

Guidelines for Rapport-Building in Telehealth Videoconferencing: An Interprofessional e-Delphi Study

Paula D Koppel, Jennie C De Gagne, Michelle Webb, Denise M Nepveux, Janelle Bludorn, Aviva Emmons, Paige S Randall, Neil S Prose

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Table of Contents

Original Manuscript..... 5

Supplementary Files..... 35

 Figures 36

 Figure 1..... 37

 CONSORT (or other) checklists..... 38

 CONSORT (or other) checklist 0..... 39

Guidelines for Rapport-Building in Telehealth Videoconferencing: An Interprofessional e-Delphi Study

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Abstract

Background: Telehealth training is increasingly incorporated into educational programs for health professions students and practicing clinicians. However, many health care professionals remain uncertain about how to foster empathetic connections during video conferencing visits (VV). Existing competencies and standards primarily address VV logistics, diagnostic modifications, and etiquette, often lacking comprehensive guidance on adapting interpersonal skills to convey empathy, cultural humility, and trust in virtual settings. Building rapport in VV requires specific knowledge, skills, and attitudes, supported by teaching strategies that promote relationship-based care.

Objective: This study aimed to establish consensus on the knowledge, skills, and attitudes required for health professions students and clinicians to build rapport with patients in telehealth VV, and to identify teaching strategies that best support these educational goals.

Methods: An e-Delphi study was conducted using a panel of 12 interprofessional experts in telehealth and telehealth education. Round 1 involved interviews, followed by anonymous surveys in Rounds 2-4 to build consensus.

Results: All 12 experts participated in Rounds 1-3. In Round 1, 19 themes related to rapport-building (e.g., empathy, virtual communication) and 75 specific curriculum items were identified. Two additional items emerged in Round 2, resulting in 77 items, all achieving the established level of consensus.

Conclusions: Using a competency-based education framework, this study offers a practical resource for health professions educators. Organizing the findings by cognitive (knowledge), psychomotor (skills), and affective (attitudes) domains enhances their applicability for integration into existing telehealth curricula. Future research is needed to test the feasibility, acceptability, and effectiveness of curricula based on these competencies. Additionally, evaluating the effectiveness of the recommended teaching strategies, particularly in relation to the three learning domains, is essential. Clinical Trial: Registration in Open Science Framework (OSF) completed on January 22, 2025.

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Trial Registration: Registration in Open Science Framework (OSF) completed on January 22, 2025.

Keywords: Health professions education, health care professional development, clinician-patient relationship, interpersonal skills, health care communication, empathy

Introduction

Background

Telehealth, including the use of videoconferencing visits (VV), is quickly becoming an important and common vehicle for delivering health care [1,2]. Growth in the use of VV is anticipated, given that clinicians and clients or patients (hereafter referred to collectively as

patients) are increasingly receptive to VV as a supplement to in-person care [2]. Some but not all health care professional associations and accreditation bodies have developed competencies specific to telehealth [3-6]. Recommendations have been made to integrate these telehealth competencies into health professions educational curricula and professional development programs [3,6,7].

Although some telehealth training has been incorporated into educational programs, a recent scoping review found that 53% of sources emphasized a need for additional education and practice in telehealth etiquette and interpersonal aspects of care [8]. Many health care professionals remain uncertain of ways to establish rapport during VV [9-11]. A mixed methods study by Elsevier Health that included 3000 nurses and doctors found over half believed telehealth would negatively impact their ability to demonstrate empathy and requested further guidance on interpersonal skills in VV [12]. Studies show not all interpersonal skills are interchangeable between in-person and VV [2,13] and that adapting skills for VV often does not come naturally but can be learned [14-15]. Current competencies and standards primarily focus on VV logistics, diagnostic modifications, and general etiquette, lacking any comprehensive guidance on the adaptations necessary to build rapport and a strong therapeutic partnership in VV [8,10,11,9,13,14].

Definition of Rapport and Importance

Rapport, a term often used colloquially, has been defined within the health sciences and psychology as a desirable state of interpersonal connection that requires positivity, mutual responsiveness, and behavioral coordination [16,17] as well as respect, acceptance, empathy, and a mutual commitment to engage [18]. More contemporary attempts to conceptualize rapport in health care include English, Robinson, and Gott's [19] conceptualization from the perspective of patients and families receiving palliative care. What seems clear is that rapport, when intentionally fostered, facilitates the development of a therapeutic relationship with outcomes that include trust, improved care outcomes, and satisfaction for both the patient and clinician [10,13, 20-23]. Connection or rapport within a virtual care environment has only begun to be explored. These studies suggest that many in-person relationship-based skills are effective, but adaptations are necessary and must be used intentionally by clinicians and patients [9,10, 20, 24].

Knowledge Gap and Need for Research

Recent evidence-based telehealth etiquette and interpersonal checklists [25,26], along with educational interventions for health care students [14] and professional development workshops for clinicians [15, 27], show promise in preparing current and future clinicians to adapt their interpersonal skills. However, telehealth etiquette often emphasizes practical and professional behaviors for efficient VV (e.g., technical preparedness, ensuring a professional environment, communication techniques to ensure diagnostic and treatment accuracy) rather than adapting interpersonal skills to convey empathy, cultural humility, and trust or to build personal connection in a virtual environment. Additionally, evidence-based resources are needed for interprofessional educators to support curriculum development across health care disciplines [7].

Building rapport in VV requires specific knowledge, skills, and attitudes as well as teaching strategies designed to facilitate relationship-based care competencies. Building upon previous

descriptive studies [9,10,13,20,28-31], this project aimed to employ an eDelphi study to explore what relationship-based care elements are important to include in a telehealth curriculum. This will provide a strong foundation for the future curricula development of interprofessional students and clinicians across disciplines, while closing a crucial gap in our practice and pedagogical knowledge.

Research Aim and Questions

This study aimed to establish expert consensus on training health professions students and clinicians in rapport-building during VV. Two research questions guided the study: (1) what knowledge, skills, and attitudes are essential for health professions students and clinicians to build rapport with patients in telehealth VV, and (2) what teaching strategies best facilitate the development of this knowledge, and these skills, and attitudes?

Methods

Study Design

An e-Delphi methodology was employed to build consensus by collecting, analyzing, and sharing data results with an interprofessional panel of experts in telehealth and telehealth education. The Delphi technique, widely used in nursing and health care research, assumes that group opinion is more valid and reliable than individual opinion, making it effective for achieving consensus on topics with limited evidence or uncertain practice standards [32]. This iterative, structured method uses interviews and/or surveys to gather expert input over multiple rounds until consensus is reached. Experts remain anonymous to one another to prevent any individual from dominating the process. After each survey round, data are summarized and shared with experts, reflecting both their individual responses and the group's collective responses. This feedback allows experts to revise their input based on group insights. Rounds typically continue, often between two to four times, until an acceptable level of consensus is achieved [32]. The web-based Delphi technique (e-Delphi), increasingly adopted for its cost-effectiveness, facilitates efficient participation from geographically diverse experts [33].

Recruitment and Selection of Participants

An interprofessional panel of national and international experts was recruited to participate in this e-Delphi study. The panel included licensed nursing and medical professionals (RNs, MDs and advanced practice providers), as well as speech and occupational therapists, all proficient in reading, writing, and conversing in English. Participants were required to have experience in at least one of the following activities: (1) conducted research on VV, (2) participated in telehealth advisory panels, (3) developed telehealth curricula, or (4) provided extensive instruction in telehealth, with a significant focus on adapting relational and communication skills for telehealth care.

Our interprofessional research team initially identified 21 experts meeting these criteria. These experts were invited to recommend additional participants, resulting in 7 further suggestions. Recruitment occurred over three rounds of targeted emails to assemble a diverse panel of telehealth experts with broad perspectives and experiences. To encourage participation across all rounds of the study, participants received a small financial incentive for their time upon completion.

Consent and Ethical Considerations

This educational research was deemed to pose minimal risk to the expert participants, as defined under the Common Rule; therefore, written consent was not conducted. A statement in the initial questionnaire clarified that participants' willingness to complete the interview and surveys constituted their verbal consent. The study received exempt determination from the health system's IRB for Clinical Investigations (protocol ID: Pro00117125) prior to beginning the study. Additionally, the study was registered in Open Science Framework on January 22, 2025 [34]

Data Collection Procedures

Four rounds of data collection were planned to build adequate consensus among the experts. In Round 1, interviews were conducted with experts individually on a university-approved secure Microsoft Teams videoconferencing platform using an interview guide with semi-structured open-ended questions developed by the research team. This guide, informed by the two original research questions, focused on the knowledge, skills, attitudes, and teaching strategies essential for building rapport in VV. Interviews were chosen as a method for the initial round to gather qualitative descriptive data based on the experts' experiences, given the limited published research on rapport building in VV.

The specific knowledge, skills, attitudes, and teaching strategies identified using qualitative content analysis of the interview data in Round 1 were compiled into a Qualtrics survey for Round 2. The Round 2 survey asked experts to prioritize the knowledge, skills, attitudes, and teaching strategies using a four-point Likert scales by asking the extent of importance (very important, important, of some importance, not important). A 4-point scale was selected to enhance survey completion, and to encourage participants to choose between an item being important or unimportant [35]. Contextually, this aligns with an educator's need to decide whether to include or exclude content from their curriculum. Open-ended questions allowed the participants to provide comments related to their decisions and describe any need to revise or expand the content.

Round 3 was designed to show experts their ratings compared to those of the other experts in the study. The experts were given an opportunity to re-rate each of their original responses or keep them the same in the Round 3-survey. Revision of Round 2 items or recommendations for new items from open-ended questions in Round 2 were also incorporated into the Round 3-survey. Member checking using a final questionnaire was planned in Round 4 to evaluate if the panel felt the results reflected their expertise and recommendations. All Qualtrics surveys were sent to participants via the institution's secure Microsoft Teams platform.

Expert participants received emails with survey links for all rounds of the study, including a questionnaire to collect their relevant professional background details prior to the first-round interview. Surveys were developed and administered using Qualtrics, a secure University-approved web-based survey platform.

Data Analysis and Statistical Considerations

Descriptive statistics were selected to report panel responses for each survey item (mean, standard deviation, interquartile range, and consensus level) and attrition rates over the course of rounds. Since building a curriculum necessitates making a dichotomous decision to include or exclude topics or teaching strategies, for the purposes of calculating consensus, responses were collapsed into two categories: important (items rated very important or important) and unimportant (items rated of less importance or unimportant). The percentage of agreement between the experts was used to measure

level of consensus. Although curricula to teach rapport-building in VV may not require complete agreement, rapport is an important indicator of quality care; therefore, consensus was considered sufficient when an item was rated important or very important by at least 70% of the experts on the panel [32,36]. Statistical analysis was supported by using Microsoft Copilot within Excel, leveraging its AI-driven capabilities to generate insights and summaries.

A five-member coding team conducted qualitative content analysis of the narrative interview data from Round 1 and the open-ended responses for all later survey rounds. Codes were derived directly from the transcribed text data and kept close to the participants' descriptions [37] and the analysis was guided by a process outlined by Elo and Kynga [38]. NVivo software was used to facilitate the qualitative analysis, including coding and development of a codebook. At least 20% of the data was reviewed by two or more team members, with conflicts resolved through discussion. After initial manual coding, the team used Copilot to generate preliminary summaries and thematic overviews of the interview data. Testing and refining prompts ensured results aligned with the manually generated NVivo codebook. The study's rigor was enhanced by (1) team-based analysis by researchers with extensive qualitative experience, (2) judicious use of AI tools to validate findings [39], (3) regular coding meetings to refine codes, categories, themes, and survey items, (4) concurrent data collection and analysis [40], (5) detailed memos to maintain an audit trail of analytical decisions [39], and (6) member checking by asking participants to clarify interview responses, evaluate survey items, and reflect on the final analysis [42]. The ACCurate COnsensus Reporting Document (ACCORD) guided the reporting of results [43].

Results

Twelve of the 16 interprofessional telehealth experts emailed an invitation consented to participate in the study, representing a 75% response rate. Interviews were conducted with the panel of experts in January 2025. This was followed by 3 survey rounds from February-April 2025. All 12 experts completed the Round 1 interview and the Round 2 and Round 3 surveys, representing a 100% participation rate. Eleven of the 12 experts participated in Round 4-member checking.

Panel Characteristics and Expertise

Most participants had doctoral degrees (67%) and more than 20 years of professional experience (66.3%). A third of the experts had 11 or more years of experience using telehealth with a deep range of involvement in practice, education, research, and advisory capacities (see Table 1 for further characteristics). Of the 12 experts, 2 were international experts, with the balance residing in the United States. The panel's expertise included using telehealth in a variety of contexts, including adult and pediatric care, rural settings, palliative and hospice care, and mental health. Members of the expert panel have contributed to the development of practice standards and educational curricula, established telehealth clinics, taught educational courses, conducted research, and published journal articles and books on telehealth. In addition, several experts in the study have developed conceptual models and conducted research specifically on relational aspects of telehealth. All participants were actively involved in teaching professional and interprofessional educational programs with a focus on telehealth.

Table 1. Expert participant characteristics (N=12)

Characteristic	Frequency (%)
Education Level	

	Master's degree	2 (17)
	Doctoral degree	8 (67)
	Professional degree (MD)	2 (17)
Licensure		
	Nursing or Midwifery	7 (58)
	Medicine	2 (17)
	Speech-Language Pathology	1 (8)
	Physician Assistant	2 (17)
Length of Professional Experience		
	11-12 years	4 (33.3)
	21-30 years	3 (25)
	31-40 years	4 (33.3)
	Over 40 years	1 (8)
Professional Experiences with Telehealth		
	Conduct (ed) visits or consultations	9 (75)
	Conduct (ed) research	10 (83)
	Participate (d) on advisory panels	8 (67)
	Develop (ed) curriculum	8 (67)
	Provide (d) instruction focused on rapport	11 (92)
Length of Telehealth Experience		
	2-4 years	4 (33.3)
	5-10 years	4 (33.3)
	11-20 years	4 (33.3)

First Round Results

Data collected and coded from the 12 expert interviews were organized into educational areas of knowledge, skills, attitudes, and teaching strategies as directed by the research question. Within each of these areas, themes emerged that helped organize more specific items that the experts recommended for a curriculum focused on building rapport in VV. The themes and specific items related to each topic are described below. Since these educational areas, themes, and specific items were incorporated into the Round 2 survey, they can also be reviewed in their entirety in Tables 2-5, along with their descriptive statistics and consensus ratings.

Knowledge

Expert participants described the importance of ensuring students and clinicians had basic knowledge of telehealth. This included the evidence-based uses of VV, types of VV, roles and responsibilities of clinicians, situations not appropriate for VV, common challenges, and required adaptations. Providing information to ensure a functional understanding of video conferencing technology and how to address common technical problems was also identified as basic telehealth knowledge, as was instruction on specific ways to create a virtual environment supporting rapport. This included creating ground rules for VV and understanding how generational, cultural, educational, geographic, and socioeconomic factors influence a patient's participation in VV. The importance of ensuring privacy in not only the patient's but also the clinician's environment was emphasized as essential to

developing rapport and trust. Finally, the experts recommended that basic knowledge of the antecedents (e.g., feeling safe and comfortable, privacy, attentiveness), attributes (e.g., shared positive experiences, shared smiles, engagement, sense of connection), and outcomes (e.g., trust, confidence, collaboration) of rapport were important to teach, along with the unique opportunities and challenges associated with rapport-building in VV.

Skills

The data highlighted essential skills for students and clinicians, including creating a safe and comfortable environment, adapting verbal and non-verbal communication techniques for VV, maintaining attentiveness and presence, and using the virtual environment to humanize the care experience. Experts provided detailed recommendations for each category that helped enrich the survey items developed in Round 2. For example, they emphasized the importance of establishing rapport at the beginning of a video visit and monitoring it throughout. Managing the time and flow of the VV to avoid rushing patients and preventing abrupt endings were identified as critical skills. Demonstrating cultural humility and navigating moments of interpersonal disconnection were also identified as crucial for maintaining rapport.

Experts highlighted the need to pace verbal communication to reduce interruptions or "talk-overs" and to "narrate the visit" by explaining clinician's actions that might be unclear or not visible to patients. Using words to replace physical touch to acknowledge emotions and demonstrate care was emphasized. Enhancing active listening techniques, including body language, to reflect empathy and caring was described as particularly important. Examples included placing a hand over the heart to show empathy or leaning into the camera to demonstrate attentiveness.

Participants also stressed the importance of encouraging attentiveness by setting up technology to improve eye contact, sense of presence, and visualization of emotions. Finally, experts noted opportunities within a VV to humanize the experience and build rapport by seeking cues in the patient's environment to know them as a person and identify common interests. Using unique aspects of a VV, such as unexpected pet encounters or technology issues (e.g., sharing a laugh about challenges of technology rather than focusing on frustration), to build interpersonal connection was also described as useful.

Attitudes

The importance of cultivating affirming attitudes was mentioned throughout the interview data. This included willingness to adapt to changing situations with ease, such as making extra efforts to connect in VV and having patience with unexpected situations and technological challenges. Respect associated with entering a patient's home environment virtually was highlighted, as well as respecting the patient's perception of whether a VV could meet their needs. Other attitudes that the experts felt needed to be nurtured included valuing VV as a viable care model and adapting relational aspects of care for VV. Being receptive and excited to learn new skills for VV was also emphasized as an important attitude for educators to foster.

Teaching Strategies

The importance of integrating telehealth adaptations into the standard educational curriculum was frequently discussed in the interviews, and a variety of teaching strategies were recommended. Methods supporting experiential and affective learning, such as simulation with standardized patients and opportunities for self-reflection, were identified. Self-paced modules, videos demonstrating effective and ineffective rapport-building skills, and small group methods like case studies and discussion groups were identified as useful strategies. The opportunity to receive real-time feedback and learn by observing and interacting with preceptors, mentors, and role models was emphasized.

Second Round Results

All 75 items that emerged from the qualitative content analysis in Round 1 were presented to the experts in a survey format. Participants rated each item's level of importance from very important (Likert scale score of four) to not important (Likert scale score of one). Percentage of agreement, the group's mean Likert score, standard deviation, and interquartile range for each item follows and is organized by the educational areas: knowledge (Table 2), skills (Table 3), attitudes (Table 4), and teaching strategies (Table 5). All 75 items presented to the experts for rating reached the a priori level of at least 70% consensus in Round 2. Seventy-one percent of the items achieved 100% consensus, indicating that all 12 experts felt these items should be included in a curriculum focused on teaching rapport building in VV. There were very high levels of consensus among the items related to knowledge and attitude. Twenty out of 22, or 91%, of the items in the knowledge domain had 100% consensus, and all seven items related to attitudes had 100% consensus. Four of 15 teaching strategy items reached 100% consensus. The group's mean Likert scores ranged from 2.83 to 4.00 for each item. The high mean of most of the items also reflects strong agreement on the items evaluated in Round 2. Although there were no disputed items, five items only reached a 75% consensus level. The high levels of consensus resulted in most items having relatively low standard deviation (SD) and interquartile range (IQR) ratings.

Three items (taxonomy, asynchronous learning, discussion groups) had a SD greater than 0.60 and an IQR between 0-0.50. This suggests a core group of the experts closely agreed but a few participants felt differently about these three items. The two items on real-time feedback with artificial intelligence and modular learning had an IQR of 1.50, as well as higher SDs. This suggests these items were more complex or controversial with a broader range of opinions even though they still met the consensus threshold. Eight items had an IQR of 1.0 and SD of these items ranged from 0.718-0.985. This suggests more moderate levels of diversity in opinions with a few extreme responses compared to the other items in the survey.

Open-ended responses from several of the experts in this round suggested the need for two additional items. This included the importance of incorporating information on ways a clinician could adapt teaching methods in VV and providing opportunities for practicing VV that involved an interprofessional team.

Table 2: Education Areas within the Knowledge Domain (N=12)

Theme	Item	Consensus ^a (%)	Mean ^b	SD ^c	IQR ^d
Basic knowledge of telehealth and its applications					
	Telehealth taxonomy	75	2.83	0.835	0.5
	Evidence-based uses of video visits	100	3.83	0.389	0
	Types of video visits (e.g., urgent care, follow-up care, medical management)	100	3.50	0.522	1
	Types of clinician roles and responsibilities (e.g.,	92	3.33	0.651	1

	clinical evaluation, pre-op education, facilitating support group)				
	Situations not appropriate for video visits	100	3.75	0.452	0.5
	Common challenges in video visits	100	3.92	0.289	0
	General adaptations necessary	100	3.58	0.515	1
How to create a virtual environment that supports rapport					
	Ground rules for video visits (e.g., what to expect, what to do if internet connection lost, ways to enhance quality of visit)	100	3.83	0.389	0
	Awareness of how generational, cultural, educational, geographic, and socioeconomic factors influence a patient's participation in video visits	100	3.75	0.452	0.5
	Importance of privacy (auditory/visual) and confidentiality in the patient's and clinician's spaces (e.g., private spaces, data protection)	100	3.92	0.289	0
	Choice of video visit setting/background (e.g., quiet, non-distracting)	100	3.50	0.522	1
	Adaptations related to patient population or type of visit (e.g., children, non-English speakers, team-based consultation, mental health evaluation, group-based care)	100	3.75	0.452	0.5
Functional use of video conferencing technology platforms					
	Understanding of video conferencing platform functions and set-up	100	3.33	0.492	1

	Problem-solving of most common technical problems	100	3.25	0.452	0.5
Rapport basics					
	Awareness of attributes of rapport (e.g., shared experience of comfort and engagement, being "in sync")	100	3.83	0.389	0
	Awareness of the outcomes of rapport for patients and clinicians (e.g., trust, collaboration)	100	3.83	0.389	0
	Basic rapport building strategies (e.g., active listening and showing genuine interest, respect, and empathy)	100	4.00	0.000	0
	Importance of patients feeling heard and understood	100	4.00	0.000	0
	Increased importance of facial expression and body mannerisms in video visits	100	3.67	0.492	1
	Indicators that rapport has been established (e.g., shared smiles, laughter, warmth, sense of connection)	100	3.83	0.389	0
	Unique opportunities to cultivate rapport in video visits	100	3.67	0.492	1
	Unique rapport challenges in video visits (e.g., internet lag interfering with ability to feel "in sync," visits becoming brief and transactional)	100	3.83	0.389	0

^aThis describes the percentage of experts who scored the item as either "important" or "very important." ^bGroup Mean Likert score. Note each specific item within the survey was rated as 4 = very important, 3 = important, 2 = of less importance or 1 = unimportant. ^cStandard deviation. ^dInterquartile range.

Table 3: Education Areas within the Skills Domain (N=12)

Theme	Item	Consensus ^a (%)	Mean ^b	SD ^c	IQR ^d
Creating a safe and					

comfortable virtual environment					
	Supporting patient's comfort with technology	92	3.58	0.669	1
	Managing technical challenges	92	3.33	0.651	1
	Ensuring patient's desired level of privacy during the video visit	100	3.83	0.389	0
	Navigating technological and other video visit distractions to maintain rapport	100	3.67	0.482	1
	Taking time to build rapport at beginning of video visit	100	3.92	0.289	0
	Monitoring level of rapport throughout the video visit	100	3.50	0.522 1	1
	Navigating the patient's wants and needs within video visit parameters with mutually agreeable care goals	100	3.83	0.389	0
	Demonstrate knowing the patient with recall of important information (e.g., medical and social)	100	3.58	0.515	1
	Demonstrating cultural humility (e.g., respecting differences, practicing self-awareness)	100	3.67	0.492	1
	Managing time and flow so patients do not feel rushed	100	3.50	0.522	1
	Avoiding abruptly ending visits, ensuring patient's questions and needs are addressed	100	3.92	0.289	0
	Navigating moments of disconnection (e.g., anger, disagreement, disengagement)	100	3.75	0.452	0.5
Adapting verbal communi-					

cation techniques to facilitate rapport in video visits					
	Keeping communication clear and simple	100	3.67	0.492	1
	Managing conversation flow and pacing to reduce interruptions and “talkovers”	100	3.75	0.452	0.5
	Using words as a replacement for physical touch to acknowledge emotions and demonstrate support (e.g., “I wish I could give you a hug”)	92	3.58	0.669	1
	Increasing use of reflective practices (e.g., restating what patient has said, asking more questions, using teach backs) to validate/confirm accurate understanding	100	3.83	0.389	0
	“Narrating the visit” to describe what you are doing that might be difficult for the patient to interpret (e.g., looking at your lab work, writing orders for medication)	100	3.75	0.452	0.5
Enhancing non-verbal communication techniques to facilitate rapport in video visits					
	Using body language (e.g., facial expressions, hand gestures, body posturing) to express feelings, emphasize suggestions, or show intentions (e.g., eye contact, nodding, and	100	4.00	0.0	0

	leaning in to show attentiveness, smiling, hand over heart to show empathy)				
	Using platform technology to keep patient engaged and enhance learning/understanding (e.g., screen sharing images, placing links to information in chat, "show and then tell")	92	3.50	0.674	1
Maintaining attentive-ness and presence					
	Pausing or breaking between video visits to reset and cultivate presence	83	3.17	0.718	1
	Managing personal distractions (e.g., phone and computer alerts)	100	3.58	0.515	1
	Setting up technology and lighting to ensure both the clinician and the patient can view the other's body language (e.g., "passport view")	100	3.58	0.515	1
	Setting up technology to enhance eye contact with the patient during documentation and medical record review (e.g., close to the computer camera)	100	3.75	0.452	0.5
	Heightening attentiveness to visual and auditory signals that might reflect patient emotion	100	3.58	0.5165	1
Using virtual environment to humanize the care experience					
	Seeking cues in patient's environment to know	83	3.25	0.754	1

	them as a person				
	Using cues in patient's environment to build connection	83	3.25	0.754	1
	Using self-disclosure based on cues in the patient's environment to build connection	75	2.92	0.900	1
	Personalizing your professional virtual environment to facilitate connection	75	3.00	0.739	1
	Using idiosyncratic aspects of video visits as opportunities to build connection (e.g., unexpected pet encounters or technology issues)	100	3.25	0.452	0.5
Other					
	Magnifying use of active listening techniques	100	3.83	0.389	0
	Heightening self-awareness to ensure your verbal and non-verbal behaviors reflect empathy and caring	100	3.92	0.289	0

^aThis describes the percentage of experts who scored the item as either "important" or "very important." ^bGroup Mean Likert score. Note each specific item within the survey was rated as 4 = very important, 3 = important, 2 = of less importance or 1 = unimportant. ^cStandard deviation. ^dInterquartile range.

Table 4: Education Areas within the Attitudes Domain (N=12)

Theme	Item	Consensus (%) ^a	Group Mean Likert Score ^b	Standard Deviation ^c	Interquartile Range ^d
Willingness to adapt to changing situations with ease					
	Willingness to make extra effort to connect in video visits	100	3.67	0.492	1
	Patience with unexpected	100	3.67	0.492	1

	situations and technological challenges				
Respect for patient challenges associated with video visits					
	Respect associated with being in someone's home virtually	100	3.83	0.389	0
	Respecting patient's perception of whether video visits can meet their needs and goals	100	3.67	0.492	1
Other					
	Valuing video visits as a viable care delivery model	100	3.75	0.452	0.5
	Receptivity to learning new skills for video visits	100	3.67	0.492	1
	Valuing relational aspects of care with desire to adapt interpersonal skills for video visits	100	3.75	0.452	0.5

^aThis describes the percentage of experts who scored the item as either “important” or “very important.” ^bGroup Mean Likert score. Note each specific item within the survey was rated as 4 = very important, 3 = important, 2 = of less importance or 1 = unimportant. ^cStandard deviation. ^dInterquartile range.

Table 5: Teaching Strategies (N=12)

Theme	Item	Consensus (%) ^a	Group Mean Likert Score ^b	Standard Deviation ^c	Interquartile Range ^d
Experiential					

learning methods					
	Simulation with standardized patients	92	3.58	0.669	1
	Role playing with other learners	92	3.50	0.674	1
Real-time feedback					
	Real-time feedback from real and standardized patients	100	3.75	0.452	0.5
	Real-time feedback from educators, colleagues, and mentors	100	3.75	0.452	0.5
	Real-time feedback from AI technology (e.g., avatars, natural language processing tools)	75	3.00	0.953	1.5
Self-paced learning					
	Asynchronous learning (e.g., recorded presentations)	83	2.92	0.793	0
	Videos demonstrating effective and ineffective rapport building skills	92	3.50	0.674	1
	Module-based learning	75	3.08	0.793	1.5
Small group methods					
	Case studies	92	3.33	0.888	1
	Discussion groups	83	3.00	0.853	0.5
	Lecture with	83	3.08	0.900	1

	breakout practice sessions				
Affective learning					
	Opportunities for self-reflection	83	3.33	0.985	1
	Role playing that includes having the clinician be a patient	83	3.33	0.779	1
Other					
	Peer learning (e.g., observing, interacting with preceptors, mentors, and role models)	100	3.58	0.515	1
	Integration of telehealth adaptations into standard curricula (i.e., when learning about developing in-person rapport, students would also learn about appropriate adaptations for telehealth)	100	3.92	0.289	0

^aThis describes the percentage of experts who scored the item as either “important” or “very important.” ^bGroup Mean Likert score. Note each specific item within the survey was rated as 4 = very important, 3 = important, 2 = of less importance or 1 = unimportant. ^cStandard deviation. ^dInterquartile range.

Third Round Results

Since all 75 items in Round 2 reached the established consensus threshold, Round 3 focused on gathering feedback from the expert panel on the two new items developed from the open-ended survey responses in Round 2. One item, within the knowledge domain, addressed creating a virtual environment that supports rapport. The other proposed an additional teaching strategy. Consistent with Round 2, these items were presented in a Qualtrics survey, with experts asked to rate their importance on a 4-point Likert scale. Both items met the consensus threshold. Results are presented in Table 6. Open-ended feedback in Round 3 suggested distinguishing educational content on patient learning preferences from content on the patient experience with VV, as these are distinct topics.

Experts also noted that some patient learning preferences may not be viable options in VV.

Table 6: New Item for Knowledge Domain and Teaching Strategies (N=12)

Theme	Item	Consensus (%) ^a	Group Mean Likert Score ^b	Standard Deviation ^c	Interquartile Range ^d
How to create a virtual environment that supports rapport	Importance of adapting teaching methods to patient learning preferences and/or experience with video conferencing	100	3.58	0.515	1
Other teaching strategies	Opportunities to practice VV involving an interprofessional team	92	3.17	0.577	0.5

^aThis describes the percentage of experts who scored the item as either “important” or “very important.” ^bGroup Mean Likert score. Note each specific item within the survey was rated as 4 = very important, 3 = important, 2 = of less importance or 1 = unimportant. ^cStandard deviation.

^dInterquartile range.

Fourth Round Results

The focus of Round 4 was to share the study overall results and provide the experts an opportunity to indicate if these accurately reflected their experiences and perspectives. The participants’ responses affirmed the results and as one expert shared, “Building rapport through video-mediated communication can be challenging and the items highlighted tangible and effective steps to mitigate this.” Some of the experts’ responses helped explain areas where there was less than 100% consensus. One expert indicated that in the populations they worked with, patients may not be comfortable with clinicians stating, “I wish I could offer you a hug,” or having clinicians humanize a VV by looking for things in their environment. These comments reflected the importance of cultural humility, understanding the context of the VV, and individual patient preferences and perspectives. One expert expressed surprise that having students role play being a patient did not receive a higher level of consensus sharing, “Empathy is a muscle. If you don’t consistently remind yourself what it feels like to be the patient, you are more likely to forget and deliver more callous, depersonalized care.”

All the participants indicated they felt the results could inform interprofessional practice and teaching. As one expert stated, “These results can be a great jumping-off point for developing more focused training and education around telehealth communication. Since there seems to be a general awareness of the importance of rapport, but a lack of clarity on the specific skills needed, there’s an opportunity to design tools, workshops, or even curricula that help providers build those skills more intentionally.” Another shared, “This could really push institutions to start thinking beyond the technology and more about the patient experience.”

Discussion

Principal Findings

Teaching and learning how to establish and maintain rapport in VV was identified as an important educational gap. The aim of this study was to build consensus around the knowledge, skills, and attitudes required for health professions students and clinicians to build rapport with patients in VV, as well as to identify what teaching strategies best support these educational objectives. This e-Delphi approach was an effective and efficient method for consolidating the expertise of 12 interprofessional telehealth clinicians and educational experts (see Figure 1). The high retention rate throughout the study may indicate the importance and relevance of this specific topic to telehealth experts.

Figure 1: Summary of Major Themes

EDUCATIONAL AREAS AND MAJOR THEMES



KNOWLEDGE

- Basic knowledge of telehealth and its applications
- How to create a virtual environment that supports rapport
- Functional use of video conferencing technology platforms
- Rapport basics



SKILLS

- Creating a safe and comfortable virtual environment
- Adapting verbal communication techniques to facilitate rapport in videoconferencing visits (VV)
- Enhancing non-verbal communication techniques to facilitate rapport in VV
- Magnifying use of active listening techniques
- Heightening self-awareness to ensure behaviors reflect empathy and care
- Maintaining attentiveness and presence
- Using the virtual environment to humanize the care experience



ATTITUDES

- Willingness to adapt to changing situation with ease
- Respect for patient challenges associated with VV



TEACHING STRATEGIES

- Experiential learning methods • Real-time feedback
- Self-paced learning • Small group methods

The experts quickly agreed on the importance of 19 themes and 77 items to guide curriculum development. The depth and breadth of these themes and items demonstrate the importance of enhancing relationship skills beyond those described in etiquette guidelines or competencies, which often simply require the clinician or student to “establish rapport.” Although the number of themes and items could be perceived as excessive or impractical to incorporate into telehealth education, evidence that clinicians lack confidence in their relationship-based skills demonstrates the need for a more robust curriculum. The study results provide a comprehensive and useful reference for building

a curriculum based on developing knowledge, skills, and attitudes. Like other complex competencies, these may need to be integrated throughout a health profession curriculum or offered in self-paced modules for professional development.

The number of themes and items related to adapting relationship-based care and communication skills for VV demonstrates the importance of this element in the curriculum and aligns with existing research [13,14,20,29]. Three items in the survey had a mean score of 4.00, indicating they were rated as very important by all 12 experts. These included knowledge about basic rapport building strategies, the importance of patients feeling heard and understood, and using body language to express feelings, emphasize suggestions, or show intentions. The expert panel also emphasized the importance of learning to create interpersonal connection at the beginning of a VV and monitor the level of rapport throughout the visit. Additionally, not rushing or ending the VV abruptly and taking time to clearly understand the patient's wants and needs with mutually agreeable care goals was highlighted as important to building rapport. These suggestions align with telehealth best practices reported in oncology and palliative care [29,31,44], as well as practices identified as important in ambulatory care [10,13,45,46].

Similarly, fostering a sense of presence and attentiveness during the VV was a key focus. Many of these items have been reported in other research as important, including how to set up technology to enhance telepresence and body language communication (e.g., eye contact, facial expressions, body posture) and paying close attention to visual and auditory signals that might reflect patient emotion [20,26,47]. Best practices related to camera positioning and eye gaze originally recommended by the American Telemedicine Association [48] have been shown to influence interpersonal comfort and self-disclosure in virtual interactions and may facilitate trust and collaboration [49].

The curricular themes and items also addressed navigating barriers that impact building rapport in VV. Items concerning common challenges in VV, such as technology issues and privacy concerns, were rated as very important by almost all 12 experts with mean scores of 3.92. Internet connectivity issues, and a lack of skills in navigating or problem-solving technological challenges, are all well-documented in the literature. Rettinger and Kuhn's [50] scoping review mapping barriers to VV described this as the most frequently described barrier in the 56 studies reviewed. What was highlighted by the experts in this e-Delphi study is the importance of managing these challenges to maximize clinician-patient rapport. In addition to problem-solving skills, the overall attitude of the clinician in managing these challenges was highlighted. The experts felt patience and light-heartedness were essential attitudes, even suggesting that technological challenges could present opportunities to build rapport around a shared experience. The high level of importance expressed by the expert panel for teaching rapport basics and managing VV challenges affirms the need for clinicians to be proficient and comfortable in both interpersonal and technological skills.

The unanimous consensus among experts on the 3 themes and 7 items related to educational areas within the domain on attitudes may indicate their importance and aligns with findings from a recent scoping review on rapport in oncology ambulatory care [51]. Although knowledge and skills, including communication skills, were identified as important nursing characteristics for building rapport with patients in this review, most findings related to nurses' attitudes in building interpersonal connection with patients [51]. During interviews in this e-Delphi study, experts indicated that without positive attitudes, motivating adult learners to acquire new knowledge and skills becomes challenging. They articulated the need to cultivate positive attitudes toward telehealth and to adapt interpersonal skills accordingly. These beliefs are supported by Knowles' [52] Adult Learning Theory, which suggests that adult learners are highly motivated to learn skills they can use to resolve problems and improve their performance. Teaching strategies that support self-identified learning

needs may improve educational outcomes related to communication and interpersonal skills for telehealth. Studies suggest that many clinicians recognize the need to adapt their interpersonal skills [10,12] and believe developing knowledge and skills for telehealth is essential [11].

Affective competency is reflected in students' ability to conceptualize and internalize subject matter related to attitudes, emotions, or biases in ways that influence their values, decisions, and behaviors [53,54]. Teaching in this domain of learning requires that educators place a greater emphasis on their students becoming caring, emotionally and culturally intelligent, and ethical professionals rather than on their acquisition of factual knowledge [20, 54, 55]. Achieving this goal necessitates creating a safe learning environment and employing teaching strategies that enhance student self-awareness and encourage exploration of diverse perspectives and needs [54,56]. This highlights the importance of building a curriculum and using teaching strategies that address the affective domain of learning and aligns with the importance the experts placed on attitudes and reflective teaching strategies.

Teaching strategies generally had lower levels of consensus among the experts with lower mean scores. This may be related to the need for research that evaluates teaching strategies related to telehealth competencies. Although there was less consensus around asynchronous teaching strategies, module-based learning is evidence-based and necessary given that this is how many health educational and professional programs are currently delivered [57]. It is not clear if the experts felt these strategies were less effective or their ratings were based on their belief that real-time feedback and practice were more effective for teaching RBC skills and attitudes. Research suggests that opportunities to practice conducting VV with standardized patients and in simulation labs has promoted positive learning outcomes [58].

Our results are relevant to various health professions that engage in telehealth. The Interprofessional Education Collaborative (IPEC) Core Competencies for Interprofessional Collaborative Practice [59] provide a framework for interprofessional collaborative practice centered upon four competency domains: *Communication*, *Teams and Teamwork*, *Roles and Responsibilities*, and *Values and Ethics*. Each of the four competency domains are well-aligned with our panel's insights into effective education for telehealth rapport-building. Specifically, the IPEC competencies in *Communication* and *Teams and Teamwork* resonate with our expert panel's emphasis on clear, culturally humble, and empathic communication adapted to the virtual setting. IPEC competency statements regarding communication that is responsive, respectful, and compassionate, as well as practicing active listening, directly relate to skills our expert panel prioritized, such as narrating visits, managing disruptions, and adapting both verbal and non-verbal cues to build rapport. The *Roles and Responsibilities* IPEC competency domain aligns with the panel's suggestion to teach interprofessional learners how to understand one another's scopes of practice and leverage each team member's unique contributions to enhance virtual care experiences. Finally, the values emphasized throughout the IPEC *Values and Ethics* domain, which include respect, cultural humility, and patient-centeredness, mirror the attitudinal attributes our experts identified as critical to building trust and interpersonal connection in video visits. The high level of consensus across the Delphi rounds and the incorporation of strategies like team-based practice opportunities, patient privacy, and rapport measurement underscore the practical application of IPEC competencies when designing meaningful telehealth education for various health professions.

Implications and Future Research

The research questions and analysis used a framework often applied by educators of interpersonally focused professions when developing competency-based education [60]. Organizing the findings by cognitive or mental skills (knowledge), manual psychomotor skills (skills), affective skills (attitudes) was done intentionally to make it relevant and easy for health profession educators to incorporate the

results into their existing competency-based telehealth programs. When paired with existing checklists [25,26,46] and professional competency guidelines [3,4,59], these results can support the creation of standalone programs on relationship-based care in telehealth or module-based programs that can be integrated into broader telehealth curricula. The study results can either be incorporated into existing competencies or guide the development of new professional competencies.

Future research is needed to test the feasibility, acceptability, and effectiveness of building curricula based on these competencies. It is also important to assess the effectiveness of the recommended teaching strategies, especially in relation to the three domains of learning, knowledge, skills, and attitudes. Blending opportunities to practice, self-evaluate, and receive observational feedback may be critical to helping health professions students and clinicians learn and adapt their knowledge, skills, and attitudes for telehealth. Research demonstrating the feasibility and effectiveness of these methods is essential. In addition, better understanding of the patient perspective with regards to recommendations for rapport-building strategies is an important area for further study, as is exploring variations related to the VV context, purpose, and the type of professional conducting the VV.

Strengths and Limitations

The strengths of this study include the collection of data from interprofessional health care clinicians and educators. The use of the ACcurate COnsensus Reporting Document (ACCORD) [43] and multiple strategies to enhance the trustworthiness bolstered methodological rigor. The analysis incorporated a broad range of participants' responses to ensure credibility. Offering participants opportunities in Rounds 2-4 to review the findings and provide feedback or suggestions also enhanced the study's dependability. The context of the participants was also thoroughly described to allow readers to determine how the findings can be applied in other programs and settings. Although the goal of a Delphi study is to build consensus, there is a risk of forcing conformity [32]. By interviewing participants individually in the first round, this study provided each expert an opportunity to fully share their view and ensured the participants remained anonymous to one another. The rapid and high levels of consensus for most of the items suggest the analysis of the interview data and subsequent development of survey items was dependable, largely representing the experts' opinions.

This study has several limitations. Given the limited existing research on building rapport in VV, the reliance on expert interviews in Round 1 constrained the participant pool. Although purposive criteria guided recruitment, the panel did not encompass all professions engaged in the use and instruction of VV. As such, the panel's composition may not fully reflect the broader population of telehealth clinicians and educators, particularly those in early-career stages. In addition, most participants were based in the United States, which may limit the applicability of findings in international or cross-cultural contexts. Finally, although there are no strict guidelines for Delphi panel size, the relatively small sample may have increased the potential risk for selection bias [32].

Conclusion

It is widely recognized that strong rapport between patients and clinicians is essential in VV. Yet, despite this understanding, evidence-based practical guidance on adapting interpersonal skills for virtual care remains limited. This study offers a tangible first step toward addressing this gap. Its results provide detailed guidance on the knowledge, skills, and attitudes necessary for health professions students and clinicians to build rapport in VV settings. In addition to outlining these competencies, the study presents a clear structure, actionable content, and recommended teaching strategies to support curriculum development in health professions education. While virtual care brings numerous benefits, failing to deliberately adapt relationship-based skills for VV risks reducing

patient interactions to impersonal, task-focused exchanges. To fully realize the potential of telehealth, it is critical to invest in evidence-based approaches that preserve and promote meaningful interpersonal connection in the virtual environment—for the benefit of both patients and clinicians.

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Conflicts of Interest

None declared.

Author Contributions

PDK, JCD, MW designed the study protocol. PDK interviewed all study participants. PDK, DMN, AE, JCD, and MW coded and analyzed the data. PDK drafted the initial manuscript, and all other authors contributed to critical reviews and revisions of the manuscript. All authors have approved the final manuscript and agreed to publication.

Abbreviations

IQR: Interquartile Range

SD: Standard deviation

VV: Videoconferencing Visit(s)

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Supplementary Files

Figures

Summary of Major Themes.

EDUCATIONAL AREAS AND MAJOR THEMES



KNOWLEDGE

- Basic knowledge of telehealth and its applications
- How to create a virtual environment that supports rapport
- Functional use of video conferencing technology platforms
- Rapport basics



SKILLS

- Creating a safe and comfortable virtual environment
- Adapting verbal communication techniques to facilitate rapport in videoconferencing visits (VV)
- Enhancing non-verbal communication techniques to facilitate rapport in VV
- Magnifying use of active listening techniques
- Heightening self-awareness to ensure behaviors reflect empathy and care
- Maintaining attentiveness and presence
- Using the virtual environment to humanize the care experience



ATTITUDES

- Willingness to adapt to changing situation with ease
- Respect for patient challenges associated with VV



TEACHING STRATEGIES

- Experiential learning methods • Real-time feedback
- Self-paced learning • Small group methods

CONSORT (or other) checklists

ACCORD Checklist.

URL: <http://asset.jmir.pub/assets/cc8dfc76d1a1b338e554a399f420fb6c.pdf>

