

New app aims to improve communication with people with autism spectrum disorder

July 13 2023, by Xavier Aguilar



Psychosocial therapies for Autism Spectrum Disorder (ASD)

WHAT DOES THE SCIENTIFIC EVIDENCE RECOMMEND?

A systematic review of the scientific literature on psychosocial therapies and ASD was carried out. During this review, studies were found to be unreliable because they did not follow a rigorous methodology. We propose the following 5 considerations for future clinical studies:

- 1 REPRESENT A WIDE RANGE OF PARTICIPANTS**, including a diverse sample in terms of gender and social factors.
- 2 THE IMPORTANCE OF BLINDING.** Make sure participants are randomly and blindly assigned to the treatment or control groups.
- 3 TEST DIFFERENT SESSION DURATIONS AND FREQUENCIES** for the same psychosocial intervention.
- 4 IMPLEMENT FOLLOW-UP PROGRAMMES FOR AT LEAST ONE YEAR** after treatment to verify effectiveness.
- 5 SPREAD THE WORD TO PROMOTE GOOD PRACTICES** and discuss the importance of standardised methodologies to establish international consensus on diagnostic tools in clinical research.

MORE INFORMATION IN THIS VIDEO 

A study by:  **Universitat Oberta de Catalunya**  **Parc Taulí Hospital Universitari**

Project funded by the Instituto de Salud Carlos III - Ministry of Science and Innovation (P117/01734)  **GOBIERNO DE ESPAÑA**  **MINISTERIO DE CIENCIA E INNOVACION**  **Instituto de Salud Carlos III**

Psychological therapies for Autism Spectrum Disorder. What does the scientific evidence recommend? Credit: UOC

Researchers from the Universitat Oberta de Catalunya (UOC) and Parc Taulí University Hospital have developed a mobile application that compiles and presents valuable pieces of information and advice for people who interact with children or adults with autism spectrum disorder (ASD).

The content is drawn from an in-depth analysis of scientific evidence and the clinical experience of professionals who treat people with this neurodevelopmental disorder on a daily basis. The director of the UOC's eHealth Center, Marta Aymerich, is a member of the eHealthLab, the research group at the UOC Faculty of Health Sciences that designed the new app, which was "created to help address the lack of tools for interacting and communicating with people with ASD".

Available on Android and iOS devices, the TEAppAutism app consists of a series of videos featuring accredited professionals from Parc Taulí that could prove tremendously useful for family members, friends and educators of people with ASD. These videos can also serve as a vital resource for healthcare, education and human resource professionals who treat or support these individuals, as well as for researchers carrying out studies on the condition.

The AUTAPP project under which the app was developed also involved researchers from the UOC's Faculty of Health Sciences and Faculty of Computer Science, Multimedia and Telecommunications. According to Aymerich, "this application's greatest value lies in the fact that it was created together with end users, who guided us until we achieved a tool that we hope will be very useful."

The challenges of research into psychosocial

interventions

The researchers performed a systematic review of scientific papers on psychosocial interventions for ASD published within the last ten years. Their findings revealed a significant number of studies with room for improvement in terms of methodological quality. In fact, after having analyzed more than 400 papers, only 30 were found to meet quality criteria comparable to those in other health science disciplines.

Aymerich said that "due to the complexity and stigma of mental health problems, research has not been able to advance as quickly as it has in other fields, nor has it received the same amount of funding. That plus difficulties recruiting volunteers and isolating the effects of psychosocial interventions from other factors are the challenges for research in this field."

Five keys to furthering research

The UOC researchers lay out a series of methodology-related recommendations for ensuring rigorous, representative and more valid research.

One core recommendation is to form groups that are more homogeneous in terms of cognitive ability, but more diverse as far as gender and other [social factors](#) are concerned. Some of the studies looked at in the review had only male participants.

They also recommend using blinding and randomization, i.e. well-blinded control groups and randomly assigned participants who are unaware of whether they are receiving treatment or not.

In addition, they advise professionals to consider the possibility of

splitting participants into groups where clinical dynamics differ as regards the duration and frequency of the same psychosocial intervention, in order to determine which option may be more effective. In this line, they also suggest implementing follow-up programs that last at least a year to ascertain whether a one-off treatment is enough or if the treatment needs to be repeated over time to ensure its efficacy.

Finally, they call on researchers to establish international consensus on the tests for diagnosing ASD and the tools for assessing its progression in clinical research settings. According to Aymerich, "the use of standardized research methodologies will help to build international consensus around which diagnostic tools for clinical ASD research enable adequate cross-study comparisons."

The efficacy of psychosocial interventions in people with ASD

Autism spectrum disorder is a neurodevelopmental disorder. Its main symptom involves difficulties communicating and engaging in social interaction, although this varies depending on the severity of the condition. While the exact cause of ASD is still unknown, there is a strong genetic component.

Evidence also shows that [early diagnosis](#) and prompt treatment of the difficulties mentioned can improve prognosis in terms of quality of life of patients and their families. It was for this reason that the AUTAPP project set out to systematically review the corpus of scientific evidence on the efficacy of psychosocial therapies, with a view to supporting clinical decision-making.

By analyzing randomized controlled trials involving at least ten patients with ASD who were receiving some form of psychosocial therapy in a

health center as a primary intervention (and not as an adjunct to drugs or technological solutions), the researchers were able to draw several conclusions.

For instance, they found that most of these studies (20 out of the 30 selected) addressed communication and social interaction, and that the target interventions, such as PEERS and social skills training, were effective in improving the [social interaction](#) and communication skills of people with ASD. They also found that there were far fewer randomized controlled trials (only four) conducted to reduce the persistence of repetitive behaviors, and that interventions such as cognitive behavioral therapy and sensory integration therapy with sensory-motor stimulation did indeed lead to improvements.

Provided by Universitat Oberta de Catalunya (UOC)

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