What do asthmatic patients think about telemedicine visits?

Cláudia Sabina Sousa[1,2], Miguel Trigueiro Barbosa[1,3], Rita Aguiar[1], Filipe Benito-Garcia[1], Mário Morais-Almeida[1,4]

[1]Allergy Centre, CUF Descobertas Hospital, Lisboa, Portugal. [2]Pulmonology Department, Central Hospital of Funchal, Portugal. [3]Pulmonology Department, Hospital Centre of Barreiro-Montijo, Barreiro, Portugal. [4] Portuguese Association of Asthmatics, Porto, Portugal.

This work was carried out in Allergy Centre, CUF Descobertas Hospital, Rua Mário Botas, 1998-018 Lisboa, Portugal.

Corresponding author: Cláudia Sousa, Hospital Central do Funchal, Av. Luís de Camões 6180, 9000-177 Funchal; Phone: +351926372652; E-mail: claudiasabinafsousa@gmail.com;

ABSTRACT

Introduction: Due to the Coronavirus disease 2019 (COVID-19) outbreak and the national emergency state, virtual visits were implemented as an alternative to in-person visits. With this study we aimed to establish asthma patients' general satisfaction with the quality of health care provided by virtual visits (phone or video calls).

Materials and methods: A questionnaire (9 questions) was published on the Facebook page of the Portuguese Association of Asthmatics. It was available online for general self-reported asthmatic patients to answer during one month, starting on 11st May 2020. The survey only allowed one answer per registered user.

Results: Fifty-five responses were obtained. Patients were satisfied with communication with providers (>88%); nevertheless, one-half evaluated the virtual visit as inferior when compared to in-person visits. About one third attributed a classification of 6 or less (0-10 scale, 0 being the worst and 10 the best consultation possible), but still most of the patients would either recommend it or use this kind of medical visits in the future, even outside the actual pandemic context. Patients also referred some important limitations, as lack of physical examination and the fact that the medical visit was more impersonal. Only 27% had technical issues accessing virtual visits. Positive aspects were also named, such as virtual visits being practical and avoiding the need to move to the hospital.

Discussion and conclusions: Our survey revealed that small changes could further increase patients' satisfaction, adherence and confidence in telemedicine. Although presenting some limitations, virtual visits seem to be generally well accepted by asthmatic patients and it might be a good alternative for in-person visits, at least in such difficult times when social distancing is recommended.

Keywords: asthma, COVID-19, survey, telemedicine, virtual visits;

INTRODUCTION

Worldwide coronavirus disease 2019 (COVID-19) brought a lot of challenges to healthcare organizations, including safety measures, with the need to restrict the number of face-to-face visits (1). Telemedicine is capable to overcome the distance and safety barriers in this context and might be as effective as in-person visits for outpatient management of asthma (2), enabling mild to moderate-severe patients to get the supportive care they need. Several authors documented that virtual visits (VV), that could be either video or phone calls, for asthma patients allow positive outcomes, such as more symptom-free days and fewer emergency department visits or hospitalizations, improving asthma control (3, 4). Moreover, it was demonstrated that VV are comparable to in-person visits, enabling its occasional replacement with same outcomes in asthma control (5).

Every patient might be at risk of SARS-CoV-2 exposure (6) and to reduce such risk, as it successfully occurred in many other medical specialties around the globe (7-11), allergy centers implemented VV as an alternative to in-person visits (12). As telemedicine programs were nationally applied, we became curious about the acceptability and satisfaction of asthmatic patients with this type of virtual visits. With this study we aimed to establish self-reported asthma patients' general satisfaction with the quality of health care provided in VV during the recent National Emergency State in Portugal.

MATERIALS AND METHODS

The authors conducted an online survey consisting of eight multiple-choice questions and one optional open-ended question for asthma patients that had recently participated in VV (either phone or video calls), partially adapted from the questionnaire used by Donelan K *et al* (13). The survey addressed three main domains of virtual visits: communication with the provider, quality of the visit and technical difficulties in online access. Quality of the visit was accessed asking the

patient to rate it in a scale from 0 to 10, 0 being the worst and 10 the best consultation possible and asking them to compare to an in-person visit. The online survey only enabled the same user to answer once, except if using another computer/e-mail. The survey was published on the Portuguese Association of Asthmatics Facebook page, being available online for one month starting on 11th May 2020. Patients were self-reported asthmatic patients having access to this Facebook page. The questionnaire was specifically addressed to self-reported asthma patients and no information regarding personal characteristics was asked, enabling a shorter survey and overcoming potential privacy issues.

RESULTS

We obtained 55 replies to our survey. The survey (freely translated to English language) and respective answers are shown in table I. Patients were satisfied with communication with the provider (87,5% said the clinician listened carefully to their questions or complaints; and 90,9% said the clinician exposed things clearly). The length of the appointment was adequate for 76,3% as they were satisfied with the amount of time the doctor spent with them. One-half of the patients evaluated the teleconsultation as inferior when compared to in-person visits and about one third attributed a classification of 6 or less to it. Only 27,3% had some technical issues accessing the virtual visit and the majority of patients would either recommend it or use this model of visits in the future, even outside actual pandemic context.

In addition to the answers to the pre-established questions, patients were given the possibility to point out some critics or compliments in the last question (optional and open-ended). Twenty-seven patients answered to this optional question (Table II). In this open-ended question patients signaled as negative aspects the lack of physical examination and the fact that the medical visit was more impersonal. Compliments were given to the fact that it was a very

practical and fast way to access a medical appointment and avoided to move by transportations to the hospital.

DISCUSSION

As it was also previously found by other authors outside this pandemic context (13), patients reported an overall satisfaction with VV during the COVID-19 outbreak. Communication between patients and providers was not compromised in this model of appointments (>85% were satisfied with both explanation and active listening by the doctor). Other reports documented similar results, as it was found in a systematic review of 32 studies suggesting that VV were acceptable to patients in several circumstances (14).

Nevertheless, to obtain an increase of VV in daily practice much can be learned from this survey, and some aspects have to be improved in the future. Furthermore, the pandemic context might interfere with patient's expectations and lead to a perception of an overall satisfaction that otherwise would not be noted. About one-half of patients ranked their last VV as inferior to in-person visits and one-third of them attributed a classification of 6 or less to these appointments. Complementing this information with limitations pointed out in the open answer question, the major concern for the patients was the lack of physical examination, so it can be hypothesized that this is the main factor preventing further acceptance to this telemedicine tool. Some smartphone apps have been tested for the detection and analysis of both cardiac and pulmonary auscultation sounds, and might constitute a future solution to overcome this limitation of virtual visits (15, 16).

Although the identified limitations, most patients would recommend VV to their friends and family members and would use it in the future. This reveals that small changes could further increase patients' satisfaction, adherence and confidence in telemedicine for healthcare assistance.

In addition, patients acknowledge that this kind of appointments is a valuable tool for disease follow-ups and prescription renewal. These results are inconsistent with those found by Duplaga M *et al* (17) that stated, patients suffering from chronic respiratory diseases have a high acceptance of e-health applications (appointment booking, prescription renewal, and access to laboratory test results and educational resources) but do not recognize telemedicine as a valuable solution directly related to medical care (communication with healthcare providers and disease monitoring) (17).

Surprisingly, technical issues were a minor difficulty, with only one quarter of the patients reporting technical problems accessing to the VV. Other potential patients' concerns, such as legal, safety or privacy issues (18) were not contemplated in our questionnaire but remained unreported in the open-ended question.

The authors believe that the aspects pointed out by asthma patients are excellent opportunities to improve adherence to VV by asthma patients in the near future, For instance, doctors might clarify patients that in follow-up visits a good clinical history and attention to some physical signals visible by video might partially replace physical examination, despite not being able to perform an important observation step that is pulmonary and cardiac auscultation. This could surpass patients' fears and insecurities that their illness might not be well managed without physical examination, promoting more recognition of the potential of VV. On the other hand, the creation of a simplified and prioritized way to the doctor arrange a face-to-face medical visit for an indispensable physical examination/treatment discussion after a VV could be a win-win alternative to address this matter.

LIMITATIONS

One limitation is that this survey was applied to any patient with self-reported asthma that were observed in a VV during or before the Emergency weeks in Portugal. There was no discrimination between VV (real-time audio or video). Real-time video-appointments might enable a more empathic relation between patients and their doctors and provide visual signs that could complement physical examination. It would be interesting to investigate whether there are differences in patient satisfaction between these two different telemedicine tools. Although being in line with the literature (14), the size of our sample is another limitation. Despite being available for four weeks, only 55 patient's answers were retrieved, limiting the generalization of results. Another particularity is that the survey didn't include questions addressing patient's general characteristics, such as genre or age, and patients with access to Facebook usually are younger and technology-friendly, which can explain the low rate of technical difficulties accessing VV. This can influence the perception of acceptance and thus might not be extrapolated to the general population or even to other chronic respiratory diseases. As COVID19 might interfere with patients' expectations, we cannot extrapolate that similar results could be achieved in a post-pandemic period.

CONCLUSION

As far as we know, this is the first survey applied to patients in our country regarding telemedicine performed during the COVID-19 pandemic. The results suggest that telemedicine is quickly becoming a key add-on to healthcare and might be a good alternative for in-person visits for asthmatic patients, patients, at least in such difficult times when social distancing is recommended, as patients express an overall satisfaction with this type of medical consultations.

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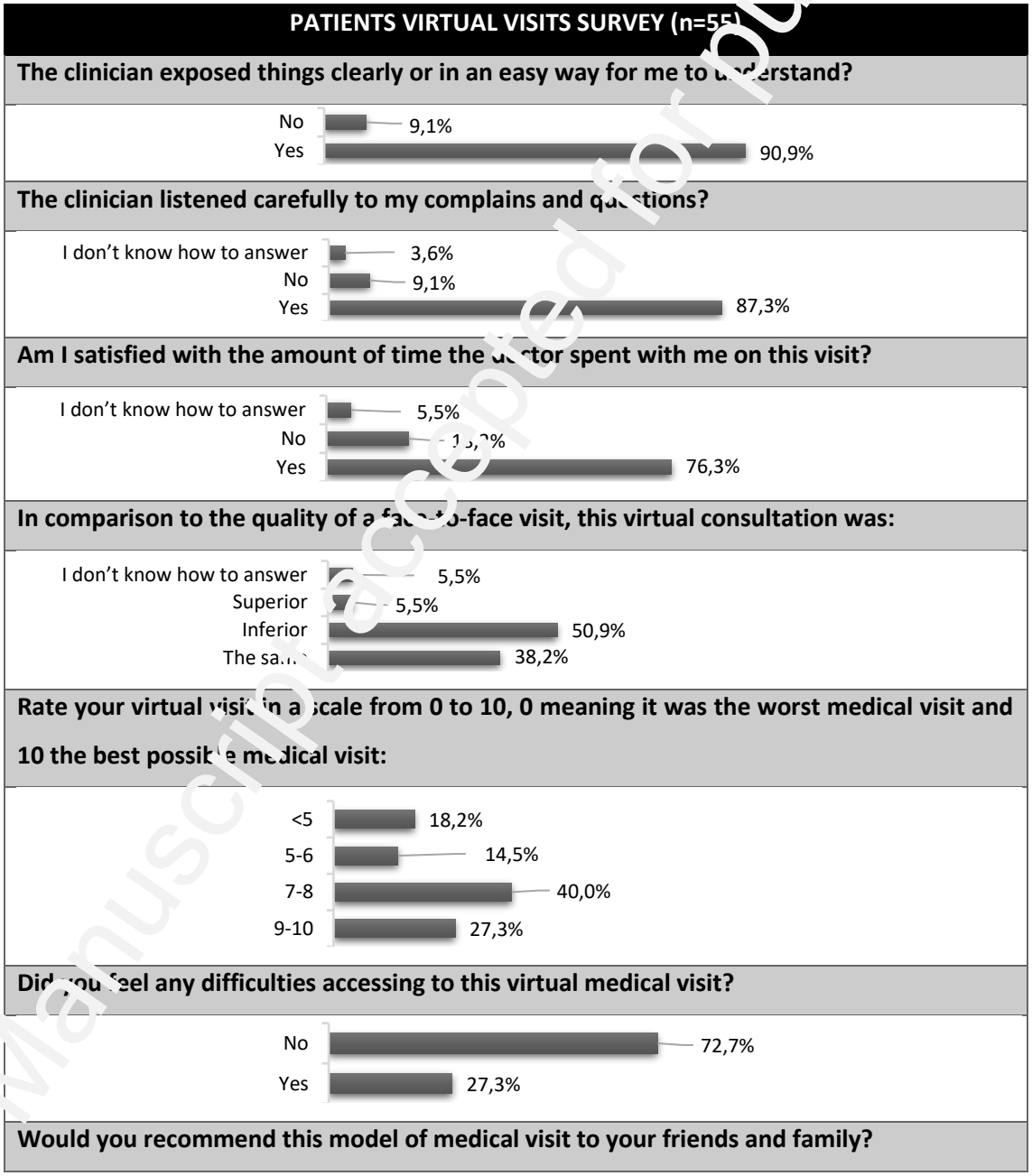
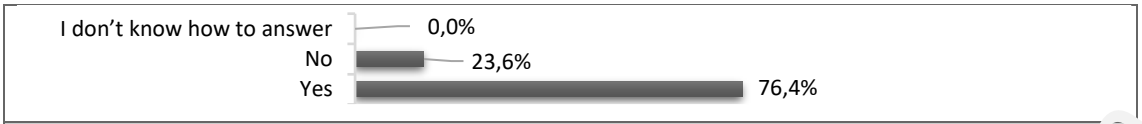
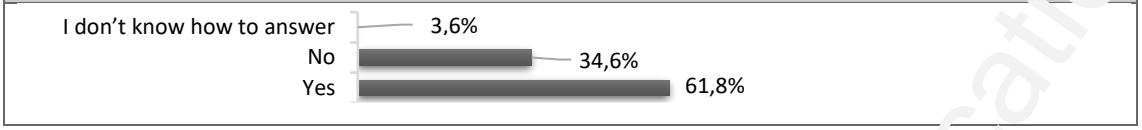
Table I





In the future, even if actual contingencies change, will you adhere to this model of appointments if it continues to be available?



233 **Table I –** Answers of patients with asthma that participated in virtual medical appointments during the Emergency
234 State.

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236 Table II

SOME CRITICS AND COMPLIMENTS TO VIRTUAL VISITS MENTIONED IN OPEN QUESTION	
COMPLIMENTS	**CRITICS**
Practical and fast (n=6)	Only applies when the reason for the appointment does not include observation (n=8)
Good for prescription renewal (n=1)	Very impersonal appointment, doctors seem to follow a pre-defined protocol: they are limited to asking questions and the user is limited to just answering (n=2).
Avoids commuting to the hospital (n=7)	Sometimes the internet connection fails (video failures, sound or problems with the delay) (n=1).
Good for follow-up appointments (n=3)	
It allows us not to be helpless in times when face-to-face appointment would be impractical (n=1)	

237 **Table II** – Main critics and compliments pointed out in the open question and the number of patients referring each
238 aspect (one patient may have contributed with more than one critic and/or compliment).
239