Paramedic CAT (Critically Appraised Topic)

04/02/2020

Reported by: Sonja De Bruyn   **2nd Party Appraiser:** Alan Batt

Title: Paramedic Preparedness Involving Autism Spectrum Disorders (ASD)

Clinical Scenario: Paramedics are dispatched code 4 to a rural community for a single vehicle collision. Upon arrival they notice the driver of the vehicle is unconscious and being treated by paramedics already on scene. There is also a teenage girl in the backseat of the car swaying back and forth repeatedly and mumbling. She has a very noticeable gash to her forehead. When paramedics attempt to assess the patient, she lets out a loud scream and pushes them away. Continued attempts produce the same response. With the help of police and fire they are able to extricate the girl from the vehicle and load her into the back of their ambulance. While enroute to the hospital, paramedics do not communicate with the patient at all and are unable to perform a thorough evaluation. Could ASD-specific training help with earlier recognition of ASD and allow paramedics to assess the patient more thoroughly with the implementation of ASD strategies?

PICO (Population- Intervention- Comparison- Outcome) Question: Does additional education about Autism Spectrum Disorders (ASD) given to paramedics enhance the prehospital care given to patients suffering from ASD?

Search Strategy: (paramedic OR ems OR emergency medical service OR prehospital OR pre-hospital OR ambulance OR emergency medical technician OR emt) AND (autism spectrum disorders)

Limits: last 5 years, English and humans

Search outcome: CINAHL: 22 results, PubMed: 65 results

Inclusion Criteria: Studies must be in regards to Autism Spectrum Disorders (ASD); contain information about education and training of paramedics; be conducted in an emergency pre-hospital setting.

Relevant papers: 2 papers were chosen as relevant for this CAT

Author, Date	Population: Sample Characteristics	Design	Study Aims	Results	Strengths/ Weaknesses
Wachob & Pesci (2017)	73 EMTs (28) or Paramedics (45) working in one of six counties across western Pennsylvania 44 males 29 females Age 18- 56+	Using the Western Region ASERT Autism Spectrum Disorder Survey, containing 38 questions, participants were asked about their prior knowledge of ASD and their comfort level when interacting with people who have ASD. The survey used a Likert-type rating scale (strongly agree-strongly disagree).	Determine the level of knowledge and comfort among first responders regarding ASD.	Participants who reported previously responding a patient with an ASD, overall had a higher knowledge score Those who received ASD-specific training in the past, reported a higher	**Strengths:** - recognizes the possibility that prior experience/ education may have an influence - evaluates first responders of all different age groups, genders and experience levels - conclusion is supported by the findings **Weaknesses:**

		It was sent out via email.		comfort level	- Surveys were sent out via email allowing for voluntary response bias - only took place in Western Pennsylvania– regional bias
Cheung, McCarthy, Cicero, Leventhal & Weitzman (2019)	75 Emergency Medical Responders trained to different levels. Working in New England region 19 female 56 male	Participants were recruited as part of a larger study, assessing disaster triage ability. Simulated bus crash involving an adolescent with ASD EMR's were graded, by two clinicians independently, based on 5 domains: 1) Reassurance attempts 2) Quality of interactions 3) Elicitation of information 4) Interaction with others 5) Recognition of a disability Questionnaire that was filled out by participants reported age, sex,	To evaluate the interaction between emergency medical responders To determine if certain demographic factors influence the interaction between the responder and the person who has an ASD. The assess the ability of the responder to recognize an ASD	Among the 75 interactions: 27% provided reassurance 1% elicited information 11% asked bystanders for information/ assistance 35% suggested a disability (13% suggested ASD)	**Strengths:** - recognizes the possibility that prior experience/ education may have an influence - blind study- no bias from participants - conclusion is supported by the findings **Weaknesses:** - only took place in New England region – regional bias - Adolescent with an ASD was portrayed by an actor – may not be an accurate representation of the disorder, or how EMR's would respond in real life.

		experience level etc.			- interactions were very short (about 38 seconds)

Comments: Both of the above articles took place in a single region allowing for the possibility of a regional bias. It is possible that other regions train their paramedics in the assessment and treatment of patients with an autism spectrum disorder (ASD) and therefore more research should be done to determine the best strategies for improvement. It should be noted that the amount of participants who had received ASD-specific training in the past were self-reported and it is unknown where or how they received their training, most likely on their own time.

Clinical Bottom Line: As evidenced by the articles, emergency medical service (EMS) personnel are generally uncomfortable when dealing with patients who have an autism spectrum disorder (ASD). This affects the assessment of the patient, as well as how the patient is treated. It is also shown that ASD-specific training or prior experiences have positively influenced the comfort levels of EMS personnel. As of right now, there is limited research to show how paramedics should be trained to better assess patients with an ASD. Emergency department staff (RPN, RN, EDT, etc.) are more commonly trained in assessing and treating patients with ASDs, as indicated by the results of my search outcome, which can be used as a guideline to further educate paramedics.

References:

Cheung, V., McCarthy, M. L., Cicero, M. X., Leventhal, J. M., & Weitzman, C. (2019).

      Emergency Medical Responders and Adolescents With Autism Spectrum

      Disorder. Pediatric Emergency Care, 35(4), 273–277.

Wachob, D., & Pesci, L. (2017). Brief Report: Knowledge and Confidence of Emergency

      Medical Service Personnel Involving Treatment of an Individual with Autism Spectrum

      Disorder. Journal of Autism & Developmental Disorders, 47(3), 887–891.