Original Article

Physicians' satisfaction with the use of teleconsultation in France

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Background: Physicians are showing a growing interest in teleconsultation, particularly since the onset of the coronavirus disease 2019 (COVID-19) pandemic. Surveying physicians' satisfaction with telehealth helps identify areas of strength and weaknesses that need improvement to support the promotion of telemedicine in the future. This study aimed to evaluate physician satisfaction rates and perspectives on teleconsultation.

Methods: A 20-item online survey on teleconsultation use, including benefits, disadvantages, and suggested optimal modalities, was distributed and collected anonymously among physicians working at a university hospital.

Results: Out of 145 physicians who responded, 73.8% were satisfied with teleconsultation, and 79.3% considered that this service will persist in the future. The main disadvantages raised by the physicians were the use of the telephone for remote consultation, the risk of dehumanization of the doctor-patient relationship, and the belief of a greater risk of medical errors than in a face-to-face setting. Of the doctors who responded to our survey, 54% said that the time needed for a teleconsultation should be similar to that of a face-to-face consultation, i.e., 15 to 20 minutes.

Conclusions: Most physicians were satisfied with teleconsultation. However, improvements in digital tools such as usability and efficiency are necessary for teleconsultation development in the future. Alongside these technological imperatives, the fear of an increase in medical errors and dehumanization of the doctor-patient relationship are issues that must be closely considered to promote telemedicine in medical practice.

Keywords: Telemedicine; telehealth; remote consultation; teleconsulting; teleconsultation

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Introduction

Since the coronavirus disease 2019 (COVID-19) pandemic (1), the use of telehealth has surged as healthcare professionals have sought to safely deliver healthcare. Healthcare systems have had to adjust the method of medical care for patients by using methods that avoid physical contact. Teleconsultation helps provide necessary care to patients while being at the same time a solution for minimizing the transmission risk of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). As of 2019, the

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number of teleconsultation has increased from 500,000 to 1.3 million in 2021 in France (2). During the first lockdown in 2020, one in two doctors used telemedicine at least once (3). Telemedicine was initially recognized in France in 2009 as a legal form of medical service delivery that enables communication between healthcare professionals and patients (4). Today, the following five medical acts of telehealth are recognized by French law as (5): teleconsultation, tele-expertise, tele-assistance, remote monitoring, and medical regulation. For the past few years, Toulouse University Hospital has used a digital application, Teleo, available to its practitioners for teleconsultation (https://www.esante-occitanie.fr/). Teleo is a secure regional platform dedicated to telehealth practice, including remote consultation. This digital tool allows an audiovisual exchange between the doctor and the patient. Teleo also allows the exchange of documents and messages. Between 2019 and 2020, the number of teleconsultations at Toulouse University Hospital increased from 200 to 24,200. Its evolution was marked by two steps: in the first step, and given the emergency context, physicians had the possibility to use all digital tools that allow remote contact with the patient, including telephone calls and social networks such as WhatsApp and Teleo. In the second step, physicians increasingly use Teleo. Currently, the use of remote consultation in Toulouse University Hospital has decreased, probably due to the fall of COVID-19 cases in France. Since the COVID-19 pandemic, interest in the use of telehealth services by both physicians and patients has increased (6).

Despite the increase in telemedicine in recent years, few studies have assessed physician satisfaction and the obstacles they may encounter when dealing with remote consultations. These few studies did not analyze many of the factors that may have correlation with physician satisfaction, such as the profile of patients eligible for teleconsultation and the financial aspect of telemedicine practice (7). A review of the literature including 37 studies assessing satisfaction with telehealth practice revealed that the research designs used in the studies were less robust, with all studies using primary data to assess physician satisfaction, but only one study providing any type of multivariate analysis of physician satisfaction with telehealth (8).

For these reasons, it is essential to study the satisfaction and perspectives of physicians when using teleconsultation and to further analyse the factors that may have correlation with its practice.

Objectives

The objective of this study is to assess physicians' satisfaction with teleconsultation and to identify factors that might influence its use. The secondary objective is to identify the advantages and disadvantages of teleconsultation. We present the following article in accordance with the SURGE reporting checklist (available at https://jhmhp.amegroups.com/article/view/10.21037/jhmhp-22-76/rc).

Methods

Study design

A descriptive cross-sectional survey with a self-administered questionnaire was conducted at Toulouse University Hospital in June 2021.

This study was approved by Toulouse University Hospital and we confirm that ethic requirements were totally respected in the report. This study is cover by the MR-004 (CNIL number: 2206723 v 0). The study was conducted in accordance with the Declaration of Helsinki (as revised in 2013). Informed consent was taken from all the participants.

Surveys were sent to all physicians working in various departments in the Toulouse University Hospital: anesthesia-resuscitation, cardiovascular and metabolic, cephalic, digestive, children-mother-couple, infectious and tropical diseases, immunology, locomotor, urology, nephrology, plastic surgery and oncology by a link to their professional email. An email reminder was sent 10 days later by the pole managers (*Figure 1*). Physicians who had practiced teleconsultation at least once since the beginning of the COVID-19 pandemic were included in the study, regardless of the tool used: Teleo, traditional phone calls or social messaging like WhatsApp. This is verified in the questionnaire by a question: have you ever performed at least one teleconsultation with a remote patient in the last year? A negative answer excludes the respondent from the study. The response is only considered if the respondent has answered all the questions in the survey. If this is not the case, the respondent cannot submit their answers. We report that the practice of teleconsultation

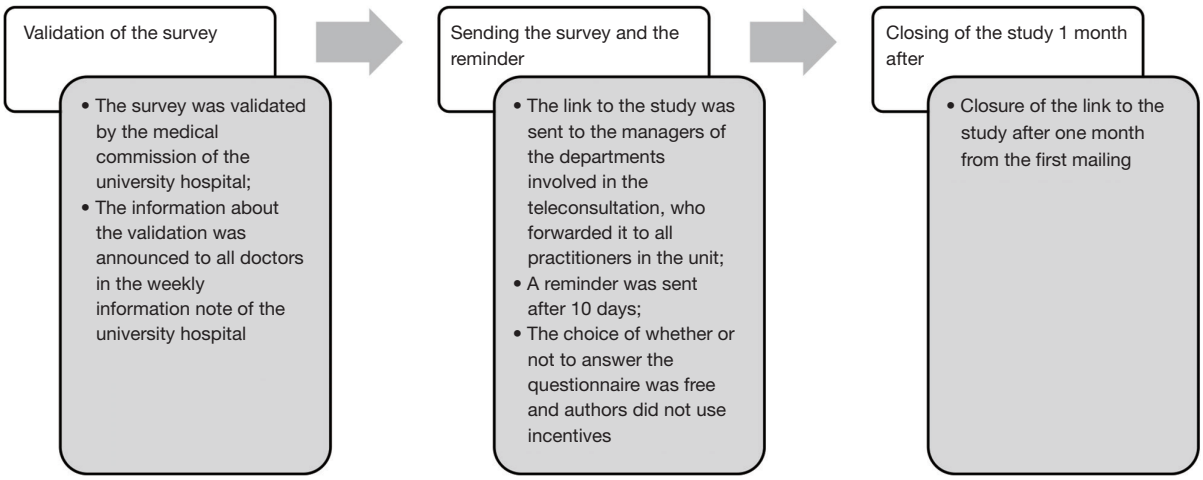

Figure 1 Study design schematic.

at the Toulouse University Hospital was mixed with face-to-face consultations. There was no day dedicated to teleconsultation.

Data collection

Data were collected through an online survey using Google Forms (Appendix 1). The survey was conducted in three sections. The first concerned socio-demographic data (age, job), the average number of consultations performed since the beginning of the COVID-19 crisis and the digital tools used for teleconsultation (Teleo, phone, WhatsApp). The second part concerned physicians' opinions on teleconsultation, including a satisfaction evaluation with a scale derived from the Likert scale (very dissatisfied, dissatisfied, satisfied, very satisfied) and several questions evaluating physicians' perspectives on telemedicine in terms of advantages, disadvantages, and limits when practicing remote consultation. The third part concerned the physicians' expectations and projections of teleconsultation. In addition to satisfaction, obstacles and levers to the practice of teleconsultation, the questions also aimed to help us understand the typical profile of the patient eligible for teleconsultation and the doctors' opinion on the hospital management needed to promote telemedicine.

The questions were drawn up with the referents for the development of digital health within the Toulouse University Hospital. These are doctors who are experts in telemedicine and actively participate in its development. All surveys were anonymized for data study.

For the statistical analysis, we split the physician's responses into two groups: Satisfied if they responded "satisfied" or "very satisfied" on the Likert scale and the others were considered dissatisfied.

Statistical analysis

Quantitative data are presented as mean ± standard deviation (SD) if the distribution was normal and compared with Student's *t*-test, if not by their medians [interquartile range (IQR)] and compared with the Mann-Whitney U test. The Kolmogorov-Smirnov test was used to verify the normality of the distribution. Categorical variables were described as percentages and compared using the chi-square test when the conditions of validity allowed it (theoretical numbers per cell were ≥5); if not, Fisher's exact test was used. A 5% risk of error was used to analyze the results. Univariate analyses were performed to examine the associations between the two groups (satisfied and unsatisfied) and the metrics we used to assess physicians' perceptions of telemedicine barriers and levers in the questionnaire. Binary logistic regression was performed in multivariate analyses to identify the predictive factors of the satisfaction rate. The satisfaction rate was considered as the dependent variable. Variables with a P value less than or equal to 20% were included in the univariate analysis. The significance level was set at 5%, and the strength of the association was estimated by calculating the odds ratio (OR) and its 95% confidence interval. Data were analyzed using the SPSS 20 software.

Table 1 General characteristics (n=145)

Characteristics	N (%)
Number of teleconsultations in one year	
1–10	21 (14.5)
11–30	46 (31.7)
>30	78 (53.8)
Overall satisfaction	
Satisfied	107 (73.8)
Not satisfied	38 (26.2)
Teleconsultation was now part of their practice	
Yes	98 (67.6)
No	47 (32.4)
Most used teleconsultation tools	
Teleo direct	114 (78.6)
Telephone	62 (42.8)
Commercial apps: Skype, WhatsApp, FaceTime, etc.	7 (4.8)

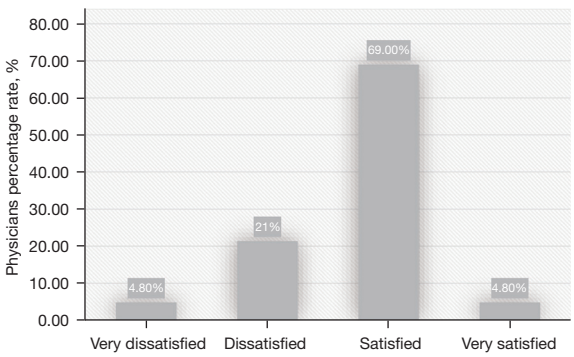

Figure 2 Distribution of the physicians according to the evaluation of the satisfaction rate with the Likert scale.

Results

The overall response rate after the email reminder was 18.1% (145/800). The majority of the respondents were women (66.2%). The median age of the participants was 42 years, with extremes ranging from 28 to 67 years old (*Table 1*). Physicians report seeing an average of 20 patients per week, either face-to-face or remotely. Seventy-four percent of physicians were satisfied with teleconsultation, and the majority of physicians (67.6%) declared that teleconsultation was now part of their practice. *Figure 2* presents physician satisfaction with teleconsultation.

Regarding the use of Teleo, 20% of teleconsultations ended in a phone call because of a technical problem. During their teleconsultation experience, physicians were globally satisfied with the ease of use (54%), sound (35%), image (23.4%), quality of connection (14.5%), and system reliability (absence of technical problems such as not being able to connect, not being able to hear the caller or not being able to have a visual exchange) (4.8%).

Physicians' feedback on the advantages, indications, and limits of teleconsultation are described in *Table 2*. The main benefit of teleconsultation, according to 52.4% of respondents, is the possibility of saving money for health economics.

The two main limitations to teleconsultation according to 48.3% and 46.9% of respondents respectively are the lack of interoperability with the patient's file (need for 2 screens) and the dehumanization of the doctor/patient relationship. Regarding the practice of telemedicine according to the type of patients, the percentages of physicians who will never do teleconsultation are in decreasing order: never for a polytrauma patient (59.3%), never for an infant (51.0%), never for a demented patient (42.8%), never for a first consultation (46.9%), never for a child (21.4%) and never for a pregnant woman (17.9%).

According to our study, teleconsultation use will persist according 79.3% of the physicians. Physicians who will adopt teleconsultation wish to maintain mixed practice with face-to-face and remote consultations in 53.8% of cases. The duration of teleconsultations should be similar to that of physical consultation (15–20 minutes) in 51.7% of cases.

The univariate analysis (*Table 3*) showed that the increase in physician satisfaction was associated with several factors such as thinking that teleconsultation can save physicians time and that it improves patient care.

Using the telephone as the most chosen teleconsultation tool significantly reduces satisfaction (P=0.003).

The other barriers identified in our questionnaire that significantly reduce physician satisfaction are the belief that telemedicine dehumanizes the physician-patient relationship and that it increases the risk of medical errors.

Multivariate analysis showed that physicians' satisfaction has a statistically significant correlation with the use of the telephone as a teleconsultation tool, which reduces physician satisfaction (P=0.018), the economic public health value (P=0.036), and the usability of the teleconsultation tool (P=0.037) (*Table 4*).

Table 2 Physicians' feedback on advantages, indications and limits with teleconsultation (n=145)

Questions and the most selected items	%
The advantages of teleconsultation cited were:	
The possibility of saving money for social security	52.4
Saving time for the physician	41.4
Improved patient care	23.4
The current limits of teleconsultation were:	
The lack of interoperability with the patient's file (need for 2 screens)	48.3
The dehumanization of the doctor/patient relationship	46.9
The risk of medical errors is greater than in a face-to-face setting	38.6
The indications for which physicians performed the most teleconsultation were:	
COVID's impact on the organization of care	82.1
Patients' geographical distance and/or mobility restrictions and/or living in a nursing home	66.2
The indications for which senior physicians will propose a teleconsultation were:	
Patients' geographical distance and/or mobility restrictions	74.5
Follow-up on complementary examinations (biology or radiology)	68.3
Treatment monitoring and its adaptation	51.7
The types of patients to whom physicians will or would never do a teleconsultation were:	
A poly trauma patient (traffic accident, fall from a high level, etc.)	59.3
An infant	51.0
A demented patient	42.8
A first consultation	46.9
A child	21.4
A pregnant woman	17.9

Discussion

The overall satisfaction rate of the teleconsultation practice was 73.8%.

In our study, we found that the majority use of the telephone to perform teleconsultation decreased physician satisfaction. We also found that physician satisfaction was increased if they thought the socioeconomic impact of telemedicine was beneficial and if they found easy the use of the digital tool dedicated to the practice of telemedicine.

Use of teleconsultation

The overall satisfaction rate with teleconsultation was 73.8% in our study, which was similar to a study conducted by the Agency for Digital Health among a representative sample of 254 doctors practicing throughout France (116 general practitioners and 138 specialists), where 72% of physicians had a good opinion of telemedicine (9). An integrative review (10) assessed clinicians' satisfaction with the use of teleconsultation, and four studies found a high level of satisfaction of 80% or more (11-14), while one study showed a healthcare provider satisfaction rate of 78% (15).

Several factors may influence physicians' satisfaction with telemedicine. According to Demiris, physicians are most likely to be satisfied if they participate in its development (16). Satisfaction varies according to the physician's specialty, as certain physicians are more suitable for remote consultation than others. This result is underlined by Kane *et al.*, according to their study radiologists, and emergency physicians seem to use

Table 3 Univariate analysis of factors correlation with the degree of satisfaction among physicians

Factors	Satisfaction		P value	OR (95% CI)
	Yes, n (%)	No, n (%)		
Gender			0.407	–
Male	35 (71.4)	14 (28.6)		
Female	74 (77.1)	22 (22.9)		
Age			0.441	–
<40 years	43 (70.5)	18 (29.5)		
≥40 years	64 (76.2)	20 (23.8)		
Teleconsultation is now part of their practices			$\leq 10^{-3}$	7.430 (3.279–16.835)
Yes	85 (86.7)	13 (13.3)		
No	22 (46.8)	25 (53.2)		
Teleo as the most chosen teleconsultation tool			0.054	–
Yes	89 (77.4)	26 (22.6)		
No	18 (60.0)	12 (40.0)		
The telephone as the most chosen teleconsultation tool			0.003	0.321 (0.149–0.693)
Yes	38 (61.3)	24 (38.7)		
No	69 (83.1)	14 (16.9)		
A tool for the general public: Skype, WhatsApp, FaceTime, etc. as the most chosen teleconsultation tool			0.462	–
Yes	6 (85.7)	1 (14.3)		
No	101 (73.2)	37 (26.8)		
Time saving for the doctor as an advantage of teleconsultation			0.028	2.45 (1.086–5.553)
Yes	50 (83.3)	10 (16.7)		
No	57 (67.1)	28(32.9)		
The possibility of benefice for economic public health			0.063	–
Yes	61 (80.3)	15 (19.7)		
No	46 (66.7)	23 (33.3)		
Improving patient care as an advantage of telemedicine			0.008	4.759 (1.362-16.624)
Yes	31 (91.2)	3 (8.8)		
No	76 (68.5)	35 (31.5)		
Dehumanization of the relationship between doctor and patient as a brake on telemedicine			0.001	0.253 (0.113–0.564)
Yes	41 (60.3)	27 (39.7)		
No	66 (85.7)	11 (14.3)		
Non-adherence of patients as a brake on telemedicine			0.131	–
Yes	21 (63.6)	12 (36.4)		
No	86 (76.8)	26 (23.2)		

Table 3 (*continued*)

Table 3 (*continued*)

Factors	Satisfaction		P value	OR (95% CI)
	Yes, n (%)	No, n (%)		
Risks of medical errors of greater than in person as a brake on telemedicine			0.014	0.39 (0.18–0.83)
Yes	35 (62.5)	21 (37.5)		
No	72 (80.9)	17 (19.1)		
Tools not relevant or not efficient as a brake on teleconsultation			0.001	0.274 (0.126–0.598)
Yes	25 (55.6)	20 (44.4)		
No	82 (82.0)	18 (18)		
Lack of interoperability with the patient file as a brake on teleconsultation			0.896	–
Yes	52 (74.3)	18 (25.7)		
No	55 (73.3)	20 (26.7)		
Satisfaction with the ease of use during the teleconsultation			0.001	4.28 (1.91–9.56)
Yes	68 (86.1)	11 (13.9)		
No	39 (59.1)	27 (40.9)		
Satisfaction with the sound quality during the teleconsultation			0.315	–
Yes	40 (80.0)	10 (20.0)		
No	67 (70.5)	28 (29.5)		
Satisfaction with the image quality during the teleconsultation			0.195	–
Yes	28 (82.4)	6 (17.6)		
No	79 (71.2)	32 (28.8)		
Satisfaction with the quality of the connection during the teleconsultation			0.06	–
Yes	19 (90.5)	2 (9.5)		
No	88 (71.0)	36 (29)		
Satisfaction with the reliability of the system (no technical problem) during the teleconsultation			0.673	–
Yes	6 (85.7)	1 (14.3)		
No	101 (73.2)	37 (26.8)		

CI, confidence interval; OR, odds ratio.

telemedicine more than other specialties (17). Nguyen *et al.* underline in their study that physicians who tended to be innovative were more likely to use telemedicine and were more satisfied regardless of teleconsultation ease of use (18).

In our study, the number of teleconsultations performed in one year was greater than 30 by physicians (53.8%). A study carried out in France by the National Health Agency from November 2019 to January 2020 showed that 21% of physicians performed more than 30 teleconsultations during a year (9). The difference in teleconsultation practices may be explained by the increase in teleconsultations in January 2020 due to the rise of COVID-19 cases.

At the beginning of the COVID-19 pandemic, all digital tools were authorized to perform remote consultations. However, quite rapidly the use of a secure telemedicine platform was required. The use of the telephone was authorized in the case of technical problems related to the platform. Among the digital tools of teleconsultation, 79.2% chose Teleo, followed by telephone (43%), notably when a technical problem occurred when using Teleo. Physicians

Table 4 Multivariate analysis of factors correlation with the degree of physician satisfaction

Factors	P value	OR (95% CI)
The phone as the most common tool of teleconsultation	0.018	0.313 (0.119–0.819)
After the COVID-19 crisis, teleconsultation will persist in the practice	$\leq 10^{-3}$	5.35 (2.110–13.583)
The possibility of benefice for economic public health	0.036	2.690 (1.067–6.780)
Tools not relevant or not efficient as a brake on teleconsultation	0.008	0.281 (0.109–0.722)
Satisfaction with the ease of use of the tool dedicated to teleconsultation	0.037	2.793 (1.064–7.333)

CI, confidence interval; COVID-19, coronavirus disease 2019; OR, odds ratio.

preferred the use of Teleo because of the legal obligation to use an accredited platform for teleconsultation. Teleo was the only platform available for this practice at Toulouse University Hospital. In India, the tools used by pediatricians for teleconsultation were direct phone calls in 76.9% of the cases, followed by messages and WhatsApp calls in 71.8% (19). In Lebanon, the majority of physicians used WhatsApp (80%), followed by phone calls (67%) (20).

The technical problems encountered in our study are those encountered in telemedicine (connection, video, and sound quality). In Lyon (France), high satisfaction with sound and video quality had a significant impact on overall patient satisfaction (P=0.049) (21). As such, ensuring a good quality of audio, video equipment, and Internet connection is necessary to encourage physicians to use telemedicine (22). However, in our study, low satisfaction with sound and image quality did not affect global satisfaction. We believe that the high level of satisfaction with Teleo's ease of use overcomes these drawbacks.

In our study, 20% of physicians reported a technical problem during teleconsultation. This percentage is lower than that reported by Monziols *et al.*, who reported technical problems in approximately 50% of teleconsultations among general practitioners in France (23).

The duration of teleconsultation should be identical to face-to-face consultation, according to 51.7% of respondents, estimated at 20 minutes. Didier *et al.* reported similar results in 59.8% of physicians included in their study (24).

According to our study, after the COVID-19 crisis, physicians believe that teleconsultation will persist in their clinical practice (79.3%). Miner *et al.* found in a study conducted in the USA that 91% of a large multispecialty medical group of physicians plan to continue offering telemedicine services after the COVID-19 pandemic (25). This desire to persist in telemedicine use after the COVID-19 pandemic depends mainly on physicians' satisfaction with telemedicine quality. This quality was evaluated using questions pertaining to satisfaction with telemedicine care.

Limits of teleconsultation

One of the main limitations of teleconsultations reported by physicians was the risk of dehumanization of the doctor-patient relationship (P=0.001) and the belief of a greater risk of medical errors than in a face-to-face setting (P=0.014). These limits are similar to those reported by the French Digital Health Agency. The majority of respondents felt that the doctor-patient relationship was dehumanized (46.6%). This percentage is lower than that reported by the French Digital Health Agency (68%) (9). This difference can be explained by the COVID-19 crisis, which encouraged physicians to practice more teleconsultation.

In a review, Solimini *et al.* described that legal and ethical issues of telemedicine include important aspects such as informed consent (information about the risks and benefits of remote therapy) (87%), malpractice and professional responsibility (70%), and professional–patient relationships (22%) (26).

Indeed, the doctor-patient relationship may be affected by the constant use of technological tools (27). A study performed in Toulouse in 2018 among general practitioners also described the risk of health dehumanization by teleconsultation (28).

Professor Mathieu-Fritz, a sociologist, has studied the link between teleconsultation and mental health. For him, the absence of "touch" by the doctor could diminish the carnal dimension, usually present in the therapeutic link. In its absence, the doctor loses a ritual element of greeting but also marks of proximity and moral support (29). There is certainly an impression of distance that goes against the link with the patient, but if physicians are aware of it, they will

try to fight it (30).

In our study, physicians confirmed their reluctance to engage in teleconsultation in several situations. For example, 42.8% of the respondents in our study did not consider teleconsulting a patient with dementia.

Indeed, teleconsultation is unsuitable for all patients and situations. As reported by de Camargo Catapan *et al.*, e-consultations may be less appropriate for people with learning disabilities, dementia, complex needs, and certain health problems, such as addiction, terminal illness, frail women, or the elderly. The use of e-mail was directly related to the educational level of patients, and the telephone seemed to be more appropriate for indigenous patients (31).

As teleconsultation appears to be the future of interconnected health, it is important to keep in mind that accessibility and ease of use must be technologically appropriate for all physicians and patients. Some clinicians are turned off by telemedicine because of the complexity of graphical interfaces. Similarly, the general population may be overwhelmed, especially if they are in a demographic group unfamiliar with similar technology (32). Therefore, patients must be properly trained to effectively use their devices and/or programs (33). The indications for teleconsultation must be pre-established to optimize the quality and efficiency of long-distance consultations. In our study, there was great variability in terms of medical indications for telemedicine according to the respondents. A total of 68.3% of physicians will propose teleconsultation for the follow-up of complementary examinations, while 11% will do so for pain management. According to Solimini *et al.*, the perceived degraded quality in 30% of cases of remote medical consultation compared to standard face-to-face consultation is an ethical problem that hinders the rules of good practice (26).

Advantages and limitations

This study evaluated a diverse population of physicians working at one of the largest university hospitals in France. Several studies have evaluated the satisfaction of patients treated with telemedicine, but few have examined the satisfaction of physicians.

The overall response rate was 18.1%, which remained low and could represent a bias in extrapolating these results to the overall population of senior physicians.

There is a voluntary bias; physicians who participated in this study may have different characteristics from non-respondents who do not use teleconsultation very often.

Conclusions

Teleconsultation adoption by physicians is growing and may enhance traditional medicine practices. In the group studied in our survey, the majority of doctors were satisfied with the practice of telemedicine

In our study, doctors' satisfaction with teleconsultation depends mainly on the digital tool used, which must be for them a platform adapted to the needs of teleconsultation. The resolution of technical and unpredictable connection problems is essential according to the physicians to ensure the promotion of telemedicine. In addition, the indications for teleconsultation should be pre-established in order to optimize the quality and efficiency of remote consultations. In our study, we also found that doctors support the use of telemedicine when they believe it is beneficial to the public health economy. It is therefore conceivable that better communication of the health economic benefits of telemedicine to physicians could help to increase their level of satisfaction with its practice.

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Footnote

Reporting Checklist: The authors have completed the SURGE reporting checklist. Available at https://jhmhp.amegroups.com/article/view/10.21037/jhmhp-22-76/rc

Data Sharing Statement: Available at https://jhmhp.amegroups.com/article/view/10.21037/jhmhp-22-76/dss

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Conflicts of Interest: All authors have completed the ICMJE uniform disclosure form (available at https://jhmhp.amegroups.com/article/view/10.21037/jhmhp-22-76/coif). The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related

to the accuracy or integrity of any part of the work are appropriately investigated and resolved. The study was conducted in accordance with the Declaration of Helsinki (as revised in 2013). This study was approved by Toulouse University Hospital and we confirm that ethic requirements were totally respected in the above report. This study is cover by the MR-004 (CNIL number: 2206723 v 0) and informed consent was taken from all the participants.

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Supplementary

Appendix 1

Socio-demographic information (6 questions):

1. Gender
2. Age
3. Are you a senior doctor?
4. In your usual practice, how many patients do you see per week?
5. Have you conducted at least one teleconsultation or Visio session with a remote patient in the past year?
6. How many teleconsultations did you carry out last year (on average)?

Physicians' opinions on teleconsultation (10 questions):

7. How would you rate your satisfaction with the practice of teleconsultation?
   - ❖ Very unsatisfied; unsatisfied; satisfied; very satisfied
8. Would you say that teleconsultation is now part of your practice?
9. Which teleconsultation tool did you use the most?
   - ❖ Teleo; Phone Call; Réseau social: WhatsApp, Skype, etc.
10. If you used Teleo, what percentage of teleconsultations ended with a phone call due to a technical problem?
11. In your opinion, are the following proposals advantages of teleconsultation?
    - ❖ Saving time for the doctor;
    - ❖ The possibility of saving money for the social security;
    - ❖ Improved patient care.
12. In your opinion, are the following proposals current obstacles to the use of teleconsultation?
    - ❖ Dehumanization of the doctor-patient relationship;
    - ❖ Non-adherence of patients;
    - ❖ Creation of a greater risk of medical errors than in a face-to-face setting;
    - ❖ Difficulties in organizing consultation times;
    - ❖ Remuneration for this procedure;
    - ❖ Use of tools not adapted to teleconsultation.
13. For which types of patients have you done the most teleconsultations?
    - ❖ A patient who lives far away/a patient who has difficulties to move;
    - ❖ Living in nursing home;
    - ❖ An active patient with shifted or very constrained schedules;
    - ❖ A known patient who needs to follow up on their treatment;
    - ❖ A patient in prison;
    - ❖ Regional regulation of patient transfer.
14. Indicate the 3 most relevant indications for which you propose a telemedicine procedure
    - ❖ Follow-up of results of complementary examinations (biology or radiology);
    - ❖ Monitoring of a treatment and its adaptation;
    - ❖ Monitoring of a hospitalization;
    - ❖ Pain management;
    - ❖ A peri-operative consultation;
    - ❖ A patient who lives far from the hospital and who has difficulty in getting around;
    - ❖ A patient in prison;
    - ❖ A multidisciplinary consultation;
    - ❖ A request for specialist advice.

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15. For which types of patients would you never do a teleconsultation? (several answers possible)
    - ❖ For a traumatized patient (road accident, fall from a high point …);
    - ❖ For an infant;
    - ❖ For a pregnant woman;
    - ❖ For a child;
    - ❖ For a demented patient;
    - ❖ For an unknown patient.
16. During your teleconsultation experience(s), were you satisfied with:
    - ❖ Sound quality;
    - ❖ The quality of the picture;
    - ❖ The quality of the connection;
    - ❖ The reliability of the system.

The physicians' expectations and projections of teleconsultation (3 questions):

17. After the COVID-19 crisis, will teleconsultation continue in your practice?
18. Would you prefer to dedicate specific time slots to teleconsultation or keep a mixed activity with face-to-face consultations in the same time slots?
19. In your opinion, should the duration of a teleconsultation be included in the schedule?
    - ❖ The same as the current consultations (15–20 minutes);
    - ❖ Longer;
    - ❖ Shorter.

Do you have any comments on this survey?

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