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Patient perspective on telemedicine replacing physical consultations in urology during the COVID-19 lockdown in Denmark

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ABSTRACT

Objective: In March–April 2020, during the coronavirus disease 2019 (COVID-19) pandemic lockdown in Denmark, the Danish Health Authorities recommended that, where possible, face-to-face patient-physician consultations be replaced by telephone consultations. The aim of this study was to obtain patients' evaluation of their telemedicine experience.

Methods: Patients who were candidates for telemedicine consultations were recruited based on their urological ailment, necessity for follow-up and comorbidity. New referrals including patients with suspicion of cancer were not candidates for telemedicine. In total, 548 patients had their appointment altered during the period from 13 March to 30 April 2020. Postal questionnaires were sent to 548 patients and 300 (54.7%) replied.

Results: In total, 280 patients answered, 224 (80%) men and 56 (20%) women, mean age 69 years (range 18–91) of whom 180 (64.3%) had a benign and 100 (35.7%) a malignant diagnosis. Twenty (6.7%) respondents did not remember their telephone consultation and were therefore excluded. Telephone consultation satisfaction was reported by 230 (85.0%) patients, but they would not prefer video consultations over telephone consultations, and only 102 (36.4%) would prefer telephone consultations in the future. Patients' age, sex and distance to the hospital did not seem to be associated with telephone consultation satisfaction (age $p = 0.17$; sex $p = 0.99$; distance $p = 0.27$, respectively). In total, 226 (80.7%) were medically assessed as being at risk for COVID, but 74 (26.4%) subjectively evaluated themselves as being at risk.

Conclusions: In general (85.0%), urological patients were satisfied with telephone consultations.

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KEYWORDS

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Introduction

The coronavirus disease 2019 (COVID-19), first identified in Wuhan, China in December 2019 [1], was declared a pandemic by the World Health Organization on 11 March 2020 [2]. The COVID-19 pandemic is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [3]. A rapidly growing number of infected citizens in Denmark caused the Danish government to order a partial lockdown of society on 11 March to avoid potential overburdening of the healthcare system [4]. The first lockdown of Denmark was set to 14 days, starting on 13 March. The lockdown meant that all public sector employees not performing critical functions were sent home to work from there. All educational institutions and day-care centres were closed, and assemblies with more than 100 persons were forbidden. Hospitals and nursing homes were urged to introduce more stringent restrictions on visitors with instant effect. During the lockdown, outpatient consultations should be postponed, and only new cancer referrals were seen. The Danish Health Authority recommended to replace visits by telephone consultations in order to reduce the risk of virus transmission among patients, healthcare professionals and their relatives. This

recommendation was a new way to consult patients but without any doubt, it is the future to use information technology, including internet- and telephone-based resources, as an alternative and supporting method of a novelty service in a healthcare and health management setting. However, telephone consultation cannot convey body language, perform objective assessment or assure that the patient is reached at an appropriate time in calm surroundings [5]. Therefore, the aim of the present study was to assess patients' evaluation on their telephone consultation and their general opinion towards implementing telemedicine in the future.

Material and methods

During the period from 13 March to 30 April 2020, 607 patients participated in a telephone consultation instead of a physical consultation at the Department of Urology at Odense University Hospital, Denmark. The Department's five teams (urolithiasis/lower urinary tract symptoms (LUTS); prostate-, renal-, and bladder cancer; and sexology clinic) recruited outpatients who were candidates for telemedicine

consultations based on their disease, necessity for follow-up and comorbidity.

These 607 patients' medical records were reviewed to 1) verify that the patients had received a telephone consultation, and to exclude patients who 2) appeared at the hospital 3) did not speak Danish, 4) were patients, 5) suffered from dementia, 6) had a confidential address, 7) postponed their consultations, 8) were under the age of 18 and 9) imprisoned (Figure 1). In total, 59 patients were excluded for various reasons (Figure 1). The remaining 548 patients' medical files were further examined to identify persons at high risk of a severe development if infected with COVID-19 (Table 1). Risk factors were determined using The Danish Health Authority's guideline (Appendices 1 and 2, Figure 1[5]). Patients at risk of a severe COVID-19 infection were defined as patients who 1) were >65 years old, 2) had lung disease, 3) had diabetes mellitus, 4) had a BMI > 35, 5) had cardiovascular disease (e.g. prescribed hypertension treatment, blood thinner, lipid lowering drugs) and 6) suffered from immunosuppression (e.g. prescribed corticosteroids, in chemotherapy).

Relevant data were collected, including age, sex, reason for consultation and medical history (Table 1). Patients' perspectives on telephone consultations were collected through a study specific questionnaire. We were unable to locate a short, validated questionnaire that fit the rather unique situation of a pandemic, partial national lockdown and our telemedicine related questions. Instead, we produced a relatively short, simple questionnaire, which somewhat compensates for not

an applying a validated questionnaire. However, in the light of potential future regional epidemic outbreaks and the potential to apply telemedicine in such circumstances it would be beneficial to develop validated questionnaires that fit such settings.

The questionnaire consisted of nine questions offering three possible answers 'Yes', 'No' and 'Do not know'. The patients could add clarifying comments to eight out of nine questions, and could mark suggested comments at question 1, 2 and 8. The questionnaire can be seen in supplemental, Figure 2.

In total, 300 (54.7%) patients returned their questionnaire. Twenty 20 (6.7%) were excluded since they did not remember their telephone consultation and therefore returned a blank questionnaire. Some patients left out a few questions; such questions were registered as 'Do not know'. Patients who answered a question with more than one answer, e.g. both 'Yes' and 'No', were also registered as 'Do not know' (Table 1). Due to research approval delays, the questionnaires were mailed 3 months after the scheduled telephone consultation. The study was registered by the local ethical committee 25 August 2020, Journal Number: 20/37857.

Results

Key findings

Out of the 280 responding patient ($N = 224$ (80%) men, $N = 56$ (20%) women; mean age 69 years (range 18–91)), 180 (64.3%) had a benign and 100 (35.7%) a malignant diagnosis requiring follow-up (Table 1).

A total of 238 (85.0%) patients were satisfied with their telephone consultation. However, 86 (36.1%) of these 238 patients would prefer that telephone consultations would not be necessary in the future, and 49 (17.5%) patients voiced the opinion that telephone consultation was too impersonal and that they would prefer to meet their physician face-to-face (Table 2).

In case of similar future situations, 238 (85.0%) would prefer a telephone consultation to having their appointment postponed or cancelled. However, only 102 (36.4%) would prefer telephone consultations in the future when the pandemic is under control (Table 2).

A total of 136 (48.6%) patients claimed that they would refuse telemedicine with video even though 52 (38.2%) of these 136 patients had the requisite equipment for such consultations. Amongst those refusing telemedicine with video,

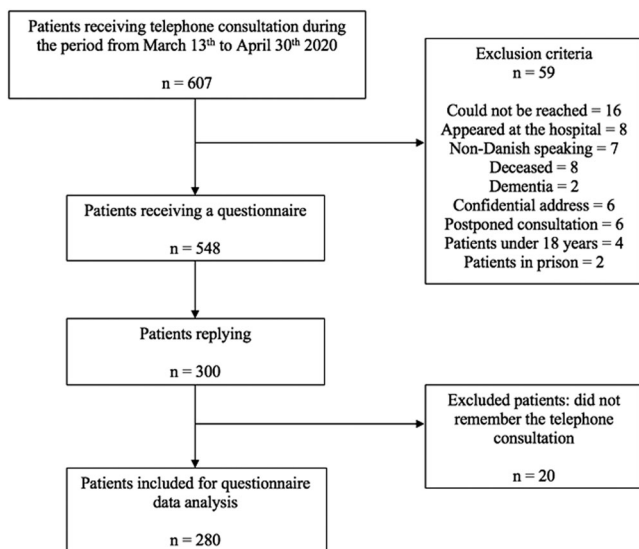


Figure 1. Flowchart of study population. Depicting the selection process.

Table 1. Demographic data of study population.

Study population	In total	Replied	Not replied	p Value
n (%)	548 (100%)	300 (54.7%)	248 (45.3%)	
Age (yr) $\pm$ SD	64.27 $\pm$ 15.67	68.69 $\pm$ 11.96	58.89 $\pm$ 17.80	<0.001
Male	414 (75.5%)	238 (57.5%)	176 (42.5%)	<0.001
Female	134 (24.5%)	62 (46.3%)	72 (53.7%)	<0.001
Malignant diagnosis	151 (27.6%)	107 (70.9%)	44 (29.1%)	<0.001
Benign diagnosis	397 (72.4%)	193 (48.6%)	204 (51.4%)	<0.001

Percentages were calculated using the total number of answered questionnaires (280).

55.1% lacked the necessary equipment and 10.7% felt limited by their technical skills.

Opinions were divided concerning whether they felt safer receiving a telephone consultation at home rather than meeting face-to-face in the hospital (40.7% Yes vs. 42.1% No).

Characteristics of patient respondents

The mean age difference between patients who replied compared to patients who did not reply was approximately 10 years; 68.69 and 58.89 years, respectively (Table 1). However, the standard deviation was also larger, reflecting more diversity in the population of non-responders (11.96 vs. 17.80 years). Patients with a malignant diagnosis were more likely to answer than patients with a benign diagnosis (70.9 vs. 48.6%, respectively). We observed a female preponderance among urological patients (75.5%), and men were more likely to return the questionnaire than women were (57.5% vs. 46.3%, respectively) (Table 1).

Characteristics of patients who were satisfied with telephone consultations

The general picture of high telephone consultation satisfaction also applied to subgroups of responders, e.g. responders with benign or malignant disease. Still, patients with

malignant were slightly more positive and less negative towards telephone consultation than were patients with benign disease (positive benign 83.9% vs. positive malignant 87.0%; negative benign 8.9% vs. negative malignant 5.0%). The patients' age and sex and their distance to the hospital seemed not to be associated with telephone consultation satisfaction (p values: age = 0.17; sex = 0.99; distance from home to hospital = 0.27) (Table 3). Stratification according to sub-speciality showed that the sexology clinic had the largest share of unsatisfied patients (27.3%).

COVID-19 risk assessment

Among those who responded, 226 (80.7%) were medically assessed as being at risk of severe development if infected with COVID-19 (Table 4). We found that 21.1% of the patients had one risk factor and 59.9% had two or more risk factors (Figure 2). The two main risk factors were age above 65 years (43.6%) and cardiovascular disease (41.7%) (Figure 3). At-risk patients were significantly more satisfied with their telephone consultation (87.6% vs. 74.1%, $p < 0.05$) and felt safer with the telephone replacing the physical consultation (42.9% vs. 31.5%, $p < 0.001$) (Table 4). However, at-risk patients were surprisingly less positive towards implementing telemedicine if a similar situation were to arise again (83.6% vs. 90.7%, $p = 0.238$).

Seventy-four (26.4%) patients evaluated themselves as being at high risk, 143 (51.1%) evaluated themselves as not to be at risk, and 63 (22.5%) replied that they did not know if they were at risk (Question 9) (Table 5). Of the 74 (33%) patients who evaluated themselves as being at high risk, 13 (17.6%) were not medically evaluated as being part of the at-risk population. However, only 61 (27%) of the 226 medically assessed patients subjectively evaluated themselves as being at risk, and 111 (49%) of the medically assessed patients did not subjectively feel that they were part of the at-risk patient population. Of the 74 (33%) patients feeling at risk, 35 (47.3%) felt more secure having the consultation by telephone than having a face-to-face consultation, and 69 (93.2%) would prefer telephone consultations to being postponed or cancelled in a similar situation.

Discussion

We found an overall high degree of satisfaction with telemedicine/telephone-based consultations ($N = 238$; 85.0%)

Number of Risk Factors

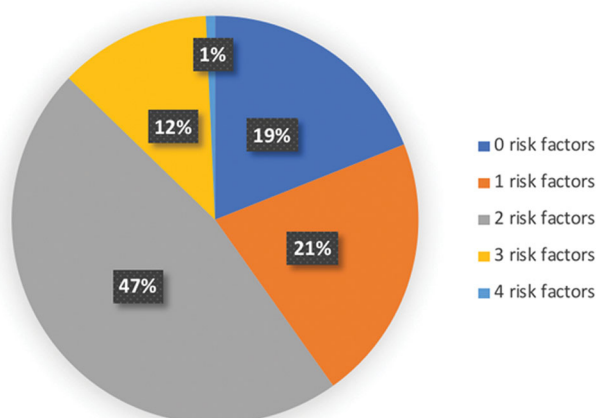


Figure 2. Percentages of number of risk factors among patients. Percentages calculated out of all who answered the questionnaire (280).

Table 2. Questionnaire evaluation with number of patients answering.

Questionnaire evaluation Questions*	Yes n (%)	No n (%)	p Value	Do not known (%)
Satisfied with the telephone consultation (q1)	238 (85.0%)	21 (7.5%)	<0.001	21 (7.5%)
Good contact with doctor (q2)	238 (85.0%)	22 (7.9%)	<0.001	20 (7.1%)
Covered all you wanted to talk about (q3)	210 (75.0%)	34 (12.1%)	<0.001	36 (12.9%)
Prefer a consultation with video camera (q4)	58 (20.7%)	136 (48.6%)	<0.001	86 (30.7%)
Own a smartphone / computer to enable video consultation (q5)	156 (55.7%)	91 (32.5%)	<0.001	33 (11.8%)
Felt safer with telephone consultation during COVID-19 (q6)	114 (40.7%)	118 (42.1%)	0.356	48 (17.1%)
Prefer telephone consultations in the future (q7)	102 (36.4%)	117 (41.8%)	0.076	61 (21.8%)
Prefer telemedicine rather consultation being postponed/cancelled during a pandemic (q8)	238 (85.0%)	22 (7.9%)	<0.001	20 (7.1%)
High risk of infection with COVID-19 (q9)	74 (26.4%)	143 (51.1%)	<0.001	63 (22.5%)

Percentages in the column 'In total' were calculated using the total number of patients receiving a questionnaire (548), whereas percentages in the columns 'Replied' and 'Not replied' are calculated using the total of each category/row.

Table 3. Responder characteristics.

Characteristics of responders	In total	Positive	Negative	Do not know	p Value
n (%)	280 (100%)	238 (85.0%)	21 (7.5%)	21 (7.5%)	
Age (yr) $\pm$ SD	68.52 $\pm$ 11.83	68.69 $\pm$ 11.78			
67.19 $\pm$ 13.35					
<60	48 (17.3%)	40 (83.3%)	5 (10.4%)	3 (6.3%)	0.1728
60–69	87 (31.3%)	72 (82.8%)	5 (5.7%)	10 (11.5%)	
70–79	94 (33.8%)	86 (91.5%)	6 (6.4%)	2 (2.1%)	
≥ 80	51 (18.3%)	40 (78.4%)	5 (9.8%)	6 (11.8%)	
	Pearson's correlation coefficient $r = 0.035$				
Urological team					
Urolithiasis/ LUTS	122 (43.6%)	104 (85.2%)	9 (7.4%)	9 (7.4%)	<0.05
Prostate cancer	69 (24.6%)	60 (87.0%)	3 (4.3%)	6 (8.7%)	
Renal cancer	24 (8.6%)	22 (91.7%)	0 (0%)	2 (8.3%)	
Bladder cancer	43 (15.4%)	37 (86.0%)	3 (7.0%)	3 (7.0%)	
Sexology	22 (7.9%)	15 (68.2%)	6 (27.3%)	1 (4.5%)	
Diagnosis					
Benign	180 (64.3%)	151 (83.9%)	16 (8.9%)	13 (7.2%)	0.5276
Malignant	100 (35.7%)	87 (87.0%)	5 (5.0%)	8 (8.0%)	
	Pearson's correlation coefficient $r = 0.020$				
Distance to hospital					
0–19 km	86 (30.7%)	78 (90.7%)	3 (3.5%)	5 (5.8%)	0.2699
20–49 km	94 (33.6%)	75 (79.8%)	9 (9.6%)	10 (10.6%)	
≥ 50 km	100 (35.7%)	85 (85.0%)	9 (9.0%)	6 (6.0%)	
	Pearson's correlation coefficient $r = 0.049$				
Sex					
Male	224 (80.6%)	190 (84.8%)	17 (7.6%)	17 (7.6%)	0.9861
Female	56 (20.1%)	48 (85.7%)	4 (7.1%)	4 (7.1%)	
	Pearson's correlation coefficient $r = 0.008$				

'Positive', 'Negative' and 'Do not know' were stratified using answers from question 1: Percentages in the column 'In total' were calculated using the total number of answered questionnaires (280), whereas percentages in the columns 'Positive', 'Negative' and 'Do not know' were calculated using the total of each category/row.

Table 4. Answers from patients with medical risk evaluation.

Medical risk evaluation	In total	Positive	Negative	Do not know	p Value
Question 1 – Satisfied with telephone consultation					
At risk	226 (80.7%)	198 (87.6%)	13 (5.8%)	15 (6.6%)	<0.05
Not at risk	54 (19.3%)	40 (74.1%)	8 (14.8%)	6 (11.1%)	
Question 6 – Feel safer with the telephone consultation					
At risk	226 (80.7%)	97 (42.9%)	91 (40.3%)	38 (16.8%)	<0.001
Not at risk	54 (19.3%)	17 (31.5%)	27 (50.0%)	10 (18.5%)	
Question 8 – Prefer telemedicine if a similar pandemic occurs again					
At risk	226 (80.7%)	189 (83.6%)	18 (8.0%)	19 (8.4%)	0.238
Not at risk	54 (19.3%)	49 (90.7%)	4 (7.4%)	1 (1.9%)	

Percentages in the column 'In total' were calculated using total number of answered questionnaires (280), whereas percentages in the columns 'Positive', 'Negative' and 'Do not know' were calculated using the total of each category/row.

under the current circumstances with partial national lockdown during a global pandemic. Surprisingly, patients were not very interested in upgrading the technological approach to include video. Their satisfaction with telephone-based consultations can probably be ascribed to a combination of factors: not having to ask for time off from work, reduced transport time and associated cost, elimination of in-hospital waiting time and perceived higher safety. While we found no correlation between travel distance and satisfaction, it should be noted that Denmark is a relatively small, densely populated country without geographical features, like mountain ranges, that introduce very long travel times to consult a medical specialist.

During the COVID-19 pandemic, promotion of social distance is important wherefore the Danish Health Authority advocated using telehealth for as many patients as possible [5]. A recent study on telemedicine in urology found that providers switched, seemingly overnight, to providing care *via* telehealth to limit the spread of coronavirus and preserve limited health-care resources [6]. Despite the obvious benefits of telehealth – such as convenience, efficiency and reduced travel costs – the long-term clinical outcomes of urological telehealth are not clear [6]. We here confirm this observation; thus, we found that patients' age, sex and distance to the hospital seemed not to be associated with telephone consultation satisfaction. However, another study among healthcare providers showed that telemedicine enjoys broad acceptance among German medical professionals, albeit technical and regulatory burdens must be overcome to ensure acceptance within routine care [7]. In the present study, we found that lack of personal contact was patients' primary reason for a negative attitude to telephone

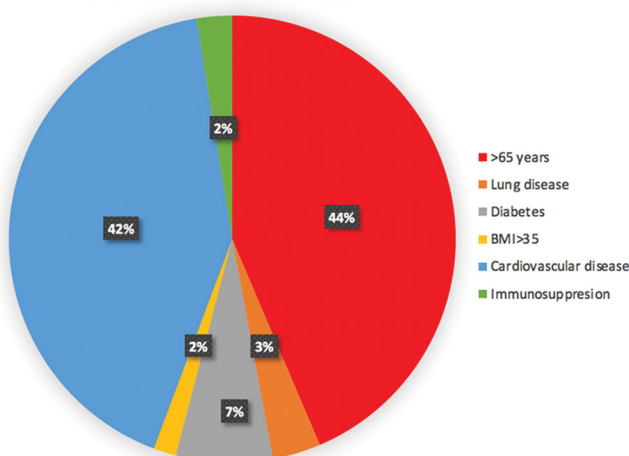
Risk factor stratification

Figure 3. Percentages of risk factor stratification among patients. Distribution of all risk factors. Percentages calculated using the number of all risk factors in all patients (429). Note that many patients had more than one risk factor.

consultations (17.5%). It might therefore be imagined that consultation with addition of video would be of interest to patient. However, 136 (48.6%) claimed that they would refuse telemedicine with video. In our study, 55.1% of the patients refusing telemedicine with video did not have the necessary equipment, and 10.7% felt limited by their technical skills. The remaining 34.2% might refuse telemedicine with video because they would uncomfortable seeing themselves on camera. Amongst those who would prefer telemedicine with video, 6.9% lacked the necessary equipment. Thus, having the necessary equipment might not be the decisive for patients' acceptance of using video consultations. This finding warrants further study. Hence, it is obviously important that patients are as comfortable with the long-distance communication media used as possible and that this media type does not detract from the physicians' ability to properly interact with the patient and fulfil the patient's clinical needs.

The present study reflects patients' perspectives on telemedicine. We investigated their own evaluation of their health and compared this evaluation to their telemedicine preferences, expecting that subjective feeling of illness would influence their preferences. Amongst those who felt themselves to be at risk, 47.3% felt more secure with the telephone consultation than with a physical consultation, while this percentage was only 37.8% among those who did not feel at risk. Amongst those who felt themselves to be at risk, 93.2% would prefer a telephone consultation rather than the consultation being postponed or cancelled, whereas this percentage was only 86.7% among patients who did not feel at risk. Some patients noted that they were not at risk for a severe disease course if infected with COVID-19 themselves but that their relatives were, e.g. their spouse or partner. They therefore wanted to be more careful, which may have influenced their preferences towards telemedicine. A recent prospective, structured phone interview study of telemedicine from 300 urological patients' perspective showed that risk factors for an adverse COVID-19 infection outcome were common (94.5% had one or more risk factors), and most patients (63.2%) with urological disease were suitable for telemedicine [8]. We found nearly the same percentage when performing medical evaluation, with 226 (80.7%) patients being at risk. Of these, 111 patients (49.1%) did not subjectively feel that they were part of an at-risk patient population. This may be so because now, several months later, COVID-19 has become part of everyday life, and people might have become less afraid of the virus and do not consider themselves at risk now. In total, only 74 patients (26.4%) evaluated themselves as being at-risk patients. However, 13 (17.6%) of these 74 patients were not medically evaluated as being at risk, even if they still felt that they were at risk. This could be because they had conditions such as untreated obstructive lung disease, which could not be detected solely from checking the patient's medication list.

A German study [8] showed that 84.7% of patients wished for a telemedical rather than a face-to-face consultation. Those favouring telemedicine were younger (68 [58–75] vs 76 [70–79.2] years, $p < 0.001$). The German study reported no

difference in preference according to oncological (mean 86%) or benign diagnoses (mean 85%) or COVID-19 risk factors. This was in contrast to our finding where patients' age, sex and distance to the hospital did not seem to be associated with telephone consultation satisfaction. Neither the German study nor ours showed any difference related to the malignant or benign nature of the diagnosis.

The COVID-19 pandemic has been associated with a decline in the number of urological services [9–11]; thus, a recent survey reported that clinical activities were affected in 54% of centres, and up to 85% of elective surgeries were cancelled [11]. A recent study found that the number of incident cancer diagnoses fell by one third during the first three months of the COVID-19 pandemic in Denmark compared with previous years [12]. This decline in malignant diagnoses was seen across different age groups and in both sexes. The effects of COVID-19 on cancer detection in Denmark are notable as evidenced by the fact that they took place despite non-suspension of screening programs, unchanged cancer care pathways and uniform adherence to the defined maximal treatment start lead times.

The Sexology Clinic had the largest share (27.3%) of unsatisfied patients. This could indicate that it was difficult to create a safe space over the telephone to talk about vulnerable and socially taboo-laden topics. Talking about sexual problems with a stranger is probably uncomfortable for most under any circumstances, and converting such a consultation into a telephone conversation might, indeed, be problematic. Another reason for patients' dissatisfaction with the Sexology Clinic could be associated with the long wait (often 1.5 years) before consultation. Likewise, talking about a malignant diagnosis over the phone might also be complicated. However, only 5.0% of patients with a malignant diagnosis were negative towards telephone consultations, and they were generally more satisfied than the patients with benign diseases. This could be so because some of the patients may have been diagnosed with malignant disease long ago, and some may even have undergone radical surgery. These patients would therefore be used to frequent consultations and check-ups. The team with most malignant patients is the Prostate Team (82.6%); of 57 malignant patients seen by the Prostate Team, 86.0% were satisfied with their telephone consultation. The high level of satisfaction could be due the fact that most men diagnosed with prostate cancer do not need immediate intervention [13].

Non-responders were younger and sociodemographically more diverse than the responders. This may be attributed to the responders having fulltime jobs and childcare obligations and to other factors affecting their leisure time. It is also possible that the younger population represented with less severe cases that did not weigh as heavily on their minds, thus lessening the urge to have further interaction with the healthcare system.

In the present study, the medical evaluation of risk factors was problematic since the guideline differs between well-treated and not-well-treated chronic diseases. Moreover, in many cases, it was difficult to assess to which degree conditions such as hypertension, hyperlipidaemia and asthma

Table 5. Patients' self-evaluation of risk.

Self-evaluated risk (Question 9)	Evaluate themselves at risk	Evaluate themselves not at risk	Do not know whether they are at risk	<i>p</i> Value
In total	74 (26.4%)	143 (51.1%)	63 (22.5%)	
Question 1				
Were satisfied with telephone consultation	62 (83.8%)	124 (86.7%)	52 (82.6%)	0.809
Were unsatisfied with telephone consultation	5 (6.8%)	11 (7.7%)	5 (7.9%)	
Do not know	7 (9.5%)	8 (5.6%)	6 (9.5%)	
Question 6				
Felt more secure at telephone consultation	35 (47.3%)	54 (37.8%)	25 (39.7%)	0.692
Did not feel more secure at telephone consultation	27 (36.5%)	65 (45.4%)	26 (41.3%)	
Do not know	12 (16.2%)	24 (16.8%)	12 (19.0%)	
Question 8				
Prefer telephone consultation in a similar situation in the future	69 (93.2%)	124 (86.7%)	45 (71.4%)	<0.001
Do not prefer telephone consultation in a similar situation in the future	3 (4.1%)	9 (6.3%)	10 (15.9%)	
Do not know	2 (2.7%)	10 (7.0%)	8 (12.7%)	

Self-evaluated risk groups were compared to each other in relation to question 1, 6 and 8. Percentages in the row 'In total' were calculated using the total number of answered questionnaires (280). For the remaining percentages, each self-evaluated risk group was subdivided into the three answer options of question 1, 6 and 8 respectively.

were well-treated, since many conditions were being managed by general practitioners. It was, however, possible to access a list of all prescribed medications for each patient, which lay the ground for the medical assessment together with data concerning age and weight. This could have led to both under- and over diagnosing since not all data were accessible.

Strengths

In this study, we were able to include all patients from the daily list of outpatients and received a reply from more than 50% without a second reminder. All the files were read, which allowed us to determine if the patients had a comorbidity and were at risk.

Limitations

This is an observational patient satisfaction study. Because of research approval delays, the questionnaires were sent out 3 months after the scheduled telephone consultation, which could introduce recall bias to a significant extent. This is also reflected in the number of patients who replied that they did not remember having had a telephone consultation (6.7%). A study specific questionnaire was used, which could have led to information bias. With a more optimal study design, data would have been collected prospectively, i.e. immediately after the consultation with a validated questionnaire.

Conclusion

This study found that 85% of urological patients were satisfied with telephone consultation. However, only 36.4% would prefer telephone consultations in the future. Satisfaction was not associated with age, sex or distance from home. In total, nearly 81% of patients were medically assessed to be at risk but only 26% of the patients judged themselves to be at risk. Telehealth will continue to be an integral part of

urology after the pandemic, and it is important to develop strategies to overcome associated challenges.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Appendix 1. The Danish health authority's guideline defines persons at risk for a severe COVID-19 infection

The Danish Health Authority's guideline defines persons at risk for a severe COVID-19 infection by the following criteria:

- Elderly over 65 years (especially over 80 years)
- Persons with chronic disease
 - Cardiovascular disease (does not apply to well-treated hypertension)
 - Lung disease (does not apply to mild and well-treated asthma)
 - Chronic kidney disease with decreased renal function
 - Chronic liver disease
 - Diabetes type 1 and 2, especially if they have sequelae
 - Muscular disease and neuromuscular disease which results in reduced strength to cough or difficulties getting rid of airway mucus
 - Extremely obese (BMI = 35-40) depending on other existing risk factors
 - Special blood diseases, where a higher risk for complications is evaluated
- Persons with decreased immune system as a consequence of:
 - Blood disease
 - Organ transplantation
 - Immunosuppressive therapy (chemotherapy or radiation therapy in cancer treatment)
 - HIV infection with severe effect on the immune system
- Children with chronic disease (as above) or a as consequence of premature birth
- Pregnant women and women up to two weeks after birth (based on a precautionary principle)

Appendix 2. Questionnaire

Dear _____

1. Were you satisfied with the telephone consultation?

___ Yes___ No___ Do not know

- If No - What were you unsatisfied with?
- I had technical difficulties/bad sound quality
- I was reached at an inappropriate time (at work, there was a noisy background)
- I would have liked to have had a relative overhearing the consultation
- My problem was not solved
- Clarifying comments: _____

2. Do you feel you had a good contact with the doctor?

___ Yes___ No___ Do not know

- If No - What were you unsatisfied with?
- I had difficulties following/understanding what the doctor said/get the doctor to elaborate further
- The doctor had difficulties understanding my situation when we were not face to face
- It is too impersonal
- Clarifying comments: _____

3. Do you feel the telephone consultation covered all you wanted to talk about?

___ Yes___ No___ Do not know

- Clarifying comments: _____

4. Would you prefer a consultation with video camera where you can see each other? E.g. smartphone/computer.

___ Yes___ No___ Do not know

- Clarifying comments: _____

5. Do you have a smartphone/computer to enable such a video consultation?

___ Yes___ No___ Do not know

6. Did you feel safer with a telephone consultation compared to a physical meeting in regard to the COVID-19 pandemic?

___ Yes___ No___ Do not know

- Clarifying comments: _____

7. Would you prefer telephone consultations instead of physical meetings for a similar consultation reason when the COVID-19 pandemic is under control?

___ Yes___ No___ Do not know

- Clarifying comments: _____

8. If a similar pandemic such as COVID-19 occurs again, would you prefer telemedicine rather than the consultation being postponed/cancelled?

___ Yes___ No___ Do not know

- If No - What were you unsatisfied with?
- I do not own a smartphone/computer
- I think I would have difficulties understanding what the doctor says when we are not face to face
- I think the doctor would have difficulties understanding my situation when we are not face to face
- It is too impersonal
- Clarifying comments: _____

9. Do you have an underlying condition that puts you at risk for a severe development of the disease if infected with COVID-19?

___ Yes___ No___ Do not know

- Clarifying comments: _____