-4-5-6-7-8-9-10 (Very severe and constant pain) |
| - Pain in your TMJ during function (opening, closing, protrusion or lateral movements) before/during the pandemic<br>(Pandemiden önce/pandemi döneminde fonksiyon sırasında ekleminizdeki ağrı) | (None) 0-1-2-3-4-5-6-7-8-9-10 (Very severe and constant pain) |
| - Pain in your masticatory muscles at rest before/during the pandemic<br>(Pandemiden önce/pandemi döneminde istirahat halinde çiğneme kaslarınızdaki ağrı) | (None) 0-1-2-3-4-5-6-7-8-9-10 (Very severe and constant pain) |
| - Pain in your masticatory muscles at function (opening, closing, protrusion or lateral movements) before/during the pandemic<br>(Pandemiden önce/pandemi döneminde fonksiyon sırasında çiğneme kaslarınızdaki ağrı) | (None) 0-1-2-3-4-5-6-7-8-9-10 (Very severe and constant pain) |
| - Change in the normal function of TMJ while opening and closing the mouth before/during the pandemic<br>(Pandemiden önce/pandemi döneminde ağız açma - kapama sırasında TME'nin normal fonksiyonundaki değişim)<br>- Please tick only one option. | ○ Sounds in TMJ area (clicking or crepitus), Shift in function<br>○ Jaw locking or luxation<br>○ Normal function |
| - Pain in TMJ during opening, closing, protrusion, and lateral excursion of the mandible before/during the pandemic<br>(Pandemiden önce/pandemi döneminde mandibulanın açma, kapama, protruzyon ve lateral hareketleri sırasında TME'de ağrı)<br>- Please tick only one option. | ○ Pain during any one of the movements of mandible<br>○ Pain during at least two of the movements of mandible<br>○ Painless movement |
| - What treatment(s) did you receive for temporomandibular joint dysfunction (TMD) before/during the pandemic?<br>(Pandemiden önce/pandemi döneminde TMD sebebiyle hangi tedavi/tedavileri gördünüz?)<br>- Please tick one or multiple option. | ○ Medication ○ TMJ splint<br>○ Botox ○ Physical therapy<br>○ TMJ surgery ○ None<br>○ Other: |
| -Your stress level before/during the pandemic<br>(Pandemiden önceki/pandemi dönemindeki stress seviyeniz) | (None) 0-1-2-3-4-5-6-7-8-9-10 (Very high stress) |
| **Questions about mask usage during the pandemic (after March 2020).** | |
| - How many hours do you work in a week on average?<br>(Haftada ortalama kaç saat çalışıyorsunuz?)<br>- Please tick only one option. | ○ I am not working. ○ 20-30 hours<br>○ Less than 10 hours. ○ 30-40 hours<br>○ 10-20 hours. ○ More than 40 hours |
| - How many days a week do you work?<br>(Haftada kaç gün çalışıyorsunuz?) | I am not working-1 day-2 days-3 days-4 days-5 days-6 days -7 days |
| - Which of the following masks do you use while practicing your profession?<br>(Hasta baktığınız sırada aşağıdaki maskelerden hangisini kullanıyorsunuz?)<br>- Please tick only one option. | ○ One surgical mask<br>○ Double surgical mask<br>○ Respirator only (N95/FFP2, FFP3, etc.)<br>○ Both surgical mask and a respirator<br>○ I do not use a mask |
| - How would you evaluate the adaptation of the mask you use with your face?<br>(Kullandığınız maskenin yüzünüzle uyumunu nasıl değerlendiriyorsunuz?)<br>- Please tick only one option. | ○ It is perfect, it adapts very well.<br>○ It is big, there is an adaptation problem.<br>○ It is small, there is an adaptation problem. |
| - Which of the following(s) are you doing when practicing your profession while wearing a mask?<br>(Hasta baktığınız sırada maske takılıyken aşağıdakilerden hangisini/hangilerini yapıyorsunuz?)<br>- Please tick one or multiple option. | ○ I involuntarily keep my mouth open.<br>○ I involuntarily grit my teeth.<br>○ I involuntarily position my jaw to the right, left or front.<br>○ I open and close my mouth to adapt the mask to my face.<br>○ None |
| - How do you breathe when performing your profession while wearing a mask?<br>(Hasta baktığınız sırada maske takılıyken nasıl solunum yapıyorsunuz?)<br>- Please tick only one option. | ○ I am breathing from my mouth.<br>○ I am breathing from my nose.<br>○ I am breathing from both my nose mouth. |
| - What are the difficulties you encounter while working with the mask?<br>(Maske ile çalışırken karşılaştığınız zorluklar nelerdir?)<br>- Please tick one or multiple option. | ○ My mask is slipping up/down.<br>○ My mask is slipping to the right/left.<br>○ My glasses/face shield are fogging up.<br>○ I have trouble breathing.<br>○ Other: |
| - Which of the following(s) are you doing when wearing a surgical mask in daily life?<br>(Gündelik hayatta cerrahi maske takılıyken aşağıdakilerden hangisini/hangilerini yapıyorsunuz?)<br>- Please tick one or multiple option. | ○ I involuntarily keep my mouth open.<br>○ I involuntarily grit my teeth.<br>○ I involuntarily position my jaw to the right, left or front.<br>○ I open and close my mouth to adapt the mask to my face.<br>○ None |
| - How do you breathe while wearing a surgical mask in daily life?<br>(Gündelik hayatta cerrahi maske takarken nasıl solunum yapıyorsunuz?)<br>- Please tick only one option. | ○ I am breathing from my mouth.<br>○ I am breathing from my nose.<br>○ I am breathing from both my nose mouth. |