



Exploring routine use of telemedicine through a case study in rehabilitation

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ABSTRACT

Objective. This study examines how telerehabilitation becomes part of existing and new clinical routines and identifies factors that enable or constrain its routine use.

Methods. An in-depth case study of a telemedicine program in rehabilitation implemented between an urban specialized rehabilitation center and a rural regional rehabilitation center was conducted. Using a conceptual framework based on Giddens' theory of structuration, a qualitative analysis was carried out using four data sources: focus groups and phone interviews (with health professionals, managers, and patients and their family members); telerehabilitation video recordings; and project documents (e.g., proposals, requests for funding, summaries, agendas of meetings, operating procedures, patient handouts, and tools for clinicians).

Results. In two rehabilitation programs for 1) patients who sustained a traumatic brain injury and 2) those who sustained a spinal cord injury, telerehabilitation was successfully incorporated into routine clinical practices for activities such as interdisciplinary care plans. However, for specialized clinical consultations or long-term patient follow-up, telerehabilitation was not successfully incorporated. Factors that facilitated or prevented the integration of telerehabilitation in routine practices stemmed from both the structure (norms, rules, resources, and values) and the agent (e.g., users of telerehabilitation, including clinicians, managers, and patients and their families) and include 1) shared beliefs and assumptions held by patient care team members regarding the nature of the clinical activities, and the perceptions of patients and their family members; 2) clinical and organizational leadership; 3) extent and type of telerehabilitation use; 4) available resources; and 5) collaborations already in place or needing to be developed.

Conclusions. This study provides empirical evidence of how telerehabilitation activities may become integrated into routine day-to-day clinical activities.

Key words

Telemedicine; rehabilitation; patient care team; spinal cord injuries; brain injuries; Canada.

Telemedicine has been proposed as an alternative to enhance quality and

accessibility of health care services while reducing or controlling costs. However, there are few examples of telemedicine becoming part of daily clinical practice (1–5). Furthermore, once the initial funding for a pilot project runs out, many telemedicine programs cease (6–9). Telerehabilitation is a growing branch of telemedicine that is becoming increasingly relevant given the aging population and growing prevalence of chronic

diseases. Studies in telemedicine and telerehabilitation have focused mainly on feasibility of technologies, efficacy, and user satisfaction, and very little on implementation and actual use (10–13). Several authors suggest using methods other than clinical trials for developing a better understanding of processes and changes that occur with telemedicine use (6, 11, 12, 14–16). More specifically, it remains unclear what facilitates or

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hinders the integration of telemedicine, including telerehabilitation programs, into routine clinical practice.

Routine use of telemedicine has been achieved when there are signs that the telemedicine activity has become part of the “normal process of health care” and is no longer considered to be a special project or program (17). May et al. (6) refer to this status as “normalization”—when the activity “ceases to be a special application and instead becomes one of the normal arms of clinical practice.” They subsequently proposed the term “embedding,” defined as “the process through which a practice or practices become (or do not become) routinely incorporated in everyday work of individuals and groups” (1).

Several factors have been proposed in the literature as playing a role in the routine use of telemedicine, including ease of use and other characteristics of the technology, compatibility with existing skill sets, and leadership ensuring adequate support and resources (16). Factors leading to disuse or slow implementation have included incompatibility between policies and practice, lack of coherence with user needs, unclear roles and responsibilities (18), lack of clinician acceptance, and changes in leadership and organizational support (19). It has

also been suggested that factors affecting routine use will change throughout the telemedicine implementation process (9).

For this study, routine use is defined as telemedicine being a part of day-to-day clinical activities. Activities that occur sporadically or are the exception are not considered routine use. The aim of this study was to examine how telerehabilitation becomes part of existing and new clinical routines and to identify factors that enable or constrain its routine use.

MATERIALS AND METHODS

A single case study design was used to explore the use of telerehabilitation technologies among health professionals (HPs). This type of methodology was selected because it is useful for 1) combining multiple data sources, such as observations, documents, and individual experiences, to examine perceptions and actions, and 2) exploring changes in practice and processes that are inevitably context-dependent and influenced by social interactions (6, 20).

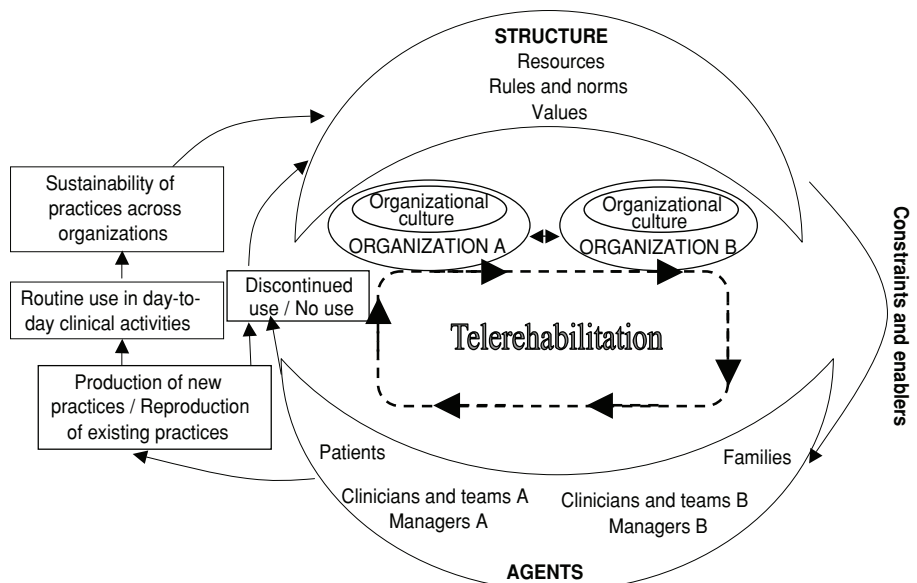
Conceptual framework

Based on Giddens’ theory of structuration (21) and concept of duality of struc-

ture, a framework was developed for the study (Figure 1). As per Giddens’ theory, structures (norms, rules, resources, and values) transcend organizations and enable or constrain the agent (e.g., users of telerehabilitation, including clinicians, managers, and patients and their families). Actions made by agents can, over time, bring about change at the structural level. Hence, both agent and structure have a continuous affect on one another. The theory of structuration has been adapted to the technology field by several authors (22–27) and applied in 1) telemedicine studies examining telemedicine use by different medical specialists (11, 28) and 2) telehealth assistive technology for older adults (29).

In Figure 1, the dashed arrows around the term “telerehabilitation” indicate that telerehabilitation use may change depending on 1) whether/how the agents’ actions are constrained or enabled, 2) how the agents use or do not use telerehabilitation, and 3) whether telerehabilitation becomes part of clinical practice. In this framework, use occurs in the intended activities as well as in other activities within and outside the organization (30). The framework also includes areas of the individual organizations and their culture (31) affected by both the structure and the agents.

FIGURE 1. Conceptual framework^a for telerehabilitation used in case study of telemedicine program implemented between one urban specialized rehabilitation center and one rural regional rehabilitation center, Quebec, Canada, March 2006–October 2007



^a Based on Giddens’ theory of structuration (21).

Setting and case description

The single case was a telerehabilitation program put in place by an urban specialized rehabilitation center (“specialized center”) and a rural regional rehabilitation center (“regional center”) in Quebec, Canada. The specialized center provides intensive care services to traumatic brain injury (TBI) and spinal cord injury (SCI) patients from rural areas. Once those services are no longer needed, the TBI and SCI patients return to the rural center for care. As the patient care teams are not specialized in rehabilitation for these types of clients, patients must sometimes travel back to the specialized center for follow-up rehabilitation and other services.

Conference room videoconferencing equipment and similar but smaller, mobile units (Tandberg™) were available for use at both the specialized centers and the regional centers. Three areas of patient care were targeted for telerehabilitation: 1) interprofessional care plans (ICPs) prior to patient discharge (meetings that include HPs from both centers, as well as the patient and their families); 2) specialized services for patients with a SCI or a TBI, provided as needed by clinicians from the specialized center by videoconference to the patient in the regional center; and 3) joint scheduled long-term follow-up of SCI patients.

The telerehabilitation program analyzed in this study was carried out in conjunction with a research project.⁴ Planning for both the clinical project and the research project began in May 2005. The experimental portion of the project was carried out from March 2006 until October 2007. Data collection for the case study took place between June 2008 and November 2008.

Data sources

Focus groups and semi-structured interviews conducted with HPs and managers as well as patients and their family members were the primary data source for this study, supplemented by observations of telerehabilitation video recordings and project document analysis.

All individuals who participated in the implementation and use of telerehabilitation between May 2005 and October 2007 were eligible to participate in the study, resulting in a total of 92 HPs (including nine clinical coordinators), 22 patients (10 SCI and 12 TBI), 14 family members (of four SCI patients and 10 TBI patients), and nine managers participating in the project’s coordination committee.

A purposive sample of 16 HPs (including three clinical coordinators) with varying characteristics in terms of their role(s), clinical experience, and types and extent of experience with telerehabilitation was identified. These participants were divided into one of three focus groups lasting 2–2.5 hours: 1) HPs from the specialized center TBI program; 2) HPs from the specialized center SCI program; and 3) HPs from the regional center. Seven of the nine managers involved in the telerehabilitation implementation participated in a fourth focus group. Three semi-structured individual telephone interviews were also conducted with one HP, one clinical coordinator, and one manager who were unable to participate in the focus groups but were desirable participants due to their varied points of view. Findings from the participants who were interviewed by phone were included with the focus group to which they would have been assigned had they been able to participate.

Of the 22 patients, 18 were contactable (i.e., not deceased and with valid contact information), seven were reached, and five accepted the request to participate in a 20–30 minute semi-structured phone interview. Of their 14 family members, seven were reached and five agreed to participate. Telephone interviews were selected for data collection due to the wide range in geographic area covered by the study. Participants’ characteristics are reported in Table 1.

Focus groups were conducted using a rigorous methodology (32), with one of the coauthors of this study (DK) serving as the moderator, to facilitate discussion centered around a predetermined discussion plan, and an observer, noting observations used to confirm or characterize statements made by participants. Individual interviews covered similar topics. All focus groups and interviews were recorded and transcribed. Socio-demographic information was collected for all participants, and debriefing notes

and an ongoing fieldwork diary were kept throughout.

All available video recordings of ICP meetings and several consultations were viewed to corroborate, challenge, or explain findings from the focus groups and interviews. A total of 30 recordings were viewed (45–60 minutes per recording), including 14 from TBI ICPs, 11 from SCI ICPs, and five from sexology consultations. In addition, 45 project documents, such as proposals, requests for funding, summaries, agendas of meetings, operating procedures, patient handouts, and tools for clinicians, were collected in printed or electronic form (total pages = 319) and analyzed to 1) provide organizational and contextual information and 2) supplement the focus group and interview data.

Data analysis

Transcripts were read line by line and sections of text were coded using codes from Giddens’ theory of structuration and the conceptual framework developed for this study. The data were then grouped into various thematic categories for each patient care team focus group, and for the patients and their family members. This allowed for an intragroup analysis of the data and refinement of the coding system. All data were then recoded using QSR NVivo8™ (QSR International, Doncaster, Victoria, Australia). Observations from the video recordings were coded using the same coding system described above. Overarching themes were identified and an intergroup analysis was conducted to detect themes common or unique to the different groups, and to identify links and patterns (33).

Ethical considerations

Ethics approval was obtained from the institutional review board of the Center for Interdisciplinary Research in Rehabilitation of Greater Montreal. All telerehabilitation participants (clinicians, managers, and patients and their family members) signed informed consent forms for participation in a focus group or interview.

RESULTS

This study 1) determined whether telerehabilitation did or did not be-

⁴ Vincent C, Bouchard J, Cabanne G, Dion B, Giguère N, Brown P, et al. Le suivi des clientèles traumatisées organo-cérébrale et blessées médullaires: projet de téléadaptation entre le Bas-St-Laurent et Québec. 7^e Congrès québécois de réadaptation en déficience physique. Montréal, 9–10 Nov 2006.

TABLE 1. Number and characteristics of participants in case study of telemedicine program implemented between one urban specialized rehabilitation center and one rural regional rehabilitation center, Quebec, Canada, March 2006–October 2007

Characteristic	Specialized center health professionals		Regional center health professionals	Managers from both types of centers	Patients	Family members
	SCI ^a program	TBI ^b program				
Focus group participant	6	5	5	7	SCI (3)	SCI patient (3)
Phone interview participant	2			1	TBI (2)	TBI patient (2)
Female (%)	5 (71)	5 (83)	5 (100)	4 (50)	0 (0)	5 (100)
Age (mean range)	44.9 (38–58)	41.8 (23–53)	31.6 (21–42)	46.5 (31–61)	37.2 (21–60)	44.6 (30–58)
Years of experience ^c (mean range)	18.4 (7–30)	15.1 (1.5–21)	8 (1–16)	13.5 (5–28)	NA ^d	NA
Range of professional roles	Family doctor, social worker, sexologist, ^e orientation counselor, leisure technician, clinical coordinator ^f	Occupational therapist, social worker, speech therapist, orientation counselor, neuropsychologist, clinical coordinator	Social worker, specialized educator, occupational therapist, clinical coordinator	Program coordinator, assistant director general, audiovisual technician, project coordinator, director general, liaison nurse ^e	NA	NA
Types of telerehabilitation activities	ICP, ^g specialized consultation with patient, continuing education	ICP (in and outside TBI program), specialized consultation with patient, specialized patient follow-up	ICP, direct treatment, continuing education	Administrative meetings, telerehabilitation project planning activities, ICPs not with specialized center	ICP	ICP

^a SCI = spinal cord injury.

^b TBI = traumatic brain injury.

^c For health professionals, number of years' clinical experience; for managers, number of years' experience as a manager.

^d NA = not applicable.

^e Data obtained by telephone interview.

^f Data obtained from one focus group and one telephone interview.

^g ICP = interprofessional care plan.

come part of routine use, 2) identified the factors that enabled or constrained telerehabilitation use, and 3) determined whether they related to the structure or the agent, as defined in the conceptual framework. Verbatim quotes, translated into English from the original French, but retaining the style and meaning, are provided below to illustrate the results.

Telerehabilitation as part of routine practice

Statements made during the focus groups and interviews indicate the extent to which participants felt that telerehabilitation had become part of routine use in day-to-day clinical activities. For example, in a phone interview, when discussing videoconferencing, a TBI clinical coordinator said: "The TV [videoconferencing equipment] for me is simply an extension of the table." One of the regional specialized educators also described becoming accustomed to the new rehabilitation practices: "At first, in my mind [telerehabilitation] was less

accessible; now, well I am more familiar with it, so I am less hesitant about using it and it has become a work tool like the phone"

Examples were given of specific telerehabilitation activities that became part of routine use in clinical practice. At the outset, only discharge ICPs were to be held by videoconference between the two patient care teams. However, the technology was soon applied to all ICPs for some patients, generally at the regional center's request, as illustrated in the recordings for five patients for whom there was more than one recording of an ICP meeting.

Other telerehabilitation activities targeted for integration did not become part of routine practice. For example, long-term follow-up of SCI patients had been planned by managers at both centers, and a liaison nurse from the regional center was assigned as coordinator. This part of the telerehabilitation program was extensively documented in planning documents and in several data collection and decision-making

tools developed by patient care team members. The intended steps were 1) assessment of the needs of patients in the region, 2) provision of the required services in the region when possible, and 3) provision of additional services from the specialized center by telerehabilitation. However, as explained by the liaison nurse during data collection, only the first step (the administration of questionnaires to patients, to identify their needs, and the forwarding of the completed forms to the specialized center, to enable in-person follow-up) was carried out.

Of the four types of specialized clinical consultations targeted for use of telerehabilitation programs (urology, gastroenterology, sexology, and speech therapy), only two attempts were reported (by one speech therapist and one sexologist from the specialized center). No other members of the clinical teams used telerehabilitation for clinical consultations.

In summary, at the time of data collection, telerehabilitation had 1) been incorporated into routine practice for

TABLE 2. Summary of enablers and constraints in routine use of telerehabilitation based on study of telemedicine program implemented between one urban specialized rehabilitation center and one rural regional rehabilitation center, Quebec, Canada, March 2006–October 2007

Routine use of telerehabilitation	
Enablers	Constraints
Leadership <ul style="list-style-type: none"> • Organizational leadership in early stages • Clinical leadership for some clinical activities (e.g., interprofessional care plans) 	Therapists' beliefs and assumptions <ul style="list-style-type: none"> • Beliefs regarding the patients' perspective • Incompatibility of telerehabilitation with psychosocial components of clinical practice
Type and extent of participation <ul style="list-style-type: none"> • Hands-on experience with telerehabilitation 	Type and extent of participation <ul style="list-style-type: none"> • Passive participation in telerehabilitation activities • Lack of human resources for new activities • No previously established collaborations between the centers

ICPs between the two centers, 2) been used occasionally for consultations, and 3) not been successfully applied to the long-term follow up of patients.

Enablers and constraints in routine use of telerehabilitation

Table 2 summarizes enablers of and constraints to the routine use of telerehabilitation identified in this case study.

Leadership emerged as a factor enabling routine use at both the agent and structure level. Leadership from senior managers, including the executive directors of both centers and managers at the health and social services agency, played a key role in the initial decision-making process, resource allocation, and implementation of the telerehabilitation program, as described by the managers during the focus group and in documents from the program's planning stages. In addition, managers stated during the focus group that they felt the success of the program was partly due to the fact that the two centers already collaborated with each other extensively as part of a continuum of services and that strong bonds existed between managers in the two centers. After the planning and implementation stages, clinical leadership, at the agent level, played a greater role in telerehabilitation becoming part of routine clinical practices. For example, for the ICPs, the telerehabilitation activities were scheduled and organized by the specialized team's clinical coordinator, who also makes the decision whether or not to hold the meeting by videoconference. According to the data, most other team members did not feel it was their responsibility to initiate the use of telerehabilitation.

Common therapist beliefs and assumptions (also at the agent level) often constrained how telerehabilitation was used. Therapists said patients and their family members might have a negative reaction to telerehabilitation, such as feeling self-conscious and intimidated during videoconferenced meetings. Some therapists also felt that patients would not easily establish a trusting relationship with the regional team in that situation, as shown in the following statement by a regional clinical coordinator: "[The videoconference] inhibits some of the informal aspects, like what we say when we get up and go out for some air, when the client does not have his guard up as much and . . . we work on establishing a trusting relationship. I think that is what TV [videoconferencing] does not allow us to do . . ."

Interviews with patients and their family members did not confirm the clinicians' beliefs. The interviewees repeatedly stated that being involved in the ICP greatly reassured them and they very much appreciated having the regional team explain to them what was going to happen next; they never mentioned feeling uncomfortable or intimidated. Furthermore, no noticeable sense of discomfort was detected on the part of the patients or their family members in the observation of the video recordings.

Several therapists who had not used videoconferencing for any clinical consultations said that they would not be able to develop a good therapeutic relationship if they were not physically present with the patient because they would not be able to comfort and reassure them. On the other hand, the sexologist described how he successfully used

videoconferencing with his patients: "I'd say I was pleasantly surprised; I had . . . some concerns about this communication tool when used for therapy because, of course, as a sexologist you have to work on the bond of trust first and foremost, I think . . . I thought it would be difficult to develop a climate for trust with this tool, and as I said, I was pleasantly surprised . . . I was surprised how easy it was."

At the agent level, the type and extent of participation in telerehabilitation activities also influenced routine use. Relatively passive participation in telerehabilitation observed in the ICPs did not appear to enable future active use. Conversely, hands-on experience (i.e., actually handling the equipment) did lead to greater willingness to use telerehabilitation, as noted by the sexologist and speech therapist who used the equipment themselves during their clinical consultation sessions with patients.

The main constraints on successful incorporation of long-term telerehabilitation follow-up programs identified by managers occurred at the structural level, namely the lack of human resources, including a shortage of doctors in the rural region available to follow up the SCI patients locally, and the lack of a previously established regional follow-up process. The conceptual framework illustrates how a lack of resources and rules can constrain telerehabilitation use. Nevertheless, the managers also said that planning for the use of telerehabilitation strengthened collaborations between the centers. This is also shown in the conceptual framework, which illustrates that changes can occur as a result of the planning process even if telerehabilitation practices are never actually implemented or are discontinued. With regard to the difficulty encountered with incorporating these types of programs in long-term follow-up care, several managers suggested that telerehabilitation should only be used for collaborative activities that are already well established.

DISCUSSION

This study explored how telerehabilitation became part of existing and new routine clinical practices. The research team found evidence that some telerehabilitation activities targeted for incorporation in patient care became

part of therapists' routine practices (e.g., the ICPs). In addition, while there was some evidence of the emergence of some telerehabilitation practices in clinical consultations, the actual use of telerehabilitation in that area of patient care was clearly sporadic and did not qualify as routine use in day-to-day clinical activities. Implications from these findings are discussed in the following section.

Using telerehabilitation for existing clinical activities

Findings from this study suggest that routine use of telerehabilitation is more likely to be successfully integrated in activities that were already part of HP routine practice (in this case, the ICPs) than in activities that were not (in this case, the regional long-term follow-up of SCI patients). Similarly, Lehoux et al. (11) found that physicians reported that they were more likely to choose to use telemedicine if it corresponded closely with their existing practices. Moehr et al. (2), in an evaluation of a province-wide telemedicine program in Canada, reported that telemedicine programs were more likely to be successful when based on established practices. The authors suggest that telemedicine should only be introduced "once a highly mature infrastructure is in place," such as established teams and procedures. Similarly, the findings in the current study indicate that the newly developed referral structure for long-term follow-up differed from the existing referral patterns and, as suggested by some of the managers, telerehabilitation might be more difficult to apply to programs that are not already functional. Conceivably, changes in regulations, such as ensuring physicians in rural areas are responsible for overseeing the needs of patients in their area, could facilitate long-term telerehabilitation follow-up of SCI patients by minimizing the constraint posed by the lack of human resources.

The role of leadership

Moehr et al. (2) reported that successful incorporation of telerehabilitation was largely due to management teams ensuring continuous and thorough guidance. Similarly, Murray et al. (16) reported that reliable leadership, primarily from the chief executive officer, plays an important role in the successful

implementation of some technologies by ensuring the availability of sufficient resources. Findings from the current study supported this evidence and helped further understanding of the role of leadership. Two levels of leadership were found to affect telerehabilitation: organizational and clinical. Organizational management leadership played an important role when telerehabilitation was being planned for and implemented, with a lesser role when it became used in clinical practice, at which point clinical coordinators played a greater role in the decision to implement telerehabilitation.

Having accepted leadership in place may also affect routine use of telerehabilitation. The patient care teams, including the clinical coordinators at the two centers, and senior management, had previously collaborated within a continuum of services. Therefore, the leadership was well established and accepted at both centers. According to Schein (31), having accepted leaders is essential when creating new groups, or bringing together two separate groups. In contrast, for follow-up telerehabilitation services for urology and gastroenterology there was no previously accepted leadership in place, and some of the individuals involved were from outside the two rehabilitation organizations (e.g., physicians), which may have contributed to the difficulties encountered when developing those telerehabilitation activities.

Increasing awareness of shared values and beliefs

The findings from this case suggest that therapists' beliefs influenced routine use of telerehabilitation. Giddens' theory of structuration (21) helps clarify how beliefs play such a central role, proposing that agents' knowledgeability (i.e., what people implicitly and explicitly know and believe) and reflexive monitoring of their own and others' actions push them to produce and reproduce actions. In other words, it is what therapists see and do, and understand about what they see and do, that affects their choice to use or to not use telerehabilitation. The current findings indicate that a thorough grasp of shared beliefs, particularly those of therapists or telerehabilitation users, is essential in understanding how and why telerehabilitation is or is not used and continues or does not continue to be used.

Limitations

This study had some limitations. First, although in-depth analysis of a single case study helped identify factors that affected the use of telerehabilitation within a specific context, the findings are not generalizable to other contexts. While analysis of multiple case studies would have allowed for comparisons between interventions and contexts, only a few telerehabilitation programs had been implemented in Quebec at the time of the study. However, the external validity of the study (the extent to which its findings are transferable to other settings) is reinforced by the detailed description of the case and context, which allows readers and future researchers to extract information pertinent to their particular study setting. In addition, to ensure this study was not biased by personal interpretation, regular consultations and debriefing sessions were held among the researchers throughout data collection, coding, and analysis, and multiple data sources were triangulated.

Second, the focus groups and interviews were conducted 8–12 months after the experimental phase of the study. While the delay in data collection gave participants time to 1) reflect on any changes that had occurred in their practices as a result of telerehabilitation, and 2) form opinions about future use of telerehabilitation practices, it might also have introduced recall bias. To reduce recall bias, the focus group moderator viewed the video recordings prior to participating in the focus groups and presented relevant examples during the discussions to help facilitate other participants' recollection of their experiences. The delay in carrying out the focus groups and interviews also allowed the research team to examine to what extent the telerehabilitation had been sustained one year later. However, the extended study time frame may have also limited the number of patients and family members available for the study.

Conclusions

The results of this research provide new insight into routine use of telerehabilitation. The research team found that some telerehabilitation activities can be successfully incorporated into day-to-day activities, and sustained over time, whereas others are more challenging to

integrate into current ways of functioning. The study findings also identifies specific factors that affect the adoption and use of telerehabilitation and thus could be used to help others trying to implement these types of programs. Given the significant resources often involved in implementing telemedicine programs, decision-makers who recommend telemedicine as an alternative method for service delivery should prioritize programs that can become part of routine activities. Furthermore, for programs that involve multiple stakeholders and multiple activities, such as those examined in this study, thorough analysis of each

area of use is essential. While normative studies of telemedicine remain essential, studies that provide a better understanding of how routine use emerges and what influences it are critical for better guidance on how to best implement telemedicine, including telerehabilitation programs, from the planning stage and throughout the implementation process.

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Conflicts of interest. None.

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Exploración del uso habitual de la telemedicina mediante un estudio de casos en el ámbito de la rehabilitación

RESUMEN

Objetivo. En este estudio se analiza cómo la telerrehabilitación se convierte en parte de las rutinas clínicas nuevas y las ya existentes, y se determinan los factores que facilitan o limitan su uso habitual.

Métodos. Se llevó a cabo un estudio exhaustivo de casos de un programa de telemedicina en el ámbito de la rehabilitación puesto en marcha entre un centro urbano especializado en rehabilitación y un centro regional de rehabilitación en una zona rural. Mediante el empleo de un marco conceptual basado en la teoría de la estructuración de Giddens, se realizó un análisis cualitativo a partir de cuatro fuentes de datos: grupos de discusión y entrevistas por teléfono (dirigidas a profesionales de la salud, gerentes, y pacientes y sus familiares); grabaciones de video de sesiones de telerrehabilitación; y documentos del proyecto (por ejemplo, propuestas, solicitudes de financiamiento, resúmenes, programas de reuniones, procedimientos operativos, folletos dirigidos a los pacientes y herramientas destinadas a los médicos).

Resultados. En dos programas de rehabilitación dirigidos a pacientes que habían sufrido un traumatismo cerebral y a pacientes con una lesión de la médula espinal, la telerrehabilitación fue incorporada exitosamente a las prácticas clínicas corrientes de actividades como los planes de atención interdisciplinaria. Sin embargo, cuando se trataba de consultas clínicas especializadas o seguimiento de pacientes a largo plazo, la incorporación de la telerrehabilitación no resultó exitosa. Los factores que facilitaron o impidieron la integración de la telerrehabilitación en las prácticas corrientes provinieron tanto de la estructura (normas, reglas, recursos y valores) como de los agentes (es decir, los usuarios de la telerrehabilitación, incluidos los médicos, los gerentes, y los pacientes y sus familias) e incluyeron: 1) las creencias y suposiciones compartidas por los miembros del equipo asistencial del paciente con respecto a la naturaleza de las actividades clínicas, y las percepciones de los pacientes y sus familiares; 2) el liderazgo clínico y organizativo; 3) el grado y tipo de uso de la telerrehabilitación; 4) los recursos disponibles; y 5) las colaboraciones ya implantadas o que aún debían lograrse.

Conclusiones. Este estudio aporta evidencia empírica de cómo las actividades de telerrehabilitación pueden integrarse en las actividades clínicas habituales.

Palabras clave

Telemedicina; rehabilitación; grupo de atención al paciente; traumatismos de la médula espinal; traumatismos encefálicos; Canadá.