

Assessment of Nurse Practitioner’s knowledge and Barriers to Assessing Adverse Childhood Experiences (ACE’s) During College Entry Physical Exam

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Background

- ◆ 1998 Original study from the Centers for Disease control and Prevention (CDC) and Kaiser Permanente caused a paradigm shift in the way that health care providers look at the causes of chronic illnesses. “The Adverse Childhood Experiences (ACE’s) can contribute significantly to the development of chronic illnesses in 60 percent of adults”.
- ◆ The type of stress that causes harmful effects is also called “ toxic stress which results from strong, frequent, or prolonged activation of the body’s stress response systems in the absence of a support system”. Heart disease, diabetes, obesity, alcoholism, drug use and COPD are directly related to persistent stress during childhood. Adverse Childhood Experiences include: emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect, mother treated violently, household substance abuse, household mental illness, parental separation or divorce, incarcerated household member.
- ◆ Toxic stress in childhood causes deregulation of the body’s systems. The two main mechanisms that contribute to are physiological and behavioral. Chronic high levels of cortisol causing chronic headaches, primary pulmonary fibrosis, osteoporosis, and coronary artery disease. Disease can also manifest due to unhealthy coping mechanisms, such as smoking, poor diet, risky sexual behaviors, drug and alcohol abuse.
- ◆ Resilience is a key factor in changing the trajectory of adverse childhood experiences. Providers understanding of incorporating resilience in a plan of care needs to be part of the plan of care. Methods include cognitive behavioral therapy and parenting classes. Providers need to assess their own values and knowledge about the importance of implementing ACE assessments into their clinical practice as primary prevention.

Significance

- ◆ Implementation of ACE assessments into clinical practice has been limited. The American Academy of Pediatrics Kerker et al has assessed the frequency of pediatricians who screen for ACE’s and found that pediatricians do not routinely screen for ACE’s. Weinberg et al found similar findings when surveying family practice physicians as well as Kerkes et al when surveying nurse practitioner; however the also asked respondent’s about possible barriers to ACE implementation and found perceived limited time to be a factor.5
- ◆ The Adverse Childhood Experiences (ACE’s) screening questionnaire has been proven to be a reliable assessment tool to determine a persons level of risk in developing chronic illness and early mortality. A score of four or more ACE’s a patient is considered at risk and a score of six or more ACE’s the risk of early mortality by twenty years increases dramatically.
- ◆ Research needed in all health care settings to determine barriers to implementation of ACE assessments. College health clinics provide acute and primary care serves to adolescent and young adult populations. The transition from high school to college is a time of great transition and the need for healthy coping mechanisms is essential to navigate in the college environment. Students who are unsuccessful in college many times have been exposed to childhood adversity more so then students who have not.
- ◆ College entry physical exams with a health history are required for all incoming freshman students. Ace assessments done during this mile stone exam could identify students at risk and maybe the last opportunity to identify and implement interventions that could possible decrease the risk of developing chronic illness, early mortality and increasing resilience to stay in college.
- ◆ The evidence is clear that ACE assessments identify patients at risk for developing chronic illnesses and early mortality and that this evidence is not being implemented into clinical practice. The evidence is also clear that many college students are an at risk population for developing unhealthy coping skills and for dropping out of college when compared with their counterparts. This phenomena warranted further investigation in my clinical practice, which I developed into my clinical practice inquiry project.

Methods

Clinical Questions

- ✓ **Do you feel confident assessing Adverse Childhood Experiences (ACE’s) in your clinical practice**
- ✓ **What barriers interfere with you assessing Adverse Childhood Experiences (ACE’s) in your clinical practice?**
- ✓ **Is assessing Adverse Childhood Experiences (ACE’s) during college entry physicals feasible in your clinical practice?**

Objectives

- **Identify nurse practitioners knowledge about about ACE assessments**
- **Identify perceived barriers that interfere with doing ACE assessments in clinical practice**
- **Identify ways to improve implementation of ACE assessments during college entry physicals**

Design: Convenience sample of nurse practitioners who attended the 2017 Florida Association of Nurse Practitioner’s (FLANP) conference in Orlando Florida and its active membership. Emails were sent out to approximately 107 conference attendees and the active membership of the FLANP in January of 2018 using Survey Monkey. 46 respondents completed the survey, which was closed in April of 2018. Questionnaire consisted of 26 questions

Results

NP respondents experience level ranged from new NP, 0-5 years thru 16-20 years of experience. (44%) of NP’s indicated their experience level at 0-5 years, (21%) of NP’s 6-10 years, (12%) of NP’s 11-15 years, and (21%) of NP’s with 16-20 years of experience (Table 1) (58 %) of NP’s identified themselves as Family nurse practitioners, (15%) adult nurse practitioners, (13%) as pediatric nurse practitioners, and (13%) of NP’s as other (Table 2). Over 60% of NP respondents practice in specialty care, followed by, (31%) NP’s that practice in the medical home setting, (4%) of NP’s practice in retail care, and (2%) of NP respondents practice in urgent care (Table 2). Mastered prepared NP’s represented half of the respondents at (58%); DNP respondents (37%), PhD respondents (2%), and Ed.D respondents were another (2%)

Analysis: Descriptive Correlation using Spearman rho and Pearson Correlations. Level of significance <0.05

prolonged or excessive physiological stress in childhood can disrupt brain development and impair educational achievement?	
What is your highest level of nursing education?	0.038
	Sig <0.05

Persistent physiological stress in childhood can make young adults less capable of coping with the stress of college?	
What is your highest level of nursing education?	0.036
	Sig <0.05

Do you feel you have enough time to ask about childhood abuse?	
What is your highest level of nursing education?	0.003
	Sig <0.01
Do you feel you have enough time to ask about a history of abuse?	
How long have you had an NP license?	0.037
	Sig <0.05

Roy’s Adaptation Model Diagram



Figure 2. Roy’s Adaptation Model: Diagram of Human Adaptive Systems. From <http://www.nurseslabs.com/wp-content/uploads/2014/08>

Roy’s Conceptual Definitions
Major concepts
Environment: Conditions, circumstances and influences that affect the Development and behavior of humans as adaptive systems.
Health: A state and process of being and becoming whole
Person: A bio-psycho-social being in constant interaction with a changing environment.
Nursing: To promote adaptation in the four adaptive modes of physiologic, Self-concept, role function, and interdependence.
Physiologic: Activities of the body at a cellular level.
Self-concept: Body image, values, spiritual beliefs, and morals-ethics.
Role function: A persons roles in society.
Interdependence: Giving and receiving of love, respect and valuing.
Cognator: Emotional response, coping patterns
Regulator: Physiological response to stressors

Conclusions and Recommendations

- ✧ Identified possible knowledge deficit of Nurse practitioners with less nursing education and NP experience.
- Evaluated nursing education to improve ACE education
- ✧ Identified the perceived barrier of time for a reason why NP’s do not implement ACE assessments in clinical practice when doing college entry physical exams.
- Incorporate ACE assessments into EMR systems so implementation becomes standardized and time effective by improving work flow.
- ✧ Identified ways to improve ACE assessments during college entry physical exams.
- Through improved education NP’s better understand the importance of ACE assessments during mile stone exams
- Systems and EMR’s that include ACE assessments could improve the work flow for NP’s and decrease the time needed to ask about childhood abuse.

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