Student Clinician Knowledge of Autism Spectrum Disorder: A Rapid Scoping Review

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Introduction

According to the most recent report from the CDC, the prevalence rate of children diagnosed with Autism Spectrum Disorder (ASD) is 1:31, with the median age at earliest known first diagnosis being 47 months (Shaw et al., 2025). The delay in diagnosis is often attributed to the lack of access to professionals trained in the ASD diagnostic criteria and process, especially in rural communities (Bridgemohan et al., 2018).

Studies support the importance of early intervention for individuals with ASD to improve their language, intelligence, daily living skills, and prosocial behavior (Remington et al., 2007). With the rising prevalence rates of ASD, and the knowledge that early diagnosis leads to access to early intervention services, it is important that families are screened and evaluated for ASD at an early age. One way to address this is through early screening and evaluation by a primary care provider, or a pediatrician. However, little is known about the training and education that medical students receive in the diagnostic process and criteria of ASD.

The purpose of our study was to map the state of research regarding the education and knowledge of future medical clinicians on the diagnostic criteria and process of ASD.

Sources

Bridgemohan, C., Bauer, N. S., Nielsen, B. A., DeBattista, A., Ruch-Ross, H. S., Paul, L. B., & Roizen, N. (2018). A workforce survey on developmental-behavioral pediatrics. *Pediatrics*, 141(3), 1–11. https://doi.org/10.1542/peds.2017-2164

Haddaway, N. R., Page, M. J., Pritchard, C. C., & McGuinness, L. A. (2022). PRISMA2020: An R package and Shiny app for producing PRISMA 2020-compliant flow diagrams, with interactivity for optimised digital transparency and Open Synthesis Campbell Systematic Reviews, 18, e1230. https://doi.org/10.1002/cl2.1230

Remington, B., Hastings, R. P., Kovshoff, H., degli Espinosa, F., Jahr, E., Brown, T., Alsford, P., Lemaic, M., & Ward, N. (2007). Early intensive behavioral intervention: outcomes for children with autism and their parents after two years. *American journal of mental retardation : AJMR*, 112(6), 418–438. https://doi.org/10.1352/0895-8017(2007)112[418:EIBIOF]2.0.CO;2

Shaw KA, Williams S, Patrick ME, et al. Prevalence and Early Identification of Autism Spectrum Disorder Among Children Aged 4 and 8 Years — Autism and Developmental Disabilities Monitoring Network, 16 Sites, United States, 2022. MMWR Surveill Summ 2025;74(No. SS 2):1–22. DOI: http://dx.doi.org/10.15585/mmwr.ss7402a1

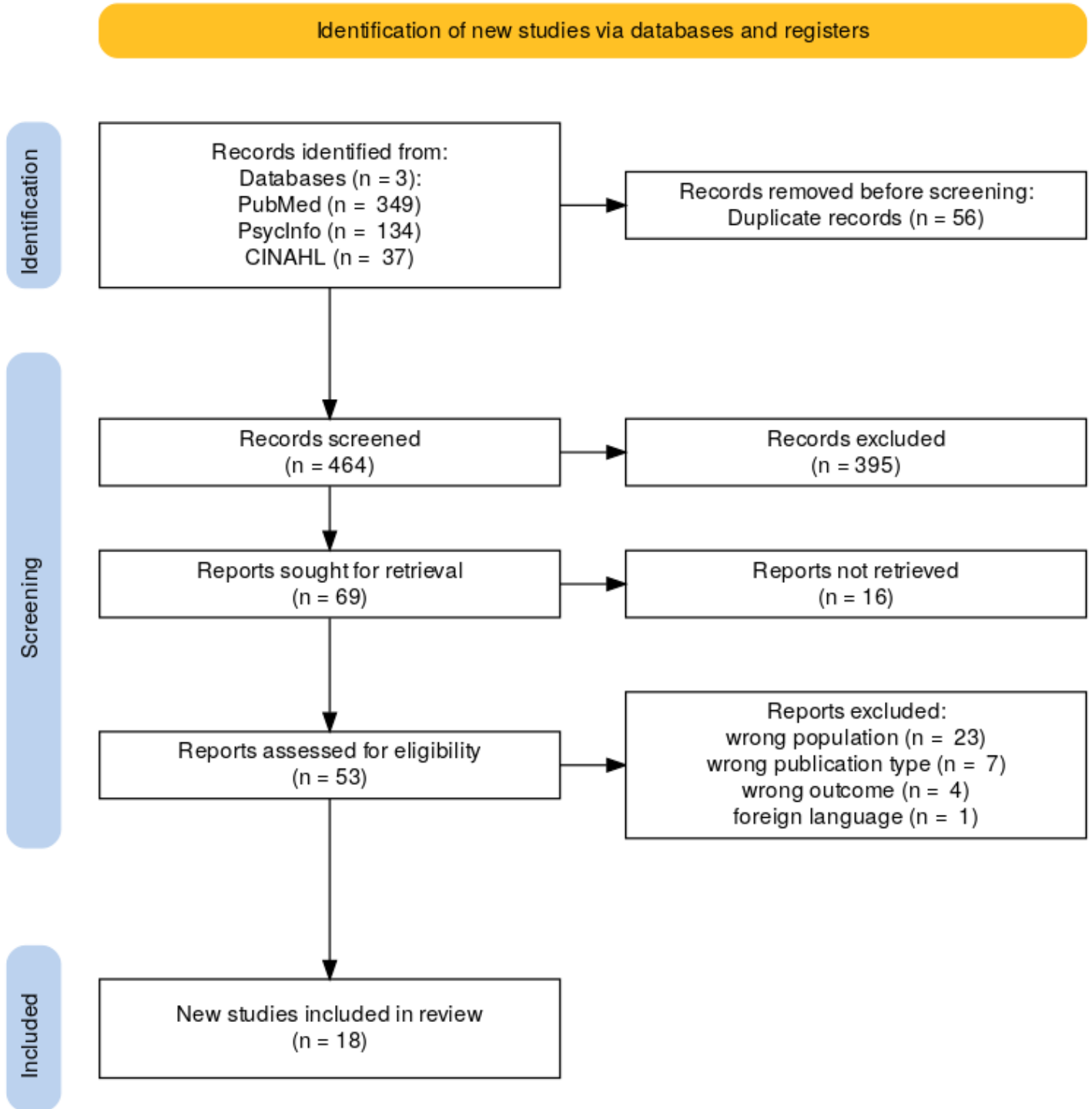QR Code links to list of studies included in data extraction

Method

Search Strategy

Search term: Autism AND (medical OR physician OR "physician ass*" OR "nurse practitioner" OR resident) AND (student OR trainee OR resident OR intern) AND (knowledge OR education OR training OR instruction) AND (criteria OR diagnostic OR evaluation OR identification) // Time limit of 2013-present

Inclusion criteria

- Population: medical students, residents, NP students, or PA students
- Intervention: Looks at an intervention to increase OR measure student knowledge of ASD and/or diagnostic criteria.
- Published after 2013 (DSM-V publication)
- English OR Spanish Language

Data Extraction

Used an Excel spreadsheet to document the type of articles, the population of the students, the type of education, and the method for measuring knowledge of ASD. Data was coded with a 1/0 measuring system and with a written description of the article.

Identification of new studies via databases and registers

Identification:
Records identified from: Databases (n = 3): PubMed (n = 349) PsycInfo (n = 134) CINAHL (n = 37) → Records removed before screening: Duplicate records (n = 56)

Screening:
Records screened (n = 464) → Records excluded (n = 395)
Reports sought for retrieval (n = 69) → Reports not retrieved (n = 16)
Reports assessed for eligibility (n = 53) → Reports excluded: wrong population (n = 23) wrong publication type (n = 7) wrong outcome (n = 4) foreign language (n = 1)

Included:
New studies included in review (n = 18)

Summary of Findings

A high percentage of studies use indirect measures (e.g., surveys) to assess student knowledge, relying on self-reports of student's comfort and knowledge level. While the qualitative components included help with a robust understanding of student experiences, it would not provide evidence of instructional effectiveness or ability to apply knowledge to clinical practice. Finally, while all studies addressed knowledge of ASD, few examined knowledge of common, evidence-based interventions for this population.

	Included Articles (n = 18)	
	n	%
Study Method		
Randomized	1	6
Control group	1	6
Survey	17	94
Single case design	0	0
Group design	1	6
Literature review	3	17
Quantitative	6	33
Qualitative	9	50
Mixed method	3	17
Population		
Medical students	7	39
Resident physicians	10	56
Nurse practitioner students	2	11
Physician assistant students	2	11
Non-students included	4	22
Intervention		
Lecture/presentation	4	22
Course	5	28
Intervention focused	3	17
Self-advocates included	2	11
Outcome		
Knowledge of ASD	18	100
Knowledge of intervention	5	28
Location		
Brazil	1	6
China	1	6
Italy	1	6
Malaysia	1	6
Nigeria	1	6
Russia	1	6
Turkey	2	11
United Kingdom	1	6
United States	7	39
India	1	6
Kingdom of Saudi Arabia	1	6