Impact of the Covid-19 pandemic on use of Video consultations in a Swedish Primary care setting

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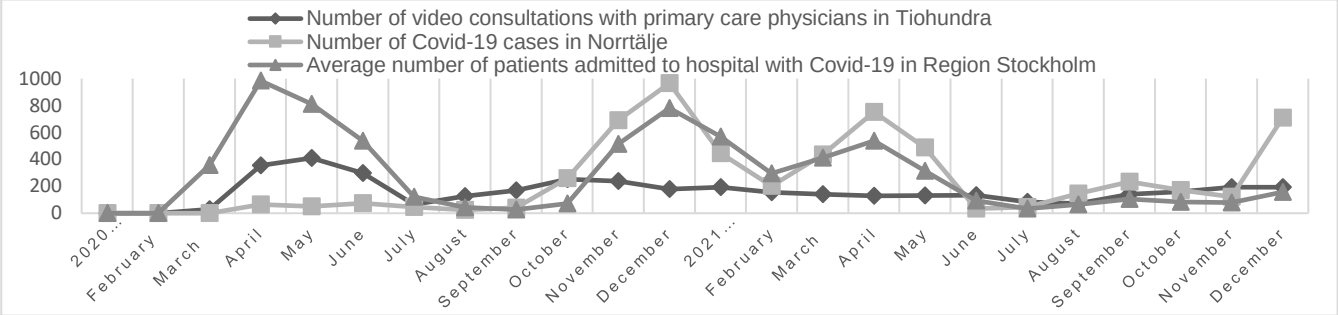

Figure 1. Video consultations and spread of Covid-19

1 INTRODUCTION

During the past decade the use of video consultations in healthcare have increased exponentially in Sweden [1, 2] as well as worldwide [3]. In Sweden, private online healthcare providers took the lead in this development, but in recent years many public health organizations in Sweden have developed their own solutions for video consultations, such as the app *Alltid Öppet* [Always open] (Region Stockholm) [4, 5]. However, implementing and integrating video consultations in traditional primary care has proven to be difficult.

In early 2020, the Covid-19 pandemic hit the world. The risk of infection was an incentive for both patients and providers to keep patients away from primary care centers [6, 7]. Instantly there was a need for alternative methods for healthcare service delivery [3]. Suddenly the previously rather widespread resistance to video consultations and other forms of digital contact between patients and healthcare professionals vanished [8, 9].

The objective of this study is to describe how the uptake of video consultations was affected by the Covid-19 pandemic, using data from a Swedish primary care setting.

2 METHODS

The study was conducted within the primary care of Tiohundra AB in Norrtälje, which consists of five primary care centers that combine care for approximately 35 000 patients, in a rural part of Region Stockholm. In March 2020 the video consultation solution *Alltid Öppet* was introduced in the Tiohundra primary care.

A descriptive approach was applied to examine the relationship between video consultations initiated by healthcare staff and the Covid-19 pandemic. Aggregated data on video consultations with primary care physicians in Norrtälje Tiohundra, Covid-19 cases identified by positive PCR test in Norrtälje municipality, and the average monthly number of patients admitted to hospital with Covid-19 in Region Stockholm were collected for the years 2020 and 2021. The information system Medrave M4 [10], that collects clinical data from electronic health records, was used for the data collection on the video consultations. Data on the number of PCR verified Covid-19 cases was collected using statistics from the Public Health agency of Sweden [11]. The average monthly number of patients admitted to hospital with Covid-19 in Region Stockholm was collected using the Region's statistics on Covid-19 [12].

3 RESULTS

The number of video consultations increased from zero monthly visits in January and February 2020 to a peak of 410 in May. The average number of video consultations was 177 per month in 2020 compared to 144 in 2021. Figure 1 shows the number of video consultations per month and verified Covid-19 cases in Norrtälje municipality. However, public testing of Covid-19 was not initiated until June 2020 resulting in a low number of verified Covid-19 cases in the spring of 2020. Therefore, the average number of patients admitted to hospital in Region Stockholm is probably a better predictor of Covid-19 spread in the early 2020, also Figure 1.

Video consultations were mainly used by patients older than 25 years of age. The age distribution of patients that utilized video consultations is shown in Figure 2.

4 DISCUSSION

Prior to the pandemic there had been attempts to implement video consultations in the Tiohundra primary care but due to technical problems and a lack of interest by the healthcare staff, they were never adopted into clinical

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practice. In the spring of 2020, however, there was an urgent need for alternative ways of delivering healthcare and almost overnight, the video consultation solution *Alltid Öppet* [5] was successfully implemented and considered to be advantageous.

The adoption of video consultations in public primary care in Sweden would probably have happened eventually, even without the pandemic. However, most certainly, the pandemic provided the necessary incentive for patients as well as healthcare professionals resulting in the rapid adoption. The pandemic also provided opportunities and time to test video consultations on all kinds of medical conditions, since otherwise the alternative in many cases would have been no consultation at all. This open-minded use of video consultations presumably facilitated the adoption.

There seem to be a relationship between the use of video consultations and spread of Covid-19 in 2020, where the use of video consultations varied with the contagion waves. In 2021 the use of video consultations was more consistent over time.

Previous studies have shown that people who uses video consultations tend to be younger, healthier, having higher socioeconomic status and living in urban areas where the supply of other healthcare is plentiful, contrary to what one might expect [13, 14]. Gabrielsson-Järhult e.g., showed that approximately 70% of the patients that used video consultations were between the ages of 0-30 years [13], whereas less than 10% of the patients in our study were younger than 25 years of age. This might be explained by the fact that the older patients are at larger risk for severe Covid-19, and therefore may have been more inclined to avoid traditional healthcare during the pandemic. Another possible explanation could be that the younger population in general suffer from less serious health issues and to a larger extent chose to refrain from visiting primary care during the pandemic.

Future research should explore whether patients in the older age groups will continue to use video consultations in the long term, even when the effects of the pandemic are reduced.

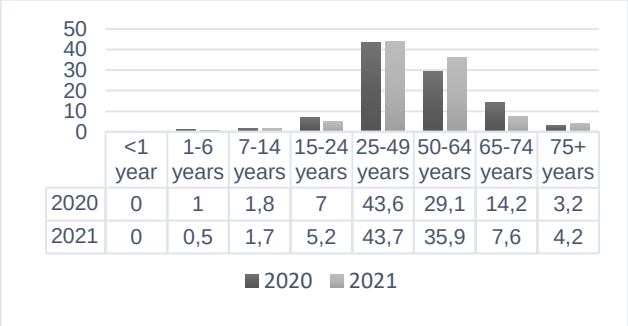

Figure 2. Age distribution and proportion of video consultations in percent

5 CONCLUSION

In summary, the Covid-19 pandemic had a direct impact on the adoption of video consultations in our primary care setting. Yet, our case study indicates that after the initial high use, it appears to have stabilized on a lower level. Further research is needed to understand whether this finding is applicable to primary care all over Sweden, but also on the impact on healthcare professionals' work environment, patients' experiences, and quality of care.

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