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Behavioral Science/Health Education

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Student abstracts and/or posters were submitted as part of VPHA's conference. Due to cancellation of the conference, as a result of the Covid-19 epidemic, the posters are being showcased on the VPHA website and in this special issue of the VJPH.

NOTE: Projects denoted with * are abstracts only; those denoted with ** are posters only

Addressing Oral Health, Safety, Under-Immunization, and Nutrition in the Local Refugee and Immigrant Communities (OSHUN)

Buhrman D. BS, Gerrard, M.E. BS, Rahman, M. BS, Sridhar, V. BS, Permashwar, V. M.D, Virginia Tech Carilion School of Medicine

Background: The Roanoke area resettles approximately 200 refugees per year. Pediatricians and dentists who treat this population have observed several health disparities in this community along with a lack of retention of medical care. Despite these observations, little has been done to overcome barriers to consistent care. Formal baseline health assessments for refugee and immigrant children could potentially better guide local refugee and immigrant health and create sustainable relationships between these communities.

Design/Methods: The target population was reached by partnering with organizations with established relationships with the local refugees and immigrant communities. Anonymous surveys were distributed to collect data on health care and safety practices following a health fair held for refugee and immigrant families. Questions from the survey originated from validated screening tools including: "Assessment of Knowledge and Attitude and Practice of Parents about Immunization", "The Safe Environment for Every Kid (SEEK) Parent Questionnaire", "Oral Health Behavior Questionnaire", and "Accountable Health Communities Core Health-Related Social Needs Screening". Questions were modified to focus on oral health, safety, comprehension of immunizations, and nutrition. These were translated into the participant's native language by a validated translation service.

Results: Survey respondents included twenty family members with an average household of five from the following countries: Afghanistan, Burundi, Nepal, Sudan, Congo, and Somali. All families acknowledged brushing their teeth on average of twice per day. However, 57.9% of subjects (11/19) did not have access to a dentist even though 84% (16/19) admitted to understanding that children should visit a dentist twice per year. All participants reported drinking bottled water. All participants stated they had a working smoke detector in their home; however, only 20% (4/20) knew the number for poison control. Lastly, only 15% (3/20) claimed to have chosen not to vaccinate their children due to reasons including allergies and insurance.

Conclusion: Refugee families in our area are aware of the importance of appropriate oral health practices; however, many lack appropriate resources to adequately maintain healthy dentition. These surveys also highlighted hesitancy of drinking tap water, thus limiting refugee children's access to fluoridated water. Further, safety education for families should focus on knowledge of local resources. Lastly, these surveys indicate that many refugee families have not chosen to opt out of vaccinations. Overall, these results demonstrate the need to address access to adequate oral health care, a cultural shift toward drinking tap water, and need for improved safety awareness. This data will enable future efforts to better aid the refugee and immigrant population targeted to their needs.

Addressing Oral Health, Safety, Under-immunization, and Nutrition in the Local Refugee and Immigrant Communities (OSHUN)

Dakota Buhrman BS, Miranda E. Gerrard BS, Meredith Rahman BS, Vaishnavi Sridhar BS, Vydia Permashwar, M.D Pediatrician, Virginia Tech Carilion School of Medicine

Background

The Roanoke area resettles approximately 200 refugees per year from around the globe. Local pediatricians and dentists who treat this population have observed limited access to healthcare along with a lack of retention of such healthcare. Despite these observations, little has been done to overcome barriers. Formal baseline health assessments for refugee and immigrant children could better identify specific needs of this population.

Objective

This survey aims to collect information from refugee and immigrant populations in the greater Roanoke area to better understand current healthcare access and unmet needs. This information could allow more targeted efforts in the future to improve health care and access. Additionally, these efforts aim to establish relationships that facilitate longitudinal healthcare and build a stronger sense of community for locals and newcomers alike.

Methods

The target population was reached by partnering with organizations with established relationships with refugees and immigrant communities in the Roanoke area. Anonymous surveys were distributed to collect data on health care and safety practices following a health fair held for refugee and immigrant families. Questions from the survey originated from validated screening tools including: Assessment of Knowledge and Attitude and Practice of Parents about Immunization, The Safe Environment for Every Kid (SEEK) Parent Questionnaire, Oral Health Behavior Questionnaire, and Accountable Health Communities Core Health-Related Social Needs Screening. Questions were modified to focus on oral health, safety, comprehension of immunizations, and nutrition. These were translated into the participant's native language by a validated translation service.

Oral Health Survey Responses

Results

Survey respondents included twenty family members with an average household of five from the following countries: Afghanistan, Burundi, Nepal, Sudan, Congo, and Somali. All families acknowledged brushing their teeth on average twice per day. However, 57.9% of subjects (11/19) did not have access to a dentist even though 84% (16/19) admitted to understanding that children should visit a dentist twice per year. All participants reported drinking bottled water. All participants stated they had a working smoke detector in their home, however only 20% (4/20) knew the number for poison control. Lastly, only 15% (3/20) claimed to have chosen not to vaccinate their children due to reasons including allergies and insurance.

Conclusions

Refugee families in our area are aware of the importance of appropriate oral health practices, however many lack appropriate resources to adequately maintain healthy dentition. These surveys also highlighted hesitancy of drinking tap water, thus limiting refugee children's access to fluoridated water. Further, safety education for families should focus on knowledge of local resources. Lastly, these surveys indicate that many refugee families have not chosen to opt out of vaccinations. Overall, these results demonstrate the need to address access to adequate oral health care, a cultural shift toward drinking tap water, and need for improved safety awareness. This data will enable future efforts to better aid the refugee and immigrant population targeted to their needs.

Contact

Dakota Buhrman, BS
Virginia Tech Carilion School of Medicine
60 Market 2 Riverside Circle Roanoke, VA 24016
dakob@vt.edu

Maternal Body Mass Index and Breastfeeding Outcomes: A Systematic Review

Achike, M.M., Old Dominion University

Background: Worldwide overweight and obesity rates in women of reproductive age are rising at an alarming pace. In the United States, the overweight and obesity rates of adult women are 26.9 and 41.1, respectively. Previous researchers have studied the relationship between maternal body mass index and its effect on breastfeeding intention and outcomes. This systematic review examined how maternal body mass index affects maternal breastfeeding intention and subsequent breastfeeding behavior.

Methods: A systematic review was conducted in March and April 2020 in Virginia, using the PubMed and APA PsycNet databases. Studies which examined breastfeeding intention, initiation, duration, exclusivity, and maternal body mass index from the last 10 years (2010-2019) were summarized. These searches resulted in 18 studies.

Results: Of the included studies, several found no differences in breastfeeding intentions across BMI categories. High body mass index was found to be negatively associated with breastfeeding initiation. Twelve studies measured breastfeeding duration and reported differences among BMI categories. Studies also showed obese women are less likely to exclusively breastfeed compared to normal weight women.

Conclusion: Breastfeeding rates across all body mass index categories do not meet the recommended guidelines established by the World Health Organization (WHO) and other public health agencies. Overweight and obese women need additional support to breastfeed longer and exclusively. Targeted and well-designed interventions should be implemented early in the postpartum period when breastfeeding challenges, and the stress of having a new baby, are greatest.

Needs Assessment of Diabetes in Hampton Roads, Virginia Based on Social Determinants of Health

Priyadarshini, P. PhD, MPH, Department of Population Health Sciences, Virginia Tech

Purpose: The purpose of this needs assessment was to understand the relationship between diabetes and social determinants of health using the Virginia Health Opportunity Index (HOI) to identify vulnerable populations at the census tract level.

Methods: Secondary demographic data from the U.S. census related to seven cities in Hampton Roads, Virginia was abstracted. Census tract level diabetes data was obtained from the CDC 500 Cities project. Diabetes prevalence data was linked to the Health Opportunity Index in Virginia. The data was modelled using SPSS.

Results: Years of schooling and material deprivation index was found to be most predictive of diabetes in Hampton Roads, Virginia. About 64% of the variability of crude diabetes prevalence rate could be explained by the model. Census tracts with minority population and low socioeconomic status had higher diabetes prevalence rates.

Conclusion: Education level, employment, and family income affect socioeconomic status and therefore, health. A multilevel approach that includes social and economic interventions will greatly impact the health disparities in diabetes.

Needs Assessment of Diabetes in Hampton Roads - Social Determinants of Health

VIRGINIA TECH.

Priyadarshini Pattath
Department of Population Health Sciences

Background

- Diabetes is a major public health challenge with the distribution of regionality of diabetes varying based on the location within Virginia.
- Relevant to consider the social and economic factors that are the determinants of diabetes along with individual factors.
- Although the average crude rate of diabetes in Virginia is 9%, some of the census tracts report a much higher rate. Neighborhoods in places like Norfolk, Newport News and Portsmouth in Virginia have a diabetes prevalence rate of around 25%.

Socioeconomic Demographics of Hampton Roads-
Chesapeake, Hampton, Norfolk, Portsmouth, Suffolk, Virginia Beach, and Newport News

- Virginia has a population of about 8 million

Table 1: **Population** in Hampton Roads (U.S. Census 2010)

Hampton Road Cities	Population
Chesapeake	222,209
Hampton	137,436
Norfolk	242,803
Portsmouth	95,535
Suffolk	84,585
Virginia Beach	437,994
Newport News	180,719

Figure1: Race distribution in the cities of Hampton Roads
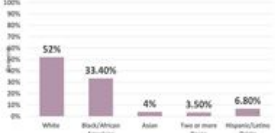
Figure 2: Income & poverty rate in Hampton Roads Cities

Diabetes in Hampton Roads

Figure3: Number *of Census tracts with crude diabetes rate above Virginia average of 9%*
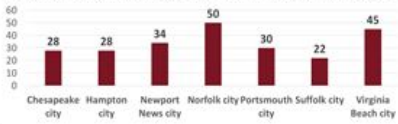
Objectives

The purpose of this study was threefold: First, to explain the relationship between diabetes and social determinants of health; second, identify vulnerable populations at the Census tract level using the Virginia Health Opportunity Index (HOI); and (3) to formulate policies for intervention.

Health Opportunity Index

- The HOI is a composite measure of the Social Determinants of Health (the social, economic, educational, demographic, and environmental factors).
- It is comprised of 13 indicators.

The Community Environmental Profile:	The Consumer Opportunity Profile:
(1) Air Quality	(5) Affordability
(2) Population Churning	(6) Education
(3) Population Weighted Density	(7) Food Accessibility
(4) Walkability	(8) Material Deprivation
Economic Opportunity Profile:	**Wellness Disparity Profile:**
(9) Employment Access	(12) Access to Care
(10) Income Inequality	(13) Spatial Segregation
(11) Job Participation	

Method

- Secondary data for Chesapeake, Hampton, Norfolk, Portsmouth, Suffolk, Virginia Beach, and Newport News- population was abstracted (U.S. Census, 2010).
- Census tract level Diabetes data obtained from the CDC 500 Cities project.
- Diabetes prevalence data linked to the Health Opportunity Index in Virginia.
- 353 census tracts identified in the seven Hampton Road cities.
- Predictive analysis done using SPSS.

Results

- Years of schooling was found to be most predictive.
- The model included five variable- years of schooling, population churning index, Townsend indicator, high employment access and income inequality index/Gini coefficient.
- About 64% of the variability of crude diabetes prevalence rate could be explained by the model.
- Census tracts with minority population & low SES had higher diabetes prevalence rate.

Figure 4: Diabetes Prevalence rate % Education In Hampton Roads
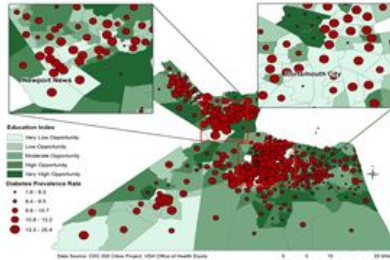
Conclusion & Next Steps

- Using the VA HOI we can, establish links between health outcomes among individuals who share similar economic, social, and geographical characteristics.
- Education level, employment, and family income affect socioeconomic status and therefore health.
- Multilevel approach that includes social and economic interventions will greatly impact the health disparities in diabetes.
- Limitation of using crude diabetes rate for the population data for only seven cities in Hampton Roads, Virginia.

Select References

CDC 500Cities Project (2019). Retrieved from https://www.cdc.gov/500cities/index.htm
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Examining the Association Between Race and Mental Health on Lifetime Frequency of E-Nicotine Use in U.S. Adults.

Wilson, T. L., Clifford, J. S., Blondino, C. T., Prom-Wormley, E. C., Virginia Commonwealth University Medical Center

Background: Electronic cigarette usage has increased substantially within the past few years. To date, research suggests Non-Hispanic American Indian communities as well as non-smokers affected with poor mental health outcomes are at greater risk for electronic cigarette use[2,3]. However, it is unclear whether these associations extend to African Americans. This study assesses the degree to which race and mental health status are associated with lifetime frequency of e-nicotine products in a smoking U.S. adult population.

Methods: Data from 9,045 adults aged 18 and over who participated in Wave 3 of the "Population Assessment of Tobacco Health (2015-2016)" and ever engaged in any lifetime electronic nicotine product use were used. Multinomial logistic regression was used to test the associations between lifetime frequency of electronic nicotine and perceived mental health as well as race while accounting for the influence of several covariates.

Results: In comparison to white participants, African American/Black participants had significantly lower odds of engaging in almost all levels of lifetime frequency of electronic nicotine use (OR = 0.23-0.59, $p < 0.05$). Compared with excellent perceived mental health, lower levels of perceived mental health were significantly associated with higher frequency of lifetime electronic nicotine use (OR = 1.43-2.33, $p < 0.05$).

Conclusion: Compared to whites, African Americans/Blacks may be at lower risk for more frequent electronic nicotine use. Further, lower perceived mental health was a risk factor for increased electronic nicotine frequency. Therefore, some factors identified with conventional cigarette use may extend to electronic cigarettes.

Examining the Association between Race and Mental Health on Lifetime Frequency of E-nicotine use in U.S. Adults.

Trenece L. Wilson, James S. Clifford, Courtney T. Blondino, Elizabeth C. Prom-Wormley

Introduction

- Electronic cigarette use has increased substantially with in the past few years.
- Many studies are concerned with the prevalence in e-cigarette and e-nicotine use in adolescents, it was reported that e-cigarettes has increased 78% among high school students (CDC, 2019).
- An examination of e-cigarette use in regard to race shows that non-Hispanic American Indian and non-Hispanic white adults are more likely to have tried using in comparison to non-Hispanic black and Hispanic adults (Schoenborn & Gindi, 2015).
- In a Canadian study, using e-cigarettes has been associated with poor mental health in non-smokers (Pham, et al., 2019).

Study Aims

- To examine the association between race and mental health status on lifetime e-nicotine use among US adults.
- Hypothesis: It was hypothesized that white participants and individuals with poor mental health status will have increased lifetime e-nicotine use.

Methods

Study Population

- The Population Assessment of Tobacco Health (PATH) is a long-term longitudinal study conducted by the FDA and NIH. The assessment looks at vulnerability to tobacco use and tracks the health impact, among other aspects. The study currently has 4 waves of data. Data used in this study is from Wave 3 which was conducted between 2015 – 2016. For this study, the sample size was reduced to 9,045 to only include individuals who have ever used an e-nicotine product.

Measurements

- **Lifetime Frequency of E-Nicotine Use**
Lifetime frequency of e-nicotine use was measured as a six-level categorical variable using the following item, "How many times have you used an [e-nicotine product] in your entire life?" E-nicotine product referred to e-cigarettes e-vapor, e-cigars, e-hookahs, and e-pipe.

- **Self Perceived Mental Health**
Mental Health status was accessed with a five-level categorical variable using the following item, "In general, how would you rate your mental health, which includes stress, depression, and problems with emotions?"

- **Race**
The variable for race was recoded to be a binary variable with the possibilities of Black and White.

- **Covariates**
There were five covariates accounted for in this study. Age (five-levels), household income (five-levels), and education (six-levels) were treated as categorical variables. Past-year other substance use was treated as a binary variable to indicate whether a participant used any of the following: alcohol, cigarette, marijuana, Ritalin, painkiller, cocaine, stimulants, and other drugs like heroin in the past 12 months.

- **Data Analysis**
The complex sampling of the survey was considered when analyzing data in SAS 9.4 to analyze data. To determine the association between the variables a series of chi-square test (α=0.05) were conducted. Once an association was established a multinomial logistic regression was computed.

Table 1. Data Summary by Amount of times E-Nicotine Product has been used over the Lifetime (N=9,045)

Note: Weighted percentages are being reported. Significant p-values are bolded above (α=0.05).

Table 2. Adjusted Multinomial Regression for Race and Mental Health Status on Lifetime E-Nicotine Use. OR(95% CI)

	2 to 10 times	11 to 20 times	21 to 60 times	61 to 99 times	100 or more times
Race (ref=White)					
Black	0.86 (0.71, 1.09)	0.59 (0.44, 0.80)	0.48 (0.37, 0.62)	0.44 (0.30, 0.66)	0.23 (0.16, 0.34)
Mental Health Status (ref=Excellent)					
Very Good	1.11 (0.86, 1.45)	1.03 (0.78, 1.37)	1.07 (0.78, 1.46)	1.03 (0.72, 1.49)	0.93 (0.69, 1.26)
Good	1.20 (0.92, 1.55)	1.23 (0.95, 1.60)	1.43 (1.04, 1.96)	1.71 (1.16, 2.52)	1.20 (0.88, 1.63)
Fair	1.36 (1.06, 1.76)	1.19 (0.89, 1.60)	1.86 (1.18, 2.33)	1.90 (1.17, 3.04)	1.48 (1.06, 2.05)
Poor	1.36 (0.90, 2.13)	1.19 (0.73, 1.95)	2.04 (1.18, 3.53)	2.33 (1.18, 4.63)	1.51 (0.87, 2.61)
Age (ref=18-24)					
25-34	1.30 (1.10, 1.69)	1.19 (0.94, 1.50)	1.13 (0.91, 1.41)	1.08 (0.74, 1.57)	1.13 (0.90, 1.47)
35-44	1.64 (1.18, 2.00)	1.28 (0.89, 1.85)	1.36 (1.00, 1.80)	1.66 (1.11, 2.57)	1.42 (1.01, 1.96)
45-54	1.20 (0.92, 1.58)	1.08 (0.77, 1.53)	1.22 (0.89, 1.68)	1.16 (0.79, 1.71)	1.18 (0.86, 1.62)
55 or older	1.14 (0.84, 1.54)	1.03 (0.76, 1.36)	1.11 (0.75, 1.57)	1.15 (0.75, 1.76)	1.40 (1.00, 1.99)
Sex (ref=Male)					
Female	0.90 (0.78, 1.04)	0.82 (0.67, 1.00)	0.84 (0.69, 1.03)	0.62 (0.48, 0.79)	0.67 (0.48, 0.71)
Income (ref=Less than 10,000)					
10,000 - 24,999	1.38 (1.10, 1.74)	1.56 (1.21, 1.98)	1.35 (1.01, 1.79)	1.25 (0.86, 1.89)	1.30 (1.08, 1.94)
25,000 - 49,999	1.48 (1.16, 1.94)	1.33 (1.00, 1.77)	1.62 (1.19, 2.21)	1.40 (0.97, 2.03)	1.51 (1.17, 1.99)
50,000 - 99,999	1.94 (1.61, 2.48)	1.70 (1.26, 2.33)	1.89 (1.37, 2.61)	2.00 (1.30, 3.07)	1.97 (1.43, 2.73)
≥ 100,000	1.20 (0.94, 1.79)	1.28 (0.86, 1.90)	1.16 (0.75, 1.77)	0.96 (0.57, 1.59)	1.05 (0.66, 1.61)
Education (ref=Less than High School)					
GED	0.99 (0.66, 1.47)	1.28 (0.80, 2.09)	1.18 (0.74, 1.90)	1.73 (0.97, 3.07)	1.14 (0.68, 1.87)
Highschool	1.07 (0.76, 1.52)	1.19 (0.82, 1.73)	1.23 (0.85, 1.70)	1.22 (0.79, 1.87)	1.25 (0.86, 1.83)
Some college	1.12 (0.84, 1.50)	1.18 (0.85, 1.64)	1.31 (0.95, 1.81)	1.80 (1.06, 2.84)	1.45 (0.96, 2.19)
Bachelor's degree	1.37 (0.92, 2.09)	1.30 (0.88, 1.92)	0.94 (0.63, 1.41)	1.26 (0.71, 2.26)	1.13 (0.71, 1.80)
Advanced degree	1.13 (0.67, 1.92)	1.57 (0.82, 2.97)	1.33 (0.69, 2.59)	1.36 (0.56, 3.39)	1.45 (0.70, 2.99)
Other Substance (ref=No)					
Yes	1.43 (1.16, 1.78)	1.56 (1.24, 1.98)	1.64 (1.28, 2.10)	1.62 (1.06, 2.23)	1.30 (0.99, 1.70)

Note: The reference level for frequency of lifetime e-nicotine use was '1 time, even just one puff.' The significance level is α=0.05.

Results

- Race and self perceived mental health status both had a significant relationship with the frequency of lifetime e-nicotine use(x^2=82.79, df=5, p<0.0001) (x^2=43.28, df=20, p=0.0019).
- The covariates sex, household income, education level, and other substance use were significantly associated with lifetime frequency of e-nicotine use, age was not significant.
- In comparison to white participants, black participants were at 77% lower odds to use e-nicotine products 100 or more times when controlling for covariates.
- The odds of using e-nicotine products 51 to 99 times were increased 1.86 times for participants that reported fair mental health when compared to those who reported excellent mental health and controlling for covariates. Odds of using e-nicotine products 100 or more times were increased 1.42 times for participants that reported fair mental health when compared to those who reported excellent mental health when controlling for covariates.
- The odds of using e-nicotine products 51 to 99 times were increased 2.33 times for participants that reported poor mental health when controlling for covariates.

Figure 1. Distribution of Mental Health Status by Lifetime Frequency of E-Nicotine Use
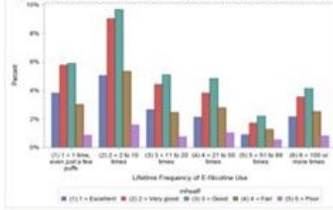
Conclusions

- The chi-square and multinomial logistic regression support rejecting the null hypothesis. Evidence suggest that there is a significant association between race and mental health on e-nicotine use over the lifetime among with U.S. adults.
- The implications of the study propose an individual's mental health should be considered in public health efforts to address e-nicotine use.
- A limitation of this study is that the survey responses were self-reported. This could lead to potential recall bias. Being that the study is cross-sectional causal relationships could not be established.
- Future studies should conduct analysis using the four waves of data in PATH in order to establish causality. Studies could also examine the impact of race and mental health status on e-nicotine use and its relationship on physician and patient interactions. The potential impact these findings could have on policy should be explored. Additionally, further research should be done to examine the impact polysubstance use has on e-nicotine use.

VCU Medical Center
VIRGINIA COMMONWEALTH UNIVERSITY

Assessing and Evaluating the Health Status of the Hispanic Population in Laurel, Maryland

Ojo A. A, Starkey M., and Lane R., Department of Public & Community Health, Liberty University

Background/Purpose: Chronic diseases have been a major health problem in the United States. Most important is the rising figures of new cases reported yearly for the Hispanic ethnic minority group living in the United States which accounts for about 40-50% cause of mortality in both sexes among the Hispanic immigrants. The purpose of this research project was to assess and evaluate the top health problems facing Hispanics in Laurel, MD using three assessment measurement tools.

Methods: The methodology employed to assess and evaluate the greatest health problems among the study population included researching into government data, conducting a community survey using a questionnaire, and setting up focus groups using a scale ranking chart.

Results: Primary results of this study showed that cardiovascular diseases were ranked as the leading health problem of concern with high blood cholesterol, hypertension, and diabetes mellitus all preventable health conditions predominant in the 31-54years age groups of the study population. The most accountable risk factor identified was poor behavioral practices mainly due to the inadequate intake of fruits and vegetables.

Conclusion: In reducing the aftermath of chronic diseases among the Hispanic ethnic minority group, measures to be taken will be directed towards ways to improve the population's knowledge on healthy lifestyles and efforts to limit barriers created by factors such as acculturation and limited access to health services. This goal will be accomplished through training community health workers on how to carry out educational training on healthy lifestyles and connecting the community to both curative and preventive health services.

LIBERTY UNIVERSITY
DEPARTMENT of PUBLIC & COMMUNITY HEALTH

ASSESSING AND EVALUATING THE HEALTH STATUS OF THE HISPANIC POPULATION IN LAUREL MARYLAND

Ojo A. A., M.D, M.P.H., Starkey M., B.Sc, M.P.H., Lane R., M.D, M.P.H & T.M, F.A.C.P.M

Abstract

Introduction: Chronic diseases have been a major health problem in the United States, most important the rising figures of new cases reported yearly for the Hispanic ethnic minority group living in the United States. It accounts for about 40-50% cause of mortality in the Hispanic immigrants.

Methods: The objective of this research project is to assess and evaluate the top health problems facing Hispanics in Laurel, MD using three assessment measurement tools. The methodology employed in this research project to assess and evaluate the greatest health problems among the study population include; researching into government data, conducting a community survey using questionnaire, and setting up focus group using a scale ranking chart.

Results: The primary results of this study showed that cardiovascular diseases were ranked as the leading health problem of concern with high blood cholesterol, hypertension, and diabetes mellitus, all preventable health conditions predominant in the 31-54years age groups of the study population. The most accountable risk factors identified from the study is poor behavioral practices mainly inadequate intake of fruits and vegetables from limited knowledge. In addition, the result from the demographic information for the individual who participated in the research showed that fewer participants utilized health care services. The reason for the low utilization of health services was attributed to the lower numbers of participants who identified with having health insurance.

Conclusion: In reducing the aftermath of chronic diseases among the Latino ethnic minority group, measures to be taken will be directed towards ways to improve the population's knowledge on healthy lifestyle and efforts to limit barriers created by factors such as acculturation and limited access to health services this goal will be accomplished through training community health workers on how to carry out educational training on healthy lifestyle and connect the community to both curative and preventive health services.

Introduction

The burden of chronic diseases in the United States has adversely impacted the Hispanic ethnic minority groups living in the different states within the country. The rapid growth in this population of the Hispanic ethnicity has been a major contributory key drive to the country's population growth over a decade ago. As documented in the 2014 census, an estimated figure of 55 million representing 17.4% was ascribed to the Hispanic population as a percentage of the total United States population (Maryland Department of Health and Mental Hygiene, 2013; Prince George's County Health Department, 2016).

The health problems associated with the Hispanic community have been a major concern of discussion in many articles of review, factors attributed to the dwindling health status yearly have also been discussed in the literature. Among the leading cause of death in this ethnic group are chronic diseases. Hypertension, cardiovascular disease, diabetes mellitus, stroke and cancer account for the top 5 causes of mortality along with obesity and overweight (Maryland Department of Health and Mental Hygiene, 2013).

Methods

Three distinct approaches were used. The first approach researched government reported data on the leading cause of mortality and morbidity among the Hispanic population in Prince George County, Maryland. Government data on health problems facing Hispanic study were accessed from the Maryland Department of Health and Mental Hygiene (2013). The second approach surveyed a large Hispanic church (ICR) located in Laurel. The questionnaire used assessed participant's knowledge about their health concerns. Finally, focus group of 20 men, women, younger children, community leaders and health workers (Greaney, Lees, Lynch, Sebelia & Greene, 2011). Each participant to rank the top health problems of concern and its severity using a simple chart. Participants responses were rated on a scale of 1 – 5 (one being the least possible response and five, the highest possible response) (Greaney, Lees, Lynch, Sebelia & Greene, 2011; Mier, Smith, Carrillo-Zuniga, Wang, Garza & Ory, 2012).

Fruit & Vegetable Consumption	N (%)
2-3 times per day	4.2
3-5 times per week	37.6
1-2 times per week	8.4
1 time per week	49.8
Total	100%

Physical activity	N (%)
At least 3 times per week	25.0
1-3 times per week	12.5
A couple times a month	41.7
Never	20.8
Total	100%

Table 1: Data for survey participants in a Hispanic church in Laurel, Maryland who reported intake of fruits and vegetables and regular exercise

Health conditions	Ranking
High Blood Cholesterol	10
Hypertension	9
Obesity	9
Diabetes Mellitus	8
Cancer	8
Emotional	8
Drugs	8
Respiratory Problems	7
Malnutrition	7
Alcohol	7

Table 2: Data ranking the focus groups of diseases of major concern among study participants.

Results

The leading causes of mortality for the Hispanic community in Laurel, Maryland from the 2013-2016 Maryland Office of Minority Health and Health Disparities in the Maryland Department of Health provide a baseline for program development.

In addition, Table 1 showed results relating to participant lifestyle, a lower proportion of participants answered to eating fruits and vegetables 1 per week representing 50% of total participants who answered the question, while 4.2% reported eating the recommended daily requirement of 2-3 per day. In reporting participant exercise only 25% of the total number who completed the survey complied with the recommended physical activity in form of exercise, 20.8% do not exercise (Tables 1 and 2).

To establish a clear relationship between healthy lifestyles and development of chronic medical conditions among participants, a multivariate analysis using chi-square test of independence was performed using the small population sample size. There was no statistical significance difference between knowledge of healthy lifestyle between sexes ($p=0.086$, alpha = 0.05).

Conclusion

In reducing the aftermath (unexpected sudden death) of chronic diseases among the Latino ethnic minority group living in Laurel, MD measures to be taken will be directed towards ways to improve the population knowledge on healthy lifestyle and efforts to limit barriers created by factors such as acculturation and limited access to health insurance and this goal will be achieve by the help of the international help team in training community health workers within the Hispanic community of Laurel on how to carry out educational training on healthy lifestyle and also to connect the community to both curative and preventive health services.

Even though this study is limited, chronic disease ranking that depicted, high blood cholesterol, hypertension and diabetes mellitus causative agents of unexpected sudden death need immediate attention of government.

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Maternal and Child Health Assessment Plan

Ogbozor, I.C. MPH, Eastern Virginia Medical School, Old Dominion University

Background: Virginia Department of Health's (VDH) mission is to promote the well-being of all people in Virginia. The State Health Assessment Plan helps VDH with opportunities to improve the health outcomes of its citizens by getting residents' recommendations on what can be improved upon to enhance wellness. The goal of this project was to examine the strengths and weaknesses of the services offered in Virginia to children with special needs and provide recommendations to address them.

Methods: Reviewed 178 key informant interview responses and 17 focus groups conducted within six population domains.

Results: Findings from the analysis of key informant interviews and focus group responses showed that services that would like to be improved differed within the population domains. The Pregnant Women population group found there is a strong need for childcare and before and after school care. The Adolescent's population group findings showed that sexual health care education provided by public schools is inadequate. The Women of Reproductive Age group found lack of transportation, living in a rural area, being a woman of color, economic and insurance discrimination, language, and cultural barriers were the main issues. The findings for the Male population group showed that there is a disconnect in awareness and behavior in preventing and managing chronic diseases and poor health outcomes.

Conclusion: Some of the proposed recommendations are to improve adolescent health to include mental health services that address youth planning. Improvements should be made to address childcare, transportation, and financial well-being with key stakeholders in all population domains.

Maternal and Child Health Assessment Plan

Ifeoma C. Ogbozor, MPH

Graduate Program in Public Health, Eastern Virginia Medical School| Old Dominion University

Introduction

Virginia Department of Health's(VDH) mission is to promote the well-being of all people in Virginia. The State Health Assessment plan helps VDH with opportunities to improve the health outcomes of its citizens by getting residents' recommendations on what can be improved upon to enhance wellness. The goal of this project was to examine the strengths and weaknesses of the services offered in Virginia and provide recommendations to address them

Methods & Results

- Reviewed 178 key informant interview responses and 17 focus groups conducted with six population domains.
- The population domains includes the following: pregnant women, infants and mothers of young children; children and youth with special health care needs; adolescents; women of reproductive age; men; and maternal and child health care providers and systems in Virginia.

Findings

Pregnant women
- Childcare is unachievable for some families because it is too expensive or hard to find.
- Pregnant women want their entire medical and mental health needs met.

Child with special Healthcare Needs
- Afterschool, summer, and respite (temporary relief) care are inconsistent across localities and expected level of support is lacking.
- Therapies and support services are challenging to access but effective when secured.

Adolescents
- Issues impacting youth include poverty, health insurance, pollution, safety and gun violence, and child abuse and neglect, underfunded schools and no job training
- Wait times, lack of licensed and qualified mental health and addiction providers, and travel time to reach necessary services continue to limit adolescent's ability to manage depression, anxiety, stress, loneliness, and use of alcohol and drugs to cope.

Discussion

Based on the results of the interview, the transportation issue is a hindrance for Virginian n residents. Some of the proposed recommendations are to improve adolescent health to include mental health services that address youth planning. Improvements should be made to address childcare, transportation, and financial well-being with key stakeholders in all population domains.

Acknowledgements

Implementing the Physical Activity and Education Program (COPP) to Prevent Obesity in Chesapeake, VA

Monk, B., BA, MA, Graduate Program in Public Health, Eastern Virginia Medical Center, Old Dominion University Center for Global Health.

Background/Purpose: Twenty percent of children living in Chesapeake, Virginia are obese which places this community at a high risk of the children becoming adults with more detrimental health issues. In addition, research has shown that children from lower-incomes are at a disproportionately higher chance of being obese. The economic wealth of Chesapeake, VA depends on lowering this percentage and decreasing the prevalence of obesity in this community.

The goal of the Chesapeake Obesity Prevention Program (COPP) is to increase access to healthier foods and the amount of in-classroom physical activity for children aged 5-9 who are most vulnerable to obesity. Our hope is that the program will reduce the prevalence of obesity for this cohort. This will be done in collaboration with city leaders, parents, school administrators/teachers and other health professionals (school counselors etc.,).

Methods: A review of published articles on the impact of childhood obesity was conducted along with an analysis of the Chesapeake, VA 2016 Comprehensive Plan for Children and Youth. We also created and utilized a logic model as a framework to depict the relationship between the COPP program activities and it's intended effects.

Results: A Physical Activity Training Manual was created to be used by all members of the COPP program along with a training brochure for classroom physical activity facilitators in Chesapeake, VA schools. Parent meal cards were also created in order to educate parents on healthy meals that they can make in the home setting with their children. Lastly, a bikeshare, community garden, and food vendor timelines were developed.

Conclusion: The next steps are to determine school locations that would benefit the most from COPP and possibly implement small pilot programs, locate possible funding sources, consider grant proposal/development and identify Chesapeake City Officials with similar interests that would potentially advocate for our program.

Implementing the (COPP) Physical Activity and Education Program to Prevent Obesity in Chesapeake, VA

Brianna Monk, BA, MA
Graduate Program in Public Health, Eastern Virginia Medical School
Old Dominion University, Norfolk, VA; The ODU Center for Global Health

Abstract and Introduction

The Center for Global Health (CGH) at Old Dominion University is a centralized hub aimed at providing the local community with global health resources, cultivating new research and educational activities and working with community partners to address global health issues. Recently, the CGH partnered with the city of Virginia Beach to do an analysis of the Let's Move Project aimed at reducing childhood obesity in the city of Virginia Beach.

However, in the neighboring city of Chesapeake, almost one third of the city is under the age of nineteen and twenty percent of this one-third are considered to be obese. While physical activity is not required in the state of Virginia, research has shown that increased classroom physical activity and access to healthy foods is efficient in reducing the incidence of obesity. The purpose of the Chesapeake Obesity Prevention Program (COPP) is to address the obesity epidemic in Chesapeake, VA (Bureau, 2018).

DEMOGRAPHIC ESTIMATES: 2017	ESTIMATE	PERCENT OF THE TOTAL POPULATION
Under 5 years	14,763	8.0%
5 to 9 years	15,936	7.2%
10 to 14 years	15,338	6.9%
15 to 19 years	18,217	8.2%

Objectives

To use the logic model approach to increase physical activity and access to healthy foods served to children 5 to 9 years of age.

Objective 1

Reduce the prevalence of obesity in children ages 5-9 living in Chesapeake, VA. (Interpersonal & Organizational level)

Objective 2

Increase access to healthy foods for children ages 5-9 living in Chesapeake, VA. (Policy, Organizational & Interpersonal Level)

Objective 3

Develop policies that would provide children ages 5-9 living in Chesapeake, VA with the safety and tools to lead a healthier lifestyle. (Policy Level & Community level)

Procedures

1. Conduct community needs assessment
2. Research on obesity epidemic in Chesapeake, VA
3. Create physical activity implementation timeline
4. Develop bike share/walking path plan and timeline

Impacts of Public Health

Global Environmental Health

Access to healthy foods in Virginia has been an ongoing issue and is primarily seen in areas of lower socio-economic status. In the Chesapeake, VA region access to healthy foods and socio-economic status have been documented. Addressing these disparities with community gardens and the development of grocery stores (or other fresh food sources) located no further than 2 miles away non-communities through implementation of the COPP program helps to ensure equal access for the entire Chesapeake, VA community.

Epidemiology

No data was collected as a part of this project but there is future opportunity to collect epidemiological data upon program implementation. For example, bmi reduction rates and average amount of weekly classroom activity per school/frequency of meal plan card use data to determine possible correlation between the amount of physical activity/healthy home meals and bmi reduction.

Health Management & Policy

The Chesapeake Obesity Prevention Program was developed as a program to be implemented for schools and the community in the city of Chesapeake. However, all documentation (training guides, bikeshare plans, etc.) and program evaluations and assessments will be documented throughout the duration program to be shared with other cities. These cities can use this information as a framework to establish their own programs and techniques to for implementation.

Health Promotion

The classroom physical activity training plan can be used to provide education to classroom facilitators of the physical activity plan. The meal cards for the parents provide education on healthy meals and how to shop for these meals. Flyers were created to administer to teachers, community leaders and parents to promote program and radio advertisements will be used to further promote to the community.

Method

- Review of published articles on impacts of childhood obesity
- Analysis of city of Chesapeake, VA 2016 Comprehensive Plan for Children and Youth
- Discussions with CGH staff on childhood obesity
- Utilized logic model as framework to depict relationship between COPP program activities and its intended effects

Results

- Physical Activity Training Manual
- Parent Meal Cards
- Bikeshare, Community Garden and Healthy Food Vendor Plans

Future Directions

- Determine locations that would benefit the most from COPP program and could possibly run a small pilot program.
- Locate possible funding sources and consider grant proposal & development
- Identify City Officials with similar interests that may support the initiatives of the program

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Master of Public Health — EVMS | ODU

Parental, Peer and School-Related Factors Associated with Perceived Risk of Harm in Monthly Cannabis Use Among US Adolescence: 2017 National Survey on Drug Use and Health (NSDUH)

Mariani, A.C., Department of Family Medicine and Population Health, Virginia Commonwealth University

Background: There has been an increase in cannabis use among U.S. adolescents over the past decade, which may be contributed by the steady decrease in their perception of cannabis use risk.

Purpose: The purpose of this study was to evaluate the parental, school, and peer influence as protective factors in the adolescents' perception of risk in monthly cannabis use.

Methods: The 2017 National Survey on Drug Use and Health (NSDUH) was used. A subsample of adolescents between the ages of 12-17 who responded to all survey questions relevant to the study were included (N=12,021). The study outcome was perception of risk of harm in monthly cannabis use as self-reported by adolescents between ages 12 and 17. The factors of interest were parental monitoring and support, perception of school importance, extracurricular activity participation, peer attitudes, and perception of peer use.

Results: Of 12,021 eligible adolescents, about 80% perceived risk of harm in monthly cannabis use. Approximately half of adolescents were Non-Hispanic White (53%) and male (51%), with a mean age of 15 (SD=0.02). Multiple logistic regression modeling suggested that the perception of risk in monthly cannabis use was significantly associated with being younger, being female, high household income, no history of substance use, positive school perception, participating in extracurricular activities, peer disapproval of cannabis use, and no perception of peers using cannabis.

Conclusion: Adolescents that perceived risk of harm in monthly cannabis use had low perception of peer use, high perception of peer disapproval of cannabis use, high perception of school importance, and participated more in extracurricular activities. Substance use prevention programs targeting adolescent attitudes and beliefs should leverage peer influence, extracurricular activities, and enhance schoolwork to be more meaningful are strongly recommended.

Parental, peer and school-related factors associated with perceived risk of harm in monthly cannabis use among US adolescence: 2017 National Survey on Drug Use and Health (NSDUH)

Abigail C. Mariani, Department of Family Medicine and Population Health, Virginia Commonwealth University

BACKGROUND

Adolescents have high risk of becoming addicted to cannabis and are more susceptible to having consequences on brain development and mental health problems due to cannabis use. Despite these risks, there has been a steady increase in cannabis use among U.S. adolescent in the past decade. A contributing factor to this could be the steady decrease of perception of cannabis use risk.

OBJECTIVE

To evaluate the parental, school and peer influence as protective factors in the perception of risk in monthly cannabis use.

METHODS

SAMPLE

2017 National Survey on Drug Use and Health (NSDUH) was used. Subsample of adolescents between 12 and 17 years old who responded to all survey question relevant to the study were included (N=12021).

OUTCOME

Adolescents perceiving risk of harm physically or in other ways in monthly cannabis use.

FACTORS OF INTEREST

- *Parental Factors.* Parental monitoring and parental support
- *Peer Factors.* Peer attitudes and perception of peer use
- *School Factors.* Perception of school importance and participation in extracurricular activities

COVARIATES

- Demographic variables (gender, age, race/ethnicity, household income)
- History of lifetime substance use (SU)

ANALYSES

Chi-square and Wilcoxon tests were used to assess differences in adolescents perceiving risk. Multiple logistic regression modeling was used to analyze perceived risk in monthly cannabis use. Survey procedures were used to account for complex sampling.

DIFFERENCES IN PARENTAL FACTORS

% of adolescents receiving parental support — Never/Seldom: 12.7, 19.5; Sometimes: 32.9, 34.9; Always: 54.5, 45.6

% of adolescents receiving parental monitoring — Never: 17.6, 18.9; Seldom: 14.7, 19.8; Sometimes: 27.5, 28; Always: 40.1, 33.3
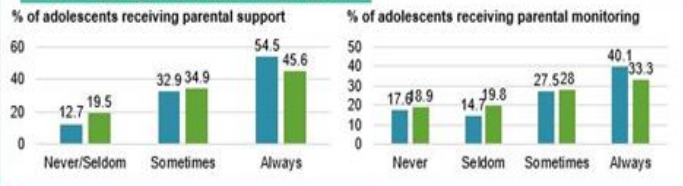
DIFFERENCES IN PEER FACTORS

% of adolescents perceiving friends disapprove cannabis use — 84.9, 44.3

% of adolescents perceiving peers use cannabis — None: 35.2, 11.9; A few: 43.9, 37.3; Most/All: 21, 50.8
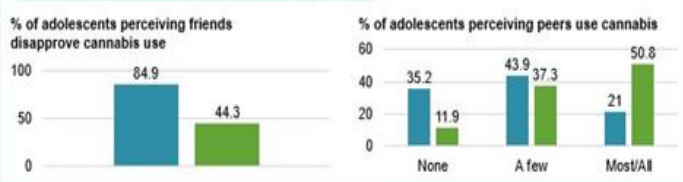
DIFFERENCES IN SCHOOL FACTORS

% of adolescents participating in extracurricular activities — 89.1, 78.6

% of adolescents perceiving schoolwork important — Never/Seldom: 21.9, 39.7; Sometimes: 52, 41.4; Always: 26.1, 18.9
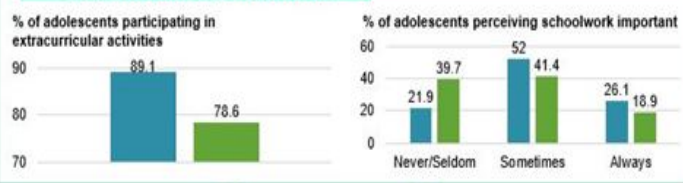
LEGEND: PERCEIVED RISK PERCEIVED NO RISK

LOGISTIC REGRESSION MODEL RESULT

Factors associated with perceived risk of harm in monthly cannabis use adjusting for demographic characteristics and lifetime SU

- Peer use: Perception of peers using cannabis (ref: Most/All)
- SCH: Perception of school importance (ref: Never/Seldom)
- PM: Parental monitoring (ref:Never)
- PS: Parental support (ref:Never/Seldom)

*p<0.05

Legend:
- Peer Use: A few*
- Peer Use: None*
- Peer disapproval*
- Activity participation*
- SCH: Always*
- SCH: Sometimes*
- PM: Always
- PM: Sometimes
- PM: Seldom
- PS: Always
- PS: Sometimes

OR 0.5 1 2 4

DESCRIPTIVE STATISTICS

	Perceived risk n=9591; 80.6%	No risk n=2430; 19.4%
Age[a]	13.9 ± 0.03	15.1 ± 0.06
Male[b]	4692 (48.7%)	1388 (56.4%)
Race/Ethnicity[a]		
NH White	5154 (53.3%)	1304 (53.4%)
NH Black	1184 (12.6%)	326 (14.2%)
Hispanic	2086 (23.6%)	542 (25.1%)
NH Other/ Multi-racial	1167 (10.4%)	258 (7.2%)
Household Income[b]		
<$20k	1406 (13.9%)	410 (18.2%)
$20-49k	2591 (25.8%)	782 (31.2%)
$50-74k	1415 (13.5%)	379 (14.2%)
>$75k	4179 (46.8%)	859 (36.4%)
Lifetime SU[b]	4335 (44%)	1859 (74.7%)

[a] Median ± STD   [b] N (weighted column %)

CONCLUSION/IMPLICATION

- Adolescents that perceived risk of harm in monthly cannabis use had low perception of peer use and high perception of peer disapproval of cannabis use, high perception of school importance and participate in extracurricular activities.
- Parental monitoring and support were not significantly associated with perception of risk of harm.
- Effective substance use programs targeting adolescent attitudes and beliefs should utilize peer influence, extracurricular activities and meaningful schoolwork are strongly recommended.

Anxiety and Depression in Hispanic and Non-Hispanic African American Obese Children in the United States

Hunt, M.M., Jensen-Wachspress, A.K., Holt, N.M., MPH, DrPH, Master of Public Health, Eastern Virginia Medical School

Background: Social behavioral determinants of health are critical considerations for behavioral change, such as reducing the prevalence of childhood obesity. Mental health factors like anxiety and depression can influence one's determination and behavior. In this study, we aim to investigate the association between anxiety and depression and obesity in African-American and Hispanic children in the United States.

Methods: We investigated the prevalence of anxiety and depression among non-Hispanic African-American and Hispanic obese (BMI > 95th age and sex-specific percentile) children aged 0-17 years (N=21,599) using data from the 2017 National Survey of Children's Health (NSCH).

Results: Out of the 21,599 children, 50.2% were found to be obese (BMI > 95th percentile of age and sex-specific CDC guidelines). Of the African American children, 11.5% were found to be obese, with 4.8% noting current anxiety and 2.9% with depression. Within the Hispanic children, 8.7% were shown to be obese, with 7.2% noting current anxiety and 3.7% with depression. A two-way chi-square statistical test was performed ($p = 0.05$) and all variables were found to have a non-significant association ($p > 0.05$).

Discussion/Conclusion: We did not find a significant association between childhood obesity and anxiety and depression in African-American and Hispanic children ($p > 0.05$). We therefore recommend further investigation among African-American and Hispanic obese children and other factors of social determinants of health. Future investigations would help public health officials understand and revise intervention programs to reduce the prevalence of childhood obesity via use of social determinants of health in vulnerable communities.

Anxiety and Depression in African-American and Hispanic Obese Children in the United States

Mackenzie Hunt, Arianna Jensen-Wachspress, and Nicole Holt, MPH, DrPH

Master of Public Health, Eastern Virginia Medical School

Introduction

Childhood obesity is defined as a body mass index (BMI) at or above the 95th percentile of the Centers for Disease Control (CDC) sex-specific BMI-for-age growth charts.[1] The prevalence of childhood obesity is 18.5% and has affected roughly 13.7 million children and adolescents.[2] Among children, Hispanic and non-Hispanic blacks statistically have a higher obesity prevalence than non-Hispanic whites.[1] The disease has increased throughout the 21st century, indicating the urgency in addressing the endemic.

Obesity is a risk factor for various chronic diseases ranging from diabetes to complications related to cardiovascular disease to musculoskeletal issues.[4] Risk factors for obesity are dependent on an individual's genetics, behavior, and community influence; children are more likely to be obese if their environments do not support healthy eating habits or opportunities for physical activity.[4] Literature suggests that preventative measures to reduce the prevalence of disease(s) is not only more economically feasible but can also contribute to a healthier quality of life, with less disability-adjusted life years (DALYs).[5]

Several interventions have already been identified as effective in addressing obesity. Some current identified interventions include regulating labeling on food products to facilitate consumer knowledge, promoting physical activity in work places, and offering counseling for dietary changes.[6] However, a knowledge gap still exists in identifying groups of highest need. Addressing the groups of highest need would help interventions be better formulated and implemented to produce the most benefit. Our objective would be to figure out what factors are currently known to identify high risk groups such as race and gender and build on that to evaluate what other variables such as anxiety and depression that may help us identify these types of groups nationwide.

Purpose

The purpose of this study is to determine if there a significant association between mental health factors such as anxiety and depression among African-American and Hispanic obese children.

Methods

Data used for this cross-sectional study came directly from the 2017 National Survey of Children's Health (NSCH) (N = 21,599). The National Survey of Children's Health is sponsored by the Health Resources and Services Administration's (HRSA) Maternal and Child Health Bureau (MCHB) under the U.S. Department of Health and Human Services (HHS). The survey provides detailed data regarding health, well-being, and access to amenities for non-institutionalized children, ages 0-17 years.

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Results

Out of the 21,599 non-institutionalized children surveyed, 50.2% were reportedly obese (BMI > 95th percentile of age and sex-specific CDC guidelines). 11.5% of African American children were obese, with 4.8% noting current anxiety and 2.9% with depression. 8.7% of Hispanic children were obese, with 7.2% noting current anxiety and 3.7% with depression. We used a two-way chi-square (p = 0.05) statistical test to investigate a significant correlation between obesity and anxiety and obesity and depression in African-American and Hispanic children. All p-values were greater than the accepted p-value (p > 0.05), indicating that there was not a significant correlation between these variables.

Fig. 1-3: percentage of obesity, anxiety, and depression prevalence in African-American and Hispanic children

Fig 1: Obesity (BMI > 95th percentile of age and sex-specific CDC guidelines)

Race	N	Percentage (%)
African-American (non-Hispanic)	1,365	11.5
Hispanic	724	8.7

Fig. 2: Anxiety Currently

Race	N	Percentage (%)
African-American (non-Hispanic)	1,365	4.8
Hispanic	2,470	7.2

Fig 3: Depression Currently

Race	N	Percentage (%)
African-American (non-Hispanic)	1,365	2.9
Hispanic	2,470	3.7

Figures 4 and 5: p-values from 2-way chi-square statistical tests for childhood obesity and anxiety and childhood obesity and depression.

Fig. 4: Childhood Obesity and Anxiety

Race	p-Value
African-Americans	0.786
Hispanics	0.772

Fig 5: Childhood Obesity and Depression

Race	p-Value
African-Americans	0.107
Hispanics	0.820

Discussion

While our results indicated that a significant association does not exist between African-Americans and Hispanic obese children with anxiety or depression, a significant association existed on a national level between general childhood obesity and anxiety and general childhood obesity and depression (p = 0.000). To determine if a significant relationship exists between childhood obesity and anxiety and childhood obesity and depression, different individual, interpersonal, or community factors in social determinants of health would need to be considered.

Further, we recommend that the prevalence of childhood obesity in African-American and Hispanic communities are also examined through different factors of social determinants of health. A follow-up investigation with a focus on vulnerable, obese minorities would not only help public health officials gain an understanding of social determinants of health within the populations but it would also help in the re-evaluation of intervention programs targeting childhood obesity.

Conclusion

Using data from 2017's National Survey of Children's Health, we investigated the prevalence of anxiety and depression among African-American and Hispanic obese children. Of the 21,599 children who were surveyed, 50.2% were found to be obese. While we did not find a significant correlation of anxiety and depression among African-American and Hispanic obese children (p > 0.05), a significant correlation existed between national childhood obesity and anxiety and national childhood obesity and depression (p = 0.000). We recommend that further investigation of various social behavior of health factors are examined among African-American and Hispanic obese children. Follow-up examination of specific communities would not only help public health officials better understand driving factors of social determinants of health but would also assist with specific intervention programs for targeted, vulnerable communities. In turn, this could help reduce the prevalence of childhood obesity among various non-institutionalized communities.

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Is Gabapentin Related to Opioid Overdose Deaths in the US for 2017?

Omali, Jill, PharmD, ACCP Critical Care PRN, Walmart Pharmacy, Farmville, Virginia, and Volunteer Clinical Pharmacist, Crossover Health Clinic, Richmond, Virginia, USA.
Erah, Patrick, Ph.D Professor of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmacy, University of Benin, Benin City, Nigeria
Pounds, Teresa, PharmD, BCNSP Clinical Pharmacy Manager; Pharmacy Residency Program Director, Atlanta Medical Center – Tenet Healthcare System, Clinical Assistant Dean for Clinical Pharmacy Education, Mercer University College of Pharmacy, GA, USA
Egbujiobi, Leo, RPh MD Ex President, NAPPSA Inc., Cincinnati, OH, USA

Background: Gabapentin abuse (often patient-initiated), and misuse (often prescriber-initiated), is a public health concern. One in every three opioid overdose deaths in the US is linked to gabapentin. From 2011– 2017, gabapentin was top of fifteen drugs involved in opioid overdose deaths.

Purpose: The purpose of this study was to validate Gabapentin's Schedule V reclassification in the US states with analyzable data, and the screening for appropriateness of its off-label prescribing by healthcare providers.

Methods: Record-level data on electronic files from death certificates on CDC WONDER Online Database, compiled by the Centers for Disease Control and Prevention's (CDCs) National Center for Health Statistics (NCHS) for 2017, were analyzed. The opioid overdose deaths involving gabapentin coded T42.6 was investigated with ICD–10–CM (International Classification of Diseases, Tenth Revision, Clinical Modification). Publications on gabapentin's off-label use between 2014-2018 in the US opioid overdose deaths in 2017 by eight different authors were reviewed for power, clinical outcomes, and evidence level classification backing the off-label prescribing trends.

Results: Pharmacists' education is crucial in clinicians successfully adapting to the uncertainties of this threat. The top five states by the ranks (%) were Kentucky (21.38), Utah (18.86), Nevada (14.08), North Carolina (11.88), and Georgia (9.76). Of the twelve outcomes for gabapentin's off-label prescribing (misuse) in (%), five were weak (41.67), four were negative (33.33), and three were positive (25).

Conclusion: More US states must reschedule gabapentin Schedule V. Online registries with easily retrievable data correctly tracking diversion, misuse, and abuse, are vital. The off-label prescribing of gabapentin must be restricted to level I, II, or III evidence from 3 or more quality studies in scenarios where it is not the drug of choice but no better alternative exists.

Perceptions of Mindfulness-Based Approaches & the Impact on Resilience of Graduate Students and Healthcare Faculty

Carper, L., Neiser, T., Reid, H., & Wenos, J., College of Health & Behavioral Studies, James Madison University

Purpose: The purpose of this study was to determine the value of a 10-day mindfulness-based app in alleviating stress experienced by graduate students, to determine the value of mindfulness to healthcare faculty members, and to better understand resilience among first year graduate students.

Methods: Phase A consisted of a pilot study on first year graduate students in an Occupational Therapy (OT) program (n=4) using a mindfulness-based meditation application called Headspace. During Phase A, participants completed online surveys about attitudes of mindfulness, perceived stress, satisfaction with life, and resiliency at pre/post intervention. During Phase B of the study, student participants of an OT graduate program cohort (n=22) completed a paper/pencil survey on perceived stress and resilience. During Phase C, a group of health-related faculty (n=10) completed an online survey regarding mindfulness practices.

Results: Phase A- Headspace intervention, participants (n=12) experienced an attrition rate of 67%. Four participated in the pre-test and another participant dropped before completing the post-test. Descriptive statistics were conducted in addition to a Spearman rank-order correlation to determine if a relationship existed between scores on Resiliency and Perceived Stress scales following intervention by OT students. There was no statistically significant correlation between Resilience and Perceived Stress among first year OT students ($r_{s\,(1)} = .667$ p>.05). Phase B survey results (100% return rate) revealed 100% (22) of OT students agreed the semester was mentally and emotionally challenging, and 50% of students (11) reported effective ways to cope while 50% (11) felt ambivalent/disagreed they were able to cope. The most frequently identified strategies used included social engagement, entertainment, introspection, exercise, and sleep/rest. Phase C survey results (34% return rate) showed 100% (10) of faculty respondents agreed or strongly agreed that mindfulness-based strategies are an effective use of time and benefit health-care professionals and their clients; however, only 50% (5) agreed or strongly agreed to implementing mindfulness in their classrooms.

Conclusion: Phase A: Students recognized awareness as a key component of mindfulness. Students were better able to cope, but were unhappy with life during a stressful time.

Phase B: Only half of students were able to cope effectively. Decreased coping was due to changes in motivation, perceived lack of control, and feeling incapable.

Phase C: Despite unanimous belief in the benefits of mindfulness, only half of health-related university faculty survey respondents implement mindfulness in classrooms.

JAMES MADISON UNIVERSITY

Perceptions of Mindfulness-based Approaches & the Impact on Resilience of Graduate Students and Healthcare Faculty

JMU Department of Health Professions

COLLEGE OF HEALTH AND BEHAVIORAL STUDIES JAMES MADISON UNIVERSITY

Lauren Carper, Taylor Neiser, Holly Reid, and Dr. Jeanne Wenos, Advisor

Abstract

Background
Mindfulness is a cognitive and spiritual practice that encourages fully engaging in the moment, while acknowledging, but not fixating, on thoughts. A small portion of the population in the United States utilizes mindfulness-based practices in daily life. Mindfulness can yield psychological benefits, and it is less known how these practices are understood and utilized in health-care fields and health-related educational programs. Therefore, the purpose of this study was threefold: to determine the value of a 10-day mindfulness-based app in alleviating stress experienced by graduate students, to better understand resilience among first year graduate students, and to determine healthcare faculty members' views of mindfulness in teaching and practice.

Methods
Phase A consisted of a quasi-experimental pilot study of first year graduate students in an Occupational Therapy (OT) program (n=12) using a mindfulness-based meditation application called Headspace. During Phase A, participants completed online surveys about attitudes of mindfulness, perceived stress, satisfaction with life, and resiliency at pre/post intervention. During Phase B of the study, student participants of a MOT graduate program cohort (n=22) completed a paper/pencil survey during their Fall semester on perceived stress and resilience. During Phase C, a group of health-related faculty (n=10) completed an online survey regarding mindfulness practices.

Results
Phase A- Headspace intervention, participants (n=12) experienced an attrition rate of 67%. Four participated in the pre-test and another participant dropped before completing the post-test. Descriptive statistics were conducted in addition to a Spearman rank-order correlation to determine if a relationship existed between scores on Resiliency and Perceived Stress scales following Headspace Intervention by OT students. There was no statistically significant correlation between Resilience and Perceived Stress among first year OT students ($r_{(1,11)}=.667\ p>.05$). Phase B survey results (100% return rate) revealed 100% (22) of OT students agreed the semester was mentally and emotionally challenging, and 50% of students (11) reported effective ways to cope while 50% (11) felt ambivalent/disagreed they were able to cope. The most frequently identified strategies used included social engagement, entertainment, introspection, exercise, and sleep/rest. Phase C survey results (34% return rate) showed 100% (10) of faculty respondents agreed or strongly agreed that mindfulness-based strategies are an effective use of time and benefit health-care professionals and their clients, however only 50% (5) agreed or strongly agreed to implementing mindfulness in their classrooms.

Limitations of the study:
- The results for Phase A must be interpreted with caution due to a lack of sufficient power to determine differences in pre and post testing, and associations between resilience and perceived stress.
- Participation in the pilot study may have been viewed as an additional stressor to students enrolled in a previously identified stressful semester.

References

Outcomes

Phase A: Students recognized **awareness as a key component of mindfulness**
Students were better able to cope, but were unhappy with life during a stressful time

Phase B: Only **half of students were able to cope effectively**
Decreased coping was due to changes in motivation, perceived lack of control, and feeling incapable

Phase C: Despite **unanimous belief in the benefits of mindfulness, only half** of health-related university faculty survey respondents **implement mindfulness in class**
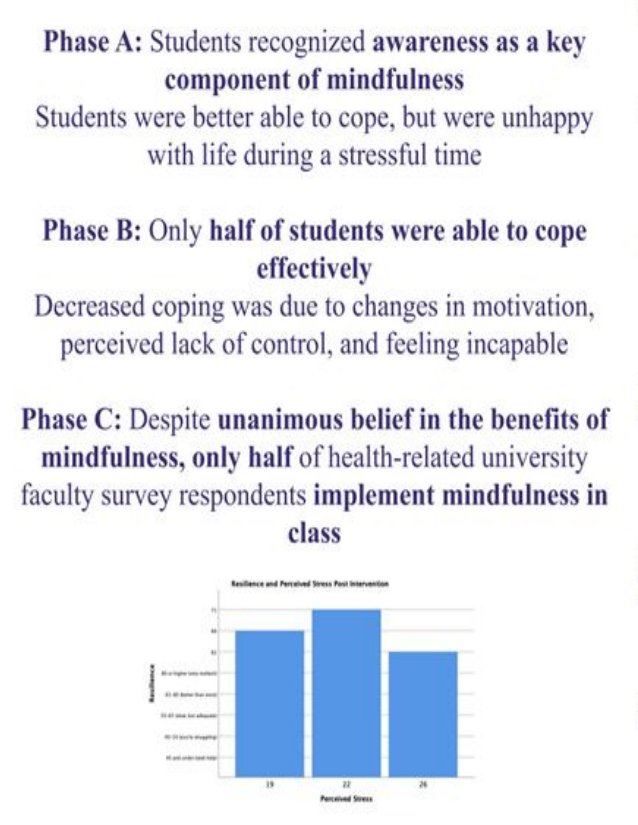
Figure 1.4 Association Values of Resiliency Quiz and Perceived Stress Scale following Headspace Intervention

Tables and Figures

Phase A

Figure 1.1 Participant 1 Pre and Post Intervention Scores

Figure 1.2 Participant 2 Pre and Post Intervention Scores

Figure 1.3 Participant 3 Pre and Post Intervention Scores

Phase B

Figure 2.1 Graduate Student Group Survey Response for Effective Coping

Phase C

Figure 3.1 Demographics of Faculty Participants for Perceptions of Mindfulness Survey

Figure 3.2 Faculty responses to implementation of Mindfulness-based practices in Personal Life vs. Classroom

Assessing Knowledge of Patients on Oral Topics and Evaluating the Services They Receive at Ben Massell Dental Clinic

Nallapaneni S., MPH, BDS, Georgia State School of Public Health

Purpose: The purpose of this study was to assess the knowledge of patients on topics of oral cancer and gum health and to evaluate the services that they receive at Ben Massell Dental Clinic.

Methods: A 26-question survey was developed and distributed to the patients while they were waiting in the room. These surveys were anonymous and consisted of 10 questions related to oral cancer, 10 related to gum health and 6 in relation to the services that they received at Ben Massell Dental Clinic. Once results were all collected, they were organized into an excel sheet and analyzed using SAS 9.4 software. The results thus obtained were summarized via descriptive statistics.

Results: Of the 250 individuals, 172 (68.8%) people received a score between 0-10 and were considered to have low levels of knowledge on the oral topics. The remaining 78 (31.2%) received a score between 11-20 and were considered to have high levels of knowledge on the oral topics. Of the 180 females, 58 (32.22%) had high levels of knowledge and 122 (67.78%) had low levels of knowledge. Of the 62 males 19 (30.65%) had high levels of knowledge and 43 (69.35%) had low levels of knowledge

Conclusion: The results showed that people need oral education in order to prevent oral and related cancers. Females were found to be more in need than males.

Assessing knowledge of patients on oral topics and evaluating the services they receive at Ben Massell Dental Clinic
Ben Massell Dental Clinic
Sravya Nallapaneni (MPH, BDS)

GeorgiaState University | SCHOOL OF PUBLIC HEALTH

THE BEN MASSELL DENTAL CLINIC

BACKGROUND

- Despite being highly preventable oral cancer is associated with high mortality rates. Global annual incidence of these cancers are estimated as 529,500. Annually in the United States, an estimated 51,540 persons are diagnosed with OC.
- The World Health Organization reported that most children and adolescents exhibit signs of mild periodontal disease in the form of gingivitis, while 5-20% of adult populations experience severe periodontal disease in the form of severe periodontitis.
- Ben Massell dental clinic is a non profit organization which provides dental services for free to the most neediest population of Atlanta. The clinic runs entirely by volunteer dentists and has been recognized both nationally and internationally for its innovative model of serving people.

PURPOSE

The purpose of my practicum was to assess the knowledge of patients on topics of oral cancer and gum health and also to evaluate the services they receive at Ben Massell dental clinic.

Competency 1: Communicate audience-appropriate public health content, both in writing and through oral presentation
- Activities - Give oral presentations and instructions to patients regarding gum care.

Competency 2: Design and evaluate interventions to reduce prevalence of major public health problems
- Activities - Educate the patients about the preventive measures and signs and symptoms of oral cancer.

Competency 3: Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels
- Activities - Collect information from patients regarding the challenges that they are facing to obtain required dental care

MATERIALS AND METHODS

- An anonymous 26 question survey was designed and distributed to the patients while they were waiting in the waiting room of which 10 questions were related to oral cancer, 10 were related to gum health and the rest 6 were on the quality of services that were being received at Ben Massell.
- The survey questions were approved by the Director of the clinic before they were distributed.
- The questionnaire was utilized as a presurvey before oral presentations were done on the relevant material to them using PowerPoints.
- Once the results were collected they were organized onto an excel sheet.
- The data that was collected was run in SAS 9.4 version to analyze the results.
- The results were summarized via descriptive statistics.
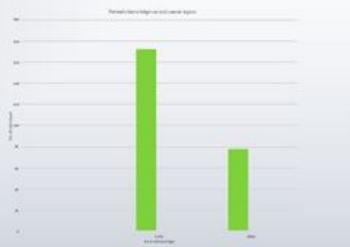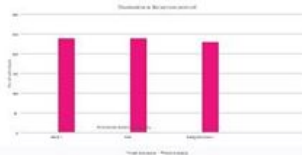
Figure : Patients level of knowledge on oral topics is determined based on the score they received on scale..
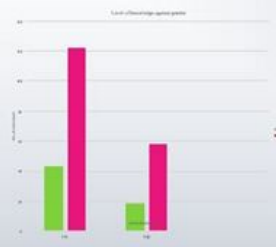
Figure 2: Level of knowledge against gender. Gender was determined based on the self response of the patients.

RESULTS

Of the 250 individuals people who received a score between 0-10 were considered to have low levels of knowledge on the oral topics which came to be 172(68.8%) which is more than half of the sample.
The rest (78)31.2% received a score between 11-20 and are considered to have high levels of knowledge on the oral topics
Of all the participants 180 (74.07%) were female, 62 (25.51%)were male and 1(0.41%) was other gender. 7 missing values.
Of the 180 female individuals 58(32.22%) had high levels of knowledge and 122(67.78%) had low levels of knowledge.
Of the 62 male individuals 19(30.65%) had high levels of knowledge and 43(69.35%) had low levels of knowledge and that 1 individual from other race had low levels of knowledge.
Of all the participants 2 (0.85%)are Non hispanic Asians, 133(56.36%) are non Hispanic black, 53(22.46%) are non Hispanic white, 5(2.12%) are other Hispanic, 43 (18.22%) are other race. 14 missing values.
Of all the participants 22(9.13%) are immigrants and 219(90.87%) are non immigrants. 9 missing values.
2(0.86%)participants chose the option of facing the discrimination based on their immigration status. 17 missing values.
1 (0.41%)participant chose the option of facing the discrimination based on their race. 8 missing values.
2 (0.83%)participants chose the option of facing the discrimination based on their gender. 8 missing values.

CONCLUSIONS

People are in need of oral education in order to prevent oral and related cancers specially females are in more need than males.
Ben Massell is providing the services at the highest level possible without discrimination
One limitation with the study was that I have not recorded the age of the patients
All the data which were collected is self reported and some of them have guessed the answers.

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Examining the Association Between Tobacco Smoking Cessation Method Type and Number of Days Abstinent During Tobacco Cessation Attempts

Reid, T. M., Blondino, C. T., Clifford, J. S., Prom-Wormley, E.C., Virginia Commonwealth University Medical Center

Purpose: The purpose of this study was to test the association between tobacco smoking cessation methods and length of time abstinent from conventional cigarette use.

Methods: Adult participants from the Population Assessment of Tobacco and Health (PATH) survey (Wave 3, 2015 - 2016) who were conventional cigarette users and reported an attempt to quit smoking in the past 12 months (N = 3,797) were included in the study. The number of cessation days from cigarette smoking was the outcome variable (mean = 29.6). The exposure variable, smoking cessation method, was categorical and included 6 methods of cessation. A multiple linear regression was used to test the association between cessation methods and the number of days abstinent from cigarette smoking during a quit attempt, while accounting for all demographic characteristics.

Results: Respondents who reported use of e-cigarettes had, on average, 19.6 more days of smoking cessation than those who did not, while those who used counseling had, on average, 11.3 more days of smoking cessation compared to those who did not. Participants who reported using nicotine replacement therapy (NRT) yielded, on average, 7.1 less days of cessation than those who did not use NRT, and those who used other tobacco products as a cessation tool had 16.9 less average cessation days than those who did not.

Conclusion: E-cigarette use and counseling were associated with increased days of cessation. Use of NRT and use of other tobacco products were associated with fewer days of smoking cessation. These findings indicate useful cessation types for harm reduction efforts in cigarette smoking cessation.

EXAMINING THE ASSOCIATIONS BETWEEN TOBACCO SMOKING CESSATION METHOD TYPE AND NUMBER OF DAYS ABSTINENT DURING TOBACCO CESSATION ATTEMPTS

Taylor Reid, Courtney Blondino, James Clifford, Elizabeth Prom-Wormley

Background

- Nicotine in conventional cigarettes is highly addictive, making it difficult for smokers to abstain for more than a few days at a time without relapse
- Short term smoking cessation occurring within a year or less of a quit attempt is associated with increased positive health outcomes
- Short term cessation efforts have been identified as a harm reduction strategy to reduce the health burden of conventional cigarette use
- Little is known about effective cessation tools for short term smoking cessation

Study Aims

- To test the association between tobacco smoking cessation methods and length of time abstinent from conventional tobacco use

Methods

Study Population
- Data were examined from the Population Assessment of Tobacco and Health (PATH) Dataset, a nationally representative survey. The Wave 3 adult (18 years and older) sample was examined (2015-2016, N= 28,148).
- The sample size was reduced to participants who were conventional tobacco users (non-electronic nicotine product users) and reported an attempt to quit smoking in the past 12 months only (N = 3,797)

Measures
- Outcome: Number of cessation days was measured as a continuous variable using the following item: "In the past 12 months, length of time you stopped smoking/using tobacco product(s) because you were trying to quit" Respondents answered with the number of cessation days.
- Exposure: Smoking cessation product type was assessed based on 6 binary variables, including: support from family and friends, counseling, e-cigarettes, nicotine replacement therapy, prescription medication, and the use of no other tobacco products as a cessation method. Participant responded were recorded as "marked" indicating "yes" and "not marked" indicating "no"
- Covariates: Included: sex (binary), age (6-level categorical), annual income (5-level categorical), race (3-level categorical), education (5-level categorical), a variable that asked if participants believed that tobacco has caused or is causing a health problem (binary), insurance type (5-level categorical), and a withdraw sum score that indicated how many withdraw symptoms respondents had, (8-level categorical). These variables were included because previous literature cited the importance of these variables in smoking cessation.

Statistical Analysis

- The distribution of all categorical variables were estimated using PROC SURVEYFREQ
- The association between cessation methods and the number of days abstinent from tobacco smoking during a quit attempt was tested using unadjusted and adjusted linear regression while accounting for all covariates
- All analyses were conducted in SAS V9.4 using PROC SURVEYREG and PROC SURVEYFREQ to account for the complex survey design in PATH

Results

Table 1. Distribution of Study Variables (N=3797)

Variable	N (Weighted %)		Variable	N (Weighted %)
Cessation Type	Used	Not Used	Age	
Family/Friend Support	1137 (28.89)	2655 (71.10)	18-24	853 (14.39)
Counseling, Media	333 (8.30)	3496 (91.69)	25-34	935 (23.04)
E-Cigs	602 (15.54)	3163 (84.45)	35-44	630 (18.46)
NRT	513 (18.49)	2380 (81.50)	45-54	577 (18.96)
Rx Drug	230 (8.29)	2636 (91.70)	55-64	533 (18.58)
Used Other Tobacco Product	768 (19.66)	2597 (80.34)	65+	269 (9.84)
Believe Tobacco Caused Health Problem			Sex	
Yes	2728 (71.54)		Male	1999 (56.33)
No	1051 (28.45)		Female	1798 (43.66)
Insurance			Income	
Some Private Insurance	1903 (53.52)		< $10,000	813 (20.77)
No Private (some Medicare)	371 (10.84)		$10,000-24,999	961 (24.99)
No Private (some Medicaid)	648 (15.07)		$25,000-49,000	843 (22.64)
Other Insurance	141 (3.34)		$50,000-99,999	857 (21.51)
No Insurance	700 (17.21)		$100,000 +	299 (10.06)
Withdraw Sum Score			Race	
0	895 (24.54)		Black Alone	2680 (74.44)
1	462 (13.56)		Other Race	680 (16.71)
2	390 (10.19)		White Alone	401 (8.84)
3	408 (10.21)		Education	
4	443 (11.83)		Less than High School	601 (14.84)
5	394 (9.71)		High School or GED	1262 (34.24)
6	374 (9.69)		Some College	1440 (36.46)
7	408 (10.23)		Bachelor's Degree	358 (11.10)
Cessation Days N (Mean)	3777 (29.67)		Advanced Degree	123 (3.33)

- Most participants (28.89%) used family/friend support for smoking cessation (Table 1)
- Participants who used e-cigarettes had on average, 19.64 more days of smoking cessation compared to those who did not
- Participants who used counseling had a greater number of cessation days (11.33) than those who did not
- Participants who reported using NRT had fewer average cessation days (-7.07) than those who did not

Table 2. Associations between Duration of Tobacco Cessation and Cessation Method

Variable	Smoking Cessation Days (Unadjusted) β (95% CI)	Smoking Cessation Days (Adjusted) β (95% CI)
Cessation Type		
Family/Friend Support (ref = No)	1.50 (-3.61, 6.63)	1.04 (-5.31, 7.39)
Counseling, Media (ref = No)	4.45 (-3.27, 12.18)	11.33 (0.73, 21.92)
E-Cigs (ref = No)	7.27 (1.21, 13.33)	19.64 (4.73, 34.56)
NRT or Pill (ref = No)	-8.23 (-12.75, -3.76)	-7.07 (-12.92, -1.22)
Rx Drug (ref = No)	-4.46 (-11.52, 2.56)	-0.45 (-8.44, 7.52)
Used Other Tobacco (ref = Yes)	2.39 (-3.06, 7.85)	-16.89 (-23.79, -9.98)
Sex (ref= female)		
Male	-3.70 (-8.65, 1.24)	-6.21 (-12.93, 0.50)
Age (ref= > 65 years old)		
18-24	16.76 (5.87, 26.65)	14.68 (2.37, 26.99)
25-34	9.84 (-0.57, 20.26)	12.52 (-0.68, 25.73)
35-44	2.78 (-7.33, 12.86)	4.58 (-7.65, 16.81)
45-54	3.21 (-7.93, 14.37)	4.59 (-6.85, 16.04)
55-64	0.36 (-9.76, 10.48)	3.52 (-7.70, 14.75)
Race (ref= White alone)		
Black Alone	-5.81 (-11.88, 0.25)	-4.87 (-11.13, 1.38)
Other Race	11.96 (2.34, 21.57)	7.69 (-3.37, 18.76)
Education (ref=Advanced Degree)		
Less than High School	-3.27 (-18.41, 11.85)	-1.83 (-19.55, 15.87)
High School or GED	-6.65 (-19.57, 6.27)	-8.27 (-22.48, 5.94)
Some College	-0.53 (-14.07, 13.00)	-3.21 (-18.18, 11.76)
Bachelor's Degree	0.63 (-13.23, 14.50)	-2.87 (-18.41, 12.66)
Income (ref= $100,000 or more)		
< $10,000	0.41 (-9.20, 10.03)	7.01 (-5.17, 19.19)
$10,000-24,999	-1.29 (-9.16, 6.58)	2.64 (-7.41, 12.70)
$25,000-49,000	-2.60 (-10.50, 5.29)	-0.76 (-10.98, 9.45)
$50,000-99,999	-2.35 (-10.89, 6.18)	0.27 (-10.67, 11.22)
Insurance (ref= Some Private Ins.)		
No Private (some Medicare)	-3.85 (-11.86, 4.09)	1.04 (-9.44, 11.53)
No Private (Some Medicaid)	-0.38 (-8.33, 7.56)	-2.99 (-13.98, 7.98)
Other Insurance	-6.03 (-14.44, 2.26)	-2.69 (-13.75, 12.26)
No Insurance	-0.98 (-7.92, 5.95)	-0.74 (-10.98, 6.67)
Believe Tobacco Caused Health Problem (ref = No)		
Yes	-2.92 (-9.28, 3.44)	-2.38 (-9.36, 4.59)
Withdraw Sum Score (ref = 0)		
1	4.34 (-2.86, 11.54)	8.26 (-0.87, 17.41)
2	7.27 (-2.59, 17.14)	11.28 (0.92, 21.64)
3	-1.83 (-10.08, 6.41)	-1.20 (-11.66, 9.25)
4	-6.13 (-13.44, 1.18)	-2.68 (-11.75, 6.38)
5	-3.11 (-11.81, 5.58)	3.00 (-8.26, 14.27)
6	-5.90 (-14.97, 3.95)	0.54 (-13.4, 14.55)
7	-11.27 (-18.08, -4.46)	-12.11 (-20.45, -3.78)

Bolded values indicate estimate estimate significant at p <0.05

Conclusions

- E-cigarette use and counseling were associated with longer durations of cessation and may reflect more successful strategies to cessation of tobacco use
- Limitations include testing of a relatively short time frame of abstinence (12-month period), no confirmation of nicotine abstinence via cotinine levels, and recall bias. Future longitudinal studies are needed to confirm these results over time

Adverse Childhood Experiences and Intimate Partner Violence

Lewis, K.B., Hosseinian, S.R., Nicola, L.P., and Oates, A.D., College of Health and Behavioral Studies

Purpose: Previous research has focused on Adverse Childhood Experiences (ACEs) and the future effects of intimate partner violence among males, with an emphasis on deviant behaviors. This descriptive cross-sectional study investigated the relationships between ACEs, intimate partner victimhood and perpetration, biological sex, partner communication, and cyber intimate partner violence in college-aged adults.

Methods: An online survey was distributed through social media outlets, specifically Facebook and Instagram, targeting college-aged adults aged 18-24 years old (n=228). Data analysis was conducted using the Statistical Package for the Social Sciences Version 26 (SPSS 26.0).

Results: Mann Whitney U tests of biological sex with both scales of intimate partner victimhood revealed women were more likely to be victimized than men ($U = 2159$, $p < 0.01$; $U = 2361$, $p < 0.01$) which is consistent with previous literature. Spearman correlations indicate ACEs were inversely associated with partner communication ($p<0.01$:$r=-0.271$), while ACEs and cyber intimate partner violence had a weak positive association ($p<0.01$:$r=0.355$). Spearman correlation tests further suggested those with more ACEs were more likely to experience both physical and emotional victimhood ($p<0.01$: $r=0.511$; $p<0.01$: $r=0.484$). Lastly, as ACEs increased, so did the likelihood of perpetration ($p<0.01$: $r=0.180$).

Conclusion: Continued investigation of this topic is warranted to more thoroughly understand mechanisms for effective prevention and intervention.

Adverse Childhood Experiences and Intimate Partner Violence

Sarah Hosseinian, Kelby Lewis, Lauren Nicola, Amelia Oates

Faculty Advisor: Stephanie Baller, PhD

Department of Health Sciences, James Madison University

JMU
JAMES MADISON
UNIVERSITY.

COLLEGE OF
HEALTH AND
BEHAVIORAL STUDIES
JAMES MADISON UNIVERSITY.

Problem & Significance

Previous evidence indicates exposure to Adverse Childhood Experiences (ACEs) has the potential to increase an individual's likelihood of becoming perpetrators or victims of Intimate Partner Violence (IPV) in the future. There is limited research regarding the relationship between ACEs and IPV in college-aged adults, which verifies the importance of focusing on this topic. The establishment of a relationship would indicate the importance of increasing awareness about ACEs and its roles in IPV in order to diminish further violent behaviors.

Literature & Theory

Supporting literature led the researchers to utilize environmental components, specifically observational learning from the Social Cognitive Theory (SCT) as the foundation for why ACEs can impact future intimate partner relationships.

Research Questions

1. Are ACEs associated with intimate partner perpetration or victimhood?
2. Does biological sex influence intimate partner perpetration or victimhood?
3. Do ACEs have an effect on partner communication?
4. Is cyber intimate partner violence associated with ACEs?

Design & Sampling

The study was approved by the JMU IRB (#20-1782). A descriptive, cross-sectional study design used a questionnaire which was distributed through social media platforms and targeted (n=228) college-aged adults (ages 18-24). The questionnaire included five instruments where the answers reflected a Likert Scale, a 'Yes' or 'No' response, and demographic information.

Instruments

- Adverse Childhood Experiences Questionnaire (Felitti, 1998) measured ACEs.
- Safe Dates-Physical Violence (Arriaga X.B. et al., 1998) measured Intimate Partner Victimhood.
- Abusive Behavior Inventory (Campbell J.A. & Shepard, 1992) measured Intimate Partner Victimhood.
- Revised Conflict Tactics Scale (Straus et al., 1996) measured Intimate Partner Perpetration.
- Primary Communication Inventory (Navran, 1967) measured Partner Communication.
- Partner Cyber Abuse Questionnaire (Wolford-Clevenger et al., 2016) measured Cyber Intimate Partner Violence.

Results

Mann Whitney U tests of biological sex with both scales of intimate partner victimhood revealed women were more likely to be victimized than men ($U = 2159$, $p < 0.01$; $U = 2361$, $p < 0.01$).

Table 1. The Relationships of Intimate Partner Perpetration and Intimate Partner Victimhood to ACEs.

	ACEs
Intimate Partner Perpetration	r = 0.180**
Intimate Partner Victimhood (Safe Dates)	r = 0.511**
Intimate Partner Victimhood (ABI)	r = 0.484**

*Spearman Bivariate Correlations. **p < 0.01*

Spearman correlation tests suggest both forms of victimhood were more likely among those who experienced higher rates of ACEs. Further, perpetration likelihood also increased as the experience of ACEs increased.

Results cont.

A Spearman correlation indicated ACEs had a weak negative association with partner communication ($p < 0.01$: r = -0.271). A higher ACEs score reflected weaker communication between partners. A Spearman correlation indicated ACEs had a weak positive association with cyber intimate partner violence ($p < 0.01$: r = 0.355). Individuals with a higher ACEs score were more likely to experience cyber intimate partner violence. Lastly, intimate partner perpetration rates were not different by biological sex ($p = 0.146$).

Conclusions

The findings of this study support the literature suggesting differences in biological sex influence the likelihood of intimate partner victimhood. Findings of this study focused on an under-researched topic with college-aged adults.

Limitations

- Disproportionate sample of females versus males
- The COVID-19 pandemic and shelter-in-place orders required data to be collected virtually rather than in person as was originally proposed.
- Survey length may have been a deterrent

Implications

Further research is warranted due to this under-researched topic with college-aged adults. Additionally, findings indicate the potential for individuals with ACEs to experience IPV later in life, signaling spread of awareness, could be essential in limiting further violence. Findings align with available literature. More research is needed focusing on SCT approach, with emphasis on observational learning, as it is beneficial in understanding the relationship between ACEs and IPV.

Assessing Health Risks in Rural Communities Surrounding Zacapa, Guatemala

Stearns, K. & Attin, O.M., Department of Public and Community Health, Liberty University

Purpose: To determine the prevalence of diabetes, obesity, and anemia among Guatemalan adults, as well as the rates of obesity among children in Zacapa, Guatemala. Location, gender, age, personal education level, household daily income, or employment status were examined to determine whether they influence rates of obesity and anemia among adults in Zacapa, Guatemala.

Methods: Community health assessments involved gathering height, weight, body mass index, blood glucose, hemoglobin, and blood pressure measurements from eligible participants. Microsoft Excel 2016 and IBM SPSS Version 23.0 were used to present descriptive statistics and analyze the data using binomial logistic regression tests.

Findings: There were 130 child and 232 adult participants involved in this study. The majority of adult participants were female (84.05%) and between the ages of 15-39 (55.60%). 5.29% of adults suffered from diabetes, 32.47% from obesity, and 24.65% from anemia.

Conclusion: This study presented health information about childhood obesity; diabetes, obesity, anemia prevalence among adults, as well as various demographic, health-related behaviors, and socioeconomic factors. Out of the two separate logistic regression models, only the dependent variable of anemia was found to be statistically significant. Several limitations are mentioned.

Keywords: Zacapa, Guatemala, anemia, diabetes, obesity, children

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Assessing Health Risks in Rural Communities Surrounding Zacapa, Guatemala
Kristy Stearns, BSPH, MPH; Oswald Attin, MSHS, PhD

Abstract

Objective: To determine the prevalence of diabetes, obesity, and anemia among Guatemalan adults, as well as the rates of obesity among children in Zacapa, Guatemala. Location, gender, age, personal education level, household daily income, or employment status were examined to determine whether they influence rates of obesity and anemia among adults in Zacapa, Guatemala. **Methods:** Community health assessments involved gathering height, weight, body mass index, blood glucose, hemoglobin, and blood pressure measurements from eligible participants. Microsoft Excel 2016 and IBM SPSS Version 23.0 were used to present descriptive statistics and analyze the data using binomial logistic regression tests. **Results:** There were 130 child and 232 adult participants involved in this study. Overall, the majority of children seen were female between the ages of 8-11 years old (M=8.85) and were seen at the Nuevo Sunzapote location; a total of 16.28% of child participants were classified as being overweight or obese. The majority of adult participants were female (84.05%) and between the ages of 15-39 (55.60%). 5.29% of adults suffered from diabetes, 32.47% from obesity, and 24.65% from anemia. **Discussion:** This study presented health information about childhood obesity; diabetes, obesity, anemia prevalence among adults, as well as various demographic, health-related behavior, and socioeconomic factors. Out of the two separate logistic regression models, only the dependent variable of anemia was found to be statistically significant. Several limitations are mentioned.

Introduction

Conducting community-based needs assessments and gathering culturally appropriate health data among diverse people groups around the world is currently a top priority for public health professionals. Gathering health-related data not only allows public health professionals to create health programs and initiatives that are specific to each community's needs but also allows them to create policies that will incite change on a larger level. Unfortunately, some developing countries are still unable to receive adequate aid due to limited availability of health data, which is evident in Zacapa, Guatemala. One report created by the government of Guatemala, estimates that 228,810 people lived in Zacapa in 2013 with a majority of residents being female (52.2%), living in rural communities (56.9%), and being of non-indigenous backgrounds (99.1%) ("Caracterización Departamental Zacapa", 2013). Insufficient data was presented in this report that was reflective of health conditions within the community. While limited health data exists in Zacapa, the country of Guatemala as a whole has recently been considered a strong economic force within Latin America. The World Bank reports that the country's gross domestic product (GDP) growth rate was 4.1% in 2015 with increasing rates of 2.8% in 2017 and 3.0% in 2018 ("The World Bank in Guatemala", 2019). However, despite these economic strides, Guatemalan children and adults disproportionately suffer from malnutrition, food insecurity, stunting, iron deficiency anemia, diabetes, and obesity as compared to other Latin American countries.

Methods

This primary research study was conducted from June 17 to June 24, 2019 in Zacapa, Guatemala using a cross-sectional study design. The primary researcher, along with the three other co-researchers, traveled to Zacapa, Guatemala during this study period and conducted community health assessments within five rural communities of Zacapa- Agua Caliente, Llano Verde, Santa Rosalia Marmol, Moran, and Nuevo Sunzapote. Community health assessments were conducted in collaboration with the local mission's coordinator at la Iglesia Primitiva and local municipality officials. Community health assessments involved gathering height, weight, body mass index (BMI), blood glucose, iron (anemia), and blood pressure measurements from eligible participants. Community members were eligible to receive blood glucose and anemia checks as part of the community health assessment if they were local residents of Zacapa, at least 15 years old, and if they filled out an adult health questionnaire. Children were eligible to get their height and weight checked if they were between the ages of 4 and 14 years old and if their parent filled out a child health form. Each adult health questionnaire consisted of 25 questions and was originally written in English. The final version of the adult health questionnaire was translated and printed in Spanish to maximize comprehensibility and communication efforts between the researchers and participants.

Table 1: Demographic Characteristics of Child Participants, Zacapa, Guatemala, June 2019

Characteristic	Frequency	Percent
Gender (n=130)		
Male	59	45.38
Female	71	54.62
Age (n=130)		
4-7 years	47	36.15
8-11 years	54	41.54
12-14 years	29	22.31
Location (n=130)		
Agua Caliente	31	23.85
Llano Verde	7	5.38
Santa Rosalia Marmol	28	21.54
Moran	28	21.54
Nuevo Sunzapote	36	27.69

Table 2: Demographic Characteristics of Adult Participants, Zacapa, Guatemala, June 2019

Characteristic	Frequency	Percent
Gender (n=232)		
Male	37	15.95
Female	195	84.05
Age (n=232)		
15-39 years	129	55.60
40-65 years	77	33.19
66-90 years	26	11.21
Location (n=232)		
Agua Caliente	48	20.69
Llano Verde	26	11.20
Santa Rosalia Marmol	38	16.38
Moran	55	23.71
Nuevo Sunzapote	65	28.02

Table 3: Logistic Regression Predicting Likelihood of Obesity based on Location, Sex, Age, Personal Education, Household Daily Income, and Employment Status, Zacapa, Guatemala, June 2019

	B	S.E.	Wald	df	p	Odds ratio	95% CI for Odds Ratio Lower	95% CI for Odds Ratio Upper
Location	.150	.116	1.686	1	.194	1.162	.926	1.459
Sex	1.244	.543	5.252	1	.022	3.470	1.197	10.054
Age	-.005	.010	.255	1	.614	.995	.975	1.015
Personal Education	.038	.145	.067	1	.795	1.038	.781	1.380
Household Daily Inc	.137	.170	.655	1	.418	1.147	.823	1.600
Employment	-.918	.401	5.235	1	.022	.399	.182	.877
Constant	-.882	1.123	.617	1	.432	.414		

Table 4: Logistic Regression Predicting Likelihood of Anemia based on Location, Sex, Age, Personal Education, Household Daily Income, and Employment Status, Zacapa, Guatemala, June 2019

	B	S.E.	Wald	df	p	Odds ratio	95% CI for Odds Ratio Lower	95% CI for Odds Ratio Upper
Location	-.106	.122	.758	1	.384	.899	.707	1.143
Sex	-.250	.492	.258	1	.611	.779	.297	2.043
Age	.036	.011	10.301	1	.001	1.037	1.014	1.060
Personal Education	.117	.165	.504	1	.478	1.124	.814	1.552
Household Daily Inc	.086	.187	.212	1	.645	1.090	.756	1.572
Employment	-.012	.445	.001	1	.978	.988	.413	2.364
Constant	-2.584	1.244	4.316	1	.038	.075		

Results and Conclusion

Results:
There were 130 child and 232 adult participants involved in this study (Tables 1-2). The mean height and weight for the child participants was 128.06 cm (±17.15) and 29.16 kg (±11.77), respectively. In addition, most children were classified as having a healthy weight (75.19%); however, 24.81% of children classified as being underweight, overweight, or obese. Overall, the majority of adult participants were female (84.05%) and between the ages of 15-39 (55.60%) (Table 2). 70.43% of adults identified as being married or living with a partner, 38.84% indicated a daily household income of 31-60 Quetzal per day ($4.05-$7.85 USD), and 77.16% reported being unemployed. In general, majority of adult participants reported visiting a doctor or health care worker at least once per year (37.23%), having previously breastfed (69.16%), brushing their teeth eight or more times per week (32.16%), having stomach pains within the past two weeks (65.95%), and eating three meals per day (68.97%). While most adult participants report "never" worrying about getting food (38.56%) and "no" to being unable to purchase food in the last year due to not having money (65.09%), more than half of participants report "often" skipping meals so that other members of their family can eat (53.02%). Furthermore, 61.21% of adult participants report "yes" to believing that they eat a balanced, nutritious diet regularly while 52.8% report being typically hungry for 4-6 hours before eating their next meal. 5.29% of adults suffered from diabetes, 32.47% from obesity, and 24.65% from anemia.

Separate binomial logistic regressions were performed to determine the effects of location, gender, age, personal education level, household daily income, and employment status on the likelihood that participants are obese or have anemia. The logistic regression model for obesity was not statistically significant, χ^2 (6) = 11.632, p= 0.071. Of the six predictor variables only two were statistically significant: sex and employment status as shown in Table 3. The logistic regression model for anemia was significant, χ^2 (6) = 12.981, p= 0.043. Of the six predictor variables, only one variable was statistically significant: age, as shown on Table 4.

Conclusion:
Out of the two separate logistic regression models, only the dependent variable of anemia was found to be statistically significant. Age was the only variable that was proven to be statistically significant in predicting incidence of anemia among this population. This indicates that appropriate nutrition education should be provided to women starting at a young age in order to reduce their likelihood of becoming anemic as they get older. Limitations for this study included having overheating problems with the HemoCue and blood glucose meter devices. Overheating technicalities reduced the number of individuals who were able to receive this assessment and may have also influenced accurate readings before or after the malfunctions.

Future Work

1. Conduct additional studies to support the data presented within this study and provide more information regarding the health status of individuals within Zacapa, Guatemala.

2. Collaborate with community leaders to create educational programs about diabetes, anemia, and obesity for current Zacapa residents.

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The Danger of Apathy: College Students' Receipt of Mumps Vaccine During An Outbreak

Keane, L., Blackstone, S. PhD MPH, Department of Health Sciences, James Madison University

IRB # 19-0991

The Danger of Apathy: College Students' Receipt of Mumps Vaccine During an Outbreak

Laura Keane
James Madison University; Department of Health Sciences
Faculty Advisor: Dr. Sarah Blackstone, PhD, MPH

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Background

Decreased uptake of vaccination is a concern and contributes to outbreaks of re-emerging diseases. Reasons linked with decisions not to vaccinate include: the belief that vaccinations lower the immune system, belief others will do it and they do not need to, and fear of side effects (2; 5; 1). Studies also show lower education, lower socioeconomic status are linked with decreased uptake of vaccines (4). Parents decide to allow their children to receive vaccines because they believe they are supposed to and belief side effects of vaccine will be better than getting the actual disease (2; 3).

Mumps is an example of a re-emerging disease and is preventable through vaccination. The mumps, measles and rubella, commonly referred to as MMR (measles, mumps, rubella) is received as two doses and is 88% effective when both doses are received (6). Even with the required vaccine, mumps outbreaks are still occurring country-wide, particularly on college campuses. James Madison University (JMU) experienced a mumps outbreak during spring semester 2018. Free vaccination clinics were held by the Virginia Department of Health Medical Reserve Corp for all members of the JMU community to receive a third booster MMR vaccine for free. This study looks to investigate the behaviors and perceptions of college aged students on their decision to receive or not receive the MMR vaccine booster.

Research Questions

1. What were student's motivations to receive/not receive the MMR vaccine booster?
2. Does vaccine acceptance differ with the decision to receive a booster following a mumps outbreak?
3. Do perceptions of the MMR vaccine differ between those who did/would receive a booster and those who did/would not receive a booster?

Design & Sampling

An explanatory, cross-sectional study was conducted using an online survey for students (n=243) at James Madison University (JMU). Survey responses were collected from a general education class and a health sciences class. Students self-selected to participate in the survey.

Survey Questions

Students were asked if they were enrolled in JMU during the Spring 2018. If they were, they were asked if they received the MMR booster on campus following the outbreak. If they were not enrolled, they were asked if they would receive the vaccine if an outbreak were to occur on campus (assuming the vaccine was provided at no cost on campus). Students were then asked to indicate their primary motivations to receive the vaccine or not.

Instruments

- Vaccination reason questionnaire with multiple choice answer on reason to vaccine decision (e.g. self-protection, requirement)
- Influences questionnaire with multiple choice answers on their influences on vaccine decision (e.g. TV/media, family).
- Vaccine Attitude Scale (α=0.91; range: 12-72), with higher scores indicating higher anti-vaccine attitude.
- MMR Attitudes Scale (α=0.7; range: 20-100), with higher scores indicating greater MMR acceptance.
- Vaccine Knowledge Scale (α=0.7; range: 0-11), with higher scores indicating greater vaccine knowledge.

Analysis

RQ1: Student's motivation to receive/not receive the vaccine were compared using frequencies. Comparisons were also made by student major.

RQ2: Independent T Test was performed to compare vaccine acceptance of the MMR vaccine between all test groups.

RQ3: Independent T Test was performed to compare perceptions of the MMR vaccine between all test groups.

Results

- 243 participants
  - 153 (63%) were not enrolled in spring 2018
  - 90 (37%) were enrolled in spring 2018
- 149 (97.4%) of participants *not enrolled* reported they *would get the vaccine* if there was an outbreak.
- 32 (36.4%) of participants *enrolled* reported *they did get the vaccine* after the 2018 outbreak.
- Students enrolled in a health-related major were not more likely to receive the vaccine compared to students in other majors.

Table 1. Descriptive statistics and mean differences

	Enrolled M (SD)		Mean Difference	Not enrolled M (SD)		Mean Difference
	Received Vaccine	No Vaccination		Would Vaccinate	Would not vaccinate	
Vaccine attitude scale	28.1 (12.0)	32.3 (12.0)	4.2	32.0 (10.1)	53.0 (6.4)	21.0*
MMR attitudes scale	77.6 (11.5)	69.7 (10.0)	7.9*	68.3 (9.7)	52.3 (4.5)	16.0*
Knowledge scale	9.2 (1.8)	9.5 (14)	0.3	-----	-----	-----

*Indicates a significant value p<0.05

Results cont.

Vaccine Acceptance Reasons

Vaccine Refusal Reasons (Enrolled)

Enrolled   Not Enrolled
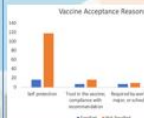
Figure 1. Bar graph of vaccine acceptance reasons for those enrolled and not enrolled at JMU during 2018.
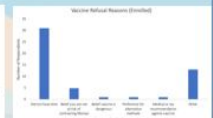
Figure 2. Bar graph of vaccine refusal reasons for those enrolled at JMU 2018.

Conclusions

College students say they would receive vaccinations but only 36% received the vaccine when presented the opportunity. This study showed differences in attitudes towards the vaccine among those who received it and did not receive, which reflects other studies showing the importance of vaccine attitudes (7). However, vaccine attitudes were overall quite positive, and still did not lead to a large uptake of the MMR booster. 35.2% of participants that were enrolled during the outbreak cited lack of time was the main reason for not receiving the vaccine. Of the individuals receiving the vaccine, they did mostly for self protection, supporting what was found in the literature (3). The results suggest that attitude alone is not enough to persuade an individual to receive a vaccine.

Limitations

- Cross-sectional
- Sample demographics
- Recall bias

Implications

In this sample, low vaccine uptake did not seem to result from low vaccine acceptance or knowledge, but perceived lack of importance of vaccinations and apathy. More research needs to be done to elucidate perceived susceptibility during outbreaks and ways to motivate susceptible populations to get vaccines. Other strategies aside from increasing vaccine knowledge and acceptance are necessary.

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Increasing Temperatures and the Occupational Health of Hispanic/Latino Agricultural Workers: A Review

Berumen-Flucker, B., MPH, Akpinar-Elci, M., MD MPH, College of Health Sciences, Old Dominion University, Norfolk, VA, School of Community and Environmental Health

Background: Hispanic/Latino workers are overrepresented in the United States agricultural sector. This group of workers has been recognized as a particularly vulnerable population because of commonly reported demographic and cultural characteristics. While this group of workers has been extensively studied over past decades, there are limitations in what is understood about the group's vulnerability to climate change, which has become an increasingly serious threat to outdoor workers across the globe. The overall purpose of this review was to assess the extent to which the effects of intense heat and extreme heat events have been presently examined among populations of Hispanic/Latino farmworkers in the United States.

Methods: A literature search was conducted in PubMed using the search terms ((((heat) AND Hispanic) OR Latino) AND farmworkers) AND health over the years from 2000 to 2020. Strict inclusion and exclusion criteria were used to screen and select full-text articles to accomplish the present review's proposed objective.

Results: A total of seven full-text articles were included in the final review. Articles focused primarily on heat-related illnesses and related symptoms.

Conclusion: While heat-related illnesses have been studied in populations of Hispanic/Latino farmworkers in the United States, there are gaps in existing literature and research surrounding the effects of climate change on this population. Future studies should expand on what is currently understood about increasing temperatures and health outcomes to provide a more comprehensive overview of the effects of increasing temperatures on Hispanic/Latino agricultural workers health.

Keywords. Agricultural workers, Climate change and occupational health, Heat-related illness, Hispanic/Latino agricultural workers, Hispanic/Latino farmworkers

Increasing Temperatures and the Occupational Health of Hispanic/Latino Agricultural Workers: A Review

Brenda Berumen-Flucker , MPH
College of Health Sciences, Old Dominion University, Norfolk VA

ODU College of Health Sciences

Introduction

Hispanic/Latino workers are overrepresented in the United States agricultural sector. [1,2] This group of workers has been recognized as a particularly vulnerable population because of commonly reported demographic and cultural characteristics. [1,2] While this group of workers has been extensively studied over past decades, there are limitations in what is understood about the group's vulnerability to climate change, which has become an increasingly serious threat to outdoor workers across the globe. [3]

Objective

To assess the extent to which the effects of intense heat and extreme heat events have been presently examined among populations of Hispanic/Latino farmworkers in the United States.

Methods

> Preliminary searches were conducted in order to develop an adequate search strategy aimed at capturing the widest breadth of relevant literature.

> Preliminary literature searches utilizing google scholar, Environment Complete, and PubMed were conducted using the search terms ((((heat) AND Hispanic) OR Latino) AND farmworkers) AND health.

> PubMed returned the greatest number of relevant results, and as such was deemed the most effective database for literature extraction.

> Studies eligible for inclusion were limited to those:
> (1) Whose population of interest consisted of Hispanic/Latino farmworkers operating in the United States.
> (2) Established a link between extreme or intense heat and the health outcome of interest under study.

> All health outcomes previously associated with extreme heat events, including heat-related illnesses, cardiovascular diseases and related conditions, as well as respiratory conditions were considered.

Results

Records Identified through search (n= 348) → Records Included based on title review (n=16)

Full Text Articles Reviewed for Eligibility (n= 11) → Articles Eligible for Inclusion (n=7)

2 Focus Group Studies

5 Quantitative Studies

> Hispanic/Latino workers were aware of the effects of heat on health.

> Workers were able to identify heat illness symptoms and ways to prevent succumbing to heat-related illness.

> Studies found elevated reports of heat-related illness symptoms across different groups of Hispanic/Latino Farmworkers.

> Exposure tasks, such as working in wet clothes and hot weather, were associated with elevated risk for heat illness.

> Studies found no statistically significant effects of increased temperatures on worker productivity.

> Workers across all studies reported knowledge on heat-related symptoms, an understanding of the risks associated with working in extreme heat, and knowledge on preventative behaviors despite a lack of heat-related illness safety training.

Discussion

As outdoor workers, Hispanic/Latino farmworkers are among the highest exposed to environmental effects resulting from climate change, principally increasing temperatures and more frequent heat events. Populations of Hispanic/Latino farmworkers are at increased risk for the onset of heat-related-illnesses and symptoms compared to the general population. Studies have limitedly explored the ways in which climate change poses direct threats to the health and safety of Hispanic/Latino agricultural workers. Existing research has focused on risk factors and the immediate consequences of repeated exposure to extreme heat. Studies have followed workers for short periods of time or collected cross-sectional data which has provided meaningful insight into the prevalence and incidence of heat-related symptoms. Findings across studies suggest that modifiable work behaviors, like shaded rest and water breaks, younger age, and receiving compensation based on piece-rate were associated with self-reported heat-related illness symptoms in the population under study.

Directions for Future Research

> Future research should work to identify health outcomes and conditions associated with increases in temperature beyond heat-related illness and symptoms, as literature has suggested various health hazards associated with these exposures.

> Studies should work to better establish and explain the ways in which climate change threatens the occupational safety of agricultural workers through a growing number of threats, like increasing instances of drought and extreme weather events in addition to increased temperatures.

> Future studies should work to better define the ways in which worker characteristics potentially exacerbate risk for adverse health outcomes associated with climate change.

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Methodologies Used to Estimate Traffic Related Air Pollution and Associations with Maternal and Birth Outcomes: A Literature Review

Chuks, Z., Pollock, A., PhD MPH, Krall, J., PhD, College of Human and Health Services, George Mason University

Background: Studies have shown associated risks between elevated air pollution levels and adverse health outcomes during pregnancy. Traffic-related air pollution (TRAP) is a combination of pollutants from exhaust, tire wear, and volatile organic compounds (VOCs) that may affect human health. In pregnant women, TRAP has been associated with preterm birth, hypertension, gestational diabetes, and low birth weight. While many studies have found associations between TRAP and maternal and birth health outcomes, studies differ in how they measure exposure to pollution. This literature review includes documents and common methodologies used to estimate TRAP and associations with maternal and birth health outcomes.

Methods: We conducted a literature review using PubMed search terms from the Health Effects Institute Traffic Review Protocol. Key search terms included maternal health, traffic, air pollution, and study design. We excluded studies that did not measure relevant health outcomes, and ones that broadly examined ambient air pollution.

Results: All 7 studies found used a form of TRAP modeling. Monitors were used to estimate specific exposures to pollutants such as NO2 and black carbon. Models combined monitoring data from the closest stationary monitor to the residential addresses and roadways of participants to estimate pollutant exposures. Some studies used traffic densities as a proxy for TRAP.

Conclusion: There is no gold standard method for measuring TRAP. Often, data from stationary monitors, traffic records, and meteorology monitors are used to create air quality models which can be paired with maternal and birth data to estimate associations with TRAP.

Methodologies Used to Estimate Traffic Related Air Pollution and Associations with Maternal and Birth Outcomes

A Literature Review

Zimako Chuks, Dr. Anna Pollock, Dr. Jenna Krall I zchuks@gmu.edu   College of Human and Health Services I George Mason University

Background

> Traffic related air pollution (TRAP) is a combination of pollutants from car exhaust, tire wear, and volatile organic compounds

> TRAP has been associated with maternal health outcomes such as gestational diabetes mellitus, hypertension, preterm birth, and low birth weight

Methods

> Our literature review used PubMed search terms from the Health Effects Institute Traffic Review Protocol. Key search terms included maternal health, traffic, and air pollution

> Literature reviews, studies that did assess TRAP exposures, and studies that did not measure maternal and birth outcomes were excluded

Identification

PubMed search using Health Environmental Outcome Term Guidelines for TRAP exposures and maternal health outcomes

Screening

Title/Abstracts Screened (n= 48)

Excluded (n=11) (Literature Reviews, did not measure maternal health outcomes)

Eligibility

Full-text articles assessed for eligibility (n= 37)

Excluded (n=30) (Studies that examined ambient air pollution and not TRAP)

Included

Studies with advanced methodologies to measure TRAP (n= 7)

Results

> All 7 studies used a form of TRAP modeling

> Monitors were used to estimate specific exposures to pollutants such as NO2 and black carbon

> Models combined monitoring data from monitors closest to the residential addresses and roadways of participants to estimate pollutant exposures

> Some studies used traffic densities as a proxy for TRAP

Conclusion

> There is no gold standard method for measuring TRAP

> Data from stationary monitors, traffic records, and meteorology monitors are used to create air quality models which can be paired with maternal and birth data to estimate associations with TRAP

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View from Tlanepantla of Mexico City. (2016). Retrieved from https://www.wbur.org/hereandnow/2016/04/18/smog-mexico-city

GAMBIA Case Study: Trachoma Intervention and Lessons for COVID-19 in the United States

Tchokogoue, J.S., Masters of Public Health, Liberty University

Purpose: This study will explore the environmental aspects of trachoma transmission and prevention. Trachoma is a deadly bacterial disease that affects the eyes and spreads rapidly in communities that lack healthcare and access to basic sanitation. The lessons learned may be applied to the current COVID pandemic due to the behavioral characteristics of people and community spread of the virus. The research will draw from many examples and studies conducted around the world that has or had trachoma. The field portion of the research was performed in the Gambia with the author in The Gambia from December 2019 to February 2020.

Methods: Field observations through an ethnographic approach in conjunction with a literature review was conducted in The Gambia. The author stayed with a host family in Kanuma, Gambia of the Fula ethnic group for almost three months. It was a family of ten with two little boys approximately three and five years of age. The author dressed, slept, washed and ate identically to the host family. During this period, the author wrote down observations of habits of behavior, hygiene and health every night on a notepad.

Results: The author observed approximately five incidents of public defecation by the two young boys with the feces left uncovered. The author also observed approximately a dozen water outages which lasted into the next day during the three months. The family compensated by storing water in old buckets from the well beforehand suggesting regular occurrence of water outages. On numerous occasions, the water ran out before the water from the well was turned back on. The author also observed washing of clothes once a week with family members wearing the same clothes for consecutive days. There were two latrines; one was a hole in the ground and the other was a toilet commonly used in the U.S. The latrine with the hole in the ground did not have a cover and there were gaps in the construction that allowed flies to enter. No toilet paper was used, and a kettle to hold water was used to clean after defecation using one hand.
Traditionally this was the left hand as locals ate with the right hand per Islamic tradition. During meals, the members of the family ate out of one communal dish. They washed their hands for approximately three seconds with soap which was mixed into the water held in the dishpan. Every member of the family washed their hands in the same dish pan before and after they ate and ate with their hands. From the literature, it is shown The Gambia and other countries used environmental/behavioral intervention strategies to sustain the reduction of trachoma. Toilet construction, vector control and increased access and use of clean water helped slow down transmission of trachoma.

Conclusion: The United States can take these lessons and implement them to slow down transmission while scientists make a vaccine for COVID-19. The literature and observations suggest that access to clean water, hand washing and corrective environmental construction reduces the burden of trachoma. Parts of this strategy coincidentally can help prevent COVID-19 which is a disease that spreads similarly to trachoma. Close contact and poor hygiene practices increase the transmission in both cases. Hand washing and stay at home practices has consistently been proven to help reduce community spread of disease. Masks serves as a barrier of protection for COVID-19 just like a properly constructed latrine helps protect against trachoma.

Gambia Case Study: Trachoma intervention and lessons for covid-19 in the United States

James Tchokogoue, BS

Liberty University

PURPOSE

To find past methods of intervention strategies to prevent covid-19 in the United States

World Health Organization SAFE Strategy- Surgery, Antibiotics, Facial cleansings, and Environmental improvement

METHODS

- Literature review with ethnographic study approach
- In Kanuma North bank, Gambia from December 2019 to February 2020
- Observed host family and community health behaviors
- Wrote down behaviors observed.
- Sample size studied was host family interatcion with guests, N=15

RESULTS

- Sustained proper hygeine and improved environmental barrier practices helped stop spread of disease
- Medicine like antibiotics did not stop spread as a sole treatment method.
- Medicine in conjuction with increased hygeine and environemtal improvement produced the best results

DISCUSSION

- Hand washing, access to clean water with soap and physical barriers like latrines helped reduce burden of trachoma.
- The United States needs to enforce strict handwashing.
- Hygeine practices learned need to be sustained for the near and long term future even with a vaccine.
- Barriers to disease spread like social distancing is importnt but not as important as hand washing due to social customs

Contact information:
jtchokogoue@liberty.edu
jtchokogoue@gmail.com
08.03

Leveraging Personal Exposure Data with Ambient Air Monitoring Data to Estimate Traffic-Related Air Pollution in the DC Metro Area

Moore, K.D., Pollack, A.Z., Krall, J.R. Department of Global and Community Health, George Mason University

Background: The health effects of Traffic-Related Air Pollution (TRAP) are not fully understood, but recent evidence suggests TRAP may be more detrimental than other sources of air pollution. Estimating exposure to TRAP is difficult because TRAP is highly spatially heterogeneous and personal TRAP exposures can vary from ambient TRAP measurements.

Methods: A personal exposure study measured 16 fine particulate matter chemical components for 48 women commuters in the DC metro area across two days in 2018-2019. For comparison, ambient concentrations of these 16 pollutants were obtained from two U.S. EPA monitors in Washington, DC. To estimate TRAP, two common source apportionment models were applied: Positive Matrix Factorization (PMF) and Absolute Principal Component Analysis (APCA). Using the profile and contribution plots from these models, TRAP compositions were visually compared between PMF and APCA as well as between the personal and ambient data.

Results: In the personal exposure study, we identified tailpipe emissions dominated by black carbon, and non-tailpipe emissions dominated by sodium, calcium, and chloride using both PMF and APCA. In the ambient data, we also identified tailpipe emissions, which were dominated by elemental and organic carbon. The sources in the personal exposure study and the ambient data were highly similar between PMF and APCA.

Conclusion: The source profiles for tailpipe emissions were similar between the personal exposure study and ambient data, indicating that both types of data could inform studies of TRAP. Ambient monitors do not capture individual variation in personal TRAP exposures, but our results will guide methods integrating complex ambient and personal data. Understanding exposure to TRAP will inform policymakers and the public on how to mitigate the environmental and human health impacts of TRAP.

Leveraging Personal Exposure Data with Ambient Air Monitoring Data to Estimate Traffic-Related Air Pollution in the DC Metro Area

Karlin Moore, Anna Z. Pollack, Jenna R. Krall
Department of Global and Community Health | George Mason University

ABSTRACT

Over 200,000 deaths occur each year in the US due to air pollution. Traffic-related air pollution (TRAP) may be more detrimental to health than other sources of air pollution. Particulate matter 2.5 ($PM_{2.5}$) is a type of pollution that contributes to TRAP. To estimate exposure to TRAP, source apportionment methods, Positive Matrix Factorization (PMF) and Absolute Principal Component Analysis (APCA), were applied to data on 16 $PM_{2.5}$ chemical components. Two $PM_{2.5}$ datasets were used: one from a study investigating the personal exposure to TRAP by 48 commuters in the DC metro area and one from US EPA Air Quality System (AQS) monitors located in DC that measure ambient air pollution. To develop methods to better estimate personal exposure to TRAP, we compared results between PMF and APCA and compared results between personal exposure data and ambient air data.

Figure 1. TRAP consists of exhaust emissions and non-exhaust emissions (left). Size of PM particles is directly linked to their potential for causing health effects (right).

OBJECTIVE

The objective of this project was to perform source apportionment on personal exposure data and ambient air monitoring data and to compare the results. The source apportionment models, PMF and APCA, were also compared.

METHODOLOGY

Obtain data > Model > Compare

- Personal Exposure Data from 48 women commuters in the DC metro area
- Ambient Air Monitoring Data from US EPA Air Quality System (AQS) monitors located in DC

- Positive Matrix Factorization (PMF)
- Absolute Principal Component Analysis (APCA)

- Compare results between PMF and APCA
- Compare results between personal exposure data and ambient air data

RESULTS
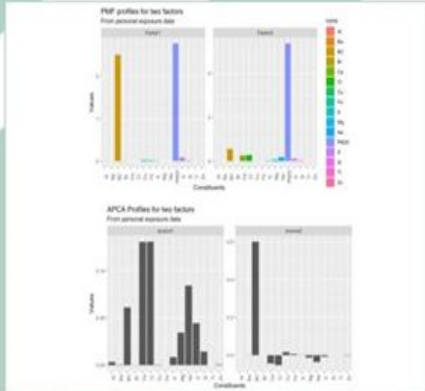
Figure 2. Two source factors were identified in the commuter personal exposure data: tailpipe emissions (left in the top and right in the bottom) and non-tailpipe emissions (right in the top and left in the bottom). This assessment was based on the presence and proportion of $PM_{2.5}$ components.

Figure 3. The contributions by the participants is shown above. Notice the three potential outliers in one of the source factors (Factor2 in the top and source1 in the bottom). An analysis excluding these outliers was also performed.
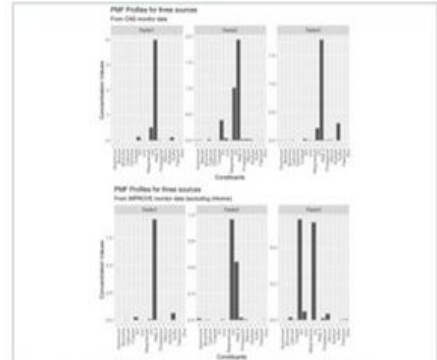
Figure 4. The PMF profiles for the DC ambient air data. We identified tailpipe emissions (left above, center below), secondary pollution (center above, right below), and industrial pollution (right above, left below) as source factors. Contributions to these source factors by date were also determined from PMF and APCA.

DISCUSSION/CONCLUSIONS

Based on the source apportionment results, PMF and APCA determine similar $PM_{2.5}$ profile and contribution solutions. These models can be used in the future to verify developing methods that leverage personal exposure data with ambient air monitoring data. Although the profiles of the $PM_{2.5}$ source factors and the contributions to these source factors were determined for the DC monitor data, further analysis needs to be done regarding the comparison between this dataset and the commuter exposure dataset. Ambient monitors do not capture individual variation in personal TRAP exposures, but our results will guide methods integrating complex ambient and personal data such as Bayesian source apportionment models. Understanding TRAP and continuing to investigate its environmental and health impacts will inform policymakers on how to improve public health as well as the general public on how to make daily choices to reduce their exposure to TRAP.

ACKNOWLEDGEMENTS

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Perception of Bikeability and Walkability in Low Health Opportunity Index (HOI) Communities in Chesapeake, Virginia

Kekeh, M. A., Samuels, L., Akpinar-Elci, M., Porzig, D., Schofer, W., & Welch, N., College of Health Sciences, Old Dominion University, Norfolk, VA, School of Community and Environmental Health

Background: According to the Robert Wood Johnson Foundation, the City of Chesapeake ranks 99th out of 123 cities for its physical environment. The physical environment of a city impacts citizens' ability to engage in active lifestyles. The walkability and bike-ability of a place are the degrees to which environmental features affect walking and biking. Even though walkability and bike-ability are not the only factors considered in the designation of a healthy neighborhood, they are significant components. Active lifestyle habits contribute to the reduction of adverse health outcomes, such as obesity, cardiovascular disease, and diabetes. According to the Greater Hampton Roads Dashboard, 35.6% of adults and 29% of children living in Chesapeake, Virginia, are obese. This project aims to assess sidewalks, bike routes, exercise opportunities, and the perceptions of community members on how these opportunities or the lack thereof affect their active lifestyle.

Methods: During Summer 2019, Healthy Chesapeake Inc. implemented a series of surveys in four low Health Opportunity Index communities in Chesapeake in collaboration with the Center for Global Health at Old Dominion University. In total, 197 people responded to the surveys using paper and pencil.

Results: Based on the data trends, at least 77.60% of the respondents indicated that bike lanes and sidewalks are very important for their communities. Results showed they would be more inclined to walk or bike in a walkable neighborhood if these opportunities are available to them.

Conclusion: The results indicated the need for more sidewalk and bike lanes in all the communities. This study is very significant and can serve as a roadmap for other community coalitions and city leaders looking for strategies to address population health challenges.

Spatial Analysis of West Nile Virus Infection Status on Mosquitos & Land Coverage in the US, 2008-2015

Anderson, C., Liberty University

Trend of Measles Incidence in Africa from 2008 to 2018: A Pooled Analysis of Evidence From 50 WHO-Member States

Inetianbor, O.J., Liberty University

Background/Purpose: The purpose of this research is to identify areas at high risk of a measles outbreak in Africa. Measles is a highly infectious viral disease of the respiratory system, caused by the *Morbillivirus*. Despite the availability of a safe and effective vaccine, it remains a significant cause of morbidity and mortality in Africa.

Methods: Surveillance data on measles from the World Health Organization (WHO) over ten years were reviewed, highlighting trends and making recommendations for improvement. The method involved analysis of secondary data of measles in the African and Eastern Mediterranean regions of the World Health Organization (WHO) over a ten-year period.

Results: Findings revealed a total of 1,181,355 cases reported between July 2008 and July 2018 with most cases, 201,273 (17%) reported in 2011. The least cases of 37,811 (3.2%) were in 2008. The same trend was observed for all sub-regions throughout the period under review. The central Africa sub-region had the highest incidence rate (>400% increase) and the southern Africa sub-region recorded the least number of cases (about 120% rise).

Conclusion: The trend of measles in Africa is rising, with rates higher in the central African sub-region. Case-based surveillance and laboratory confirmation of cases have been dismally low in most regions. This is more noticeable in the southern African region.

LIBERTY UNIVERSITY

TREND OF MEASLES INCIDENCE IN AFRICA FROM 2008 TO 2018:
A Pooled Analysis of Evidence from 50 WHO-Member States
Ogbeide John Inetianbor

Abstract

Measles is a highly infectious viral disease of the respiratory system, caused by the *Morbillivirus*. Despite the availability of a safe and effective vaccine, it remains a significant cause of morbidity and mortality in Africa. A ten-year surveillance data on measles from the World Health Organization (WHO) was reviewed, highlighting trend and making recommendations for improvement.
Methods:
Secondary data analysis of measles in the African region of the World Health Organization (WHO) over a period of ten years.
Results:
A total of 1,181,355 cases were reported between July 2008 and July 2018 with most cases, 201,273 (17%) reported in 2011. The least cases of 37,811 (3.2%) were in 2008. The same pattern of trend was observed for all sub-regions throughout the years, with the central Africa sub-region having the highest incidence rate (>400% increase), as against the southern Africa sub-region, which recorded the least number of cases (about 120% rise).

Introduction

Measles is a highly contagious viral disease which is transmitted through droplets, mouth, throat or nose of infected individuals.[1] It is caused by *Morbillivirus* and usually attacks children, with a secondary attack rate of 80% or more.[2] Complications from measles include severe respiratory disorders, encephalitis, severe diarrhea, and related dehydration and blindness.[3] It is one of the most contagious viral diseases known, and it has been preventable through vaccination since 1963. The first major measles control program in Africa was in 1965.[3] Between 2013 and 2016, overall confirmed measles cases that were reported in Africa was 176,785.[4] In 2018, more than 140,000 people worldwide died of measles. If the disease needs to be contained in Africa, individual countries need to achieve 95% 2-dose measles vaccination coverage in 2020.[3,4] However, according to the national immunization schedules, only 69% of children received two doses of measles vaccine.[5] The worst impacts of measles are in sub-Saharan Africa.[6] More recently, the Africa region has experienced measles stagnation and measles outbreaks continue to occur in Africa with case fatality rates among children reaching as high as 5%–10% and an estimated 28,000 measles-related deaths annually. Measles is still a major public health problem in the continent of Africa.[3,5,6] As at 2013, 51% of all measles-associated deaths occurred in Africa, despite the establishment of several goals towards measles eradication. Compared with the same period in 2018, preliminary surveillance data from WHO in April 2019 suggested that there was a 300% rise in cases of measles.[6]
The key public health strategies to reduce African measles death are effective surveillance, routine measles vaccination, and mass immunization campaign.[7,8] To describe the current measles trend in Africa and to explore the distribution of cases, an analysis of the sub-regional measles case-based surveillance data was conducted.

Methods

Study Design and Data Sources: Secondary data analysis on reported measles cases in the African region of the WHO was used. The primary data was sourced based on monthly reports submitted to the WHO by individual member states in this region, using their respective national disease surveillance system. Descriptive analysis was conducted using the data on the incidence of measles cases from the WHO and UNICEF joint reporting channels.[5] The joint WHO and UNICEF data allow various health-related indicators to be monitored as well as early detection of vaccine-preventable diseases for all the WHO member nations. From the data collection, a measles case was defined based on epidemiological, clinical or laboratory-confirmed cases.[5] Ethical approval from Liberty University's institutional review board was done. However, the analyzed data had open access. **Statistical Analysis:** Data of the 50 member states were classified based on the five sub-regions of Africa- North, East, West, South, and Central- to provide continental and region-wise estimates on the trend of measles cases. All analysis was carried out using Microsoft excel. The outcome variable (incidence of measles cases) was a count outcome, while the exposure variable was time in years.[9]
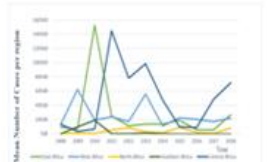

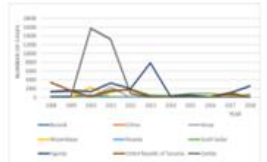*fig 1: Trend of Measles Incidence based on Africa sub-regions from 2008 to 2018*
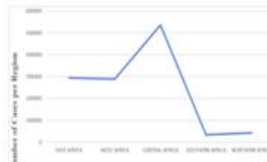

fig 2: Sub-regional Distribution of Measles in Africa from 2008 to 2018

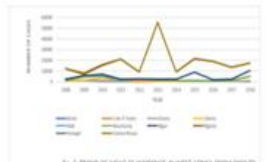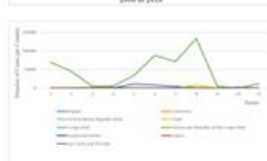*fig 4: TREND OF MEASLES INCIDENCE IN EAST AFRICA FROM 2008 TO 2018*

fig 5: TREND OF MEASLES INCIDENCE IN WEST AFRICA FROM 2008 TO 2018

fig 6: Trend in Incidence of Measles Based on the Southern African Subregion from 2008 to 2018
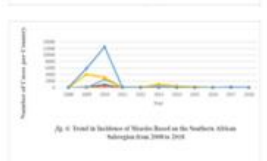

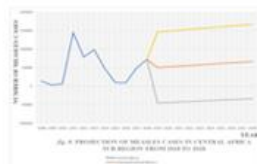*fig 7: Trend in Incidence of Measles Based on Central Africa Sub-Region from 2008 to 2018*

fig 8: PROJECTION OF MEASLES CASES IN CENTRAL AFRICA SUB-REGION FROM 2018 TO 2028

Results and Conclusion

Results
Data on measles incidence from 2008 to 2018 from 50 countries was included. The data was classified based on African sub-regions, to provide the continental and region-wise estimates of the trend. Across Africa, the reported number of cases of measles has been fluctuating over the ten years. However, there was a significant increase from 13,737 in 2008 to 72,274 in 2018 (as shown in *figure 1*), accounting for more than 400% increase in measles cases. After adjusting for clustering, an increase in case incidence over the years was further analyzed. From the results, there was a true increasing trend over the years with around 320% increase. In every of the African sub-region, the trend in the reported number of measles cases increased.
As depicted in *figure 2*, the burden of measles in Africa was in the Central Africa subregion. While the Southern African sub-region accounted for the least distribution and least increase (about 120% from 2008), the highest increase in cases was seen in the Central African region (>400% increase from 2008). East African sub-region had the next highest increase (about 200% rise from 2008).
Conclusion
The study showed there was disproportionate rise in the trend of measles over the ten-year period with rates higher in the central African sub-region. Case-based surveillance and laboratory confirmation of cases have been dismally low in most regions, but more noticeable in the southern African region. Hence, effective surveillance strategies need to be implemented in all the WHO-member states in Africa to eliminate measles in the region.

Future Work

1. Determination of measles trend based on per capital income of individual countries in Africa.
2. Determination and reporting of cases according to rural and urban settings.
3. Assessment of the association between measles immunization coverage and various age groups.
4. Re-evaluation of the most suitable age for a first dose vaccine administration among children, to assess efficacy with regards to the best time of vaccination.

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Comparability of Data on Infant and Young Child Feeding Indicators between Centers for Disease Control and Prevention and World Health Organization Approaches.

Edwards, T.M. College of Health Sciences Center for Global Health, Old Dominion University

Purpose*:* For my practicum, the infant and child breastfeeding and complementary feeding indicators between the Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO).

Methods: All available online information related to infant and young child feeding practices was reviewed using the CDC and WHO approach. Three tables were developed comparing the CDC and the WHO core indicator definitions, survey questions, and measured equations. An excel spreadsheet was developed comparing the CDC, WHO, and UNICEF core indicators for the United States. To account for some gaps in data for the WHO, some data was derived from two articles on breastfeeding.

Results: The WHO included early breastfeeding initiation, where the CDC did not. The WHO defined and developed formulas that included infants and children age ranging between 0-24 months. The CDC definitions and formulas included infants and children age ranging between 19-35 months. The WHO had 15 survey questions, specific for breastfeeding and non-breastfeeding infants and children, including the duration of each breastfeeding session, the number of breastfeeding sessions per day, and additional foods, or liquids they had consumed. The WHO also included an extensive list of the types of foods and liquids in the survey to select from. The CDC only had four survey questions imbedded in their National Immunization Survey. The CDC did not have the same in-depth questions as the WHO but did have a separate list of what types of food and liquids consumed for breastfed and non-breastfed infants and children.

Discussion: The results showed that the CDC's core indicators were significantly different from the WHO's. The CDC did not include early breastfeeding initiation, which the WHO includes. When interviewing two RN's from Sentara Norfolk General Hospital, they confirmed they include early breastfeeding initiation right after birth, referred to as the *golden rule*. This immediate skin-to-skin process with breastfeeding has two benefits: 1) to help reduce the bleeding when the uterus contracts after birth and, 2) the mother produces colostrum, which contains antibodies and nutrients for the infant until they are able to receive their vaccinations. The CDC does not include complementary feeding in their calculated indicators, unlike the WHO and UNICEF. It was concluded, at this time, that the CDC is primarily focused on improving breastfeeding rates in the United States and viewed introduction to complementary feeding as a secondary focus. Due to the SARS-COVID-2 pandemic, in-person interviews were not able to be conducted at Sentara Norfolk General Hospital because of the extreme restrictions to visitations. Any projects, including this study that were not deemed an emergency or important, were postponed or delayed. Because of this, only two registered nurses from the hospitals were interviewed, but given the nursery policy at Sentara, it was determined that all lactation nurses follow the Sentara guidelines of immediate breastfeeding after birth. But it is also important that the CDC indicators, questions, definitions, and formulas align more with the WHO to reduce any conflicting data and secure any gaps in data. If the CDC were to do that, then they could compare their previous data with their new data to see if any significant differences need to be addressed. This comparison could be the first step in addressing the differences between the CDC and the WHO.

Characteristics of High-Risk Areas for Colorectal Cancer Mortality in Southeastern Virginia

Detki A., Varvil E., Galadima H., School of Community and Environmental Health, College of Health Sciences, Old Dominion University

Purpose: Recent data identified Southeastern Virginia as a hotspot for colorectal cancer (CRC) mortality but the reasons for this are unknown. This study aims to identify and characterize zip codes areas at high risk for CRC mortality in Virginia.

Methods: Several data sources were linked to create the study data. The main source of data included the Sentara Cancer Registry. Data linkage was achieved by geocoding patients' zip codes at diagnosis and spatially assigning contextual and behavioral risk factors from publicly available databases. Bivariate analyses were used to summarize and compare individual and neighborhood characteristics between hotspot and non-hotspot areas. A hierarchical logistic regression model was used to estimate the association between the contextual- and demographic-level variables with the high-risk areas.

Results: The sample consisted of 4,408 CRC cases. Among them, 21.6% (n = 952) resided in a CRC high-risk area. Patients living in hotspots areas were significantly more likely to be African American, to have private insurance, and to be Medicaid recipients. They were also found to have a Charlson comorbidity index greater than three when compared to patients living in non-hotspot areas. Furthermore, zip code areas with low education attainment rates, higher obesity and screening rates, and composed mostly of African American were significantly associated with high-risk zip code areas for CRC mortality.

Conclusion: The inequalities in individual and contextual characteristics between hotspot and non-hotspots areas were striking in Virginia. These findings suggest the need for policy to try to delineate those factors associated with these disparities.

Inspiring Meaningful Community Outcomes: A Philanthropic Interdisciplinary Approach in the Promotion of Neuro-Wellness

Taylor, A. N., & Wood, C. C., James Madison University

Purpose: Millions of Americans are affected by neurological and neurodegenerative disorders and thousands of cases are diagnosed each year. These neuro-related conditions drastically impact all aspects of one's Health-Related Quality of Life (HRQoL) and is a focus of the Occupational Therapy (OT) profession. Skilled therapeutic services enhance HRQoL through physical, emotional, mental, and social dimensions of health in any individual, particularly those with neuro-related disorders. Barriers to services in this population include insurance stipulations, access to healthcare, and lack of alternative community programming.

Methods: To meet these needs and based upon a partnership between rehab professionals and the James Madison University OT program, the Philanthropic Interdisciplinary Neuro-wellness (PIN) model was developed. Participants in this 8-week participatory action study of PIN included men with neuro-related diseases, their caretakers, student volunteers, and rehabilitation professionals. Through therapeutic intervention, student volunteers and rehab professionals provided skilled instruction, care, and support to participants in a cost-effective manner.

Results: Quantitative data revealed an increase in functional mobility due to involvement in the PIN model for men with neuro-related disorders. Qualitative themes from interviews and the focus group include a community solution for affordable care, motivated camaraderie, a supportive network of friends, and student clinical skill development.

Conclusion: In summation, the surrounding community benefits from this model by accessing skilled care for individuals with neuro-related disorders at a low cost, along with providing respite care and a supportive network for caregivers, as well as providing an educational environment for students from local universities.

JAMES MADISON UNIVERSITY
Inspiring Meaningful Community Outcomes:
A Philanthropic Interdisciplinary Approach in the Promotion of Neuro-Wellness

JMU — Department of Health Professions, Occupational Therapy Program

COLLEGE OF HEALTH AND BEHAVIORAL STUDIES — JAMES MADISON UNIVERSITY

Presentors: *Alexa Taylor, MOTS and Chelsea Wood, MOTS*   Advisor: *Jeanne Wenos, P.E.D.*

Abstract

Background: Millions of Americans are affected by neurological and neurodegenerative disorders and thousands of cases are diagnosed each year. These neuro-related conditions drastically impact all aspects of one's Health-Related Quality of Life (HRQoL) and are the focus of the occupational therapy (OT) profession. Skilled therapeutic services address and enhance HRQoL through physical, emotional, mental, and social dimensions of health in any individual, particularly those with neuro-related disorders. Barriers to services in this population include insurance stipulations, access to healthcare, and a lack of alternative community programming.

Purpose: To establish a replicable Philanthropic Interdisciplinary Neuro-Wellness (PIN) model that addresses HRQoL and meets the unique needs of our community.

Methods: This study was JMU Institutional Review Board approved (protocol ID: 20-1109) with signed consent obtained from all participants. Participants (N=26) in this 8-week participatory action study included men with neuro-related diseases (n=*8), their caretakers (n=8), student volunteers (n=7), and rehabilitation professionals (n=3). A model was developed based upon a partnership between rehab professionals and the JMU OT program. Students and rehab professionals provided skilled instruction to participants in a cost-effective manner. Assessments included:
- Pre and post measures of the Timed Up and Go Test (TUG)
- Participant interviews
- Caregiver focus group
- Volunteer questionnaires

Results: Participants (N = 26, *participant 8 did not complete post-tests) engaged in 8 weeks of a PIN model program. Wilcoxen signed rank analysis of paired samples revealed a significant decrease from pre to post scores on the TUG, demonstrating an increase in functional mobility for participants (z (6) = .018 p < .001). Interviews, questionnaires, and a focus group revealed the following:
- Participants improved functional mobility strategies in gait, balance, social skills, higher-level thinking, and confidence and security in walking.
- Caregivers received relief from affordable therapy and routine respite care, increased resilience and hope through friendship and shared experience, and attained beneficial resources from one another.
- Rehabilitation professionals expressed fulfillment, joy in supervising and educating students, witnessing positive outcomes, and increased community connection, sense of life purpose, and optimism the PIN model will benefit other communities.
- Student volunteers gained hands-on experience in skill development, experience in transfers, guarding, relationship building, communication, and therapeutic use-of-self, and expressed inspiration for future specialties.

Conclusion: In summation, the PIN model:
- Is designed to meet the needs of each individual involved.
- Promotes a philanthropic, low-budget design, and access to affordable skilled care.
- Provides opportunity for beneficial reciprocity to all involved due to congruency demonstrated between group roles, and the fluidity allowed by the program.
- Implements each dimension of HRQoL through holistic intervention, designed specifically to address human physical, emotional, mental, and social needs.
- Develops a supportive network and provides respite care for caregivers.
- Provides an educational environment for students from local universities.

Outcomes

A community _solution_ to affordable continued care for individuals with neuro-related disorders.

- Improved participant functional mobility
- Improved mental and emotional wellness
- Motivated camaraderie & supportive network
- Enhanced student clinical skill development
- Respite care for caregivers

Table 1. *Model of PIN Sessions in Outpatient Therapy Clinic Setting*

Session Format	Description	Space Required & Materials
1. Welcome & Vitals Entry→ Start of Session (10 min)	• Volunteer led • Collect blood pressure, pulse ox, & heart rate • Communicate with participant and caretaker • Volunteers lead participants to cardiovascular equipment *Caregiver led support group gathers once participants leave for warm-up.*	In clinic waiting room- • Blood pressure cuff • Pulse oximeter • Gait belts • Record forms and writing utensils
2. Warm-Up (20 min)	• Volunteer led • High intensity interval training and cardiovascular exercise with equipment • Interval breaks: Breathing techniques & vocal exercises	Cardio equipment area- • Treadmills with harness • Ellipticals • Nu-Step • Recumbent Bike • Upper body ergometer • Seated glider

3. Therapeutic Intervention (30 min)	• Volunteer led
	• Volunteers facilitate & encourage participants
	• Session activity examples:
	  ◦ Activity stations- Fine motor: Sorting change, modeling clay, writing, etc.
	  ◦ Activity stations- Gross motor: Obstacle course, boxing, bed mobility, etc.
	  ◦ Cognitive group activities: Color card differentiation, memory recall, trivia, etc.
	  ◦ Individual emotional activities: Therapeutic conversation & relationship building
		Clinic-wide-
		• Chairs
		• Theme-based materials
		
		  ◦ Examples: Parallel bars, mats, boxing gloves, balloons, free weights, rung ladder, thera-bands, clothing, paints and paper, etc.

4. Closing & Exit (10 mins)	• Volunteer led • Final lap around clinic • Assist clients: Don jackets, walk to car, don seatbelts, depart	Clinic-wide
5. Debrief (10 mins)	• Clinic owner led • Share thoughts and observations *"What went well? What can improve?"* • Plan for next session	Cardio-equipment area- • White board • White board markers

Tables and Figures

Table 2. *Methods and Data of Study*

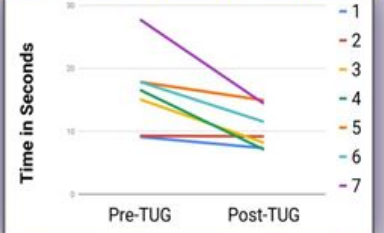| Methods	Week 1	Weeks 2-7	Week 8
Blood Pressure	X	X	X
Pulse Ox	X	X	X
Heart Rate	X	X	X
Intervention	X	X	X
Timed Up and Go (TUG)	X		X
Borg Perceived Exertion Scale	X	X	X
Participant Interviews			X
Caregiver Focus Group			X
Volunteer Questionnaires			X

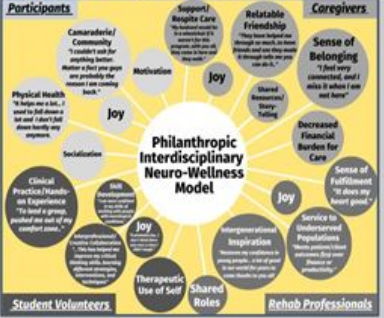**Figure 1.** *Participants Pre & Post TUG Scores*

Figure 2. *Themes of Model Benefits*

Effect of Medicaid Expansion on Demographic and Disease Profile of Chronic Disease Patients at a Rural Safety Net Clinic in Virginia

Obasanjo I, Mann W, Robinson K., College of William & Mary, Olde Towne Medical Center

Purpose: The purpose of this study was to compare the demographic and disease profile of patients using a safety net clinic for chronic disease management in the year before Medicaid Expansion (Jan-Dec 2018) to the first year after implementation of Medicaid Expansion (Jan-Dec 2019).

Methods: A chi-squared test was used to analyze if there was a significant difference in distribution of four variables in 2018 compared to 2019. The clinical diagnosis data was compared by percentage increase or decrease in 2019 from 2018 since patients could have multiple diagnoses.

Results: Age distribution was younger in 2019 compared to 2018 (p=0.003) and the other three patient variables, gender, race and income, were significant (p=<0.0001). For gender, the change in distribution was more males and less females in 2019 compared to 2018. For race, it was that rates of Black/African American and White did not differ between the two years although Hispanic Ethnicity increased in 2019. For income, more patients were at or below 138% of the Federal Poverty Line in 2019 compared to 2018.The chronic physical condition that increased the most between the two years was Behavioral Health at a 101% increase from 2018 to 2019.

Conclusion: Patients were younger, more likely to be male and of Hispanic descent and more likely to have lower income in the year post-Medicaid Expansion than the year preceding Medicaid Expansion. Behavioral Health was the disease diagnoses that increased most markedly from pre to post Medicaid Expansion.

Effect of Medicaid Expansion on Demographic and Disease Profile of Chronic Disease Patients at a rural safety net clinic in Virginia

Iyabo Obasanjo PhD, William Mann MD, Kendra Robinson FNP.
College of William and Mary and Olde Towne Medical Center
Williamsburg, VA

Objective

Comparison of Demographic and Disease Profile of patients using Olde Towne Medical and Dental Center, a safety net clinic in rural Virginia, for Chronic disease management in the year before Medicaid Expansion (Jan-Dec 2018) to the first year after implementation of Medicaid Expansion (Jan-Dec 2019).

Method

Chi-squared test was used to analyze if there was a significant difference in distribution of 4 variables in 2018 compared to 2019. The clinical diagnosis data was compared by percentage increase or decrease in 2019 from 2018 since patients could have multiple diagnoses.

Results

- Age distribution was younger in 2019 compared to 2018 (p=0.003).

- Gender, Race and Income were significant at less than p=0.0001.

- For Gender the change in distribution was more males and less females.

- For Race it was that Black/African American and White rate did not differ between the two years, but Hispanic Ethnicity increased significantly in 2019.

- For Income, more patients were at or below 138% of the Federal Poverty Line in 2019 compared to 2018.

- The Chronic Physical condition that increased the most between the two years was Behavioral Health at 101% increase from 2018 to 2019.

Conclusion: Patients were younger, more likely to be male and of Hispanic descent and more likely to have lower income in the year post-Medicaid Expansion than the year preceding Medicaid Expansion. Behavioral Health was the disease diagnoses that increased most markedly from pre to post Medicaid Expansion.

A Quality Improvement Plan for Integrating Behavioral Health into the Management of Chronic Pain

Hart, R. T., DNP Candidate, MSN/Ed, RN-BC, Sutter, R. DNP, APRN, BC-FNP

Purpose: The purpose of this project was to promote use of evidence-based practice by integrating behavioral health into the management of chronic pain.

Methods: At Fort Belvoir Community Hospital's Family Medicine Clinic, the Chronic Care Model and Continuous Quality Improvement framework were utilized in integrating use of Behavioral Health in the management of chronic pain. A Modified VA/DoD Clinical Practice Guideline for Chronic Pain Management algorithm and website were used to present education to providers. Data was collected utilizing a modified Perceived Usefulness and Ease of Use (PUEU) survey and system mapping.

Results: Elements of this project may be integrated into multiple levels of the Military Health System. This was demonstrated through system mapping. Results from the Modified PUEU reflected a 300.10% increase in the intent to integrate the behavioral health counselor into the management of chronic pain after project intervention.

Conclusion: Clinics should consider and include behavioral health modification in the management of chronic pain. Providers should be educated on the chronification of pain, motivational interviewing, and appropriate use of the behavioral health counselor to provide evidence-based holistic patient care.

A Quality Improvement Plan for Integrating Behavioral Health into the Management of Chronic Pain

Renee Hart, MSN/Ed, RN-BC, Doctor of Nursing Practice Candidate
Rebecca Sutter, DNP, APRN, FNP-BC

BACKGROUND

- Chronic pain leads to decreases in patients' functionality, self-efficacy for pain management, and quality of life
- At least 33% of Americans seek out health care for pain-related issues
- Costs are $560-635 billion each year surpassing those of cancer, diabetes and heart disease
- 27% of health care providers feel ill-prepared to treat pain
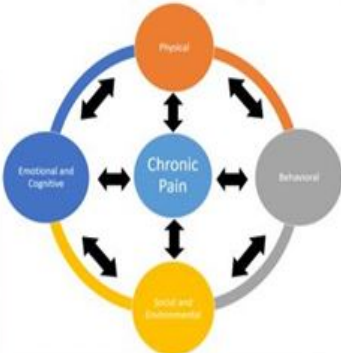
Beehler, G., Murphy, J., King, P., & Dollar, K. (2017). *Brief cognitive behavioral therapy for chronic pain: Therapist manual.* Washington, DC: U.S. Department of Veterans Affairs.

PROBLEM STATEMENT

- Over 1 million adults suffer from chronic pain, however, too many health care providers face a conundrum in its management which has contributed to an opioid epidemic in the United States. Early in medical education, students are taught the pain cycle, but not taught how to translate that cycle in practice resulting in decreased use of behavioral health in the management of chronic pain.

PROJECT PURPOSE

To promote the use of evidence-based practice by integrating behavioral health into the management of chronic pain.

METHODOLOGY

- **Setting:** Fort Belvoir Community Hospital Family Practice Clinic
- **Participants:** Family Practice Clinic providers
- **Frameworks:** Chronic Care Model, Continuous Quality Improvement utilizing six Plan, Do, Study, Act (PDSA) cycles
- **Tools:** VA/DoD Clinical Practice Guideline for Opioid Therapy for Chronic Pain--Pocket Card: Determination of Appropriateness for Opioid Therapy, Military Health System Stepped Care Model, Google Sites
- **Interventions:**
    - Presented material at weekly staff huddles for six weeks and during the regular scheduled training time for providers each month
    - Collaborated with the Defense Health Agency Psychological Center of Excellence
- **Data Collection:** Provider survey utilizing a modified Perceived Usefulness and Ease of Use survey, and system mapping

CONCLUSION

- System mapping: This project is applicable to multiple levels of the Military Health System
    - Literature review and tools were shared with the Defense Health Agency (DHA)
    - Sustainability of the project is ensured through DHA policy and measurement of BHC encounters for chronic pain on a monthly basis military-wide
    - Implemented tools at the local level, Fort Belvoir Community Hospital
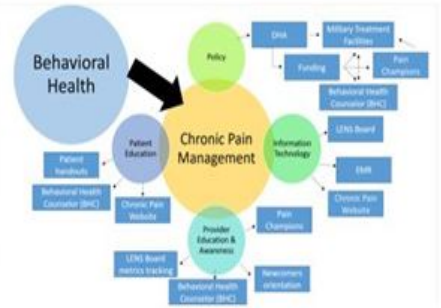

RECOMMENDATION

- Further education on optimizing use of the Behavioral Health (BHC)
- Embed education on chronification of pain and use of the BHC in pain management in provider orientations and annual training
- Train staff on use of the BHC in all chronic conditions to decrease BHC turnover

ACKNOWLEDGEMENTS

- The staff and providers at Fort Belvoir Community Hospital, specifically Dr. Edward Kwon, Ms. Vanessa Richards, Ms. Tamara Garcia, Dr. Lee Jamison for all of their support throughout the implementation of this project.

REFERENCES:
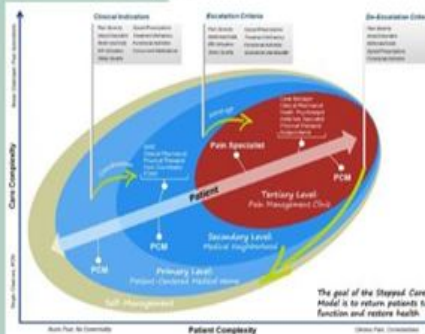
Preparing Undergraduate Nurses to Practice to the Full Extent of their Education and Training: An Evidence-Based Curriculum Enhancement Plan

North, G.N, Haas, T., Sutters, R., George Mason University

Purpose: The purpose of this project was to implement an evidence-based education model/toolkit that would provide undergraduate nursing students knowledge and skills on care coordination, medication management, motivational interviewing, and interprofessional collaboration.

Methods: The education and training included in-class discussions, mock interviews, telephonic interviews, collaboration with social workers, and navigation through an electronic health record (EHR). The students learned how to navigate the EHR and properly document using the Situation-Background-Assessment-Recommendation format. Community health nursing students at the Mason and Partners Clinic implemented this toolkit on a weekly basis as they functioned as primary care nurses. In this role, nursing students provided follow up phone calls to patients with diabetes and/or hypertension over the course of 7 weeks.

Results: The System Usability Scale (SUS) was used as the quantitative evaluation tool to evaluate the usability of the toolkit. The score of the toolkit was 75/100 and therefore considered easy to use. The students' journal entries were reviewed, and a simple thematic analysis was conducted using Dedoose software, which is a web-based platform to analyze qualitative data. The four recurring themes included improved documentation, holistic approach in management of chronic diseases, improved care coordination skills, and the impact of telehealth in primary care settings.

Conclusion: Evidence shows that care coordination, medication management, interprofessional collaboration, and motivational interviewing are all essential in training nurses to practice to the top of their nursing license. Undergraduate nursing programs should incorporate primary care opportunities into their undergraduate nursing curriculum.

Preparing Undergraduate Nurses to Practice to the Full Extent of their Education and Training: An Evidence-Based Curriculum Enhancement Plan

Gracia North, RN, BSN, DNP Candidate

Committee: *Tanya Haas*, DNP, MSN, RN, *Rebecca Sutter,* DNP, APRN, BC-FNP

GEORGE MASON UNIVERSITY

Background

❖ U.S. ranks the lowest compared to other developed countries in:
  ➢ Equity
  ➢ Access
  ➢ Health outcomes
❖ RNs are ideal to prevent disease and promote health.
❖ RNs do not currently practice to the full scope of practice.
❖ If trained properly, RNs can:
  ➢ Increase access to care
  ➢ Improve health outcomes
  ➢ Lower healthcare costs

Project Purpose

❖ To develop an evidence-based toolkit for undergraduate nursing students that will prepare them to practice to the full scope of their license.
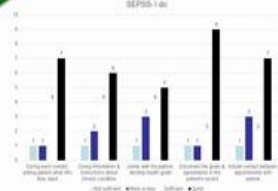
Frameworks

❖ Theoretical Framework: Chronic Care Model
❖ Conceptual Framework: Interprofessional Education

Methods

❖ **Participants:**
  ➢ Undergraduate nursing students
  ➢ Mason and Partners (MAP) clinic patients with diabetes and/or hypertension
  ➢ Undergraduate nursing faculty/DNP mentors

❖ **Tools:**
  ➢ Evidence based-toolkit
  ➢ PowerPoint orientation
  ➢ Scripted phone calls

❖ **Intervention and Data collection:**
  ➢ Follow-up phone calls over a course of 7 weeks
  ➢ Reflective journal narratives of student experience
  ➢ System Usability Scale

Conclusions & Recommendations

❖ Evidence shows that care coordination, medication management, interprofessional collaboration, and motivational interviewing are all essential in training nurses to practice to the top of their license.

❖ Undergraduate nursing programs should incorporate chronic care panels into their undergraduate nursing curriculum.

❖ Data shows RNs can help increase access to care and improve health outcomes.

Results

❖ System Usability Scale >68
❖ *"These encounters demonstrate the importance of care coordination for our patients, as their care does not end after they are discharged"*

References

Graphs

FCS Undergraduates Perceptions on Training to be Mentors of Adults with I/DD

Richard, C.; Gibbs C., San Diego, L. RDN, Colleran, H. PhD, RDN, CSSD, LDN, CSCS, Williams-Wheeler, M., PhD; Newcomb-Hopfer, E., PhD, Dixon, D., PhD, Department of Family & Consumer Science, North Carolina A&T State University

Background: Adults with Intellectual and Developmental Disabilities (I/DD) face unique challenges in achieving self-sufficiency. Mentoring programs founded in family and consumer sciences (FCS) strive to improve abilities. Training must be provided to mentors to effectively mentor, and to understand the population and the research process. The purpose of this study was to investigate the perceptions of undergraduate students on preparatory training received to serve as mentors to adults with I/DD to increase self-sufficiency.

Methods: Eight undergraduate FCS majors underwent two hours of weekly training for eight weeks. Mentors recorded their experiences and reflections on training and initial time spent with their mentees through electronic journal entries that were de-identified and reviewed by three coders. A comparative analysis was completed to determine recurring themes based on mentors' thoughts, beliefs and attitudes.

Results: The mentors consisted of 50% (N=4) Fashion and Merchandising majors, 25% (N=2) Child Development and Family Studies majors, and 25% (N=2) Food and Nutritional Sciences majors. Data analysis revealed that 50% (N=4) had previous experience interacting with this population. Coding revealed two prevailing themes of 1.) Optimism about the program and relationships with the mentees as well as 2.) Self-doubt in their abilities to succeed as mentors.

Conclusion: Themes found through journal entries may be used as formative evaluations to develop future mentor training for a program targeting adults with I/DD. Mentors should be further instructed on mentoring techniques such as various motivational methods to increase mentor confidence and promote mentee self-sufficiency.

FCS Undergraduates Perceptions on Training to be Mentors of Adults with I/DD

Courtney Richard, Chante Gibbs, Lauren San Diego, Dr. Heather Colleran, Dr. Meeshay Williams-Wheeler, Dr. Elizabeth Newcomb-Hoper and Dr. Devona Dixon (PI)

Department of Family and Consumer Sciences
North Carolina A&T State University, Greensboro, NC 27411

Introduction

Young adults with Intellectual and Developmental Disabilities (I/DD) face unique challenges to fully acquire self-sufficiency in areas of life such as proper nutrition, financial literacy, and social engagement. Mentoring programs with a firm foundation in family and consumer sciences (FCS) can support individual success in these areas.

Adequate training must be provided to undergraduates serving as mentors in order to effectively mentor and positively influence behavior change. Mentors should also find value and purpose in the training provided to transfer skills to participating adults with I/DD.

Purpose

The purpose of this study is to investigate the perceptions of undergraduate students on the preparatory training received to serve as mentors to adults with I/DD to increase self-sufficiency. It is part of a larger study aimed to develop a mentoring program for adults with I/DD to enhance self-sufficiency and aspects of nutrition, resource management, appearance and relationships through peer-mentoring and peer-facilitation of specialized FCS based content. This undergraduate-as-mentor approach is unique in addressing the needs of adults with I/DD.

Methodology

Eight undergraduate FCS majors serving as peer mentors underwent two hours of training once a week for eight weeks to serve as mentors and educators. Weekly trainings focused on: getting familiar with intellectual and physical disabilities, disability etiquette, first person language, leading with emotional intelligence, research fundamentals and ethics; data collection, journaling and program expectations. They also interacted with participants, three times, in organized informal social settings. Mentors recorded their experiences and reflections on trainings and initial time spent with their mentees through electronic journal entries. Entries were de-identified, reviewed by five coders, and recurring themes based on mentors' thoughts, beliefs and attitudes were found.

Participant Profile

Mentor Demographics: The mentors consisted of 50% (N=4) Fashion and Merchandising majors, 25% (N=2) Child Development and Family Studies majors, and 25% (N=2) Food and Nutritional Sciences majors. Data analysis revealed 50% (N=4) had previous experience interacting with this population. to succeed as mentors.

Journal Themes/Findings

Three themes emerged from the mentor training journals. They are as follows:

Theme 1: Creating A Sense of Community

Expectations of Friendships with Mentee	These quotes demonstrated initial hopes, goals and excitement mentors have prior to meeting and getting paired with their mentees in developing a friendship.
Building Friendships with Mentors	These statements show how mentors have bonded with each other throughout the training process and developed a supportive community amongst themselves.
Changing Preconceived Notions of The I/DD Population	These quotes have mentors evaluating their own thoughts on this population prior to training, sharing knowledge gained through training to their friends and family members outside the program and expressing desires to further integrate the I/DD population with the general community.

These quotes reflected mentors' learning and development of relationships within the I/DD community and ultimately integrating those experiences in their everyday lives.

- "A mentorship can truly develop a long lasting relationship especially because as mentors we will be helping individuals with disabilities thrive and will be making a difference in their life by creating a bond." **Expectations of Friendships with Mentee**

- "I really enjoy meeting up with the other mentors and brainstorming these ideas for social gatherings and get togethers because not only are we planning and preparing for an outing with our mentees, we are also bonding as mentors and getting to know one another as well." **Building Friendships with Mentors**

- "In just the two days of training that I have attended, I have already began to think of ways that I can help [Omitted for privacy], educate my family, and contribute more to a community that is often forgotten." **Changing Preconceived Notions of The I/DD Population**

Journal Themes/Findings (Cont.')

Theme 2: Personal Growth

Leadership Skills	These are journal segments acknowledging the development and enhancement of leadership skills throughout the program experience
Commitment	These statements revealed dedication to the project by planning to expectations and responsibilities.
Socio-emotional Well-Being	These quotes showed mentors developing deeper understanding of themselves and their emotions that will situations not only in their mentorship, but also in their everyday life.

These quotes show the increase in skills and awareness that directly affect mentors' character and abilities.

- "I am realizing my leadership skills more and more, and I know or realize the areas that I could improve in." **Leadership Skills**

- "Learning these statistics made me very curious and caused me to want to do more research as to why these are statistics for individuals with I/DD and understand the root of the issue at a deeper level." **Commitment**

- "This training has taught me to be resilient, patient, and promote positive engagements." **Socio-emotional Well-Being**

Theme 3: Development Into an Effective Mentor

Expected Relationship Outcomes	These quotes reflected the mentors' recognition that the mentoring relationship can be mutually beneficial and expressed their desires to positively influence each other.
Expected Application of Knowledge Gained within Mentorship	These statements reflect specific knowledge, skills and increased awareness of the population presented at the trainings that mentors plan to use throughout the implementation of the project.
Value of Training	These are statements on feelings and opinions directly resulting from weekly trainings

These quotes reflected the mentors' understanding of the traits of an effective as well as their goal setting for effective mentoring and program delivery.

- "I really want to make an impact on my mentee or mentees I want them to walk away from this program with confidence, better social interaction skills, and the willingness to keep accomplishing all they put their minds too." **Expected Relationship Outcomes**

- "I can now say that I have more knowledge on IDD and could possibly inform someone who is unaware about what IDD is." **Expected Application of Knowledge Gained**

- "After the training last week, I feel much more confident in my ability to be a mentor and effectively inspire an individual with I/DD to be more independent and self-sufficient." **Value of Training**

Conclusions

Themes found through journal entries may be used as formative evaluations to develop future mentor trainings for a program targeting adults with I/DD. Mentors should be further instructed on mentoring techniques such as various motivational methods to increase mentor confidence and promote mentee self-sufficiency.

Acknowledgements

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Virginia Journal of Public Health Submission Guidelines

The Virginia Journal of Public Health is published twice yearly, fall and spring by the Virginia Public Health Association.

Deadlines for Manuscripts:
Fall Issue: August 15
Spring Issue: February 15

The Journal welcomes research, professional, and literature reviews for consideration for publication (Please see the specific formats for each type of manuscript listed below).

Manuscripts should be sent to Dr. Kim Baskette, Editor (kbaskett@vtc.vt.edu) as a WORD document, email attachment. In the cover letter or email, the corresponding author needs to affirm that the article has not been published elsewhere.

Manuscripts must:

1. Follow the form of the Publication Manual of the American Psychological Association, 6th edition (http://www.apastyle.org)
2. Be typed on 8 1/2 x 11-inch paper, double spaced, 12 pt. font;
3. Include a title page with the names and addresses of each author;
4. Include a title page without author identification (this will be used for blind review);
5. Include a pdf copy of the Institutional Review Board approval if appropriate;
6. Include references at the end of the manuscript and in alphabetical order (APA style);
7. Have any figures or tables embedded in the manuscript;
8. Include a less than 200-word abstract.

Organization of Manuscripts

Research Articles
Abstract (200 words): Purpose, Methods, Results, Findings, and Conclusions. Text: Purpose, Methods, Results, Discussion, Summary, Conclusions, Recommendations, References.

Professional Articles (position papers, program descriptions)
Text: Purpose, Methodology (if applicable), Discussion, Summary Recommendations (if applicable), References (if applicable)

<u>Literature Reviews</u>

Abstract (200 words): Purpose, Methodology (Data Sources, Inclusion and Exclusion criteria), Findings (Data Synthesis), Summary, Conclusions, Recommendations

Text: Purpose, Methodology (Data Sources, Inclusion and Exclusion criteria), Findings (Data Synthesis), Summary, Conclusions, Recommendations, References

Review Process

Manuscripts submitted will be sent to three members of the JVPHA Editorial Board. Reviewers will recommend (1) Acceptance, (2) Acceptance with Revisions, (3) Revise and Resubmit, or (4) Reject. The Editor makes the final decision and will notify the corresponding author of the manuscript disposition.

Questions: Contact Dr. Kim Baskette at kbaskett@vtc.vt.edu