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Scientific/Clinical Article

Exploring the needs of certified hand therapists regarding electronic applications

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ABSTRACT

Study Design: Survey.
Introduction: App technology may provide a beneficial clinical resource for CHTs.
Purpose of Study: This descriptive study examined beneficial components for inclusion in a potential app for certified hand therapists to use as a clinical resource based on a nationwide survey.
Methods: Certified hand therapist members of the American Society of Hand Therapists were surveyed to evaluate preferences of content to be included in a potential clinical app.
Results: Most of the 341 respondents were Caucasian, female, 51-60 years old, with 21+ years' experience. Respondents preferred home program illustrations, video demonstrations, evidence-based resources, postoperative protocols, and functional outcome measures. Regarding app usage, 26.7% responded "definitely use the app" and 37.5% reported "highly likely to use the app" within a price range of $1-$20.
Conclusion: An ideal app should include home program media, evidence-based practice, postoperative protocols, and functional outcome measures related to reported diagnoses encountered in the clinic.
Level of Evidence: N/A.

Introduction

As the integration of technology becomes more prevalent in modern society, it becomes pivotal for health care professionals to implement technology into health care services. The expansion and availability of technology will give rise to new services and apps in the health care profession. According to Schoville et al[1] electronic resources are preferred as a means of retrieving information, as organizations are moving to electronic policies and procedures. Societal trends demonstrate that the use of mobile devices are becoming an integral part of everyday life, such that they are increasingly being used by undergraduate students and 75% of physicians have purchased an Apple mobile device.[2,3] Mobile devices enhance the spectrum of health care by streamlining patient to clinician communication. In addition, mobile health initiatives have been implemented in the form of call centers, appointment reminders, treatment, and patient monitoring.[4] These findings support the idea that the next generation of certified hand therapists (CHTs) must be prepared to serve a demographic that has had technology integrated at a very young age.

Electronic resources have proved advantageous to increase efficiency in health care processes and delivery. The current body of research demonstrates that mobile health interventions can improve health care accessibility, organization of patient information, timeliness of service delivery processes, and promotion of effective communication between health care professionals and patients.[5] With the use of electronic resources, ease of access to the most current and up-to-date standardized information leads to optimal patient outcomes and satisfaction.[1] Mobile technology also provides a platform for patient education and communication with health care professionals after discharge, enhancing continuity of care and compliance.

As therapists continue to adopt strategies that promote time effectiveness, increased patient-centered care is made possible. Research has shown that time was the most common constraint regarding implementing evidence-based practice (EBP) as well as using patient-centered outcome measures in the field.[6] There has been growing evidence regarding the efficacy and effectiveness of telerehabilitation such that findings suggest it can lead to similar or better clinical outcomes for patients when compared with conventional interventions.[7] As therapy is billed in small increments of time, which generally requires direct patient care to qualify for reimbursement, it is difficult to search for and review research as well as implement evidence into practice during the course of a

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typical clinic day. According to Schoville et al,[1] centralized sources of data can decrease the time needed to find and implement research into practice. A centralized data source for CHTs has the potential to provide similar benefits to enhance integration of EBP and spend valuable time with patients instead of searching for clinical information in multiple resources.

Several apps currently exist which are used in assessment and intervention within the spectrum of therapy services. Smartphone game apps have been suggested as complimentary interventions for hand therapy programs to enhance range of motion, proprioception, and neuromuscular control.[8] The Dexteria family of apps focuses on fine motor skills, visual-motor integration, and visual memory skills.[9] Other apps serve as reference for anatomy, orthopedic assessment, goniometry, and administrative needs such as coding and billing.[10] Although each of these apps meet a specific need within a respective discipline, the nuanced practice of hand therapy requires an understanding of the unique needs of its practitioners to be effective in facilitating clinical practice.

Purpose of study

The purpose of this descriptive study is to examine the need for electronic resources in the clinic based on CHTs' expert opinion. Analyzing the data will provide a foundation for the development of a prospective app that can be used in clinical practice for CHTs and may also be generalizable to the development of other resources within the practice of occupational therapy and physical therapy.

Methods

Study design

A descriptive research study was utilized to gain insight into the clinical needs of CHTs specific to electronic resources. The instrument used for this study was a survey that explored demographics, a ranking system of beneficial resources, top ten diagnoses witnessed in the clinic, and real-world implications for an app for CHTs (see Appendix A). The researchers submitted a proposal on the purpose of the research study as well as the survey to the American Society of Hand Therapists (ASHT) Research Division before distribution. Once finalized, the institutional review board approved all study procedures and instruments. Convenience sampling was used to distribute the survey instrument to only ASHT members who are also CHTs to enhance the validity and clinical relevance of the results.

Instrumentation

The survey included 10 questions examining demographic information of respondents, preferred content inclusion, frequency of diagnoses encountered, and potential use of an app as a clinical resource. The survey was designed with development of a potential app in mind, with therapist preference and frequency of diagnoses guiding content inclusion. The breakdown of questions was as follows: (1) questions 1-3 collected demographic information, (2) questions 4 and 5 collected information regarding years of experience and location of practice, (3) question 6 collected information regarding the type of setting, (4) question 7 sought out CHTs' desires within a potential app using a 10-item 5-point Likert scale, (5) question 8 collected information regarding the most frequent diagnoses seen in the hand therapy setting using a 11-item 6-point Likert scale, (6) question 9 retrieved information concerning the likelihood of respondents' use of a potential app, and (7) question 10 evaluated the monetary amount the respondents would be willing to pay for a potential app (see Appendix A).

Procedure

The survey was administered via SurveyMonkey (SurveyMonkey Inc, Palo Alto, CA), a research survey system with advanced features to facilitate data analysis, by emailing a link to the nationwide ASHT membership. The link to the survey was sent once at the beginning of the data collection phase with a reminder email sent out 4 weeks after the initial distribution. Implied consent was provided based on the language of the introduction of the survey (see Appendix A). Upon collecting all responses, data were compiled and analyzed to identify trends in the demographics of the sample as well as preferences regarding a potential clinical app.

Results

Aggregate data collected from the survey of 341 participants (34 males, 301 females, 4 preferred not to answer, 2 nonrespondents) reflect roughly 15% of only the CHT members of ASHT. The survey revealed characteristics of the sample as well as the collective preferences regarding clinical technology needs. Demographically, most respondents (41.6%) were in the age range of 51-60 years. A preponderance (88.8%) of respondents was female, whereas only 10% were male (Table 1). The common characteristics among demographics showed that 90.6% of respondents were white, non-Hispanic, with the next predominant ethnicity being Asian/Pacific Islander at 2.9%. As for years of experience, most CHTs who responded to the survey had 21 or more years of experience, with the next highest category being 15-20 years of experience. Data demonstrate that 57.2% of respondents work in a hand therapy clinic, whereas 33.6% work in a general outpatient clinic.

Table 1
Demographics of respondents

Answer options	Response percentage	Response count
Age (y)		
21-30	1.2	4
31-40	15.0	51
41-50	27.4	93
51-60	41.6	141
61-70	14.5	49
71+	0.3	1
Answered question		**339**
Skipped question		**2**
Gender		
Male	10.0	34
Female	88.8	301
Prefer not answer	1.2	4
Answered question		**339**
Skipped question		**2**
Please indicate your ethnic/racial group:		
White, non-Hispanic	90.6	308
Black, non-Hispanic	0.0	0
Hispanic/Latino	0.6	2
Asian/Pacific Islander	2.9	10
American Indian/Native Alaskan	0.3	1
Prefer not to answer	5.0	17
Other (please specify)	0.6	2
Answered question		**340**
Skipped question		**1**
Years of experience as a CHT:		
0-5	12.6	43
6-10	15.0	51
11-15	10.9	37
15-20	20.0	68
21+	41.5	141
Answered question		**340**
Skipped question		**1**

CHT = certified hand therapists.