Community-Based Health Education and its Effects on African Americans

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Abstract

The African American (AA) community has a high prevalence of uncontrolled chronic hypertension (HTN). In this community, a lack of health knowledge contributes to inadequate health maintenance of chronic conditions. Unmanaged HTN strongly correlates with life-threatening complications in patients receiving anesthesia. A review of the literature suggests that African Americans (AAs) have increased receptibility and improved knowledge with community-based education models. Additionally, throughout the literature, preoperative anesthetic education has been shown to improve patient knowledge before undergoing surgery. Implementation of health education within areas of familiarity has shown to increase the responsiveness to health modification. Our scholarly project utilized community-based preoperative anesthetic education on HTN. This educational project evaluated the knowledge base and retention of blood pressure maintenance and the risks of perioperative HTN complications within our selected population.

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Community-Based Health Education and its Effects on African Americans

Introduction

According to the Centers for Disease Control and Prevention (CDC), African Americans (AAs) between 35-64 years of age are at a 50% higher risk of having high blood pressure (BP) as compared to Caucasian Americans (CDC, 2017). Additionally, diseases such as hypertension (HTN), stroke, and diabetes mellitus (DM) are occurring at younger ages in AAs when compared to their Caucasian counterparts (Swelitzer, 2019). This data suggests that omnipresent morbidities in AAs continue to grow (Pullen, Perry & Oser, 2014; Swelitzer, 2019).

Uncontrolled HTN can lead to acute and chronic illnesses; HTN also increases the risk of perioperative complications during surgery (Hartle et al., 2016; Wax, Porter, Lin, Hossain, & Reich, 2010). Research shows that AAs have a strong rapport within their community, suggesting a needed extension of healthcare education beyond medical institutions to facilitate health maintenance (Farmer & Young-Clark, 2016). Implementing community-based health education has shown to positively impact health, further emphasizing its necessity (Wilson et al., 2008; Victor et al., 2018). Further research is required to assess the effect of preoperative anesthetic education on HTN within the AA community.

Significance and Background of Clinical Problem

Patients undergoing surgery should have a detailed pre-anesthetic evaluation to evaluate medical illnesses and perioperative risk (Armstrong, 2014). Increased incidence of high BP and DM in AAs necessitate the need for thorough screening throughout the pre-anesthetic evaluation (AANA 2017; Swelitzer, 2019). Patients with a history of uncontrolled high BP have increased risk for perioperative hypertensive incidents and fluctuation in hemodynamics (Bisognano & Fong, 2008). Mortality caused by HTN in the AA population is 40-50% greater than in non-

African Americans, owing to a variety of comorbidities (Nesbitt, 2009). To prevent the detrimental results of organ damage and early death, anesthesia providers must isolate and rapidly respond to unmanaged HTN (Howell, 2018). Therefore, there are significant clinical implications that warrant investigation of the effects of community-based preoperative anesthetic HTN education within the AA community.

PICOT Evidence Review Questions

Two focal PICOT questions were framed to drive the literature review, as well as address innovations neglected in our selected population. The first PICOT question states the clinical problem: In AA adults (P), what is the effect of community-based health education (I) on preventative health management (O) in a three-month period (T)? The second PICOT question states the innovation: In AA adults, who attend Greater Palm Bay Church of God (P), how does community-based preoperative anesthetic education on HTN (I) impact the knowledge base and retention of BP maintenance and risks of perioperative HTN complications (O) upon completion of the educational seminar within three months (T)?

The intervention consisted of preoperative anesthetic HTN education, including PowerPoint presentation and handouts. The population selected was comprised of AA individuals between the ages of 18 and 89 who participated in community-based organizations. The chosen organization was the Greater Palm Bay Church of God (GPBCG) located in Palm Bay, Florida.

Search Strategies

The search strategy for this project broadly focused on community-based health interventions aimed at the AA community, perioperative HTN education, as well as knowledgebase and retention. Databases utilized were PubMed, Medline, Google Scholar, and

OneSearch. Key search terms used to research were *Healthcare* AND *African Americans* AND *church; church-based health interventions; Community based interventions* AND *African Americans* AND *health education; Preoperative anesthesia education and African Americans; Education programs* AND *hypertension* AND *knowledge; Hypertension clinical practice guideline; American Society of Anesthesiologists.* MESH terms included *Health behavior, religion, African Americans, health promotion, cultural characteristics, preoperative, education.* The search limits included human subjects, English language, and research articles published within five years. Inclusion criteria included health education. The exclusion criteria comprised sample sizes of less than 15 as well as literature reviews. Out of 472 articles recovered, twelve met the criteria and were included.

GRADE Criteria

Community health education and its impact on AA health guided the evaluation of our selected literature. Retrieved studies were appraised utilizing the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) criteria. The GRADE criteria is a tool used to rate the level of evidence and to provide credibility to recommendations. Predominate studies were of qualitative, epidemiological, and cross-sectional methods. However, studies regarding this population were insufficient in long term follow-up. Noted methodological flaws included financial incentives, indirectness related to intervention variability, and absence of blinding in random control trials (RCTs). The evidence was graded down due to Imprecision (-1 or not graded up). The overall GRADE criteria for the identified literature was rated two (low), thus signifying the need for future studies containing rigor (Farmer & Young-Clark, 2016). It is recommended that future research within this subject and population include longitudinal cohort studies to assess long-term outcomes.

Literature Review and Synthesis of Evidence

Overview

Educational programs in the medical setting have shown to impact and improve knowledge, thus directly affecting patient safety and adherence to medical advice.

(Nahm, Stevens, Scott, & Gorman, 2012; Roca et al., 2003). Healthcare clinicians can empower clients through thorough preoperative or preventative health education, resulting in improved long-term healthcare maintenance (Nahm et al., 2012; Roca et al., 2003). The preoperative evaluation is a critical opportunity for anesthesia providers to distinguish the presence of HTN and its complications (Fleisher, 2002). Although the American Society of Anesthesiologists (ASA) and the American Association of Nurse Anesthetists (AANA) do not specify guidelines on the management of preoperative HTN, the American College of Cardiology/American Heart Association Taskforce (ACC/AHA) make suggestions and provide guidelines to assist clinicians in the management of hypertension before surgery.

Definition: For this scholarly project, the definition of community-based preoperative anesthetic education is community-based preprocedural education that incorporates anesthesia and HTN implications. Teaching was focused on the preoperative anesthesia evaluation period.

Theoretical Framework

The PRECEDE (Predisposing, Reinforcing, and Enabling Constructs in Educational Diagnosis and Evaluation) model guided this scholarly project. Research studies, in addition to organizations such as the CDC, have identified the PRECEDE framework as a public health planning model that aids in identifying, implementing and evaluating public health interventions (Butterfoss & Dunet, 2005; Calano et al., 2019; Hering et al., 2005). PRECEDE is used as a holistic method for health promotion and disease prevention and comprises a thorough structure

that utilizes four phases for developing, executing and assessing health promotion (Crosby & Noar, 2011).

Hypertension Management

Clinical guidelines for the management of HTN before surgery include specific BP parameters, follow-up intervals, pharmacological, and nonpharmacological interventions.

According to ACC/AHA (2017), the diagnosis of HTN is a BP measurement greater than 130/80 mmHg. Hypertensive patients with or without cardiovascular disease are recommended to maintain a BP of less than 130/80 mmHg regardless of age (Whelton et. al., 2017).

Literature suggests treatment of BP above 180/110 prior to elective surgery, up to and including delaying surgery in order to optimize BP regardless of race (Eagle et al., 2002; Howell, 2018; Whelton et al., 2017). Although there is a minimal association between elevated BP and postoperative outcomes, hypertensive patients are vulnerable to perioperative myocardial ischemia, arrhythmias, BP variability, stroke and increased bleeding (Fleisher, 2002; Wax et al., 2010).

Patients undergoing surgery should follow medical recommendations to manage anti-hypertensive medications. Standard drug classifications include Beta-blockers (BB), Alpha-2-Agonist (A2A), Angiotensin-converting-enzyme inhibitors (ACE inhibitors), and Angiotensin II receptor blockers (ARBs). BB and A2A are recommended to be continued in patients undergoing major surgery (Whelton et al., 2017; Wijeysundera et al., 2014). Abrupt preoperative cessation of specific BB or A2A such as clonidine can lead to a rebound hypertensive crisis (Yancey, 2018). However, consideration to hold ACE inhibitors and ARBs the day of surgery should be taken to avoid perioperative hypotension (Whelton et al., 2017; Wijeysundera et al., 2014).

Patients with high BP can practice nonpharmacologic interventions to assist in reducing HTN including weight loss and adhering to a heart-healthy diet (Whelton et al., 2017). Increasing fruits, grains, and vegetables have the potential to decrease systolic BP by 11 mmHg (Whelton et al., 2017). Also, the consumption of alcohol should be limited to two drinks per day for men and one per day for women (Whelton et al., 2017). Further recommendations include adults newly diagnosed with HTN visit their general practitioner to reevaluate their BP within one to six months based on cardiovascular risk and management (Whelton et al., 2017).

The Pre-Anesthetic Evaluation Period and Education

The anesthesia provider is responsible for educating patients regarding their anesthesia care. The majority of education takes place during the pre-anesthetic evaluation period that precedes surgical or non-surgical procedures. Although the literature does not state a clear definition of the preanesthetic evaluation, the ASA and AANA acknowledge this period as essential for patient education, organization of resources, and formulation of a detailed perioperative anesthesia plan (AANA, 2019; ASA, 2012). However, the pre-anesthetic evaluation period can be limited by time constraints and patient anxiety, thus decreasing time for a thorough education on chronic conditions (Hering et al., 2005; Nahm et al., 2012).

While studies are limited, research shows that preoperative education before the day of surgery enhances patient knowledge of anesthesia and satisfaction (Hering et al., 2005; Nahm et al., 2012). Barriers within the AA community that may affect the utilization of healthcare services such as preoperative education includes poor health behaviors, medical costs, lack of medical insurance, and limited social support (Pullen, Perry, & Oser, 2014; Sanders, Talley, Caito, & Kreuter, 2009). Community-based health education can overcome these barriers by enhancing healthcare knowledge, intentions, and outcomes (Halbert et al., 2017; Hall, Guidry, &

Jones, 2017; Howard et al., 2018; Wells et al., 2013; Wilson et al., 2008; Victor et al., 2018). Benefits of unconventional health education and screenings within the AA community include decreased BP, enhanced physical activity, and a lower rate of hospitalizations (Halbert et al., 2017; Wells et al., 2013; Victor et al., 2018). These achievements prove that education provided in influential environments increases adherence to healthy lifestyle practices (Hall, Guidry, & Jones, 2017; Victor et al., 2018).

Community-Based Health

Non-traditional and trusted establishments such as hair salons, barbershops, and churches are successful in reaching community members (Howard et al., 2018; Wilson et al., 2008; Victor et al., 2018). Church-led health education in the AA community implemented by research studies has shown to improve health maintenance (Aaron et al., 2003; Howard et al., 2018; Farmer & Young, 2016). According to Aaron et al., (2003) and Steffen, Hinderliter, Blumenthal, & Sherwood (2001), participation in faith-based organizations was associated with an increased likelihood of adjustments in health behaviors. Churches have a strong influence within the AA community, and therefore are an ideal location for healthcare education (Aaron et al., 2003; Howard et al., 2018).

Applicability to Practice

The review of the literature supports the role community health education has on preventive health. Management of HTN in the perioperative period is focused on prevention and reduction of organ damage and mortality (Howell, 2018). However, gaps in the literature suggest a need for community-based research that incorporates preoperative anesthetic health education.

This scholarly project has contributed to the awareness of the proposed problem by utilization of a public platform to educate individuals on preoperative BP management and the

risks of perioperative HTN complications. Our findings will be presented to our peers and faculty to increase awareness of the clinical issue. The project has determined the practicality of utilizing a community-based environment within the AA population, with the desire to expand learning within the community. The innovation offered evidence-based recommendations to the practice of anesthesia by identifying a receptive learning environment to reduce perioperative risks associated with uncontrolled HTN.

Project Aims

The scholarly project sought to advance research on the effects of community-based anesthetic education. The primary aim of our scholarly project was to determine the effectiveness of community-based preoperative anesthetic educational seminars on HTN and to evaluate the knowledgebase and retention of AA church-goers at GPBCG. The secondary aim offered evidence-based recommendations based on relevant results.

The objectives of the scholarly project were to:

- Measure the difference in knowledgebase and knowledge retention within the AA
 community at GPBCG on BP management as well as perioperative anesthetic
 hypertensive complications utilizing pre- and post-test scores at the completion of the
 educational seminar as well as at one- and three-months post-intervention.
- Make evidence-based recommendations for implementation of community based anesthetic education to the AHU faculty, peers, stakeholders and subjects based on data analysis

Methodology

The implementation of this project was performed using a quantitative method utilizing a quasi-experimental design as the chosen methodology. The quantitative method permits the assessment of numerical data by using statistical analysis to measure intervention outcomes (Melnyk & Fineout-Overholt, 2019). The quasi-experimental design evaluates the impact of the intervention of the AA population without requiring a control group or randomized sample (Melnyk & Fineout-Overholt, 2019). The chosen method allowed for the manipulation of the independent variable and signified the impact that the independent variable had on the dependent variable (Melnyk & Fineout-Overholt, 2019).

The study was conducted within Brevard County in the city of Palm Bay, Florida. The population size of Palm Bay is 115,552, with 18.7% being AA or of black descent (U.S Census, 2019). The study was conducted at a predominantly AA church, GPBCG. GPBCG has 150 church members. The scholarly project had minimum convenience sample size of 21 subjects. The sample size was determined using XLSTAT 2020 power analysis tool. Parameters include conventional values for power at 0.9, alpha at 0.05, and the effect size at 0.3. The project accounted for attrition by increasing the sample size by 30%, bringing the total sample size of at least 27 subjects. Multiple sources were used to structure and develop the educational content for the PowerPoint presentations and handouts.

The selected delivery method included a face-to-face PowerPoint presentation. The seminar consisted of one 60-minute educational session on preoperative anesthetic hypertension education. Co-investigators strictly followed the PowerPoint presentation and handbook narrative. The session was held on the morning of the seminar date. Attendees were allowed to attend one educational session. All who attend the educational seminar were consented and

received pre- and post-tests. The attendees received an agreement to participate form; it was reviewed with the attendees and all questions were answered. Subjects created a de-identification code. The code was used to link the subject's email and pre- and post-tests. The unique identifier was generated by using the first letter of the subject's first and last name as well as the subject's mother's date of birth (MMDDYYYY). Before the educational seminar began, each attendee was asked to complete the provided pre-test. Upon completion of the pre-test, the co-investigators collected all pre-tests and provided educational handouts immediately before the commencement of the educational session. Time allocated for the educational session was 30-45-minutes; subjects were allowed to ask questions for approximately 10-15 minutes at the end of each session. One session was conducted by reason of achieving the appropriate minimum sample size. Pre- and post-tests were used to assess the effectiveness of the educational seminars.

Due to the Coronavirus (SARS-CoV-2) pandemic, alternative options for the innovation included seminars held in the outdoor area of the facility to expand social distancing without significantly limiting attendance. If building capacity size decreased, seminars were to be scheduled in time-block sessions on the day of the event. Subjects would have the opportunity to sign up to attend prior to the event. Block sessions would have been added as needed. Inclusion criteria included the diagnosis of HTN, English literacy, and people of African or black descent. Exclusion criteria included subjects under the age of 18 or above 89 years old.

The co-investigators, Samantha Gibson and Katelynn Malivert, recruited subjects at GPBCG during the announcement period of church services. Church-goers had the opportunity to sign-up for the seminar after church service. Recruitment was conducted every Sunday for approximately four weeks, beginning Spring 2021. Flyers advertising the educational seminar was placed in the church bulletin and passed out to church-goers weekly during the recruitment

period (See Appendix C). Referral sampling was also used. Potential discomforts of participants included disclosure of medical history of HTN. The Agreement to Participate form included a privacy clause as well as a statement limiting subject attendance to only one session. Agreement to participate was obtained before the educational seminar commenced. Each subject was gifted a "Blood Pressure Recorder Pocket Pal". "Blood Pressure Recorder Pocket Pal" carries a monetary value of 0.49 cents each.

Pre- and post-test data was collected by the co-investigators. Subjects had a total of four surveys to complete. One pre- and post-test was given on the day of the educational seminar, then consecutive post-tests was distributed by email utilizing SurveyMonkey in one and three months. If subjects did not have email addresses, post-tests were mailed to their homes. The pre-test demographic information included age, email address or physical address, whether the subject can read English, and the diagnosis of HTN. Pre- and post-tests were developed by the co-investigators using evidence-based guidelines to create multiple choice questions to evaluate learning (see Appendix D). Face validation was completed to authenticate the pre- and post-test questionnaire. Pre- and post-tests achieved a Flesch-Kincaid readability score of 7.5. The pre-test survey included questions regarding HTN, management of HTN prior to anesthesia, and anesthesia-related complications due to HTN. Each post-test included the same questions arranged in varying order. To test for reliability, researchers conducted a test-retest analysis of the developed instrument (Garrard, 2017).

Data analysis was conducted utilizing the Analysis of Variance for Repeated

Measurements (RM-ANOVA) method. RM-ANOVA can be used in studies that aim to

investigate changes in mean scores of at least three months. Additionally, it allows collected data
to be analyzed from the same group of subjects multiple times. Our pre-and post-test data was

collected after each of the four assessments and analyzed at three months. Statistical Package for the Social Sciences version 22 (SPSS v22) was used for analysis of data to calculate group mean scores. To maintain privacy and confidentiality, surveys were scanned and stored in a password protected SharePoint folder. Original copies were destroyed once secured on a SharePoint file. All copies of surveys will be destroyed after five years. The study upheld rigor by reporting barriers and maintaining transparency.

The PRECEDE framework guided our scholarly project's methodology. The initial phase incorporated a social assessment; HTN was identified as the social problem within the AA community. The second phase included an epidemiological evaluation; the literature revealed various barriers to healthcare maintenance in AAs. Thirdly, an ecological assessment was performed, and community-based education was identified as a method to promote health education and maintenance. Phase four was assessed during the key player interview, which identified organizational and policy factors. The final stage included implementation of the interventions which incorporated our educational seminar.

Planning and Procedures

Planning

Major stakeholders of the project innovation were John Lewinson (Pastor of GPBCG) and Leanora Lewinson (Educational Director of GPBCG). Health maintenance within the church community can sustain church membership, thus allowing the buy-in of stakeholders. Due to the nature of our project a needs assessment or grant support is unwarranted. All resources used to facilitate this project will be privately funded.

Implementation

The educational seminar served as our intervention. Upon commencement of the seminar, a pre-test was provided to assess baseline knowledge of HTN concerning anesthesia. Post-tests were provided immediately after the seminar and then re-distributed via email at one and three months. Collected scores were analyzed after three months to assess the change in knowledge base and retention.

Barriers and Facilitators

Social barriers included restrictions to the allowable gathering size due to COVID-19 social distancing regulations and the ability to conduct face-to-face communication. Although not implemented, solutions to anticipated barriers included: alternative outdoor seminar location and/or scheduling multiple seminars to accommodate social distancing regulations. Facilitating factors that the project site provided included the expertise of key players, administrative support, and technological assistance.

Procedures to Sustain

Sustainability was addressed by providing each participant with a "Blood Pressure Recorder Pocket Pal" gift. Additionally, the project committee assisted in maintaining consistency by periodic re-evaluation of the proposed project.

Timeline

In April 2020, the scholarly project proposal was approved by the AHU Doctor of Nurse Anesthesia Practice Department. Following approval, stakeholders were interviewed in June 2020. The interviewees included: John Lewison (Senior Pastor of GPBCG), Leanora Lewison (Educational Director), and Lurline Grant (end-user). In June 2020, a PowerPoint of the proposed methods was presented for faculty review for project viability and to Dr. Roy Lukman

to confirm the statistical data analysis method. In December 2020, a comprehensive portfolio including a summary of educational objectives was submitted for approval to the Institutional Review Board (IRB) and Scientific Review Committee (SRC). This project was deemed not research by the AdventHealth Orlando IRB and was converted to a quality improvement project in January 2021. Between the time period of March -June 2021, the project was disseminated. Data collection included pre-test and post-test scores that were analyzed by SPSS v22 software after three months. In the Spring of 2022, a poster and PowerPoint presentation will display study recommendations collected from the findings.

Results/Findings

Qualitative and Quantitative

The educational seminar included a final sample of 32 participants. The response rate of participants were as follows: baseline knowledge pre-test consisted of 32 participant responses, baseline knowledge post-test consisted of 30 participant responses (immediately after), knowledge post-test one-month consisted of 11 participant responses and knowledge post-test three-months consisted of nine participant responses. All project participants met required inclusion criteria which included an ethnic background of AA or black descent, between 18-89 years of age, English literate and previously diagnosed with HTN. The study excluded five church-goers who did not meet inclusion criteria of having a medical diagnosis of HTN.

Quantitative

The participant responses to initial pretest questions were heterogeneous as the knowledgebase of HTN and surgery varied immensely. The responses from the 10-question pretest assessment (Know Pre) consisted of a mean value of 6.69 (n = 32). At the conclusion of the educational seminar, the responses from the post-test (Know Post) assessment consisted of a

mean value of 8.47 (n = 30). Additional post-tests were performed to all participants one and three months after the educational seminar, the one-month post-test (Know 1Post) consisted of a mean value of 7.91 (n = 11) and the three-month post-test (Know 3Post) consisted of a mean value of 7.56 (n = 9). Post-tests scores increased in mean value when compared to pre-test mean value scores (see Figure A).

Legend

- Know Pre = Pretest
- Know Post = Posttest immediately after seminar
- Know 1Post = Posttest 1 month after seminar
- Know 3Post = Posttest 3 months after seminar

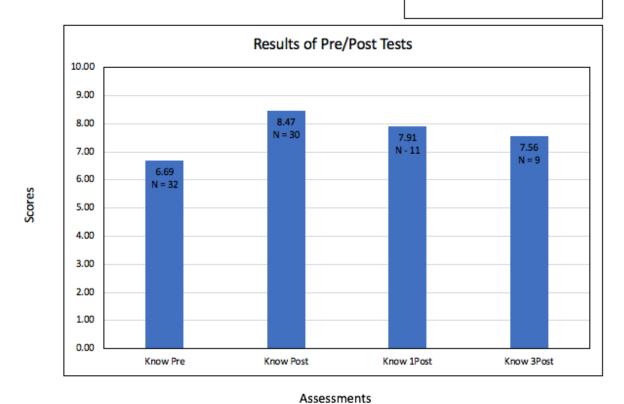


Figure A.

Statistical Package for the Social Sciences (SPSS) was utilized to analyze project data. Findings post-implementation exhibited a group mortality of approximately 63% on the one-month post-test (Know 1Post). The paired sample statistics chart below analyzes the change in mean scores between initial baseline knowledge pre and post-test (Know Pre & Know Post). The obtained t-value achieved statistical significance (t = -3.672, p = .001).

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	VAR00001	6.8667	30	1.71672	.31343
	VAR00002	8.4667	30	1.73669	.31707

Table 1.

Paired Samples Test

		Paired Differences					t	df	Sig. (2-
		Mean	Std.	Std. Error	95% Confidence Interval				tailed)
			Deviation	Mean	of the Di	fference			
					Lower	Upper			
Pair	VAR00001 -	-	2.38675	.43576	-2.49123	70877	-3.672	29	.001
1	VAR00002	1.60000							

Table 2.

Discussion, Applicability to Practice, and Contribution to Professional Growth

African Americans have an increased incidence of HTN when compared to their non-AA counterparts. Inadvertently, this places AAs at an increased risk for morbidity and mortality due to perioperative hypertensive incidents and fluctuations in hemodynamics. The review of literature supports the effectiveness of community health education in the AA population. The purpose of our scholarly project was to determine the effectiveness of a community-based

preoperative anesthetic educational seminar on HTN and to evaluate the knowledge base and retention of AA church-goers at GPBCG. A secondary purpose was to provide evidence-based recommendations.

The findings of the scholarly project provided various contributions to both healthcare and future studies. The project's pre and post-test data (see Appendix A) showed significant increase in the knowledgebase of participants on completion of the educational seminar (t = - 3.672, p = .001). It can be presumed that community education, specifically in the AA population, increases the knowledge of perioperative anesthesia on HTN. The project revealed that community education is a receptive platform for preventative healthcare teaching in the AA community. Anesthesia providers have the opportunity to greatly impact their local AA population through community-based education. Although uncommon, community education on anesthesia and its implications have the potential to significantly reduce the risk of anesthetic complications caused by poorly managed comorbidities.

The sample population possessed various characteristics that created barriers to data collection. Common barriers included comprehending key survey instructions such as how to create personal identification codes. Multiple participants reported loss of personal identification codes as well as issues in accessing and operating personal emails and surveys. Lastly, a number of surveys were partially completed contributing to unusable data.

In summary, the study's findings revealed community-based health education in the AA population improves the knowledgebase of participants. Benefits of community-based education were exhibited when comparing pretest (Know Pre) to posttest (Know Post) data which attained a statistical significance of p = .001 (t = -3.672). Meaningful analysis of data could not be

obtained due to a large attrition of participants (63%) in posttest one month (Know 1Post). Therefore, knowledge retention could not be measured.

The innovation PICOT, project aim and objectives targeting knowledge base of participants was statistical significance (p = .001, t = -3.672). However, the knowledge retention portion of the innovation PICOT, aims and objectives could not be measured. The PRECEDE framework model steered the scholarly project and aided in health promotion. The ecological assessment of the PRECEDE framework suggested the benefits of community-based education in health promotion. The results of the scholarly project confirmed the value of community-based education in the AA population as evidenced by achieving statistical significance in knowledge-base improvement.

The project's data provided limited but useful insight on the validity of community-based education on improving knowledgebase in the AA population. Increase in knowledgebase at the completion of the educational seminar suggests the participants' ability to gain and apply new knowledge in a social setting. However, data on knowledge retention must be reevaluated with emphasis on long-term group retention before data suggestions can be made. An unanticipated outcome of the scholarly project included a large attrition rate within the first three months of data collection.

Implementation of the scholarly project revealed necessary changes to assist future application of community-based healthcare education. The study provides the following recommendations: the use of community healthcare education in the AA community should be encouraged as this population is readily receptive to new information. Suggestions for sustainability of future community-based projects include advanced planning and recruitment, incentivizing participants with small gifts was paramount in seminar attendance. Practice

changes should include additional educational seminars (i.e. bi-annually, quarterly etc.) to enhance retention of knowledge. Plans that address challenges during implementation could include creation of retention plans. Retaining participants should include utilization of convenient methods of dissemination of surveys (such as face to face follow-up). If most participants are technologically naive, consider using handwritten surveys with mail-in options for long-term assessments. However, additional research studies are necessary to determine the strength of applicability to anesthesia practice exclusively.

Our project contributed to the awareness of the identified problem by utilizing a public podium to inform the AA population on preoperative BP management and the risks of perioperative HTN complications. Thus, affording a potential resolution to aid in decreasing the knowledge gap in AA and the importance of healthcare management. The scholarly project showed a direct impact on the knowledgebase in the study's population. Community education increased knowledge thus providing statistical significance within the knowledgebase assessment. The scholarly project cannot make direct statements on the impact to the anesthesia profession; however, the proposed impact on anesthesia and surgical healthcare may provide improvement in managing patient comorbidities such as HTN. Teaching an at-risk population the importance of proper management of HTN before undergoing anesthesia may decrease perioperative hypertensive events and or complications.

Limitations

Some limitations that were foreseen include a projected convenience sample of at least 21 subjects. Small sample size affected the reliability of the data. Limitations in recruitment included church bulletins and flyers being overlooked by church-goers, as well as inconsistent church attendance leading to a decreased sample size. The sample population was confined to AAs with pre-existing HTN consequently restricting the number of subjects. The study contained probable recall.

Conclusion

Health care professionals will require innovative initiatives to assist AAs in overcoming healthcare barriers. Research demonstrates increase in healthcare knowledge and outcomes with community-based healthcare interventions; unfortunately, there is limited research that incorporates anesthesia education within the community setting. Therefore, this scholarly project sought out to investigate the impact that community-based preoperative anesthetic education has on the AA population. The results of this scholarly project revealed that educational seminars on BP management as well as perioperative anesthetic hypertensive complications within the AA community does increase the knowledge base of this population (p = .001, t = -3.672). Future studies that incorporate recurrent community-based education seminars on the topic of anesthesia are necessary to determine the impact on knowledge retention.

Dissemination

In Spring 2022, at AHU in Orlando, Florida, dissemination of our findings will be publicly presented to AHU faculty, students, GPBCG stakeholders and church-goers. A poster and PowerPoint presentation will be used to address evidence-based recommendations based on the pertinent findings.

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Appendix A

Matrix Tables

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		1, 6–15. https://doi.org/10.1		Dagaska	Enidones Onelite
Purpose	Variables	Setting/Subjects	Measurement and	Results	Evidence Quality
Starta On a	Stee de Oere	C4 1 O	Instruments	Strade Orac	C4 I O
Study One	Study One	Study One	Study One	Study One	Study One
To identify health	Primary Outcome:	Subjects:	Demographic	Data suggested multiple	Methodological flaws:
concerns and the health	Identification of health	Total of 43 African	questionnaire,	issues influence health	Qualitative study, non
seeking behavior	needs	American males	Two standardized focus	seeking behavior.	blinded, monetary
among African		participated in one of	group scripts,		incentive, unvalidated
American males.	Secondary Outcome	twelve focus groups.	Sessions were	Study Two	outcome
	Economic and		audiotaped and	67% reported attended	Inconsistency:
Study Two	community tradition	Settings:	transcribed.	a physical exam the	None
To explore the elements	effect on health	Discussions were held		previous year. 29%	Indirectness:
that determine African	practices	in a public library,	Study Two	identified lack of	None
American women's		church, city hall center,	Personal computer	insurance as barrier to	Imprecision
usage of preventative	Study Two	university, and	assisted interviews,	healthcare.	Small sample size.
care services	Primary Outcome:	community research	binary logic regression,		Focus group size varied
	Attending an annual	van.	Stata's logit command,		Publication bias
	physical exam		Andersen's health		Sponsored by National
		Study Two:	behavior model,		Cancer Institute
Design	Secondary Outcome:	Subjects:	Natural Element	Implications	
Study One	Cultural mistrust,	205 low income,	Method (NEM), post	Study One	Study Two
Focus group interviews,	Racial discrimination,	African American	hoc analysis, and	Six out of 43 volunteers	Methodological flaws:
qualitative study,	Access to healthcare,	women, at least 18	correlation matrix.	had an annual income	Lack of diverse sample,
communication focused	preventative care use,	years of age.		of >\$40k. At least 50%	monetary incentive,
study	religious impact, source			of participants had a	unvalidated outcome
	of health information,	Settings:		high school degree or	Inconsistency:
Study Two	social demographic,	Meeting areas in public		less.	None
Descriptive,	and social support	libraries and study			Indirectness:
Epidemiology study	11	offices.		Study Two	None
r					Imprecision:

	Sample does not	None
	represent general	Publication bias:
	public, large amount of	None
	drug users	

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Purpose	Variables	Setting/Subjects	Measurement and	Results	Evidence Quality	
			Instruments			
Study One	Study One	Study One:	Study One:	Study One:	Study One:	
To test hypertensive	Primary Outcome:	Subjects:	Computer-based	At 6 months the mean	Methodological flaws:	
management in black	Systolic blood pressure	319 African American	questionnaires,	reduction in systolic	Non blinded,	
men through blood		males, 35-79 years old	oscillometric blood	blood pressure in the	Inconsistency:	
pressure control	Secondary outcome:	with systolic blood	pressure monitor,	intervention was 21.6	none	
programs in	diastolic pressure, the	pressure of >/=140	iSTAT	mmhg greater than in	Indirectness:	
barbershops	rate of meeting blood	mmhg on two screening		the control group 95%	none	
	pressure goals, number	days. Participants were	Study Two:	[14.7, 28.4]	Imprecision:	
Study Two	of anti-hypertensive	regular clients (>/=1	Bivariate analysis,		Higher number of	
Explored the	drugs, adverse drug	haircut every 6 weeks	multivariate logistic	Study Two:	participants in control	
relationship between	reactions, self-rated	for $>/=$ 6months).	regression, stratified	Attending church	group than intervention.	
church participation	health, and participant		sampling survey,	regularly increased	Publication bias:	
and healthcare practices	engagement.	Setting:	general health interview	likelihood of dental	None	
among low-income		52 black-owned		visits 95% [1.3 to 1.9]		
African American	Study One:	Barbershops		and blood pressure	Study Two:	
communities	Primary Outcome:			monitoring 95% [1.2 to	Methodological Flaws:	
	Frequency of church	Study Two:		2.1]	Unvalidated outcome,	
	attendance	Subjects:			observational study	
Design		2,196 African		Implications	Inconsistency:	
Study One	Secondary Outcome:	American adults (>/=		Study One:	None	
Cluster randomized	Pap smear within 2	18 years old)		Intention to treat	Indirectness:	
trial, pharmacist led	years, mammogram			analysis used, 7 lost to	None	
intervention or active	within 2 years, dental	Settings:		follow up.	Imprecision:	
control approach	visit within 2 years,	Homes of Low-income		Study Two:	None	
	blood pressure	predominantly African		Focus on organizational	Publication bias:	
Study Two	measurement within a			religion not subjective	None	

Cross-sectional analy	ysis year, routine source of	American	religion or spirituality.	
using survey data	care and no delay of	neighborhoods	Unable to determine	
	health care		causality of results.	

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Howard, A., Morgan, Phyllis., Fogel, J., Gandhi, N., Klein, J. B., Coleman, S. D., . . . Withers, D. (2018). A Community/Faith-based education program to increase knowledge and shared decision making behavior for prostate cancer screening among black men. *ABNF Journal*, *29*(3), 61-68. Retrieved from https://resource.ahu.edu/login?url=https://search-proquest-com.resource.ahu.edu/docview/2190964752?accountid=35793

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Purpose	Variables	Setting/Subjects	Measurement and	Results	Evidence Quality
rurpose	variables	Setting/Subjects	Instruments	Results	Evidence Quanty
Gt. 1. 0	+G(1 0	6, 1.0		G. I.O.	G. I O
Study One:	*Study One:	Study One:	Study One:	Study One:	Study One
To assess the	Primary Outcome:	Subjects:	Chronbach's alpha	Intends to have clinical	Methodological flaws:
effectiveness of breast	Assess impact of	1,185 African	scale	breast exam in next	Non-blinded,
health education by	participation in	American or Afro-	Follow up anonymous	year 95% CI 1.87	mishandling of missing
salon stylist and its	experimental versus	Caribbean women >45	self-report evaluation	(1.11-3.13) Intentions	information,
effects on screening	control salons	years old, salon clients	General estimating	to have mammogram in	Inconsistency: none
practices in African			equations logistic	next year 95% CI	Indirectness:
American women.	Secondary Outcome:	Setting:	regression models	1.34(.88-2.04)	1/3 of stylists at
Study Two:	Whether women in	5 neighborhoods in	(GEE)	Study Two:	experimental salons
To assess outcome of	control or experimental	Brooklyn, NY,	Random number	Post-test valves were all	received training.
culturally targeted	groups (EG) were	40 salons	generator	above 90% with	Imprecision:
community/faith	exposed to breast health			knowledge increased by	<40% of clients in EG
based(CFB) prostate	education regardless of	Study Two:	Study Two:	48% and intentions	received breast health
cancer (PC) education	study	Subjects: 438 Black	Pretest Questionnaire,	17.8%	education
for black men.		men, >/=40 years,	educational session		Publication bias: none
Design	Study Two:	English speaking,	with urologist	Implications	Study Two:
Study One:	Primary Outcome:	Resident of 2 specific	physician, testimony of	Study One:	Methodological flaws:
Two anonymous cross-	Increased knowledge,	counties in Virginia	prostate survivor,	Decreased desire of	No recruitment
sectional assessments	increased intensions,		3-month post follow up	stylists to educate on	randomization
Randomized design	shared decision making	Setting: 12 Black	to determine if patient	breast health post	Inconsistency: none
	(SDM) conversation	churches in Prince	had prostate screening	training	Indirectness: none
Study Two:	with a physician on	William County,	check. multivariate	Study Two:	Imprecision: No
Pre-test/post-test survey	prostate cancer	Virginia	logistic regression	CFB can be successful	Confidence interval
design	screening.		analysis.	in educating &	provided for primary
				improving PC	outcome

		screening behavior among Black men.	Publication bias: none
		S	

References

Halbert, C. H., Bellamy, S., Briggs, V., Delmoor, E., Purnell, J., Rogers, R., . . . Johnson, J. C. (2017). A comparative effectiveness education trial for lifestyle health behavior change in african americans. *Health Education Research*, *32*(3), 207-218.

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Journal of Health Research, 5(6), 193-197					
Purpose	Variables	Setting/Subjects	Measurement and	Results	Evidence Quality
			Instruments		
Study One	Study One	Study One	Study One	Study One	Methodological flaws:
Gain insight on	Primary Outcome:	Setting: local grocery	Demographic	Participants	Qualitative study
perceptions of mobile	Breast cancer screening	stores, community	questionnaire,	perceived the MMUs as	monetary incentives.
mammography unit	adherence.	centers, churches,	Interview guide with	an effective strategy to	Inconsistency:
(MMU) utilization		shopping centers and	use of Digital recorder,	increase adherence.	none
among African	Secondary Outcome:	hair salons to act as	Inductive-deductive		Indirectness:
American (A.A)	Empowerment	recruitment sites.	content analysis method	Study Two	none
women.	to engage in health		via NVivo qualitative	47.4% met Physical	Imprecision
Study Two	promoting behaviors.	Subjects: 61 A.A	analysis computer	activity guidelines at	Small sample size
To compare the effects		women (six focus	software	baseline, and 52.4% at	No Confidence interval
of alternate behavioral	Study Two	groups), with		follow-up (McNemar=	provided
interventions on	Primary outcome	Age 35 and 65, Harris	Study Two	8.05, P= 0.005).	Publication bias
changes in obesity-	variables: physical	County, Texas resident,	Telephone interview		none
related behaviors in	activity (PA) and fruit	no cancer history(hx).	and lifestyle behavior		
African American	and vegetable intake.		intervention sessions,		Study Two
(A.A).		Study Two	Health Information		Methodological flaws:
	Secondary outcomes:	Setting: College	National Trends		None
Design	Follow up and health	University,	(HINT) Survey used to	Implications	Inconsistency:
Study One	behavior modification	Philadelphia, PA	evaluate outcomes.	Study One	None
Qualitative study	education effect.	Subjects: 530 (2	McNemar Test for data	Offering screenings	Indirectness:
Study Two		groups) A.A, ages 18-	analysis.	during non-traditional	Different interventions
Randomized Block		75, no cancer hx, no		hours and in highly	Imprecision:
design		cardiovascular event,		accessible locations can	No Confidence interval
		eating disorders,		increase compliance	provided for specific
		individuals in weight		Study Two	result.
		loss programs.			Publication bias

		Education strategies for health behavior change may be useful for	none
		decreasing obesity among AA	
		among AA	

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Wells, K. B., Jones, L., Chung, B., Dixon, E. L., Tang, L., Gilmore, J., ... & Ramos, E. (2013). Community-partnered cluster-randomized comparative effectiveness trial of community engagement and planning or resources for services to address depression disparities. *Journal of general internal medicine*, 28(10), 1268-1278.

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intervention pilot study. Journal of Health Disparities Research and Practice, 9(2), 3.

Purpose	Variables	Setting/Subjects	Measurement and	Results	Evidence Quality
			Instruments		
Study One	Study One	Study One	Study One	Study One	Study One
To compare	Primary outcomes:	Setting:	8-item Patient Health	CE is more effective	Methodological flaws:
Community	Self-reported mental	Hollywood-Metro and	Questionnaire (PHQ-8),	than RS at improving	Non-blinded, no
Engagement (CE) and	health-related quality of	South Los	Client self-report at 6-	outcomes (each p<0.05,	standardized
Resources for	life (HRQL) and	Angeles.	month telephone	8.98 -12.27).	recruitment
Services (RS) to	probable depression		follow-up. SUDAAN		Inconsistency:
implement depression		Subjects: 1,018	Version 10 was used	Study Two	none
quality improvements	Secondary outcomes:	depressed patients 87%	for analysis.	F/V intake increased in	Indirectness:
(QI.	physical activity,	latino and or African		adults (p=.02) and some	none
Study Two	employment,	American	Study Two	significance in children	Imprecision:
Determine the	homelessness risk		Questionnaire	(p=.07). Positive trends	none
feasibility and initial	factors and services	Study Two	descriptive statistics,	at post-test were noted	Publication bias:
outcomes of a faith-	use, hospital stays	Setting: 3 churches in	paired t-tests, and	in PA, BMI, SBP and	Funded by National
based intervention to		North Florida	correlations	DBP in both groups.	Institute of Mental
improve blood pressure	Study Two				Health
(BP) control in African	Primary outcomes:	Subjects: 17 A.A			Study Two
Americans (A.A)	attendance and	(parents and children)			Methodological flaws:
Design	completion rates			Implications	No control group,
Study One				Study One	Pastor selected
Cluster Randomized	Secondary outcomes:			The percentage of	participants
trial	Health behaviors			clients hospitalized for	Inconsistency:
Study Two	(fruits/vegetables (F/V)			-	none
Pilot study	physical activity) and				Indirectness:

physical health (BMI,	behavioral health was	Significant population
systolic BP and	lower in CE	age difference
diastolic SB).	intervention	Imprecision:
	Study Two	Small sample size
	Findings show	Publication bias:
	feasibility and	Pilot study
	opportunity for future	
	study with more rigor	

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Purpose	Variables	Setting/Subjects	Measurement and	Results	Evidence Quality
_			Instruments		-
Study One	Study One	Study One	Study One	Study One	Study One
To assess and compare	Primary outcomes:	Setting: University of	Paired t-tests, 20-item	The WBG (EmmiPlus)	Methodological flaws:
the preliminary effects	Web-based group	Maryland Medical	Standard Anesthesia	achieved significantly	Not randomized, non-
of supplemental web-	(WBG) education on	Center (UMMC) in	Learning Test	higher scores for	blinded
based (WB)	anesthesia knowledge,	Baltimore, MD	(mSALT)	anesthesia knowledge	Inconsistency:
preoperative education	satisfaction with		Questionnaire,	(t=2.15, p=.04) & >	none
program with usual	teaching, and anxiety	Subjects: 69	20-item Preoperative	satisfaction with	Indirectness:
preoperative education.		Participants were	Intrusive Thoughts	teaching experience	none
Study Two	Secondary outcomes:	recruited from the	Inventory (PITI), 8-	(t=2.13, p=.04)	Imprecision
To assess knowledge	Sufficient & timely	Preoperative Evaluation	item Pre-admission	Study Two	Small convenience
about hypertension	preoperative education,	and Preparation Center	Test Center Satisfaction	Baseline knowledge	sample, 1 participant
(HTN) and its	patient convenience	at UMMC. 66%	Questionnaire	about HTN was	lost to attrition
consequences and to		African American, 68%	(PATCSQ), 12-item	improved 4 months	Publication bias: none
evaluate the usefulness	Study Two	female.	Perceived Health Web-	after education program	
of a simple education	Primary outcomes:	Study Two	site Usability	by 12% n=98.	Study Two
program to improve	HTN knowledge base	Setting: General	Questionnaire	(P<0.005)	Methodological flaws:
such knowledge.	& usefulness of	Hospital of Castellon,	(PHWSUQ), ANOVA		Not randomized, non-
Design	education program to	Spain, a tertiary care	analysis	Implications	blinded. No
Study One	improve knowledge	center		Study One	standardized
Qualitative comparison			Study Two	WB preop educational	recruitment.
Descriptive	Secondary outcomes:	Subjects: 102	Initial: Questionnaire to	programs are beneficial,	Inconsistency:
1	Adherence to	Participants were	determine HTN	larger & future study	none
Study Two	medication regimen	recruited as follows:	knowledge, 15-minute	needs diverse sample	Indirectness:

The design was not	241 patient medical	explanation session &	Study Two	none
clearly stated but it	charts were reviewed	brochure.	To reduce	Imprecision
appears to be a 4 month	by six physicians.	Follow-up: Telephone	cardiovascular	7 participant lost to
follow up of a	Participants were	call, logistic	morbidity &mortality	attrition at follow up
Quantitative study with	picked based on HTN	regression, linear	education programs	Publication bias: none
Multivariate analysis	criteria.	regression model,	designed to improve	
		McNemar test,	knowledge about HTN	
		Wilcoxon signed rank	are needed and useful	
		test, Fishers exact test.	in practice.	
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Appendix B

Acronyms and Abbreviations

AA African American

AAs African Americans

A2A Alpha-2-Agonist

ACC American College of Cardiology

ACE Angiotensin-converting-enzyme inhibitors

AHA American Heart Association Taskforce

AHU Advent Health University

ARB Angiotensin II receptor blockers

ASA American Society of Anesthesiologists

BB Beta-blockers

BP Blood Pressure

CDC Center for Disease Control and Prevention

DM Diabetes

GRADE Grading of Recommendations, Assessment, Development and Evaluation

GPBCG Greater Palm Bay Church of God

HTN Hypertension

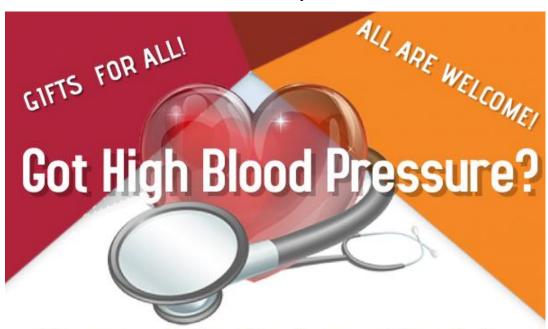
JNC Joint National Committee

PRECEDE Predisposing, Reinforcing, and Enabling Constructs in Educational Diagnosis and

Evaluation

Appendix C

Seminar Flyer



Come Join Us for a Health Seminar About...



Appendix D

Pre/Post-Test Questionnaire

Community Based Health in African Americans Pre and Post Test Questionnaire

Objective #1: Identify the blood pressure measurement that corresponds with the diagnosis of high blood pressure.

- 1. Which blood pressure meets the American Heart Association definition of high blood pressure?
 - A. Greater than 100/60
 - B. Greater than 120/80
 - C. Greater than 130/80

Correct Answer: C

Rationale: According to ACC/AHA, the diagnosis of HTN is BP greater than 130/80 (Whelton et al., 2017)

Distractors: According to AHA, a blood pressure of greater than 120/80 is considered an elevated blood pressure; however, this is not a diagnosis of high blood pressure which begins at a blood pressure greater than 130/80. A blood pressure of 100/60 is a normal blood pressure. (AHA, 2020)

Objective #2: Differentiate the appropriate blood pressure readings for all individuals diagnosed with high blood pressure?

- 2. Which blood pressure reading meets the American Heart Association recommendation for individuals with a history of high blood pressure?
 - A. Less than 140/90
 - B. Less than 130/80
 - C. Less than 150/90

Correct Answer: B

Rationale: For adults with confirmed hypertension and known Cardiovascular disease (CVD) or 10-year Atherosclerotic Cardiovascular Disease (ASCVD) event risk of 10% or higher a BP target of less than 130/80 mm is recommended. For adults with confirmed hypertension, without additional markers of increased CVD risk, a BP target of less than 130/80 mm Hg may be reasonable (Whelton et al., 2017).

Distractors: Maintaining a blood pressure of 140/90 and is recommended for people who have diabetes or chronic kidney disease regardless of age is an older JNC 8 recommendation. A blood pressure of 150/90 is the blood pressure for adults who do not have diabetes or chronic kidney disease is an older JNC 8 recommendation. These values are close to the correct answer which allows the reader to give the question more thought.

Objective #3: Identify the appropriate foods that aid in lowering blood pressure.

- 3. Select the correct list of foods that can decrease blood pressure.
 - A. Canned green beans, Vegetables, Fruits
 - B. Grains, Fruits, Fresh vegetables
 - C. Fruits, Grains, Canned meats

Correct Answer: B

Rationale: According to the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines, increasing fruits, grains and vegetables has the potential to decrease systolic BP by 11mmHg (Whelton et al., 2017).

Distractors: High sodium foods such as canned foods and bacon can cause high blood pressure (University of California San Francisco, 2020).

Objective #4: Recognize the correct lifestyle modifications that can assist in lowering blood pressure.

- 4. Which risk factor below can an individual change to decrease high blood pressure?
 - A. Age
 - B. Gender
 - C. Ethnicity
 - D. Reduce alcohol consumption

Correct Answer: D

Rationale: In the United States, alcohol may account for close to 10% of the population burden of hypertension (higher in men than in women). (Whelton et al., 2017). **Distractors** include gender, ethnicity, and age. According to AHA, non-modifiable risk factors include gender, ethnicity, and age (AHA, 2020).

- 5. What can be done to lower blood pressure (Choose 2)?
 - A. Lose weight
 - B. Eat a "Heart Healthy" diet
 - C. Reduce physical activity
 - D. Increase stress

Correct Answer: A & B

Rationale: According to ACC/AHA, patients with high blood pressure can practice nonpharmacologic interventions to assist in reducing hypertension including weight loss and adhering to a heart healthy diet (Whelton et al., 2017).

Distractors include lack of physical activity and stress. According to the ACC/AHA, a lack of physical activity and increased stress are modifiable risk factors that increase the risk of hypertension. (Whelton et al., 2017).

Objective #5: Select at least 50% of the complications caused by uncontrolled high blood pressure when undergoing anesthesia for surgical procedures.

- 6. Uncontrolled high blood pressure can cause the following complications when undergoing anesthesia for a surgical procedure. (Choose three)
 - A. Heart Attack
 - B. Stroke
 - C. Decreased bleeding
 - D. Blood pressure swings

Correct Answer: A, B & D

Rationale: Hypertensive patients are vulnerable to perioperative myocardial ischemia (MI), arrhythmias, BP variability, stroke and increased bleeding (Fleisher, 2002; Wax et al., 2010; Hanada, Kawakami, Goto & Moto, 2006).

Distractors: Decreased bleeding is incorrect; patients with uncontrolled high blood pressure perioperatively will have increased risk of bleeding.

Objective #6: Identify the blood pressure reading that can result in possible cancellation or postponement of surgery.

- 7. What blood pressure reading can result in delay or cancellation of a surgery?
 - A. 160/90
 - B. 170/90
 - C. 180/110

Correct Answer: C

Rationale: Literature suggests treatment of BP above 180 /110 prior to elective surgery; this may include delaying surgery to optimize BP (Eagle et al., 2002; Whelton et al., 2017; Howell, 2018; Hanada, et. al., 2006)

Distractors: A blood pressure of 160/90 & 170/90 is close to the correct answer which allows the reader to give the question more thought.

Objective #7: Distinguish the classes of medications that are typically continued the day of surgery with those that are held the day of surgery.

- 8. What blood pressure medications should be held the day of surgery?
 - A. Beta Blocker (Drugs that end in "lol")
 - B. ACE Inhibitors (Drugs that end in "pril")
 - C. Alpha 2 Agonist (Clonidine)

Correct Answer: A & C

Rationale: Patients undergoing surgery should follow medical recommendations to manage antihypertensive medications. Common drug classifications include Beta-blockers (BB), Alpha-2-Agonist (A2A), Angiotensin-converting-enzyme inhibitors (ACE inhibitors), and Angiotensin II receptor blockers (ARBs). BB and A2A are recommended to be continued in patients undergoing major surgery (Whelton et al., 2017; Wijeysundera et al., 2014). Additionally, consideration to hold ACE inhibitors and ARBs the day of surgery should be taken to avoid perioperative hypotension (low blood pressure) (Whelton et al., 2017; Wijeysundera et al., 2014).

Distractor: Beta Blocker and Alpha 2 Blockers are recommended to be continued in patients undergoing major surgery; they should not be held (Whelton et al., 2017; Wijeysundera et al., 2014).

- 9. Which blood pressure medications should be continued the day of surgery (Choose 2)?
 - A. Beta Blocker (Drugs that end in "lol")
 - B. ACE Inhibitors (Drugs that end in "pril")
 - C. Alpha 2 Agonist (Clonidine)

Correct Answer: A & C

Rationale: Patients undergoing surgery should follow medical recommendations to manage antihypertensive medications. Common drug classifications include Beta-blockers (BB), Alpha-2-Agonist (A2A), Angiotensin-converting-enzyme inhibitors (ACE inhibitors), and Angiotensin II receptor blockers (ARBs). BB and A2A are recommended to be continued in patients undergoing major surgery (Whelton et al., 2017; Wijeysundera et al., 2014).

Distractors: Consideration to hold ACE inhibitors and ARBs the day of surgery should be taken to avoid perioperative hypotension (Whelton et al., 2017; Wijeysundera et al., 2014).

Objective #8: Recognize the importance of informing your anesthesia provider of any history of hypertension.

- 10. Which statement is correct?
 - A. It is okay to continue taking all blood pressure medications prior to surgery.
 - B. A history of high blood pressure should be reported to the anesthesia provider.
 - C. Smoking does not affect blood pressure.

Correct Answer: B

Rationale: The preoperative evaluation is a critical opportunity for anesthesia providers to distinguish the presence of HTN and its complications (Fleisher, 2002).

Distractors: "It is okay to not stop taking **all** blood pressure medications prior to surgery." Common drug classifications include Beta-blockers (BB), Alpha-2-Agonist (A2A), Angiotensin-converting-enzyme inhibitors (ACE inhibitors), and Angiotensin II receptor blockers (ARBs). BB and A2A are recommended to be continued in patients undergoing major surgery (Whelton et al., 2017; Wijeysundera et al., 2014). Additionally, consideration to hold ACE inhibitors and ARBs the day of surgery should be taken to avoid perioperative hypotension (low blood pressure) (Whelton et al., 2017; Wijeysundera et al., 2014). "Smoking does not affect my blood pressure" modifiable risk factors among adults with hypertension include cigarette smoking and/or tobacco smoke exposure (Whelton et al., 2017)

Appendix E

Education Handouts

RISK OF PERI-OPERATIVE HIGH BLOOD PRESSURE COMPLICATIONS

- HEART ATTACK (MI)
- ABNORMAL HEART
 RHYTHMS
- BLOOD PRESSURE SWINGS
- STROKE
- INCREASED BLEEDING

DON'T FORGET!

ALWAYS TELL YOUR
ANESTHESIA
PROVIDER OF YOUR
HISTORY OF HIGH BLOOD
PRESSURE!



WHAT IS HIGH BLOOD PRESSURE?

- High Blood pressure or Hypertension is when the force of the blood pushing on the blood vessel walls is too high.
- This causes the heart to pump harder

THINGS TO HELP LOWER BLOOD PRESSURE

- Lose weight
- Physical activity
- Stop smoking
- Reduce sedentary lifestyle
- Reduce stress
- Eating heart healthy diet (low salt "DASH" diet)



THE DIAGNOSIS
OF HIGH BLOOD
PRESSURE IS A
READING
GREATER THAN
130/80



PATIENTS UNDERGOING MAJOR SURGERY

TAKE

Alpha-2-Agonist (A2A): Clonidine Beta Blockers (BB): "lol"s drugs

STOP

Angiotensinconverting-enzyme inhibitors (ACE inhibitors) "pril" drugs

Angiotensin II receptor blockers (ARBs)

"sartan" drugs





Appendix F

Project Timeline

April 2020

Scholarly project proposal approval and literature review.

September 2020

Committee review of proposed method PowerPoint

December 2020

IRB/SRC submission

Spring of 2022

Poster and PowerPoint presentation to display study recommendations collected from the findings.

















June 2020

Interview stakeholders

November 2020

Scholarly project PowerPoint presentation

March-June 2021

Project dissemination