

Telephone consultation as a substitute for face-to-face consultation during the COVID-19 pandemic

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ABSTRACT

INTRODUCTION: The health authorities have recommended that face-to-face consultations be substituted by telephone consultations to reduce the risk of virus transmission in outpatient clinics during the coronavirus disease 2019 (COVID-19) pandemic. The aim of the present study was to assess the frequency of such telephone consultations and families' evaluations of them in a paediatric outpatient clinic during the initial weeks of the COVID-19 pandemic lockdown.

METHODS: During the period from 16 March to 23 April 2020, telephone consultations substituting face-to-face consultations in children and adolescents from 0 to 19 years of age were prospectively recorded. In subsequent telephone interviews, families were asked about their views on the telephone consultation.

RESULTS: During the observation period, the clinic had 499 scheduled face-to-face appointments and 112 (22.4%) substitute telephone consultations. A total of 103 families participated in a telephone interview representing 87 (84.5%) children with atopic diseases and 16 (15.5%) with other conditions. A total of 100 (97.0%) of the families agreed or strongly agreed that they felt good about being offered a substitute telephone consultation; 14 (13.6%) said that a telephone consultation was not the best option, whereas 89 (80.4%) would not have preferred a face-to-face consultation; 98 (95.1%) felt that the telephone consultation was useful to them.

CONCLUSIONS: A minority of planned face-to-face consultations was substituted by telephone consultations during the COVID-19 pandemic lockdown. Families were satisfied with substitute telephone consultations.

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Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a novel virus belonging to the coronavirus family, which originated in Wuhan, China, during December 2019. Infection with the virus was designated coronavirus disease 2019 (COVID-19) [1]. On 11 March 2020, the potentially life-threatening COVID-19 infection was declared a pandemic by the World Health Organization and comprehensive strategies to reduce the effects of the pandemic were recommended [2]. During the following days, health guidelines and regu-

lations were reshaped by governments and health authorities and hospital functions were reorganised to cope with an expected high admittance rate of critically ill COVID-19 patients. On 12 March 2020, Danish Regions and the Association of Specialist Practitioners issued a guideline which recommended that face-to-face consultations in secondary outpatient clinics be substituted by telephone consultations to reduce the risk of COVID-19 transmission [3]. This would imply that patients with an increased risk of contracting infection and patients with symptoms that might be suspected to be due to COVID-19 would be offered consultations though they would not be given the opportunity to attend clinics. The aim of the present study was to assess the frequency of telephone-substituted consultations and families' evaluations of such consultations in a paediatric outpatient clinic during the initial weeks of the COVID-19 pandemic lockdown.

METHODS

On 15 March, we informed on posters at the entrance to the Children's Clinic Randers and on our website and telephone answering machine that our clinic would be open and running as usual during the COVID-19 pandemic [4]. Information was provided that a telephone consultation was recommended as a substitute for face-to-face consultation in cases of suspected symptoms that were possibly due to COVID-19 or in cases where families for other reasons would prefer not to attend the clinic during the pandemic. In an observational design, telephone consultations substituting face-to-face consultations on the initiative of families to children and adolescents from 0 to 19 years of age who had previously attended the clinic at least once were prospectively recorded during the period from 16 March to 23 April 2020. All families who called and canceled a face-to-face consultation were asked the following open question: What is the reason why you want to cancel your face-to-face consultation? Furthermore, they were informed about the possibility to speak on the phone with the specific experienced clinic health worker (a doctor or a nurse) with whom they had a pre-booking for a face-to-face consultation. Subsequently, the family member who had participated in the telephone consul-

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tation received a phone call from a research assistant (TOW) who did not take part in any of the telephone consultations. The family member was asked to participate in an interview which was focused on four evaluation topics: 1) Overall, I feel good about the possibility of substituting our face-to-face appointment with a telephone consultation; 2) I would have preferred a face-to-face consultation; 3) I feel that the telephone consultation was useful to us (I feel that our questions were answered; and/or I feel that relevant information was given; and/or I feel happy about the treatment plan for my child); 4) I am satisfied with the duration of the telephone consultation.

If the family could not be reached by phone on the first occasion, two more attempts were made to call the family on the following two evenings.

The questions were evaluated on a five-point Likert scale: 1) I strongly disagree; 2) I disagree; 3) I neither agree nor disagree; 4) I agree; or 5) I strongly agree [5].

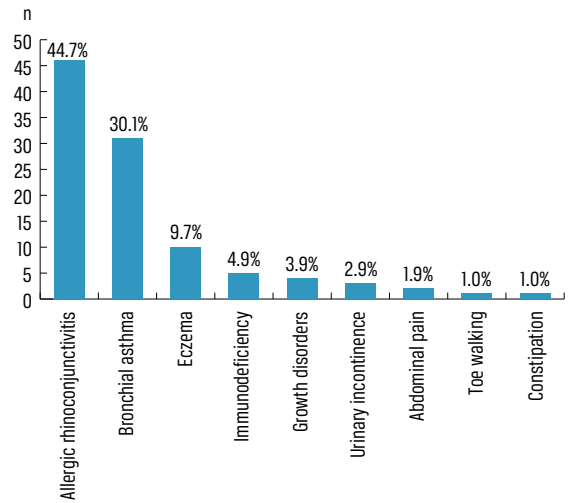
Information about the reasons for wanting to substitute the face-to-face consultation, the duration of the telephone consultation and information about sex, age and diagnoses of the participating children was retrieved from the notes. Information on the number of planned face-to-face bookings was recorded from the electronic booking system of the clinic. All data were anonymised and recorded, processed and analysed in an electronic data base.

Trial registration: not relevant.

RESULTS

During the period from 16 March to 23 April 2020 on 19 days during four working weeks (one week included Easter holidays when the clinic was closed for routine appointments), the clinic had 499 scheduled face-to-face appointments and a total of 112 (22.4%) substituted telephone consultations. One telephone consultation and the subsequent interview were with a 19-year-old patient; all others were with parents. Nine families (8.0%) were called on the phone three times but failed to answer the phone. A total of 103 families answered our call and were invited and agreed to participate in the interview. Participating children were in the age range from 0.3 to 19.7 (mean 7.9) years; 41 (39.8%) were girls, 62 (60.2%) boys. The distribution of diagnoses is given in **Figure 1**; 87 (84.5%) children had atopic diseases and 16 (15.5%) other conditions. In the group of immunodeficiencies, four children had mannose-binding lectin deficiency and one had a mild isolated IgM deficiency. A total of 62 families (60.2%) stated fear of being contaminated with COVID-19 while attending the clinic as a reason for wanting to cancel their face-to-face consultation; 17 (16.5%) referred to practical inconveniences, 14 (13.6%) referred to cough or fever in sib-

FIGURE 1 / Distribution of diagnoses in 0-19-year-old patients in substituted telephone consultations (N = 103).



lings or parents, and ten (9.7%) referred to cough or fever in the patient as their reasons for not wanting to attend. The mean duration of the telephone consultations was 12 minutes (range: 8-26 minutes).

The distribution of answers to evaluations 1-4 are given in **Figure 2**. A total of 100 (97.0%) of the families agreed or strongly agreed that they felt good about being offered a substitute telephone consultation; 14 (13.6%) said that a telephone consultation was not the best option, whereas 89 (80.4%) would not have preferred a face-to-face consultation; 98 (95.1%) felt that the telephone consultation was useful for them; 102 (99.0%) responded that they were satisfied with the duration of the telephone consultation. All patients had re-scheduled face-to-face consultations 4-12 weeks after the substitute telephone consultation.

DISCUSSION

Telemedicine dates back to the 1950s and various on-call and out-patient clinic aspects of the use of telephone consultations in paediatrics have been assessed [6-8]. Few studies, if any, have assessed the use of substitute telephone consultations in paediatrics during public health emergencies. A recent study from an adult urology clinic found that telemedicine proved efficient in screening patients and in adequately protecting patients and clinicians from COVID-19 [9].

As from 16 March 2020, Denmark was officially locked down to reduce the risk of COVID-19 infection. The lockdown was in place until 15 April when a gradual and controlled first-phase reopening of daycare, elementary schools and secondary education during the following week was initiated [10]. In the present study, interviews with families who had had a substitute tele-

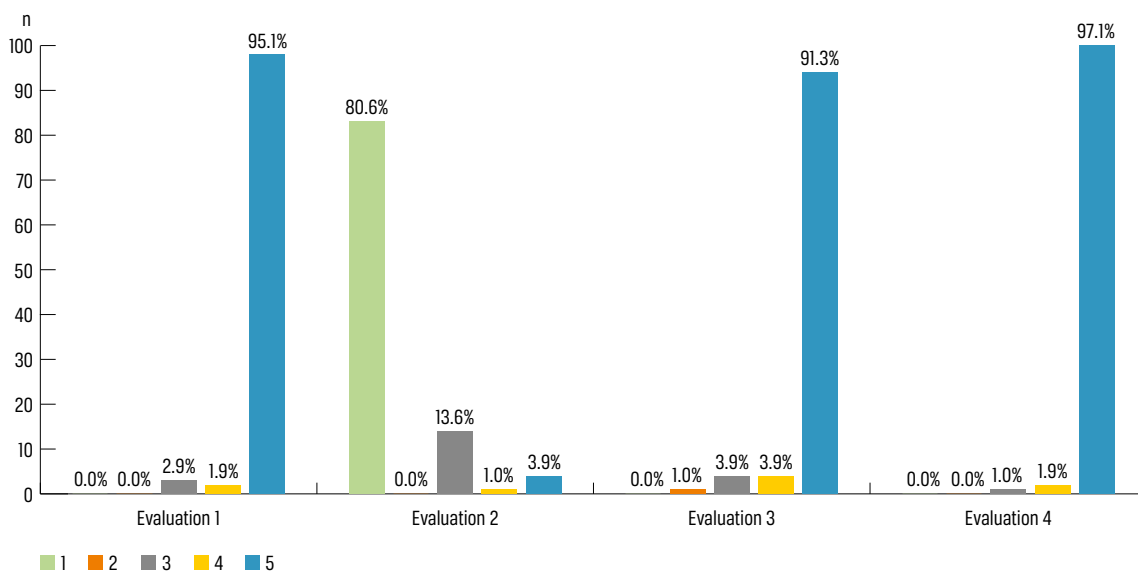
phone consultation due to the COVID-19 pandemic were conducted from the beginning of the lockdown to the completion of the first phase of reopening which coincided with the detection of reduced infection rates [10]. This was a pragmatic approach since we believed that this specific time interval was most critical with respect to ensuring adequate protection of children at risk and of the health workers and clinicians in our clinic [7]. Since only 22.4% of the total number of booked face-to-face consultations were substituted for telephone consultations and since more than a third of the families did not state fear of being contaminated with COVID-19 while attending the clinic as a reason for cancelling their face-to-face consultation, fear of attracting COVID-19 appeared not to be significant in our overall out-patient population. That may reflect the basic disease profile in our secondary centre population in which there would be no children with COVID-19 high-risk conditions such as severe asthma or severe immunodeficiencies. Such conditions are tertiary centre diseases in Denmark. The frequency of around 85% of children with atopic diagnoses reflects that many children with pollen allergies, in particular, were booked for visits during the period of March and April, which is part of the tree pollen season in Denmark.

Though families were satisfied with their substitute telephone consultation, around 20% did not feel that a telephone consultation was the best option. This may reflect worries about the limitations of telephone consultations. Routine face-to-face consultations in chil-

dren with asthma and allergic rhinoconjunctivitis, which constituted approximately 75% of the diagnoses in the children, often include clinical assessment of signs and measurement procedures like spirometry and other laboratory tests that evidently cannot be performed on the phone. Though a history of symptoms may be cautiously gathered, families may feel that the objective evaluations may be inadequate, and many parents would expect, e.g., pulmonary stethoscopy to be needed for control of children with asthma. Even so, families were quite satisfied with being offered a telephone consultation during the COVID-19 pandemic and, indeed, with the outcome of their consultation. This finding is consistent with observations from a randomised controlled trial on telephone consultation as a substitute for routine face-to-face consultation in children with inflammatory bowel disease which found no differences among high patient satisfaction rates [8].

Even though optimal control of allergic and asthmatic children as well as of other chronic conditions requires the usual treatment guidelines to be followed during the COVID-19 pandemic, clinical decision making should acknowledge the insufficiency in objectively evaluating signs, body language and appearance which cannot be assessed and which may result in inaccuracy and loss of clinical information [9-12]. Such a potential insufficiency may be aggravated by the relatively short duration of the telephone consultations, which was consistent with previous evaluations in a paediatric population [8]. Therefore, the availability of experienced

FIGURE 2 / Distribution of assessments (N = 103). Evaluation 1: Overall, I feel good about the possibility of substituting our face-to-face appointment with a telephone consultation. Evaluation 2: I would have preferred a face-to-face consultation. Evaluation 3: I feel that the telephone consultation was useful to us. Evaluation 4: I am satisfied with the duration of the telephone consultation. Assessments were given according to a Likert scale as follows: 1) I strongly disagree; 2) I disagree; 3) I neither agree nor disagree; 4) I agree; or 5) I strongly agree [5].



healthcare professionals would be crucial to provide safe and effective telephone consultations during a pandemic.

Our relatively small population of predominantly young children with a mean age of less than eight years in whom parental interviews were performed did not allow for assessment of potential differences in parental and young patients' views on telephone-substituted face-to-face consultations. Also, no data are available to assess whether the number of previous attendances or other contacts to the clinic influence parents' choice of substitute telephone consultations or evaluations of such. In an emergency situation like the COVID-19 pandemic as well as in a non-emergency paediatric clinic situation, it seems likely that substitute telephone consultations would be more efficient and safe for control consultations in children for whom previously defined management plans were available than for first-time attendances [8]. For substitution of first-time visits, a video consultation would possibly be more applicable. Finally, the present findings may support previous suggestions that in children with chronic conditions, the number of face-to-face consultations may be substituted by the introduction of telemedicine as an integral part of the follow-up [8]. However, all these aspects of telemedicine warrant further investigation.

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