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Serving patients in a pandemic – The rise of Telemedicine in Urogynecology

Abstract

Introduction: COVID-19 pandemic led to changes in healthcare provision across the NHS with large-scale implementation of telemedicine. We aimed to evaluate the feasibility, acceptability, patients' convenience and satisfaction of telephone clinics in urogynecology during the initial stages of the pandemic.

Methods: All consented patients scheduled for phone clinics were included. Descriptive statistics were used to analyze quantitative data and inductive thematic analysis for free-text comments.

Results: 101/109 (93%) patients completed the survey. Median age (interquartile, IQR) was 60 years (IQR 21.5) and median consultation duration was 16 minutes (IQR 8). 33/101 (32.7%) were new cases and 13/101(12.9%) were tertiary referrals. To facilitate face-to-face appointments, 100/101 (99%) patients required transport and 30/101 (29.7%) needed time off-work. 98/101 (97%) of the patients were happy or very happy with phone consultation, with 91/101(90.1%) scoring 8-10 on Visual Analogue Scale (VAS).

Conclusion: Urogynecology phone clinics are feasible, acceptable and convenient with high level of patients' satisfaction. Robust studies are required to evaluate the feasibility of integrating telemedicine into routine urogynecology practice.

Keywords: telemedicine, telehealth, COVID-19, consultation, urogynecology, patients' satisfaction

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Introduction

COVID-19 pandemic led to an unprecedented population lock-down resulting in suspension of all but essential activities in the NHS, including medical attendances. In response to the pandemic, overnight radical changes were implemented in the healthcare provision across the NHS with large-scale implementation of telemedicine.[1] Rapid adoption of technology and implementation of digital health was utilized to bridge the gap between clinicians and service users, thus minimizing viral exposure to both patients and staff, while providing safe and effective care during the pandemic.

The reconfiguration of women's services saw urogynecology as one of the worst affected subspecialities with significant withdrawal in activities and wide application of telehealth.[2] It is expected that normal resumption of services in urogynecology may not be seen until the latest phases of restoration.

Therefore, in the recovery period of the pandemic, it has become a national priority to evaluate the long-term feasibility of new modalities for healthcare, including increased implementation of remote consultations and the digitalization of health.[2]

Telemedicine has already proven beneficial among medical specialties, both in primary and secondary care, as part of triaging services, follow up consultations or access to care for remote area or marginalized groups.[3–5] But the role of such modalities in surgical specialties, particularly those requiring intimate examinations like gynecology, is less clear and the current events provide an opportunity to re-assess their value. Further, the interest in telehealth has been growing through the years alongside the healthcare reforms and the increased awareness of healthcare cost.[6]

Here, we aimed to evaluate the feasibility, acceptability, patients' convenience and satisfaction of a tertiary urogynecology phone clinic service during the COVID-19 pandemic.

Materials and methods

The survey was approved by our local audit department as a service evaluation project (PRN 2998). The first 100 patients scheduled for urogynecology phone clinics at the time of re-opening of the services following the COVID-19 lockdown, and who consented to participate were enrolled in the survey. This sample size was obtained as a convenient sample and covered a period between 27/04/2020 and 12/05/2020. Patients were informed of their appointments via post and were contacted on phone numbers registered on their hospital records. Participants' verbal consent was obtained at the time of phone consultation. Patients declining to participate were excluded.

A standardized questionnaire was designed to collect data, and included a combination of closed and open-ended questions (appendix-1). We collected demographic and clinical data from the electronic records of the patients. We asked participants about their experiences of phone consultation on the day and as a general concept, and their satisfaction was evaluated using both a 5-point Likert scale (very unhappy to very happy) and a 10-point visual analogue scale (VAS) to improve the reliability of capturing patients' responses.[7] We performed a secondary analysis of participants scoring "neutral" or less on the Likert scale and/or <8 on the VAS. We used descriptive

statistics to analyze quantitative data deploying Graphpad Prism 8.1.2, and conducted inductive thematic analysis through NVIVO11 for the free-text comments.[8]

As the study was registered as a service improvement project with our hospital R&D department, it did not require formal ethics committee approval. All patients consented for their data to be used for the purpose of research.

Results

109 patients were enrolled in the study, of which eight did not attend. 101 participant surveys were included in the analysis. Median age (Inter-quartile range, IQR): 60 years (IQR 21.5), BMI 27.5 (7) kg/m^2 with 51% having ≥1 co-morbidity, 72% urinary incontinence (UI), 52% pelvic organ prolapse (POP) and 21% additional gynecological problems. Details of patients and clinic's characteristics are summarized in Table 1 and Figure 1.

97% of patients felt very happy/happy with the phone consultation, 90% scored 8-10 on the VAS scale, and 86% wanted to keep the option long-term (Table 2) (Figure 2).

Ten patients scored <8 on the VAS, including 3 who felt neutral on the Likert scale. These included seven who felt very happy/happy on the Likert and eight who scored 6-7 on the VAS scale. We have summarized the clinical characteristics and opinions of these patients in Table 3.

The free-text comments gave rise mainly to the following three themes:

Positive opinions

Phone consultations were felt convenient for saving travel, parking charges, avoiding long waits in hospital, and having to organize childcare or take time off work. They were seen as a safe option for COVID high-risk patients and those needing to shield at home, e.g., >60 years and those with medical co-morbidities or on immunosuppressive treatment.

Participants also felt it was an efficient way of running the service and were grateful that doctors took the time to call them during the pandemic and that they were not "forgotten".

Table 1 Telephone clinic characteristics and additional requirements for face-to-face hospital consultations

Telephone clinic characteristics			
Timing (24 hours clock)	09:00-14:40	Clinician	n (%)
Duration (minutes): median (IQR)	16 (8)	Consultant	46 (45.5%)
		Trainee	49 (48.5%)
Appointment type:	n (%)	Specialist nurse	4 (4%)
New	33 (32.7%)	Physiotherapist	2 (2%)
Follow up	68 (67.3%)		
Initial referral:		Tool	
GP	86 (85.2%)	Landline	55 (54.5%)
Tertiary*	13 (12.9%)	Mobile phone	46 (45.5%)
Other	2 (2%)		
Review indication:		Outcome	
Symptom review	92 (91.1%)	Follow up	82 (81.2%)
Investigation results review	7 (6.9%)	Discharged	18 (17.8%)
Other	2 (2%)	Not stated	1 (1%)
Additional requirements for face-to-face consultations			
Transport			
Car	78 (77.2%)	Time off work	
Bus	11 (10.9%)	Yes	30 (29.7%)
Train	1 (1%)	No	71 (70.3%)
Bike	10 (9.9%)	Distance median (IQR)**km	28 (31.1)
Walking	1 (1%)		

Table 2 Patients characteristics and opinions

Patient characteristics			
Demographics	Median (IQR)	Diagnosis*	
Age (years)	60 (21.5)	UI	
BMI (Kg/m2)	27.5 (7)	SUI	9 (8.9%)
Co-morbidities number		OAB/UUI	42 (41.6%)
0	50 (49.5%)	MUI	16 (15.8%)
1	29 (28.7%)	Undefined UI	6 (5.9%)
2	13 (12.9%)	No UI	28 (27.7%)
≥3	9 (8.9%)		
Pessary use: n (%)	14 (13.9%)	POP stage	
Pessary in situ (months): median (IQR)	6 (2)	Stage II	14 (13.9%)
Pessary type	n	Stage III	16 (15.8%)
Ring	6	Stage IV	5 (5%)
Shelf/Poppy	5	Undefined POP	17 (16.8%)
Falk	3	No POP**	49 (48.5%)

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Table Continued...

Patient characteristics			
Other	0	Other	
Pessary complication***	4	PFD	20 (19.8%)
Pessary self-management	2	Gyn	1 (1%)
Patients' opinions			
Satisfaction with telephone clinic consultation: n (%)		Maintaining telephone option long term: n (%)	
Very happy	75 (74.3%)	Yes	87 (86.1)
Happy	23 (22.8%)	No	13 (12.9%)
Neutral	3 (3%)	Unsure	1 (1%)
Total	101 (100%)	Total	100 (100%)

* Diagnosis: UI type/POP stage: based on history at time of consultation (if new) and/or previous records (if follow up). ** may include undiagnosed stage I POP. *** 3 expulsion, 1 vaginal discharge. IQR: interquartile range, UI: urinary incontinence, SUI: stress urinary incontinence, OAB: overactive bladder, UUI: urgency urinary incontinence, MUI: mixed urinary incontinence, POP: pelvic organ prolapse, PFD: pelvic floor dysfunction, Gyn: other gynecological problems.

Table 3 Secondary analysis of satisfaction

Telephone clinic characteristics				**Patient characteristics**			
Timing (24 hours clock):	09:30- 12:00	Clinician:	n	Demographics	Median (IQR)	Diagnosis	n
Duration (min): median (IQR)	20 (21.3)	Consultant	5	Age (years)	59 (8.8)	UI	
Appointment type:		Trainee	4	BMI (Kg/m2)	26.5 (4.3)	SUI	1
New	5	Physiotherapist	1	Co-morbidities	n	OAB/UUI	2
FU	5	Total	10	Yes	5	MUI	4
Total	10	Tool		No	5	undefined UI	2
Initial referral:		Landline	7	Total	10	Nil UI	1
GP	6	Mobile phone	3	Co-morbidities no.		Total	10
Tertiary	4	Total	10	0	0	POP	
Total	10	Outcome		1	2	Stage I	0
Review indication:		Follow up	6	2	2	Stage II	2
Symptom review	9	Discharged	3	≥3	1	Stage III	2
Other*	1	Not stated	1	Co-morbidity type		Stage IV	0
Total	10	Total	10	Cardiovascular	1	Undefined	0
Face-to-face consultations:				Endocrine/renal	1	Nil	6
Transport to hospital		Time off work		Neurological/Psychiatric	3	Total	10
Car	10	Yes	5	Chest	0	Pessary use	0
Distance: median (IQR)	39 (35.5)	No	5	Rheumatological	3	Other ***	3
		Total	10				

Patient opinions				**Patient's comments:**
Satisfaction with telephone clinic consultation:				- If there is no need for physical examination, would prefer telephone consultation.
Likert scale	n	VAS	n	- Feels that telephone consultation is a complete waste of time as proper treatment plan cannot be made without a clinical examination. She also feels that the current restrictions are ridiculous and are adversely affecting the health services as patients in need of treatment, even the cancer patients have to wait till situation normalizes. She has nothing against the doctors who, she knows are doing their job, but she feels that the government policy on the issue is inappropriate.
Very happy	1	10	0	- Prefer face-to-face consultation.
Happy	6	9	0	- Easiest with a baby but limitation as unable to be examined.
Neutral	3	8	0	- Would have wanted to be physically examined but appreciates restrictions with the current situation.

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Table Continued...

Patient opinions				Patient's comments:
Unhappy	0	7	6	- I like not having to travel or needing a baby sitter. Face-to-face gives the feeling of more connection.
Very unhappy	0	6	2	- Fine for information and advice to start with. But unclear if performing pelvic floor (exercises) correctly.
Total	10	5	1	
Telephone long-term?		4	1	
		3	0	
Yes	7	2	0	
No	3	1	0	
Unsure	0	0	0	
Total	10	Total	10	

"neutral" or less, VAS <8. *Physiotherapy, ** Round trip distance in miles, *** Bowel dysfunction, tender episiotomy scar, anal incontinence. UI: urinary incontinence, POP: pelvic organ prolapse

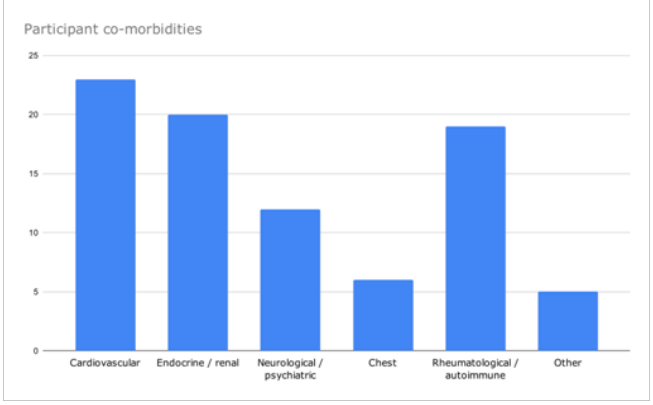

Figure 1 Details of patients and clinic's characteristics.

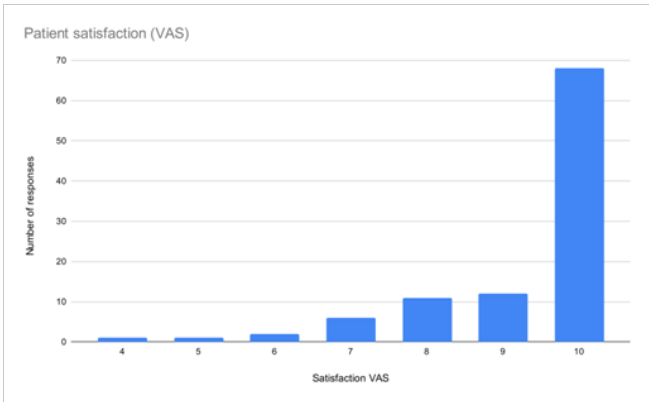

Figure 2 The VAS scale.

Moreover, phone was preferable to face-to-face consultation by patients who felt it "takes away the anxiety" of a face-to-face consultation, allowing them to express themselves better over the phone.

Despite being on the phone, patients believed that doctors communicated the plans well, put patients at ease, and managed them appropriately. Doctors' explanations put patients' minds at rest due to prior anxiety regarding their condition.

"...Saves a long journey to the hospital, roughly 2 hours..." P14.

"...Appreciate the time to call with current circumstances..." P36.

"I was a bit worked-up before the appointment. Now I feel I got the right advice and feel happy..." P13.

"...Does not feel that any important information is lost in a telephone consultation or that face-to-face consultation would have added anything more..." P98.

Conditional opinions

Phone consultations were viewed as the best that could be offered under the current circumstances of COVID lockdown. They were also seen appropriate for certain situations like follow up to discuss investigation results. However, they would not be appropriate when an examination is required or for breaking bad news about serious conditions.

"Depends on what the consultation is about. Not ideal for serious problems." P12

Negative opinions

Loss of non-verbal cues over the phone represented a communication barrier and impaired interpersonal interaction. These particularly impacted patients with hearing/memory problems or language barriers, and those needing the support of a family member or carer during the consultation. The physical barrier also interfered with the ability to perform examinations or other procedures like supervising pelvic floor exercises. Some participants felt rushed because the consultations were over the phone, and technical issues also impacted communication, e.g., poor telephone signals.

Some patients just preferred traditional face-to-face consultations for no obvious reason. One participant expressed her anger with the Government's decision to lockdown and suspend all elective clinics and procedures in the hospitals (Insert table-3).

"...there is a loss of visual cues and personal contact..." P80.

Discussion

Telemedicine or telehealth, as a concept, dates back to the invention of the traditional telephone over a century ago, when physicians started giving advice to their patients over a distance.[9] The term 'telemedicine'

was coined in the 1970s which means "healing at a distance." It has been further defined by the World Health Organization (WHO) and refers to the use of digital technology, telephone or video, to allow remote consultation, avoiding direct clinical contact.[10] Telemedicine is not a new concept and has been traditionally used in primary care and triaging services for a long time where it has proven beneficial.[11] Some studies have shown encouraging results in the role of phone consultations in secondary care.[12] Nurse-led helplines in secondary care and follow up clinics in medical specialties have also utilized such services with great success.[13]

COVID-19 pandemic has changed healthcare provision overnight. Many healthcare providers across the globe have launched virtual consultations and phone clinics, to minimize unnecessary exposure for patients and healthcare personnel while continuing to provide safe and effective care. With the pandemic unlikely to end soon, there has never been a greater need to implement and assess telemedicine services.[14]

Urogynecology service deals with pelvic floor dysfunction which adversely affect the women's quality of life, including the social, emotional and sexual well-being.[15] Though not life-threatening, these conditions cause significant discomfort and restrictions in daily activities, and thus require regular health care input. With the lockdown significantly restricting all elective disciplines such as urogynecology, new strategies need to be implemented to continue providing care to such patients.

In this paper, we demonstrated feasibility, acceptability, patients' convenience and satisfaction with a tertiary urogynecology clinic service during the pandemic. We also highlight benefits and challenges of phone consultation in general.

Feasibility

With the coronavirus pandemic, specialities traditionally relying on face-to-face consultations like psychiatry have introduced phone consultations.[16] However, in such settings, the emphasis is on verbal communication with minimal or no need to physically examine the patient. But the feasibility of phone consultations in surgical specialties such as urogynecology which require clinical examination, has not been fully evaluated.

We demonstrated the feasibility of phone consultations in urogynecology in a tertiary setting, and conducted 101 consultations over 15 days with 109 patients (92.7%). Many recent studies have demonstrated the feasibility of telemedicine in general surgery and urology, which supports our findings.[17] A recent randomized controlled trial compared conventional with telephone follow-up in general surgery outpatient clinics and found telemedicine is feasible for postoperative management[6]. Phone consultations are considered unsuitable for patients with hearing or speech impairment, cognitive dysfunction, and with a language barrier.[18] Although these limitations were reflected in our work, they were applicable to a small number of participants (4%) and hence, for the vast majority of our patients, phone clinics constituted a feasible option.

The safety of telephone consultations has been a significant concern for many and this can detract from their feasibility.[19] A qualitative study on phone consulting in primary care has highlighted patients' concerns about the safety issues, mainly due to loss of visual cues and clinical examination, which would be more critical in potentially serious and complex conditions.[18] In contrast to this, none of the patients in our study perceived safety as an issue for telephone clinics. We argue that the safety of phone consultation would be more relevant for specialties that deal with emergency and life-threatening conditions rather than a specialty like urogynecology, which manages women mainly with quality of life, non-life-threatening conditions.

Acceptability

Most of our patients (80.2%) accepted phone clinics as an effective alternative to face-to-face appointments and 86% wanted to keep the option long-term. Women with pelvic floor dysfunction are characteristically older and usually have associated comorbidities, which puts them at higher risk of contracting COVID-19.[20] As most of our participants belonged to the high-risk category for COVID-19 infection (>60 years with significant co-morbidities), and were advised by the Government to stay shielded at home, phone consultations were considered a safer alternative to engage with healthcare professionals and access clinical care. Moreover, many patients found it acceptable under the circumstances as they received timely consultation rather than having to wait for a face-to-face appointment, with the added uncertainty and anxiety of when the lockdown would be lifted and how the pandemic would evolve.

With the current pandemic and similar situations where minimizing direct patient contact is necessary, a two-step approach could provide an optimal compromise. The first-step comprises taking patient history, requesting the necessary investigations and providing information, followed by a one-stop face-to-face clinic where examination, investigation and/or minor procedures could be performed.

Telephone clinics are considered acceptable by the patients for follow-up where an initial assessment and diagnosis has been made or in those conditions where an examination is unnecessary.[21] As two-thirds of our patients were follow-ups, this favorably influenced the acceptability of the telephone consultations. Moreover, a large number of our new referrals (85%) were for urinary incontinence with or without pelvic organ prolapse, and almost three-fourth of our participants (72.2%) had urinary incontinence. The recent literature supports the use of teleconference in managing some urogynecology conditions, such as urinary incontinence, as the first line treatment for this condition is advising on lifestyle modifications, change in behavior and medical treatment.[14,22] Patients can be educated about weight loss, bladder training and pelvic floor exercises and told to avoid strenuous activities and high-impact exercises. These are simple, yet effective management options for both prolapse and urinary incontinence,[23] and can be supported by information leaflets and smartphone applications.

Patients' convenience

Phone clinics save patients' travel to hospital, and many find them more convenient compared to face-to-face clinics[24]. Many patients attending our clinic are tertiary referrals (12.9%) who have to travel long distances to attend face-to-face consultations. Moreover, the primary cohort of women in urogynecology is predominantly the elderly,[20] who may find it challenging to drive to the hospital themselves and would have to arrange transport. In these circumstances, phone consultation provides a convenient, cost-effective, and environmentally friendly option for patients by reducing journey times. However, there needs to be certain consideration of the technical capabilities of the elderly population using online platforms, as opposed to a phone, if this is to become common practice.[25] In contrast, phone clinics are a convenient and viable option for younger women, who would have to arrange childcare or take time off work for face-to-face appointments.

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Patients' satisfaction

The vast majority of our participants (97%) were highly satisfied with phone consultations. Equally, in a study of 124 men having a phone follow-up after being prescribed erectogenic agents, 92% found it more convenient than face-to-face appointments involving travel and waiting to be seen.[17] This conforms to our findings of high patient satisfaction, albeit in a female population. A recent systematic review of various modalities of telehealth consultations in different settings, factors associated with patient satisfaction were identified. Similar to our findings, they included less travel time, fewer missed appointments, better communication, and cost savings.[26]

To understand the possible reasons for low satisfaction level reported by 7% of our participants, we did a secondary analysis of the patients who scored "neutral" or less on Likert and/or <8 VAS scales. We found that there were equal number of new referrals and follow–ups in this subset of patients with 60% referred by the GP and 40% tertiary referrals. A common factor noticeable amongst these patients was inability to have an examination, which explains their low level of satisfaction, particularly in the tertiary referral group where there has already been a longer wait secondary to the nature of the referral pathway.

A significant strength of our study is that we have provided a timely evaluation of phone clinic service introduced to manage patients with pelvic floor dysfunction at the time of the COVID-19 pandemic. This is mostly an uncharted territory because of the intimate nature of the consultation and surgical approach to management. Moreover, our study provides invaluable insight into the use of phone consultations in similar fields in the current situation and with the prospect of further viral waves.

The main limitation of our study was that it was a pilot survey with a small sample size at a single center. Adequately powered studies comparing virtual versus face-to-face consultations in urogynecology need to explore this topic further, ideally in non-pandemic circumstances. Also, the clinicians collecting data were the same as those conducting consultations, introducing potential for bias. Another limitation was the use of one virtual modality i.e., telephone. The usefulness of other virtual modalities e.g., online platforms, WhatsApp, will also need to be explored. Recent studies have shown that WhatsApp provides an easy and accessible platform for consultations with healthcare providers, and is effective for managing women with gynecological conditions. But there are issues of patients' confidentiality and lack of documentation in patients' clinical records, which will need to be addressed prior to widespread use of WhatsApp in telemedicine.[27,28]

With the prospect of subsequent COVID-19 viral waves and the need for continued vigilance, healthcare systems need to adopt new, efficient, and safe ways of providing patient care. These may include effective use of telecommunication by expanding the availability and accessibility of technology at the hospital setting such as online platforms, video conferencing, signposting patients to mobile applications or educational material, and combining all patient reviews and tests in one-stop clinics.[29] Clinicians across the globe have started sharing practical tips of providing such services and issues regarding service infrastructure, reimbursement, and privacy are being raised.[30,31]

Conclusion

We demonstrated feasibility, acceptability, patients' convenience, and high satisfaction for phone consultations in a tertiary urogynecology clinic during the COVID-19 pandemic. Phone clinics were found suitable for follow-ups, for symptoms review and to discuss investigation results, but were unsuited for tertiary referrals, complex patients, or where an examination or pessary change is required. Future studies will need to evaluate large scale application of various modalities of telehealth in urogynecology with potentially routine integration into healthcare services.

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Conflicts of interest

The authors report no conflict of interest.

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