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Satisfaction rates for virtual and in-person clinical care remain high among pediatric orthopaedic patients

CHICAGO (March 22, 2022)—Telemedicine and virtual office visits experienced exponential growth during the COVID-19 pandemic to help facilitate the safe delivery of orthopaedic care for numerous patient populations, including pediatric. One study presented at the 2022 Annual Meeting of the American Academy of Orthopaedic Surgeons (AAOS) found that virtual visits had high satisfaction rates that were comparable to in-person encounters for most of the parameters studied.

Since pre-pandemic telemedicine platforms were mainly used for older patient populations, Assem Sultan, MD, orthopaedic surgical resident at the Cleveland Clinic, and his research team wanted to assess overall satisfaction scores among a pediatric population and directly compare virtual and in-person clinical visits for this demographic.

"Virtual visits gave us a lifeline to get through the initial phase of the pandemic so we could continue to treat our pediatric patients," said Dr. Sultan. "As the pandemic progressed, virtual visits proved to be a valuable tool to treat our pediatric patients, even those with more complex musculoskeletal conditions. Now, as the pandemic begins to shift toward the potential endemic phase, we wanted to uncover factors that orthopaedic clinicians should consider when adopting virtual visits as part of the existing patient-care frameworks. Our findings demonstrate that clinicians can incorporate both in-person and virtual visits as part of a well-rounded care plan, while maintaining high satisfaction with patients."

The prospective study, "Virtual Visits for Pediatric Orthopaedic Conditions: An Evaluation of Patient Satisfaction and Areas of Improvement Compared to In-Person Visits," evaluated post-encounter questionnaires from 1,686 patients and guardians from March 2020 to March 2021. Of the included participants 13.4% received virtual appointments and 86.6% received in-office visits. The average age of the patient was 14-15 years old.

The survey featured 13 questions focused on the ease of access, care clinician, overall assessment, and perception-related satisfaction parameters. Four questions dedicated to telemedicine technology were given to virtual-only patients. Patients and their guardians were asked to rank their response on a numerical scale of 1-5, with greater scores indicating higher levels of satisfaction. The parameters included:

- Likelihood of your recommending our practice to others
- How well staff worked together to care for you
- Ability of getting an appointment for when you wanted
- Ease of scheduling your appointment OR ease of scheduling your video visit
- Ease of contacting (e.g., email, phone, web portal) the clinic
- Ease of getting the care you needed at this institution
- Degree to which the clinician cared for you as a person
- Concern, the care clinician, showed for your questions or worries
- Explanations the care clinician gave you about your problem or condition
- Care clinician's efforts to include you in decisions about your treatment
- Care clinician's discussion of any proposed treatment (risks, benefits, etc.)
- Likelihood of your recommending this care clinician to others
- How well the staff (including the care clinician) worked together to care for you

Virtual visit-only parameters:

- Ease of talking with the care clinician over the video connection
- How well the video connection worked during your video visit
- How well the audio connection worked during your video visit
- How well your video visit experience compared to an in-person care clinician visit

Bivariate analysis was used to compare satisfaction rates with both virtual visits and office visits taking into consideration age, sex, and nature of complaint (traumatic vs. nontraumatic injury). The team found that the vast majority (85%) of patients expressed high satisfaction with virtual visits and office visits, across all measured parameters.

The team also used multivariable regression models to explore the association between visit type and attaining good/excellent satisfaction levels per questionnaire element while accounting for potential confounders, including age, sex, anatomic location of the bone and joint injury or condition and traumatic (patients with fractures) vs. non-traumatic injury. For example, a traumatic injury would include a follow-up visit for a fracture and a non-traumatic injury may present as sports-related knee pain or a minor spinal complaint.

Overall, these data showed no significant difference in the odds of attaining a good/excellent rating for patient inclusion in treatment decision, discussion of proposed treatment, concern demonstrated by the clinician, degree of care for the patient as a person, adequacy of displayed teamwork in care provision, likelihood of recommending the practice to other patients, ease of getting care at a particular practice, ease of contacting the clinic, and the likelihood of recommending a particular clinician.

However, virtual visits were associated with a four-fold increase of patients reporting good/excellent satisfaction levels with the ease of scheduling an appointment. Patients did have slightly lower odds of reporting good/excellent satisfaction with the clinicians' explanation of their condition in a virtual setting compared to an in-office visit and with their ability to schedule their visit at a particularly convenient time, which may be due to physicians often only being available for virtual appointments during certain times of the day.

For the virtual encounter-specific parameters, 89% reported good/excellent satisfaction for ease of talking to the clinician over a video connection, 86% reported adequacy of the video connection throughout the visit, 90% reported adequacy of audio connection throughout the encounter, and 77% reported overall satisfaction with their virtual encounter relative to their prior experiences with in-person office visits.

"Findings of this study aligned with findings from our previously published work that demonstrated similarly favorable outcomes of telemedicine virtual visit use among pediatric spinal deformity patients," said Dr. Sultan. "We were able to demonstrate feasibility and utilization of virtual visits in a larger and more diverse sample of pediatric orthopaedic patients."

"It was reassuring to observe how there were minimal differences in satisfaction rates between virtual and in-person visits for this patient population," said Ryan Goodwin, MD, MBA, FAOA, FAAOS, director of the Center for Pediatric Orthopaedic at the Cleveland Clinic. "We're not implying that we should shift all our clinical care to a virtual model, but when done correctly, utilizing a solid infrastructure, and balancing the need, it can be a very valuable tool for orthopaedic clinicians. Virtual visits can deliver convenience for parents and children, even among patients with complex orthopaedic conditions."

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2022 AAOS Annual Meeting Disclosure Statement

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