POPINVITED: ID# 100817

Title:

Evaluating Potential Alcohol Misuse in a Rural Patient Health Clinic

Laurel Lynn Welty, DNP
Graduate School of Nursing, Family Nurse Practitioner Program, Graceland University, Fort Worth, TX, USA

ACCEPTED

Session Title:

Rising Stars of Research and Scholarship Invited Student Posters

Slot:

RS PST1: Sunday, 17 November 2019: 11:45 AM-12:15 PM

Applicable Category:

Clinical, Academic, Students

Keywords:

AUDIT, Alcohol screening and brief intervention and Primary Care

References:

Agency for Healthcare Research and Quality (AHRQ) (2013). Plan-do-study-act (PDSA) Cycle. Retrieved from https://innovations.ahrq.gov/qualitytools/plan-do-study-act-pdsa-cycle

American Academy of Family Physicians (2018). Alcohol misuse. Retrieved from: https://www.aafp.org/patient-care/public-health/alcohol.html

Babor, T., & Higgins-Biddle, J. (2001). World Health Organization Brief intervention for hazardous and harmful drinking: a manual for use in primary care. Retrieved from: http://apps.who.int/iris/bitstream/10665/67210/1/WHO_MSD_MSB_01.6b.pdf

Babor, T., Higgins-Biddle, J., Saunders, J., and Monteiro, M. (2001). The alcohol use disorders identification test: guidelines for use in primary care (2nd Ed.). Retrieved from: http://apps.who.int/iris/bitstream/10665/67205/1/WHO_MSD_MSB_01.6a.pdf

Centers for Disease Control and Prevention (2014a). Vital signs: alcohol screening and counseling: an effective but underused health service. Retrieved from: https://www.cdc.gov/vitalsigns/alcohol-screening-counseling/index.html

Centers for Disease Control and Prevention (2014b). Planning and implementing screening and brief intervention for risky alcohol use: a step-by-step guide for primary care practices. Retrieved from: https://www.cdc.gov/ncbddd/fasd/documents/alcoholsbiimplementationguide.pdf

Centers for Disease Control and Prevention (n.d.) Alcohol use and your health. Publication CS246270. Retrieved from: https://www.cdc.gov/alcohol/pdfs/alcoholyourhealth.pdf

Centers for Disease Control and Prevention (2017). Clinical Preventive Services. Retrieved from: https://www.cdc.gov/aging/services/index.htm

County Health Rankings & Roadmaps (2016). Illinois 2016. Retrieved from www.countyhealthrankings.org

Freese, T. (2014). Screening, Brief Intervention and Referral to Treatment [vimeo]. UCLA Integrated Substance Abuse Programs. Retrieved from: https://vimeo.com/96252489

Healthy People 2020 Goals (2017). SA-10. Retrieved from www.healthypeople.gov/node/5195/data_details

Johnson, J. A., Lee, A., Vinson, D., & Seale, J. P. (2013). Use of AUDIT-based measures to identify unhealthy alcohol use and alcohol dependence in primary care: a validation study. *Alcohol Clin Exp Res, 37(S1),* E253-259. Retrieved from: Graceland University Interlibrary Loan.

Jones, D., & Garbutt, J. (2017). Screening and counseling for unhealthy alcohol use in primary care settings. *Med Clin N Am, 101,* 823-837. Retrieved from: http://dx.doi.org/10.1016/j.mcna.2017.03.011

Kaner, E. et al., (2013). Effectiveness of screening and brief alcohol intervention in primary care (SIPS trial): pragmatic cluster randomized controlled trial. *BMJ, 346(e8501).*Doi 10.1136.bmj.e8501. Retrieved from: www.bmj.com/content/346/bmj.e8501

Krenek, M., Maisto, S., Funderburk, J., & Drayer, R. (2011). Severity of alcohol problems and readiness to change alcohol use in primary care. *Addictive Behaviors, 36,* 512-515. Retrieved from: resolver.ebscohost.com.graceland.idm.oclc.org

McCambridge, J. & Kypri, K. (2011). Can simply answering research questions change behavior? Systematic review and meta analyses of Brief Alcohol Intervention Trials. PLoS One 6(10), e23748. Doi: 10.1371/journal.pone.0023748

McKnight, L. R, Okoro, C. A., Mejia, R., Denny, C. H., Higgins-Biddle, J., Hungerford, D., & … Sneizek, J. E. (2017). Screening for excessive alcohol use and brief counseling of adults – 17 states and the District of Columbia, 2014. *MMWR: Morbidity & Mortality Weekly Report, 66(12),* 313-319. Doi: 10.15585/mmwr.mm6612a1. Retrieved from: http://web.b.ebscohost.com.graceland.idm.oclc.org/ehost/delivery

National Institute on Alcohol Abuse and Alcoholism (n.d.). Alcohol Use Disorder. Retrieved from: https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/alcohol-use-disorders

Pengpid, S., Peltzer, K., Skaal, L., & Van der Heever, H. (2013). Screening and brief interventions for hazardous and harmful alcohol use among hospital outpatients in South Africa: results from a

randomized controlled trial. *BMC Public Health, 13:644,*1-8. Retrieved from: http://www.biomedcentral.com/1471-2458/13/644

Ramarumo, M., Peltzer, K., & Khoza, L. B. (2016). Screening and brief intervention of alcohol problems in primary care in South Africa: a brief report.*Journal of Psychology in Africa, 26(1),* 78-80. Requested and received from Graceland University Interlibrary Loan. DOI 10.1080/14330237.2015.1101282

Saunders, J. B. et al. (1993). Development of the Alcohol Use Disorders Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption-II. Retrieved from: http://www.automesure.com/library/pdf/8329970.pdf

Seale, J. et al. (2006). Primary care validation of a single screening question for drinkers. *J Stud. Alcohol, 67(5),* 778-784. Abstract retrieved from https://www.ncbi.nlm.gov/pubmed/16847548; full article purchased by student for personal use.

Sutton, L. & Halsey, M. (2017). Eagle View Community Health System Service area needs assessment for Henderson, Warren, & Mercer Counties, Illinois.

Thomas, G. (2014). WHO calls on governments to do more to prevent alcohol-related deaths and diseases. Retrieved from: http://www.who.int/mediacentre/news/releases/2014/alcohol-related-deaths-prevention/en/

United States Preventive Services Task Force (USPSTF) (2013). Final recommendation statement alcohol misuse: Screening and behavioral counseling interventions in primary care. Retrieved from: https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/alcohol-misuse-screening-and-behavioral-counseling-interventions-in-primary-care

United States Preventive Services Task Force (USPSTF) (2017). USPSTF A and B recommendations. Retrieved from: https://www.uspreventiveservicestaskforce.org/Page/Name/uspstf-a-and-b-recommendations/

Willenbring, M., Massey, S., & Gardner, M. (2009). Helping patients who drink too much: an evidence-based guide for primary care physicians. *Am Fam Physician, 80(1)*, 44-50. Retrieved from: http://www.aafp.org/afp/2009/0701/p44.html

Williams, E., et al. (2012). Association between alcohol screening results and hospitalizations for trauma in veterans affairs outpatients. *The American Journal of Drug and Alcohol Abuse, 38,* 73-80. DOI: 10.3109/00952990.2011.600392. Accessed from: web.a.ebscohost.com.graceland.idm.oclc.org

Abstract Summary:

Rural areas are not exempt from national concern regarding substance abuse, which includes consumption of alcohol. It is imperative that healthcare providers screen for potential misuse of alcohol. The Alcohol Use Disorders Identification Test is an evidence-based method to screen and dialogue with patients about their current alcohol consumption behaviors.

Content Outline:

Evaluating Potential Alcohol Misuse in a Rural Patient Health Clinic

Dr. Laurel Lynn Welty

Content Outline

1. Introduction Misuse of alcohol is the 3rdleading cause of death from modifiable risk factors
    1. The United States Preventive Services Task Force (USPSTF) began recommending alcohol screening and brief counseling in 2004 for adults age 18 and older.
    2. According to the CDC, only 1 in 6 adults report ever having a conversation with their health care provider regarding personal drinking habits
    3. Alcohol screening and brief intervention is considered a clinical preventive service.
2. Significance to rural communities
    1. Our county and area patient to medical provider ratio was 6920:1 with no (zero) mental health providers
    2. Applied for and received the Substance Abuse and Mental Health Services Administration (SAMHSA) grant titled “Access Increases for Mental Health and Substance Abuse Services”9 (AIMS).
    3. Adoption of the Screening, Brief Intervention, and Referral to Treatment (SBIRT) program would serve as the working framework for implementation of a behavioral health department in the clinic system First 5 patients of each work day that met inclusion criteria
3. Needs Assessment
    1. Conceptual Framework: Plan-Do-Study-Act
    2. Retrospective chart review performed July 10-December 18, 2017 to ascertain formal screening by providers
    3. First 5 patients of each work day that met inclusion criteria
    4. Results: no formal screening was performed by providers, no consistent tool
4. Project Purpose
    1. To evaluate the Alcohol Use Disorders Identification Test (AUDIT) to assess prevalence rates of potential alcohol misuse among adults in rural health clinic
    2. In tandem with implementing SBIRT as part of our behavioral health integration
    3. Provide education to medical staff on SBIRT and AUDIT
        1. Assess pre- and post-test knowledge

5. Clinical PICOT Question

    1. PICOT: Among rural adult clinical patients ≥18 years of age (P), does the implementation of Screening, brief intervention, and referral to treatment (SBIRT) utilizing the AUDIT screening tool by medical clinic staff (I) compared to usual clinic practice (C) identify potential alcohol misuse or Alcohol Use Disorder prevalence rates (O) over 16 weeks?

6. Project Objective

    1. Education of medical clinic staff

        1. Purpose and utilization of AUDIT as part of initiating SBIRT process

    2. Screening eligible patients meeting inclusion criteria, and evaluation of collected data for prevalence rates of potential alcohol misuse among adult patients of this rural clinic system

7. Research Questions

1. Did the mean posttest scores of medical clinic staff knowledge on SBIRT and the use of the AUDIT screening tool improve from baseline pretest scores post-educational session?

2. What was the medical clinic staff compliance rate post-implementation phase for screening eligible patients using the AUDIT tool? (Note: alcohol screening compliance rate was set at a benchmark of 80% per CDC recommendations

3. What were the frequencies of risk level of alcohol use among clinic adult patients who were identified as low (Zone 1), high (Zone 2), and alcohol dependent (Zone 3) using AUDIT scores?

4. Were there significant differences between mean scores of two genders, patients with and without depression, patients with and without anxiety, on AUDIT scores?

8. Literature Search Using search terms “alcohol screening and brief intervention, AUDIT, primary care”

1. CINAHL: 15

2.Psych Info: 26

3. Google Scholar: 3 via reference list search

4. PubMed: 4 via reference list search

5. Articles included after exclusions: Psych Info (4), Google Scholar (1), and PubMed (1)

9. Methods

    1. Design: pre- and post-implementation

    2. Setting: FQHC rural clinic, two locations

    3. Participants: Adults ≥18 years of age, non-acute, convenience opportunity sample

    4. Intervention: Staff SBIRT/AUDIT training

5. Tool: AUDIT screening tool

10. Results

    1. Clinical question 1

        1. Paired *t*-test to test the null hypothesis that there is no statistically significant difference between pre- and post-test scores

        2. Statistically significant difference between staff pre- and post-test scores (*p*=<.001)

        3. 3. Mean on pretest score 6.10 (*sd*=1.2), posttest 7.7 (*sd*=1.34)

        4. Pretest to posttest (*t*(9)=6.000, *p*= <.001, rejected null hypothesis

    2. Clinical question 2

        1. 360 patients met inclusion criteria

            1. 311 were screened (86%)

            2. 43 met inclusion criteria, not screened by staff (12%)

            3. 6 offered and refused screening (2%

        2. Alcohol screening compliance rate by staff: 86%

        3. Exceeded CDC recommended benchmark of 80% adult patients screened

    3. Clinical Question 3

        1. Total patients screened n=311

        2. Zone 1 AUDIT score 0-7 Abstainer/Low Risk n=288 (92%)

        3. 3. Zone 2 AUDIT score 8-19 High risk drinker n=22 (7%)

        4. 4. Zone 3 AUDIT score 20+ Likely alcohol dependence n=1 (1%) 4.

    4. Clinical Question 4

        1. Statistical significance between two genders (male and female) and AUDIT scores (*p*=.008)

        2. Mean AUDIT score males (*m*=2.65, *sd*=3.15) was higher than females (*m*=1.64, *sd*=3.5), statistically significant (*t*(302.88=2.66, *p*=*<.008)*

            1. Levene's*F*(*F*=4.36, *p*=0.038)

                1. Levene's demonstrated there was insufficient evidence to assume equal variances

                2. Results taken from Welch *t*-test for equality of means

3. Null hypothesis correctly rejected

2. Summary
    1. This sample population did not have prevalence of alcohol consumption at the misuse or Alcohol Use Disorder diagnostic level
    2. It is essential to continue to screen and provide early intervention for at risk patients
3. Limitations
    1. Rural setting with 96.9% Caucasian population
    2. Non-significant findings between patients with and without depression and AUDIT scores
    3. Non-significant findings between patients with and without anxiety and AUDIT scores
    4. Alcohol use was evaluated via self-report (Hawthorn effect)

Topic Selection:

Rising Stars of Research and Scholarship Invited Student Posters (25201)

Abstract Text:

Background: Misuse of alcohol accounts for 90,000 preventable deaths per year and contributes to the development of physical and behavioral health issues. The United States Preventive Services Task Force recommends screening of adults for alcohol consumption behaviors.

Problem Statement: An internal chart review of a rural patient health clinic demonstrated there was no adequate or consistent screening to evaluate for potential alcohol misuse. Therefore, there was a need to implement an evidence-based screening tool to assess alcohol consumption behavior.

Purpose: This project was to evaluate the Alcohol Use Disorders Identification Test (AUDIT) on the prevalence rates of potential alcohol misuse among adult patients in a rural health clinic. This was in tandem with the implementation of the Screening, Brief Intervention, and Referral to Treatment (SBIRT) process in order to establish Behavioral Health services within the clinic via the Access Increases in Mental Health and Substance Abuse Services (AIMS) grant. Medical clinic staff were assessed for knowledge regarding SBIRT and the AUDIT tool via an in-service training session utilizing pre- and post-tests, purpose and implementation of the AUDIT screening tool, and screening compliance rate of eligible adults.

Method: This project was a pre- and post-implementation design in which retrospective chart data was gathered regarding individual patient AUDIT scores. The setting was a Federally Qualified Health Center (FQHC) with two rural locations in Illinois. Each clinic day provided the medical clinic with convenience opportunity sampling based on the clinic schedule and walk-in-patients. Adult patients ages 18-80 years that met inclusion criteria were provided a paper AUDIT screening form during the intake process. The

results of the patient self-reported form were also entered by nursing staff into the patient's individual Electronic Health Record. Individual patient scores were discussed between the patient and provider. Following the implementation period of 16-weeks, the principal investigator conducted a retrospective chart review on daily patient charts that met inclusion criteria for screening with the AUDIT. The data was then entered into an SPSS data sheet for analysis.

Results: Healthcare staff SBIRT and AUDIT scores yielded a statistically significant difference between pretest and posttest scores (paired samples *t*-test; pretest *m*=6.10, *sd*=1.20; posttest *m*=7.7, *sd*=1,34; *p*=<.001). Frequencies for patients actually screened with the AUDIT demonstrated that 288 (80%) scored 0-7 (Zone 1: abstainers or low risk), 22 patients (7%) scored 8-19 (Zone 2: misuse), and 1 patient scored 35 (Zone 3: likely alcohol dependence). The screening compliance rate (staff screening appropriate adult patients meeting inclusion criteria) was 86%, exceeding the Centers for Disease Control recommended screening rate benchmark of 80% of the eligible target population. Independent samples *t*-tests were conducted for two genders and AUDIT scores, patients with and without depression and AUDIT scores, and patients with and without anxiety and AUDIT scores. A statistically significant difference was found between two genders and AUDIT scores. The mean AUDIT score for males (m=2.65, *sd*=3.15) was higher than females (*m*=1.64, *sd*= 3.5), and with males scoring higher than females (*p*=.008), which is consistent with national data findings. Levene's *F* (*F*=4.36, *p*=0.38) demonstrated there was insufficient evidence to assume equal variances (homogeneity), so results were taken from the Welch *t*-test for equality of means. Therefore, the null hypothesis that there is no statistically significant difference between males and females and mean AUDIT scores was correctly rejected. There was no statistically significant differences found for patients with and without depression and AUDIT scores, nor for patients with and without anxiety and AUDIT scores.

Conclusion and significance: The sample population did not have prevalence of self-reported alcohol consumption at the misuse or Alcohol Use Disorder diagnostic level. It is essential to continue to screen and provide early intervention for at risk patients. Therefore, the clinic chose to adopt the AUDIT-C, a 3-question version of the full AUDIT that identifies patients with hazardous alcohol consumption behaviors or active alcohol use disorders, as the sustainable quality standard for continued alcohol screening of its adult population.

Keywords: alcohol screening and brief intervention, AUDIT, primary care