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The Impact of Virtual Care Quality on Patient Satisfaction: A Systematic Review

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Abstract

With the evolution of digitalization in healthcare, the wide adoption of virtual care has been seen worldwide, especially after the COVID-19 pandemic. Many patients were either compelled to use virtual care services during the pandemic or found it easier to access their healthcare providers through digital platforms. Therefore, many studies explored the relationship between virtual care and patient satisfaction. In light of recent literature, this review paper attempts to understand the evolving relationship between Virtual Care Quality (VCQ) and Patient Satisfaction (PS) by assessing studies revolving around different medical situations that incorporated virtual care in their treatments. The results of reviewing 38 quantitative studies from PubMed showed that patient satisfaction has a significant relationship with virtual care quality and that factors, such as patient-provider communication, technological access, convenience to care, and sociodemographic factors, such as age, gender, and literacy rate, play a vital role in assessing virtual care quality against patient satisfaction.

Article Info

Keywords:
Teleconsultation, Telemedicine, Telehealth, Virtual Care, Patient Satisfaction, e-health, Digital Health.

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INTRODUCTION

Since the beginning of time, medical professionals have been striving for informed decision-making to treat their patients. With the evolution in medical practices, digital healthcare emerged as a novel concept in the 1990s (Druss & Marcus, 2005). With the increasing adoption of digital healthcare, medical professionals have become free from the burden of additional responsibilities and dilemmas, such as staff shortages. Even before the COVID-19 pandemic, digital healthcare provided significant benefits to patients with non-emergency situations, such as simple consultations and laboratory tests (Bhatia et al., 2021). It served as a pivotal point of transformation in healthcare. Other than this, video conferencing and telephone-based consultations played a key role in easily contacting patients who did not have access to hospitals (Smith et al., 2020).

The increasing use of smartphones and latest technologies has led to an increase in the adoption of virtual care at a global level. Virtual care is defined as the "deliverables which are designed to enhance patient and provider interactions, having information technology as the main medium of communication" (Lougheed, 2019; Wong et al., 2021). This phenomenon includes a wide range of medical services, including remote psychiatric help, primary care, virtual consultations, remote appointment scheduling, and remote nursing (Weinstein et al., 2014).

Patient satisfaction with service delivery depends greatly on the quality of healthcare service being provided. Therefore, many scholars focus on the assessment of healthcare service quality for clinical conditions, such as cardiovascular diseases (CVD), type-II diabetes, cancer, and allergies (Buyting et al., 2022; Edgerly et al., 2022; Levine et al., 2020). With significant improvements in digitalization of healthcare, it is important to assess the quality of virtual care being provided to understand gaps for improvement in the healthcare service (Conway et al., 2013). Moreover, it is important to evaluate virtual care quality and assess whether it is the correct medium for patient-provider communication and how effective it is.

LITERATURE REVIEW

1. Virtual Care Quality (VCQ)

After the pandemic, the healthcare sector across the globe witnessed a rapid increase in virtual care with high dependence on technology in various specializations (Bolster et al., 2022). With videoconferencing and telephone-based consultations on the rise during the pandemic, virtual care became the new norm and became a way to optimize healthcare provision after the pandemic (Zhou et al., 2020). Therefore, recent research focused on assessing the quality of virtual care being provided globally and understanding ways to overall enhance the quality of healthcare services. Even before this, quality measurement metrics to measure healthcare services had attracted many researchers and become a growing interest for global policymakers (Papanicolas & Smith, 2013). Many scholars have effectively assessed the quality of healthcare services for many health-related issues, such as CVD, type-II diabetes, cancer, and allergies (Buyting et al., 2022; Edgerly et al., 2022; Levine et al., 2020).

With virtual care on the rise, assessing the quality of virtual care is now considered a crucial component of the healthcare sector in many countries, including Spain, Mexico, Saudi Arabia, Australia, the UK, and Canada (Quentin et al., 2019). However, it is also important to understand the non-health-related aspects of virtual care, including reliability, responsiveness, assurance, tangibles, and empathy experiences by virtual care patients (Halpren-Ruder et al., 2019; Nambisan et al., 2014; Ogawa et al., 2021; Houser et al., 2022; Sakumoto & Krug, 2021).

Assessing these factors is crucial to understanding VCQ for several reasons. Firstly, the increase in the use of online platforms for healthcare information gathering puts the credibility and reliability of the information (Sbaffi & Rowley, 2017). Secondly, latest technologies, such as smartphones, social media, and various healthcare applications, have provided a sound medium between healthcare professionals and patients to communicate. Therefore, it is also necessary to assess the responsiveness of healthcare providers to their patients through these mediums (Reed et al., 2020). Moreover, it is also imperative to understand the level of trust that patients place in virtual care systems because the quality of care largely depends on the safety of

patients (Agboola et al., 2016). Additionally, tangibility, including technical feasibility, plays a critical role in accessing virtual care. For example, a study by Ackerman and Locatis (2011) found that healthcare applications that visually represent medical information are more appealing to users, and patients tend to be more satisfied. Lastly, empathy is an integral component of assessing VCQ as it helps to enhance patient-provider communication through virtual platforms and increases patient satisfaction.

2. Patient Satisfaction (PS)

As stated before, patient satisfaction has been identified as a critical factor for the assessment of healthcare service quality (Nasim et al., 2014). It has been defined as "the evaluation of healthcare service based on the subjective views of patients" (Batbaatar et al., 2015). This phenomenon has been studied as a catalyst for improving healthcare service quality. Studies conducted by Wagner and Bear (2009) and Nasim et al. (2014) highlight patient satisfaction as a critical assessing factor for the quality of healthcare services. DuPree et al. (2011) stated that higher patient satisfaction led to repeated hospital visits by the patients and a greater level of trust in the healthcare profession. Ramaswamy et al. (2020) and Allen et al. (2021) revealed that patient satisfaction levels are higher in telehealth services than in-person visits. A few other studies yielded the same results (Rodriguez et al., 2021; Chen et al., 2022).

A systematic review of 44 published articles by Kruse et al. (2017) examined patient satisfaction with telehealth. The review found that reduced travel time, cost efficiency, and ease of access to healthcare services resulted in greater satisfaction of patients. Another systematic review conducted by Pogorzelska and Chlabicz (2022) evaluated patient satisfaction with telemedicine under many medical situations and found 95% of patient satisfaction with telemedicine across different medical specializations. Hence, exploring the impact of patient satisfaction with virtual care is an important step to improve the quality of virtual care services.
Therefore, this paper aims to understand the service quality of virtual care and the satisfaction of patients with it by consolidating the findings of previous studies conducted. The existing systematic reviews conducted focus mainly on the COVID-19 pandemic (Sun et al., 2024), look at specific devices being used for virtual care, or either focus on specific diseases (Huckvale et al., 2015; Kruse et al., 2017; Jin et al., 2019). Hence, in this systematic review, the relationship between virtual care services and patient satisfaction will be highlighted by identifying different research articles and clinical trials to provide a broader view of virtual care quality and understand the factors that influence patient satisfaction in virtual settings. While the studies used in this review will not explicitly discuss VCQ; however, factors such as technical feasibility, ease of access, clinician-patient interaction, and demographic factors will be discussed to contextualize VCQ. Moreover, this review will draw comparisons on pre and post-pandemic studies along with the mediums of communication being used in virtual care.

STUDY OBJECTIVES

The objectives of this review are as follows: 1) to conceptualize VCQ and its impact on patient satisfaction, 2) to understand the relationship between the two variables in various healthcare settings, 3) to understand the use and implications of various communication mediums on VCQ and patient satisfaction, and 4) to assess the impact of patient demographics on their satisfaction levels with virtual care. These objectives will help to understand the main research questions of the study: R1) Is there any association between virtual care and patient satisfaction? R2) Are there any factors that impact VCQ, and does it have any relationship with patient satisfaction?

METHODS & DESIGN

1. Inclusion Criteria

For this review, VCQ will be defined as the measurable attributes of virtual healthcare that encompass technical, interpersonal, and organizational dimensions to meet the expectations of the patients. While virtual care is one term describing digital healthcare services, to broaden the scope and inclusivity of studies in this review, other terms, such as telehealth, telemedicine, e-health, and digital health, were also considered for this review. These were also considered types of interventions for this study. Any form of digital healthcare service delivery was included in this study to get a holistic view of virtual care quality. Secondly, this review focused on clinical trials and research papers no older than 5 years, i.e. 2021−2025. Any other forms of

literature, such as book chapters, editorial notes, conference proceedings, and abstracts, were excluded from this study. Furthermore, English-only articles were included in the study as depicted in Table 1.

Table 1
Review Criteria

Element	*Details*
Databases Searched	PubMed.
Search Concepts	Virtual Care, Virtual Care Quality, Patient Satisfaction.
Search string	("virtual care"[tiab] OR "Telemedicine"[MeSH Terms] OR "telemedicine"[tiab] OR "telehealth"[tiab] OR "eHealth"[tiab] OR "digital health"[tiab]) AND ("Patient Satisfaction"[MeSH Terms] OR "patient satisfaction"[tiab] OR "patient experience"[tiab] OR "user satisfaction"[tiab]) AND ("Quality of Health Care"[MeSH Terms] OR "care quality"[tiab] OR "service quality"[tiab] OR "healthcare quality"[tiab]).
Limits Applied	- Language: English- Document Type: Article (AR), Clinical Trials- Keywords: Virtual Care, Telehealth, Telemedicine, Patient Satisfaction, Teleconsultation, e-health, Digital Health.
Boolean Operators	AND, OR
Inclusion Criteria	Peer-reviewed articles, studies focused on virtual care and patient satisfaction, and studies examining patient outcomes related to using digital health platforms.
Exclusion Criteria	Non-English studies; dissertations or unpublished theses; studies not specifically focusing on virtual care and patient satisfaction.
Date Range	2021–2025

2. Source of Data

The main source of data for this review was PubMed database. For this study, the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) was used as the basis for the organization of the results. A variety of key search terms were used for the retrieval of related literature which were turned into the following search string: ("virtual care"[tiab] OR "Telemedicine"[MeSH Terms] OR "telemedicine"[tiab] OR "telehealth"[tiab] OR "eHealth"[tiab] OR "digital health"[tiab]) AND ("Patient Satisfaction"[MeSH Terms] OR "patient satisfaction"[tiab] OR "patient experience"[tiab] OR "user satisfaction"[tiab]) AND ("Quality of Health Care"[MeSH Terms] OR "care quality"[tiab] OR "service quality"[tiab] OR "healthcare quality"[tiab]).

This search string yielded a total of 1,051 results, which were then screened based on the relevance of their titles and abstracts. A total of 51 studies were identified from the database.

3. Data Extraction

To conduct an authentic and detailed systematic analysis of the database, the titles and abstracts of the retrieved studies were initially screened. After downloading 51 relevant studies and excluding 1 study because of no relevance, the full-text PDF versions of all papers were set to be retrieved from various sources, including Google Scholar. 3 studies were excluded because of no retrieval and the remaining 47 studies were assessed for eligibility. Finally, 38 studies passed the eligibility criteria and were included in the review, whereas 9 studies were excluded, as depicted in Figure 1.

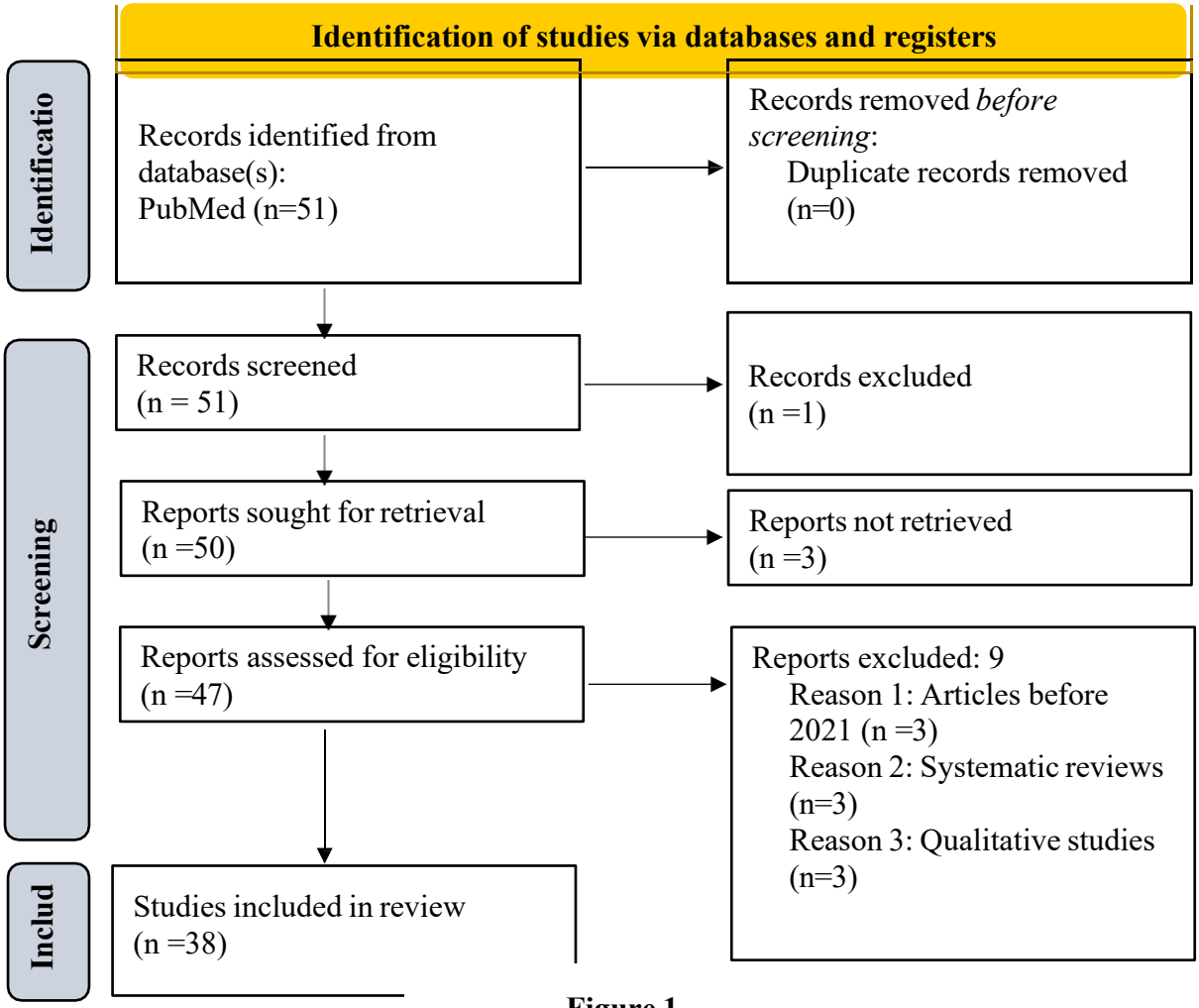

Figure 1

PRISMA Model

4. Data Analysis

To ensure rigor and credibility of the studies utilized for this systematic review, the PICO (population, intervention, comparator, and outcome) framework was used. This framework is useful to formulate the research question for systematic reviews, especially in healthcare and medicine (Eldawlatly et al., 2018). This framework is most used to structure clinical questions and identify key terms for searching for evidences that relate directly to the specific situation. However, this framework does not adequately work with qualitative studies. Therefore, this study excluded qualitative studies and only focused on survey designs and randomized clinical trials. For this study, the PICO framework was utilized, and each study was independently assessed to determine its credibility, reliability of the data, and confirmability that the results provided by the studies are relevant to the review. Secondly, to consolidate the findings of every study, a thematic analysis was conducted to understand the similar patterns in the data. This made it easier for the authors to analyze the deviations of studies based on the demographic and socioeconomic factors, the mode of communication being used, and the perceptions of patients regarding the virtual platform.

RESULTS

1. Study Selection, Characteristics, and Results

The search procedure for this study is illustrated in Figure 1. Before that, the original search in PubMed yielded 1,051 results that were narrowed down to 38 after thorough screening process. Table 2 provides the complete summary of the observations that this study made on all the included papers, based on the PICO framework.

2. Intervention

The studies discussed various interventions, including telehealth, telemedicine, remote monitoring, telephone-based consultations, audio-only visits, and video conferencing. These interventions were either designed to deliver treatment plans to the patients or for appointment consultations. The comparators of the interventions mainly included in-person visits. As the satisfaction level of patients was to be observed against VCQ, it was imperative to include the studies that compared virtual care with other modes of patient-provider interaction, which mainly included in-person hospital visits of the patients.

3. Population

Mostly the population of the study consisted of patients with different clinical conditions, including gynecology and obstetrics (Ackerman et al., 2021; Devi et al., 2022; Liu et al., 2021; Mclaughlin et al., 2022), infertility (Andrerson et al., 2022), radiation (Cuaron et al., 2024), rhinology (Hentati et al., 2021), rheumatology (Adams et al., 2021b; Goldhar et al., 2022), andrology (Shiff et al., 2021), psychology (Adams et al., 2021a; Lee et al., 2023; Serhal et al., 2020), trauma injury (Perrin et al., 2023), oncology (Gondal et al., 2022; Pow et al., 2022), immunology (Mustafa et al., 2021), and neurology (Mayela et al., 2022; Yoon et al., 2021). There was no limitation when it came to the inclusion of participants in terms of gender, age, ethnicity, and clinical conditions. There were also no limitations on the healthcare settings, i.e. we included the studies encompassing all types of healthcare being provided virtually, including primary, secondary, and tertiary care.

Table 2

Compilation of observations

Author/Date	*Population*	*Intervention*	*Comparator*	*Outcome*
Ackerman et al., 2021	Pregnant patients (2nd trimester, 3rd trimester, and post-partum)	Use of tele-mental health (TMH)	In-person visits	Improved access to healthcare, easy to use, satisfied patients, metaphorical distance between provider and patient

Adams et al., 2021a	People experiencing homelessness (high rates of chronic medical and psychiatric conditions, substance use, and lacked health insurance)	Telehealth initiative	In-person visits	Patients reported high satisfaction (>90%) with telehealth, providers perceived a greater positive impact on patients' health through telehealth (92.2%) compared to in-person visits (71.4%)
Adams et al., 2021b	Patients attending the telehealth OPD rheumatology clinics		In-person visits	Consistent dissatisfaction with telehealth among older adults, people with lower literacy levels, and people have no internet access
Al-Garni et al., 2025	522 participants from Saudi Arabia who received virtual care during COVID-19	Virtual appointments during COVID-19	In-person visits	Majority of participants reported that they could communicate easily with their healthcare provider by using virtual care, good picture and sound quality during virtual appointments, participants revealed that their privacy was protected during virtual consultations
Alhaidari et al., 2024	500 gynecology and obstetric patients	Free telehealth services provided by obstetricians & gynecologists	In-person visits	Patients were motivated to use telehealth services, limited physical access to healthcare services, preference towards in-person consultations was also found
Anderson et al., 2022	351 patients of infertility or non-infertility indications such as recurrent pregnancy loss, PCOS, or Mullerian anomalies	Telehealth initiative	In-person visits	Improved access to healthcare through telehealth, user-friendly interface, effective patient-provider communication
Capusan & Fenster et al., 2021	50 surveys	Telemedicine	In-person visits	Strong patient satisfaction with the telehealth
Chen et al., 2022	1,009 participants	Audio-only and video visits	In-person visits	Higher satisfaction with telehealth (audio-only and video visit), higher satisfaction with video visits than audio-only
Chiang et al., 2021	1,172 participants	Telemedicine	In-person visits	Lack of awareness among patients regarding telemedicine, and inaccessible physical healthcare services
Cockrell et al., 2023	1,262 patients (pandemic cohort), 2,072 patients (historic cohort)	Telemedicine	In-person visits	Language barriers adversely impact both access to medical care and the quality of care received
Contractor et al., 2022	332 patients (cohort)	Teleconsultations	In-person visits	Large acceptance of telemedicine among vascular patients, easy-to-access, reduced travel time

Cuaron et al., 2024	2,817 patients treated with radiation therapy through complete remote physician management	Remote radiotherapy	In-person visits	Higher patient satisfaction, reduced travel cost and time, reduced carbon footprint, patient safety
Danila et al., 2022	229 patients	Video or phone-only visit	In-person visits	Visit satisfaction rates observed with phone-only telemedicine trended slightly higher than those for video visits.
Devi et al., 2022	355 pregnant women	Teleconsultation	In-person visits	Around 98% of the women were satisfied with teleconsultation with regard to conveying their health concerns, 62% preferred both teleconsultation and hospital visits to continue in the future.
D'Haeseleer et al., 2020	20 patients with multiple sclerosis	Telemedicine	In-person visits	Patient satisfaction, good technical quality, convenience, quality of care
Duplaga & Turosz et al., 2022		E-health services	In-person visits	Patients with higher e-health literacy rates tended to be more satisfied
Gashaw et al., 2024	444 HBIC patients	Teleconsultation	In-person visits	Majority of patients showed higher levels of satisfaction, higher frequency of calls and being symptomatic were significant factors for higher satisfaction
Goldhar et al., 2022	742 rheumotology patients	Virtual care	In-person visits	High satisfaction with virtual care, patients who had difficulty in using a phone expressed lower levels of satisfaction
Gondal et al., 2022	25 physicians and 165 cancer patients in Saskatchewan	Telemedicine	In-person visits	88% of patients shared positive experience with telemedicine
Hendy et al., 2025	1,070 chronic patients	Telehealth	In-person visits	High patient satisfaction, ease of scheduling appointments and enhanced communication with healthcare providers, dissatisfaction due to old age
Hentati et al., 2021	45 rhinology patients	Telemedicine	In-person visits	Majority of patients indicated that their needs were met with telehealth visits, they received the same quality of care via telemedicine as they did an in-person visit
Hwang & Bae et al., 2023	102 patients experiencing cardiac implantable electronic devices	Remote monitoring	In-person visits	Decreased staff workload, greater trust of patients in medical staff
Iguacel et al., 2024	405 users of Primary Care services	Telephone-based consultations	In-person visits	Patient satisfaction with telephone consultations (TC) was adequate before the COVID-19 pandemic, but it significantly decreased during and after the pandemic,

				satisfaction levels are influenced by demographic and socioeconomic factors
Kim et al., 2022	226 adults who underwent voice therapy	Tele-practice	In-person visits	Patient choosing telemedicine for future visits was significantly higher among patients reporting reliable internet
Lee et al., 2023	49 patients with psychological disorders (major depressive disorder, anxiety disorder, bipolar disorder, schizophrenia, substance use disorder)	Telehealth	In-person visits	Patients rated telehealth highly for usability, especially in terms of ease of use and usefulness, with smartphones being the preferred device, many still preferred in-person visits for building rapport and trust with healthcare providers
Liu et al., 2021	Pregnant and postpartum women during the COVID-19 pandemic	Virtual prenatal care	In-person visits	General satisfaction with virtual prenatal care during the COVID-19 pandemic, preference for in-person prenatal care
Mayela et al., 2022	175 patients diagnosed with movement disorders	Telemedicine consultations	In-person visits	96% satisfaction with the TM consultation, 92% satisfaction with the neurologist's ability to communicate, 2.2% dissatisfaction with TM consultation
Mclaughlin et al., 2022	56 clinicians and 870 gyneacology patients	Telehealth consultations	In-person visits	Moderate satisfaction, poorer communication and understanding when compared to in-person consultations
Mustafa et al., 2021	251 immunology/allergy patients	Video or telephone consultations	In-person visits	In-person care is better for serious conditions
Perrin et al., 2023	783 orthopedic and trauma injury patients	Video consultation (VC)	In-person visits	High patient satisfaction with VC under lockdown conditions, Technical and material problems negatively influenced patient satisfaction
Pow et al., 2022	130 oncology patients	Telemedicine consultations	In-person visits	Patients did not feel comfortable discussing private or sensitive matters virtually
Ramaswamy et al., 2022	38,609 patients	Telemedicine	In-person visits	Lower satisfaction among younger age, females, and new visit type
Serhal et al., 2020	274 patients in TeleMental Health Program at the Centre for Addiction and Mental Health	Tele-psychiatry	In-person visits	high levels of satisfaction with tele-psychiatry services across all domains (access and timeliness, appropriateness, effectiveness, and safety), patients have limited access to timely service locally, so timeliness and access are major components in overall satisfaction

Shiff et al., 2021	96 andrology patients	Telephone-based consultation		Majority of the patients were satisfied with the telephone format of their appointment, some participants preferred in-person appointments
Sugarman et al., 2021	58 Substance use disorder patients	Telehealth	In-person visits	High level of satisfaction with telehealth care was reported, mostly patients were satisfied with individual therapy instead of group therapy
Thomson et al., 2021	253 patients	Telehealth	In-person visits	Regular access to internet and high health literacy lead to greater patient satisfaction with telehealth use
Tsampras et al., 2023	510 patients	Virtual consultations in reproductive medicine	In-person visits	Majority of the patients felt satisfied during virtual consultations, few patients expressed dissatisfaction due to technical problems
Yoon et al., 2021	590 neurology patients	Telemedicine	In-person visits	Majority patients reported satisfaction with telemedicine visits, a few patients expressed their preference towards in-person visits

OUTCOMES

All the outcomes extracted from the selected studies and reported in this review met the inclusion criteria, objective and self-reported. The primary outcome measures involved patient satisfaction for all intervention types. Other than this, all the outcomes were categorized into major themes to make it easier for the analysis of every individual paper. This resulted in six major themes that are listed below and also illustrated in Table 3, where "✓" indicates that the study addresses the specific theme, "✕" indicates a negative finding, and "◯" shows moderate or indifferent findings.

- Theme 1: Patient satisfaction (primary outcome).
- Theme 2: Patient-provider interaction and communication.
- Theme 3: Access and convenience to care.
- Theme 4: Technology and infrastructure.
- Theme 5: Sociodemographic impacts on patient satisfaction.
- Theme 6: Patient preference for care modality.

Author/Date	*Patient Satisfaction*	*Communication quality*	*Access/convenience*	*Technology*	*Sociodemographic*	*Modality preference*
Ackerman et al. (2021)	✓		✓			
Adams et al. (2021a)	✓		✕	✕		✓
Adams et al. (2021b)	✕				✕	

Al-Garni et al. (2025)	✓	✓			○	✓
Alhaidari et al. (2024)	✓	✓	✓			×
Anderson et al. (2022)	✓	✓	✓	✓		✓
Capusan & Fenster et al. (2021)	✓					
Chen et al. (2022)	✓	✓		✓		✓
Chiang et al. (2021)	✓			×	×	✓
Cockrell et al. (2023)		×	×		×	
Contractor et al. (2022)	✓		✓			✓
Cuaron et al. (2024)	✓		✓			
Danila et al. (2022)	✓		✓			✓
Devi et al. (2022)	✓	✓	✓			✓
D'Haeseleer et al. (2020)	✓		✓	✓		
Duplaga & Turosz et al. (2022)	✓				✓	✓
Gashaw et al. (2024)	✓	✓				
Goldhar et al. (2022)	✓				×	✓
Gondal et al. (2022)	✓					✓

Hendy et al. (2025)	✓		✓			✓
Hentati et al. (2021)	✓					✓
Hwang & Bae et al. (2023)	✓	✓	✓			✓
Iguacel et al. (2024)	✓				×	
Kim et al. (2022)	✓		✓	✓		✓
Lee et al. (2023)	✓		✓	✓		
Liu et al. (2021)	×					×
Mayela et al. (2022)	✓	✓				✓
Mclaughlin et al. (2022)	×	×				×
Mustafa et al. (2021)	✓					×
Perrin et al. (2023)	✓		✓	✓		
Pow et al. (2022)	✓	×	✓			✓
Ramaswamy et al. (2022)	✓				×	
Serhal et al. (2020)	✓	✓	✓			✓
Shiff et al. (2021)	✓		✓			✓
Sugarman et al. (2021)	✓	✓				✓
Thomson et al. (2021)	✓			✓	✓	

Tsampras et al. (2023)	✓	✓	×	
Yoon et al. (2021)	✓			○

DISCUSSION

As per the previous section illustrated the major themes highlighted in the selected studies for this review, this section will provide a detailed analysis of the studies and help understand the deviation in findings and their broader implications. The findings of this study were divided into six main themes that helped understand VCQ and its relationship with patient satisfaction. Factors such as, technical awareness, literacy rate, access to the internet, and communication with healthcare providers determined the quality of virtual care being provided and contributed to patient satisfaction.

1. Theme 1: Patient Satisfaction

Majority of the studies included in this review showed higher levels of patient satisfaction with virtual care, especially video consultations. Adams et al. (2021) in their study on patients suffering from psychological distress showed 92.2% of patient satisfaction with telehealth initiatives, which showed strong acceptance of telehealth modality among the patients. Similarly, a cohort study conducted by Contractor et al. (2022) demonstrated high satisfaction rates among CVD patients. However, Danila et al. (2022) showed higher satisfaction with telephone-based consultations than video consultations due to privacy concerns. Similarly, most andrology patients were also satisfied with telephone-only consultations (Shiff et al., 2021). Iguacel et al. (2024) described that patients were highly satisfied with virtual care services during COVID-19 but were more inclined towards in-person visits after the pandemic.

However, Adams et al. (2021b) showed consistent dissatisfaction with virtual care among patients. A similar study conducted by Liu et al. (2021) with pregnant and post-partum women who were receiving virtual prenatal care also highlighted general dissatisfaction with virtual care, and preference towards in-person visits was rated higher. Dissatisfaction with virtual care was also seen among gynaecology patients in a study conducted by Mclaughlin et al. (2022). An interesting finding by Mustafa et al. (2021) with immunology patients showed no difference in satisfaction levels of patients between in-person and virtual consultations.

2. Theme 2: Patient-Provider Interaction and Communication

Communication between the patient and the healthcare provider can help enhance the relationship between the two and improve the quality of healthcare service (Drossman et al., 2021). Therefore, it can also help understand VCQ and act as a contributing factor towards patient satisfaction with virtual care. Al-Garni et al. (2025), Anderson et al. (2022), and Chiang et al. (2021) reported that patients could communicate effectively with their healthcare providers. Devi et al. (2022) highlighted the interaction experiences of gynaecology patients through virtual consultations and found that 98% of women were highly satisfied with their interactions and conveying their health concerns to the healthcare provider. Hendy et al. (2025) described high levels of satisfaction with enhanced communication.

However, Liu et al. (2021) and Mclaughlin et al. (2022) showed dissatisfaction among patients with prenatal and gynaecology virtual consultations due to poor communication and inability to understand and respond to patient queries through online consultations. Another study conducted by Cockrell et al. (2023) demonstrated that language barriers led to miscommunication between patient and clinician, which led to dissatisfaction of the patients with virtual care.

3. Theme 3: Access and Convenience to Care

Virtual care is widely associated with reducing travel time and engaging patients with their providers through online consultations. Therefore, Ackerman et al. (2021) and Alhaidari et al. (2024) demonstrated that patients have easy access to virtual care when physical access to hospitals is not available, which led to greater patient satisfaction. Anderson et al. (2022) also presented similar findings where access to

healthcare significantly increased due to virtual care. Cuaron et al. (2024) found that virtual care led to reduced travel time, which not only resulted in greater access to healthcare but also in lower carbon footprints. Serhal et al. (2020) also presented similar findings, along with Hentati et al. (2021), who claimed that access to quality care was enhanced with the introduction of virtual care platforms.

4. Theme 4: Technology and Infrastructure

Technological access and reliable infrastructure are necessary for the success of virtual care in any region. However, technical barriers were highly reported in the selected studies. Adams et al. (2021b) highlighted the lack of internet access, which led to dissatisfaction among patients regarding virtual care. Moreover, Goldhar et al. (2022) reported that patients who were unable to use a phone for online consultations could not adapt to the virtual mode of healthcare and preferred in-person visits. Similar findings were presented by Perrin et al. (2023) and Tsampras et al. (2023) as well.

However, findings by Lee et al. (2023) demonstrated high satisfaction with virtual care due to ease-of-use and being technically well-versed. Similarly, Hendy et al. (2025) found that patients with chronic illnesses who were technically sound found appointment scheduling through their smartphones easier than going for in-person visits. Furthermore, Al-Garni et al. (2025) also found that good sound and picture quality during video consultations led to higher patient satisfaction with virtual care. Therefore, it can be concluded that technological facilitation and access to internet connection, along with being technically literate, can lead to higher patient satisfaction (Kim et al., 2022).

5. Theme 5: Sociodemographic impacts on patient satisfaction

Not many studies have highlighted the impacts of sociodemographic factors, such as age, gender, income, and literacy. However, studies mentioning these factors highlighted the negative impacts of sociodemographic factors. Hendy et al. (2025) described that virtual care patients who were of old age remained dissatisfied with virtual healthcare and were less likely to embrace virtual care. Moreover, Iguacel et al. (2024) found that gender plays a critical role in determining patient satisfaction with virtual care and that women were more satisfied with virtual care platforms. However, the findings of Ramaswamy et al. (2022) contradict their findings and demonstrate that younger females were less likely to be satisfied with virtual consultations.

6. Theme 6: Patient Preference for Care Modality

The preference of patients towards any modality of care is largely dependent on their satisfaction level. Patients who will be satisfied with virtual care will be inclined towards that medium of communication with their healthcare provider. Otherwise, they would prefer going for in-person visits. More than half of the selected studies highlighted that their study population preferred telehealth, e-health, telemedicine, and virtual care as a medium for interacting with their healthcare providers due to ease of access, technical quality, and sociodemographic factors, such as age, gender, and literacy level.

However, a few patients, especially related to gynecology preferred in-person visits over virtual consultations mainly because they were not comfortable sharing private and sensitive information over the phone or video consultations and found in-person visits to be more effective for them (Liu et al., 2021). Similarly, patients who were not well-versed with technology and lacked access to the internet (Tsampras et al., 2023) were not comfortable attending virtual consultations, especially people older in age and having lower rates of literacy.

CONCLUSION

In conclusion, this review found that several factors, such as sociodemographics, technology and infrastructure, access to healthcare, and patient-provider communication, play a significant role in determining virtual care quality. Moreover, the review found a significant relationship between VCQ and patient satisfaction. The findings revealed that the satisfaction of patients was greatly dependent on their literacy level. Patients who were more literate about virtual care and smartphone technology were more likely to be satisfied with virtual care. However, factors such as poor communication and the inability of healthcare providers to understand and respond to patient queries led to dissatisfaction with virtual care among patients.

Future studies could benefit from incorporating a broader range of databases and including qualitative evidence to capture deeper patient experiences. Additionally, other influencing factors such as digital literacy and geographical disparities between urban and rural populations may also play a significant role in shaping patient satisfaction with virtual care services and warrant further investigation.

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