Abstract ID: 21629

Validation of the Spanish Version of the M-CHAT-R/F within the Public Health System

M. Magán Maganto[1], A. Hernández-Fabian[1], M. Martínez-Velarte[1], S. Manso[1], A. De Pablos De La Morena[1], P. García Primo[2], M. Posada[2], A. B. Sanchez-García[1] and R. Canal-Bedia[1].

(1) University of Salamanca, Salamanca, Spain; (2) Institute of Rare Diseases Research, IIIER, Carlos III National Health Institute, Madrid, Spain

Background:

Different studies have shown that the M-CHAT is among the best screening tools for ASD in general populations (McPheeters et al., 2015), however the proportion of identified ASD cases in the studies remains lower than the prevalence estimated by the CDC. One of the concerns with the M-CHAT was the high rate of cases with suspected ASD requiring a telephone follow-up.

A new version of the M-CHAT questionnaire, the M-CHAT-R/F is available (Robins et al., 2014), which includes a structured monitoring and referral system and applies a risk-based algorithm, reducing the number of cases that require a follow-up phone call. The M-CHAT-R/F seems to have better psychometric properties, but information about the feasibility and validity of this tool in a general population-based study is still necessary.

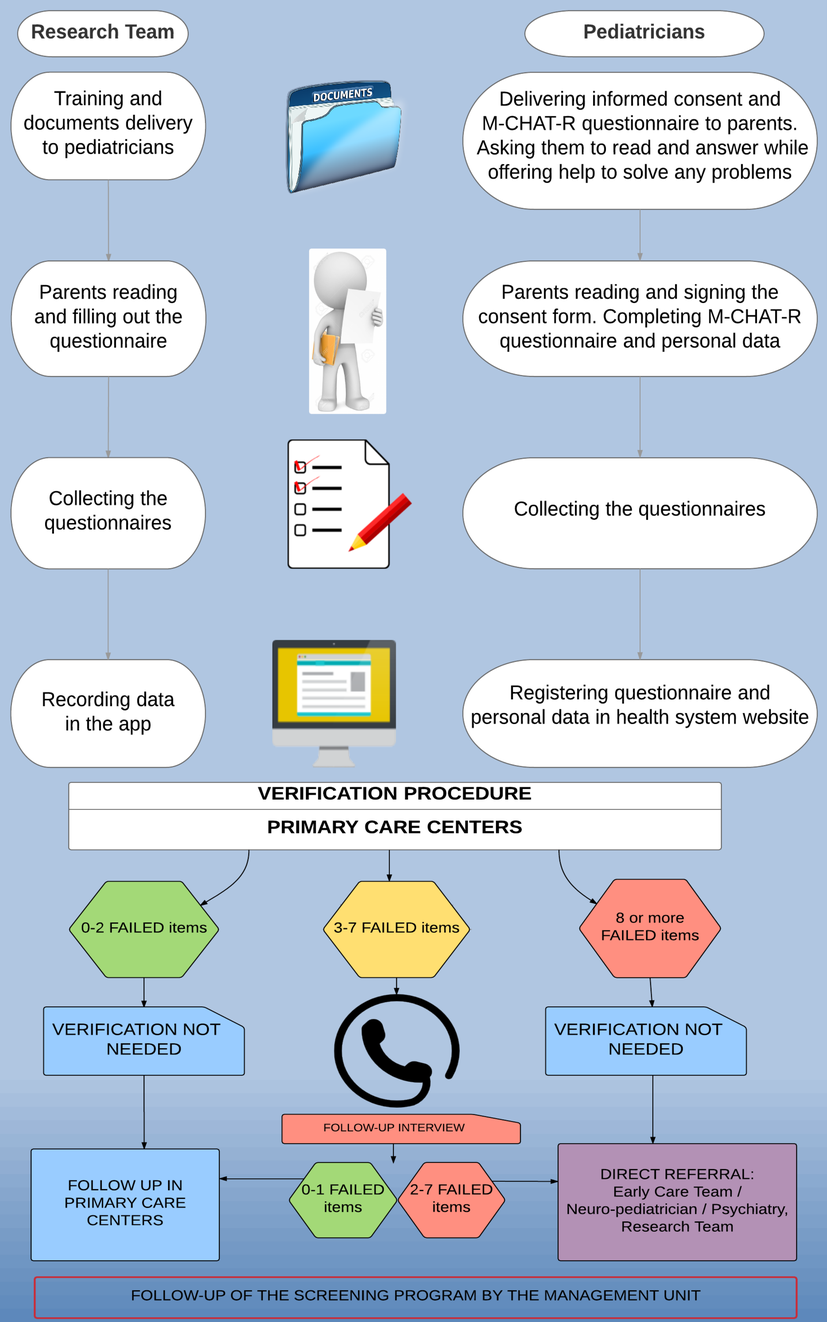
Objectives:

The main objective of this work is to validate the Spanish version of the M-CHAT-R/F. Furthermore, it aims to describe the possibility of integrating the ASD screening practice, that has up till now been focused on research, into the national health system as a standard practice for pediatricians who are responsible for well-child visits.

Methods:

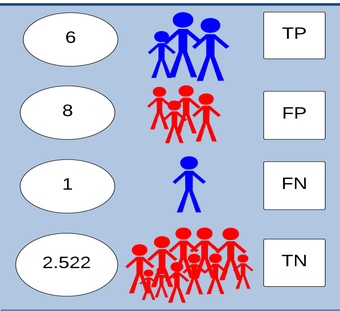
The M-CHAT-R/F was translated into Spanish and a cross-cultural adaptation was performed. A population-based ASD screening programme using MCHAT-R/F Spanish version was established in two Spanish regions. Parents of 18 months and/or 24 months aged children were asked to fill in the questionnaire at the outpatient public health services (compulsory vaccination programme and well-child check-up programme). The original MCHAT-R/F criteria and a refined procedure for the phone call were adopted after agreement with the MCHAT authors. The identification of false negatives was coordinated with the ASD early intervention centres, and the hospital diagnosis units in both regions.

Procedure:



Results:

A total of 2970 questionnaires were administered to 2560 children from April 2014 to October 2015. Of the positive screening cases, 7 children have been diagnosed with ASD; 8 with non ASD disorders following the DSM-5 criteria; 3 with typical development; and 13 children that have not yet been evaluated. Only 10 families of the 62 positive cases from the questionnaire were unreachable during the item verification stage. The sensitivity and specificity obtained were 0.857 and 0.997, respectively.



	Diagnosis		
	ASD	Not ASD	Totals
Screening Positive	6	8	14
Screening Negative	1	2522	2523
Totals	7	2530	2537

	Estimated Value	95% Confidence Interval	
		Lower Limit	Upper Limit
Prevalence	0.003	0.001	0.006
Sensitivity	0.857	0.420	0.992
Specificity	0.997	0.994	0.999
Positive Predictive Value	0.429	0.188	0.704
Negative Predictive Value	0.999	0.997	0.999
Likelihood Positive Ratio*	271.071	127.398	576.773
Likelihood Negative Ratio*	0.143	0.023	0.880

*Conventional

Conclusions and Future Work:

The M-CHAT-R/F shows promise as a screening tool for developmental disorders in the general population. This work is an important contribution to further research into identification of ASD at a young age. Although there have been many advances in the screening process, the tools used, and strategies to detect false negatives and reduce false positive rates, ongoing study is needed to continue improving the early detection of autism.

This research is supported by grants from:
- Ministry of Economy and Competitiveness. Ref.: PSI2013-47840-R
- European Union. DGSANCO. Ref.: SANCO/2014/C2/035

Download Abstract