Virtual consultation (VC) in fertility and obstetrics and gynaecology services: An analysis of patient and clinician satisfaction

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Abstract

Objective: To assess patient and clinician satisfaction and identify any differences between the two with the use of video consulting (VC) in the fields of obstetrics and gynaecology (O&G) and fertility in Wales.

Design: A retrospective electronic survey study.

Setting: All public hospitals in Wales that used virtual methods for delivery of fertility and/or O&G appointments during and after the COVID-19 pandemic between August 2020 and March 2022.

Population: Patients awaiting an appointment on the National Health Service, who have attended virtual fertility or O&G appointments in Wales, and fertility and O&G clinicians who have conducted appointments virtually.

Methods: Analysis of patient and clinician responses to a VC satisfaction survey delivered after their consultation taking place between August 2020 and March 2022.

Main Outcome Measures: Patient and clinician satisfaction rates with the use of virtual consultation in fertility and O&G appointments.

Results: In satisfaction data collected from 420 patients and 161 clinicians, 83% of patients and 63% of clinicians reported their VC quality to be ‘very good’ or ‘excellent’. Difficulties when using VC were experienced by a minority of patients (1%–9%) and clinicians (1%–8%) and most patients (52v82%) and clinicians (34%–67%) found several aspects of VC to be ‘very beneficial’. Fertility patients rated their VC experience more positively than O&G patients.

Conclusions: Most patients and clinicians were satisfied with their VC experience. Patients were more satisfied with the use of VC than clinicians. Fertility patients were more satisfied with the use of VC than O&G patients.

Keywords

fertility, obstetrics and gynaecology, satisfaction, virtual consultation

INTRODUCTION

On 11 March 2020, the COVID-19 outbreak was granted pandemic status by the World Health Organisation.¹ With the UK Prime Minister announcing that strict lockdown measures would be in place from 23 March 2020,² the National Health Service (NHS) was advised to cancel or postpone appointments in its hospitals that were deemed to be nonurgent.³ This included postponement of fertility and obstetrics and gynaecology (O&G)
appointments within Wales while alternative arrangements were made.

Many of these services started running again from the summer of 2020, however, they mostly had to take place virtually using the Attend Anywhere virtual consulting (VC) platform to keep infection risk low and comply with new government rules. Since a large number of appointments were now taking place by virtual means, Technology Enabled Care (TEC) Cymru were commissioned by the Welsh Government to evaluate the new national VC service and were able to obtain large datasets of patient and clinician responses to their virtual medicine satisfaction survey.

Existing studies do not look into patient and clinician satisfaction with the use of VC in fertility and obstetrics and O&G services in the United Kingdom. However, several O&G VC satisfaction studies exist across the globe, and centres in the United States have analysed patient and clinician satisfaction with the use of VC in the field of reproductive endocrinology and infertility. These studies have reported high satisfaction rates associated with the use of VC, with improving convenience, saving time and improving access to care being some common benefits reported by the patients. Similarly, some studies show that professionals agree that VC improves patients’ access to healthcare. This study aims to uncover similar themes and common difficulties reported by fertility and O&G patients and clinicians in Wales.

The objectives for this study include the following:

- To analyse fertility and O&G patient and clinician satisfaction rates and identify any differences depending on specialty following the use of VC during the COVID-19 pandemic by using data from the TEC surveys.
- To identify common benefits and difficulties associated with the use of VC reported by patients and clinicians.

METHODS

This study involved analysing patient and clinician satisfaction data collected from fertility and O&G patients and clinicians across all public hospitals in Wales by TEC Cymru.

TEC Cymru uses opportunity sampling whereby an electronic survey can be accessed by an automatic pop-up link to a Survey Monkey form which appears on screen after a VC has ended. Patients and clinicians each receive a link to their respective survey (see Supporting Information S1: Tables 7 and 8) which asks questions to explore the use, benefits and difficulties of VC from the perspective of the patient and clinician. Survey responses have been collected from patients and clinicians across all specialties in Wales.

We extracted all patient and clinician VC satisfaction survey responses from the TEC Cymru database (1464) which reported ‘O&G’ in the specialty area, and used search terms ‘IVF’, ‘fertility’, ‘infertility’, ‘pregnancy’ and ‘gynaecology’. We then excluded 16 patient survey responses due to information in the answers making it unclear whether they had been treated by the fertility or O&G departments. In total, 420 (28.7%) patient survey responses were included, with 339 of these being O&G patients and 81 being fertility patients. We did not differentiate between first and follow-up visits but 310 patients attended as first visit and 110 follow-up. No clinician responses were excluded from the data set. In total 161 clinician responses were included with 159 of these being from O&G, and two being from fertility. The survey responses used in this study were collected during and after COVID-19 pandemic, between 18 August 2020 and 18 March 2022. Multiple surveys for the same participants were included.

The survey data was analysed using Microsoft Excel to identify frequencies and percentages of responses to each survey question and differences between patient and clinician responses where possible.

A full ethics statement is available at the end of this article.

Patient and public involvement

There was no direct patient and public involvement in the development, conduct or analysis of this study.

Core outcome sets were not used.

RESULTS

Patient satisfaction

The majority of the 420 patients surveyed were aged between 25 and 44 (74%) (Table 1), and of the 320 patients who answered the relevant question, 98% identified as female. Of the 415 patients who rated their VC quality, 57% reported the quality of their VC to be ‘excellent’, 26% as ‘very good’ and only 5% reported it to be ‘poor’ quality (Supporting Information S1: Table 1). 57% of O&G patients as well as 57% of fertility patients thought their VC was ‘excellent’ quality, and 5% of O&G patients and 1% of fertility patients thought their VC quality was ‘poor’.

<table>
<thead>
<tr>
<th>Patient age range</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18–24</td>
<td>26 (6)</td>
</tr>
<tr>
<td>25–44</td>
<td>310 (74)</td>
</tr>
<tr>
<td>45–64</td>
<td>63 (15)</td>
</tr>
<tr>
<td>65–80</td>
<td>14 (3)</td>
</tr>
<tr>
<td>&gt;80</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Unknown</td>
<td>6 (2)</td>
</tr>
</tbody>
</table>
The benefits of VC from the patient's perspective

In the survey, the patients were asked to rate a set list of potential benefits from ‘very beneficial’ to ‘not at all beneficial’ (Table 2). The response to this question was mostly positive, with all points in the list to being rated as ‘very beneficial’ by the majority of patients (52%–82%). When looking at the data from all patients, the most highly rated benefits were that VC saved time with travel and parking (82% reported ‘very beneficial’), that it lowered infection risk (79% reported ‘very beneficial’) and that it helps save the environment and lower carbon dioxide emissions (77% reported ‘very beneficial’). Patients rated other potential benefits slightly lower, but the response was still mostly positive. For example, VC ‘lowered stress and anxiety’ was only rated ‘very beneficial’ by 53% of patients, and VC ‘saved money’ was only rated ‘very beneficial’ by 52%. The ratings of each potential benefit were almost identical for fertility and O&G patient groups and a full breakdown can be seen in Supporting Information S1: Tables 2 and 3.

The difficulties associated with VC from the patient's perspective

When looking at the data from all patients (Table 3), all the listed potential difficulties were experienced by the minority of patients. The most commonly experienced difficulties were with sound (21% reported at least a little difficulty), with video (12% reported at least a little difficulty) and with the device (10% reported at least a little difficulty). Finding a private space for VC was only a difficulty for just over 1% of patients, and 32% patients stated that they prefer to have a face-to-face or telephone consultation. The ratings of each potential difficulty were almost identical for fertility and O&G patient groups and a breakdown can be seen in Supporting Information S1: Tables 4 and 5.

Clinic satisfaction

Of the 161 clinicians surveyed, 66% were doctors, 22% were midwives, 9% were physiotherapists and 2% were nurses. Clinicians were from six different health boards in Wales, with the majority (55%) being based in the Cardiff and Vale University Health Board (Supporting Information S1: Table 6). Of the 158 clinicians who rated the quality of their VC, 20% found their VC quality to be ‘excellent’, 43% found it to be ‘very good’ and 9% found the quality to be ‘poor’ (Supporting Information S1: Table 1).

Benefits of VC from the clinician's perspective

The clinicians were asked to rate a different set list of benefits from ‘very beneficial’ to ‘not beneficial at all’ and the responses to this survey were also mostly positive (Table 4). The most positively rated points by clinicians were that VC lowered infection risk (67% rated as ‘very beneficial’), that VC saved time with travel and parking (61% reported as ‘very beneficial’) and that VC is a better use of clinic time (54% reported as beneficial). The least positively rated point was that VC reduced the likelihood of not attending with only 34% rating this point as ‘very beneficial’ and 38% rating it as ‘not beneficial’ or ‘not beneficial at all’.

Difficulties associated with VC from the clinician’s perspective

The clinicians rated their set list of potential difficulties form ‘relevant’ to ‘not at all relevant’ in this survey question

<table>
<thead>
<tr>
<th>Potential benefit</th>
<th>Very beneficial</th>
<th>Beneficial</th>
<th>Quite beneficial</th>
<th>Not beneficial</th>
<th>Not at all beneficial</th>
<th>N/A</th>
<th>Total responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saved time and preparation</td>
<td>289 (69%)</td>
<td>81 (19%)</td>
<td>23 (6%)</td>
<td>14 (3%)</td>
<td>6 (2%)</td>
<td>5 (1%)</td>
<td>418</td>
</tr>
<tr>
<td>Saved travel and parking</td>
<td>340 (82%)</td>
<td>41 (10%)</td>
<td>6 (1%)</td>
<td>6 (1%)</td>
<td>2 (1%)</td>
<td>21 (5%)</td>
<td>416</td>
</tr>
<tr>
<td>Saved the environment and CO₂ emissions</td>
<td>323 (77%)</td>
<td>57 (14%)</td>
<td>15 (3%)</td>
<td>4 (1%)</td>
<td>3 (1%)</td>
<td>16 (4%)</td>
<td>418</td>
</tr>
<tr>
<td>Saved taking time off work/school</td>
<td>252 (60%)</td>
<td>49 (12%)</td>
<td>26 (6%)</td>
<td>19 (5%)</td>
<td>13 (3%)</td>
<td>58 (14%)</td>
<td>417</td>
</tr>
<tr>
<td>Saved money</td>
<td>217 (52%)</td>
<td>50 (12%)</td>
<td>28 (7%)</td>
<td>11 (3%)</td>
<td>8 (2%)</td>
<td>101 (24%)</td>
<td>415</td>
</tr>
<tr>
<td>Improved access to care and wait times</td>
<td>261 (63%)</td>
<td>73 (17%)</td>
<td>30 (7%)</td>
<td>9 (2%)</td>
<td>15 (4%)</td>
<td>28 (7%)</td>
<td>416</td>
</tr>
<tr>
<td>Improved convenience</td>
<td>308 (74%)</td>
<td>65 (16%)</td>
<td>21 (5%)</td>
<td>3 (1%)</td>
<td>6 (1%)</td>
<td>14 (3%)</td>
<td>417</td>
</tr>
<tr>
<td>Lowered infection risk</td>
<td>326 (79%)</td>
<td>53 (13%)</td>
<td>8 (2%)</td>
<td>2 (&lt;1%)</td>
<td>5 (1%)</td>
<td>21 (5%)</td>
<td>415</td>
</tr>
<tr>
<td>Lowered stress and anxiety</td>
<td>222 (53%)</td>
<td>69 (17%)</td>
<td>44 (11%)</td>
<td>21 (5%)</td>
<td>21 (5%)</td>
<td>39 (9%)</td>
<td>416</td>
</tr>
</tbody>
</table>

Abbreviation: VC, virtual consultation.
The most commonly experienced difficulties with VC by clinicians were with audio (28% rated at least ‘quite relevant’), with video (26% rated at least ‘quite relevant’) and with Internet (20% rated at least ‘quite relevant’). Less than 2% of clinicians felt that lack of confidence using VC was at least ‘quite relevant’ to their consultation, and around 3% of clinicians felt that VC not being suitable for clinical needs was at least ‘quite relevant’. 7% of clinicians reported

(Table 5)
**DISCUSSION**

From the data analysed, it seems that the vast majority of O&G and fertility patients were satisfied with their experience of VC. A smaller proportion of clinicians than patients reported their VC quality to be ‘excellent’ or ‘very good’ (Supporting Information S1: Table 1). This is reflected in several other O&G VC satisfaction studies performed during the pandemic. Some studies have found only moderate rates of patient satisfaction, but we are yet to find any studies that indicate patients are dissatisfied with the use and their experience of VC.

This study differs from other satisfaction studies since it includes data from fertility patients and clinicians as well as those from O&G. We believe this is important since fertility is a highly emotional specialty, especially for patients, and therefore, we were interested to see their satisfaction with having potentially upsetting or stressful consultations via a virtual platform.

As mentioned in the results and shown in Table 3, most patients did not experience difficulties, however, some of the more commonly experienced difficulties by patients during their VC were with sound, video and their device, with very few patients having difficulty with finding privacy. Generally, fertility patients and O&G patients rated the list of benefits and difficulties very similarly (Supporting Information S1: Tables 4–5). A greater proportion of fertility patients than O&G patients rated the potential benefits as ‘very beneficial’ (Supporting Information S1: Tables 2 and 3) and felt their VC experience was ‘excellent’ or ‘very good’ (Supporting Information S1: Table 1), suggesting that fertility patients were slightly more satisfied with their VC experience than O&G patients.

More O&G patients than fertility patients thought VC was unsuitable for clinical needs (8% and 2%, respectively). More O&G than fertility patients prefer face-to-face or telephone consultations than VC (33% and 28%, respectively) further suggesting that O&G patients are less satisfied with the use of VC than fertility patients. However, a higher proportion of fertility patients than O&G patients experienced difficulties with their device, video and sound.

Other studies have found that clinicians also commonly experienced difficulty with Internet connection, including audio and video issues as was also found in this study. Clinicians in a different study felt that poor Internet connection for either party made the VC time-consum ing and ineffective, indicating the need for reliable Internet connection for VC to work in the best way possible. Interestingly, in both the studies mentioned above, the clinicians felt that their lack of training made using VC more difficult and inefficient.

**Strengths and limitations**

The strengths of this study are that overall one-third of the invited patients and clinicians filled in the survey responses (28.7%) used in the analysis. These responses were from patients and clinicians from various public hospitals in Wales, so the results provide an All-Wales representation of patient and clinician satisfaction with the use of VC in fertility and O&G in the public sector.

This study was limited by low levels of fertility patient and clinician responses to the satisfaction survey. This meant it was not possible to compare fertility clinician data with O&G clinician data. It also means the sample size for O&G patient survey responses is much higher than the fertility patient sample size, which may mean comparisons between specialties may have been impacted. Furthermore, not all O&G patients and clinicians answered all the questions in the survey, which is likely to have affected the results. Satisfaction data from appointments before the pandemic does not exist, and therefore, it is not possible to determine if patients or clinicians are more or less satisfied with the use of virtual appointments during the COVID-19 pandemic than the use of face-to-face appointments before the pandemic.

**CONCLUSIONS**

This study suggests that most patients and clinicians were satisfied with their experience of VC, although clinicians did report a lower quality of VC than patients which may suggest they are less satisfied. The data also suggests that fertility patients were more satisfied with the use of VC than O&G patients.

The most beneficial aspects of VC for patients were that it saves time with travel and parking, lowers infection risk and helps save the environment by lowering carbon dioxide emissions. The most beneficial aspects of VC for clinicians were that it lowers infection risk, saved time with travel and parking and it was a better use of clinical time than face-to-face appointments.

The most common difficulties with the use of VC reported by patients were with sound, video and device. The most common difficulties with the use of VC reported by clinicians were with audio, video and Internet.

**AUTHOR CONTRIBUTIONS**

Francesca Evans contributed to the analysis of survey responses as well as the main structure and write-up of this paper. Jessica Williams extracted all relevant data for this study from the full TEC Cymru database of survey responses. Gemma Johns contributed to the development of the research questions. Arianna D’Angelo was responsible for the planning of this study and bringing the co-authors together to execute the data extraction, analysis and write-up. Alka Ahuja was responsible for supervising the development of this study and write-up of this paper. All authors contributed to proofreading and amendments of the manuscript.
ACKNOWLEDGEMENTS
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CONFLICT OF INTEREST STATEMENT
The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT
The data from August 2020 to August 2021 that support the findings of this study are openly available through Digital Health Wales at https://digitalhealth.wales/sites/default/files/2022-01/TEC%20Cymru%20Phase%202a%20and%202b%20Report%202022.pdf. The data from September 2021 to March 2022 is currently in press and will be published at https://digitalhealth.wales/tec-cymru/research/tec-cymru-evaluation-reports/phase-2-evaluation when available.

ETHICS STATEMENT
Full consent was obtained from all patients and clinicians at the end of each survey via a statement of consent requiring a compulsory tick box. TEC Cymru have approval for service end of each survey via a statement of consent requiring a compulsory tick box. TEC Cymru have approval for service

REFERENCES

SUPPORTING INFORMATION
Additional supporting information can be found online in the Supporting Information section at the end of this article.

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