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Implementing Obesity and Comorbidity Education in a Faith-Based Setting

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by

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Abstract

The aim of the study was to increase knowledge of the damaging consequences of obesity and related comorbidities. Obesity has reached epidemic proportions on a global scale and increases the potential health risk of many associated diseases. Faith-Based organizations have been found to be optimal resources for public health education. The shared beliefs and comradery are a source of support and encouragement for those who face many of life's challenges, as well as life's joys. The purpose of the project was to investigate the effectiveness of education delivered in a Baptist church on the topics of obesity and related comorbidities. The educational sessions were intended to be informative, and a means in which spiritual strength could be obtained to help make positive life choices relating to the many aspects of health. A literature search investigated nursing theories that would support the Christian worldview as the foundational underpinnings to support the project. Findings among the researched items demonstrated the need for interventions related to obesity, and Christian nursing theories can be an effective tool in which to deliver care.

Keywords: obesity, health promotion, faith-based, parish nursing

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Introduction

Obesity is a major public health concern on a global level. The prevalence of obesity has increased worldwide and is of peak importance among the scientific and clinical communities. In some countries, obesity is greater than 50% of the population (Ortega et al., 2016). This is an alarming factor when considering that obesity has been shown to have poorer health outcomes, and is related to an increased risk of hypertension, diabetes, and cardiovascular disease. It is imperative that all levels of healthcare continue to seek ways to address this issue.

Problem Recognition

The issue of obesity generates over 4 million deaths worldwide each year and places a great economic burden on the healthcare system (Obesity, n.d.). The epidemic of obesity has almost tripled since 1975. This healthcare crisis is not only a concern for adults, but for children as well with over 340 million children considered overweight or obese in 2016. The rise in obesity is seen in both developed and developing countries (Apovian, 2016).

Obesity is defined as having excess fat tissue. The body max index (BMI) is a screening tool that calculates a percentage of weight to height ratio. A BMI of greater than 30 is considered obese, and a BMI of greater than 25 is considered overweight (Obesity, n.d.). Obesity increases the risk of many serious health complications and comorbidities such as hypertension, stroke, coronary artery disease, liver disease, depression, diabetes, and obstructive sleep apnea. Cardiovascular disease (CVD) alone is the leading cause of death worldwide (Cleary & Webb, 2011). Progress has been made to slow down the risk factors associated with CVD through medications for high blood

pressure and high cholesterol, but obesity rates continue to rise to perpetuate the problem (White & Jebb, 2018).

The increased risk not only costs lives but places a financial burden on healthcare costs. The correlation between obesity and related comorbidities is relevant to the increasing cost of healthcare (Rudisill et al., 2016). Healthcare cost increases as the BMI increases, but it is the comorbidities such as CVD and depression that have the greatest impact on cost. It is imperative that interventions and education be given to individuals to improve health, save lives, and reduce costs in the healthcare system.

County health rankings show neighboring counties all list obesity as an area of concern and trending worse. Gaston County ranks obesity at 29% per population, Cleveland at 38%, Lincoln at 37%, and Mecklenburg at 28% as compared to the state of North Carolina which is at 31% (County Health Rankings & Roadmaps, 2020). Obesity is a key challenge that needs to be addressed by local government leaders and healthcare professionals to aid in this downward trend in this healthcare measure.

Problem Statement

The last several decades have shown an increase in obesity rates in modern and developing countries (Kyrou et al., n.d.). This trend not only impacts the health of adults but children and adolescents as well. Obesity is the leading risk factor for comorbidities and death.

Obesity is linked to comorbidities such as diabetes, hypertension, cardiovascular disease, cancer, premature death, and decreased quality of life (Hruby et al., 2016). Excess adipose tissue is one of the most substantial risk factors in developing chronic disease and increases the threat of mortality. It is this correlation with comorbidities that

further inflates healthcare costs (Rudisill et al., 2016). It is imperative to address the issue of obesity to promote improved health outcomes and quality of life.

Literature Review

Literature was reviewed to explore and identify the complications of obesity and related comorbidities, and the potential use of awareness and interventions in a faith-based setting. The faith community provides an important access point for population health to address overweight, obesity, and associated comorbidities that have developed into a health crisis on a local and global level (Gotwals, 2017). Obesity is an epidemic that affects many individuals from children to adults. It is imperative to search for interventions that increase awareness and knowledge for obesity prevention and management.

Literature Search Strategy

A literature search was based on the PICOT question in faith-based settings: Does education on obesity and comorbidities, compared to not educating, improve knowledge and awareness to improve health outcomes? The research also examined how faith-based settings could be used for health promotion and disease prevention. The initial search used two databases.

CINAHL and ProQuest were searched using the words faith-based, parish nursing, health promotion, and obesity which generated over 378,000 articles. Further, search strategies were included to restrict to the last 5 years. The literature was reviewed for best practices and interventions that promote health and awareness for disease prevention.

Literature Synthesis

Hypertension is a risk factor for obesity and disproportionately affects African Americans (May & George, 2021). An African American church located in an urban setting implemented With Every Heartbeat is Life (WEHL). This is a community-based program for cardiovascular risk reductions. The program was enhanced by incorporating scripture into the program. Lessons were given on nutrition, exercise, smoking cessation, and disease management. Participants of the study were found to be more knowledgeable of food and nutrition choices that promote better health outcomes. Issues of trust are of major concern within the African American community but did not present as an area of concern within a faith-based setting. The incorporation of scripture into the program addressed the spiritual needs of the participants. The weekly scripture reading and prayer by the pastor were noted to be of encouragement, and the incorporation of spiritual components into the WEHL program was noted to its success. This study presented that spiritual health is vitally important among faith-based church members as is physical health. The faith-based setting is a safe and trusting atmosphere in which to educate members of the community.

Type 2 Diabetes Mellitus (T2DM) is linked with obesity and contributes to the economic burden in the United States and worldwide (Carbone et al., 2019). Obesity and the correlation with T2DM can be prevented or stalled with lifestyle modifications. This is achieved through exercise, increased physical activity, and incorporating a healthy diet. Adipose tissue remodeling those results in obesity along with unhealthy behaviors, not only is linked with T2DM but also a reduction in cardiorespiratory fitness. Obesity is a chronic disease that may include environmental, genetics, or metabolism as the root cause

of obesity in different individuals. The accumulation of adipose tissue usually develops over time resulting from an increase in caloric intake over expenditure. Obesity remains the strongest modifiable risk factor for insulin resistance resulting in T2DM. In a prospective cohort study, 27,270 men were followed over 13 years to see the effects of Body Mass Index (BMI), waist circumference, and the risk of developing T2DM. Those within the study that had a BMI between 27.2 to 54.2 kg/m2 were associated with an 8-fold increase to develop T2DM. Furthermore, those that presented with the greatest waist circumference between 101.6 to 157.5 cm had a 12-fold increase to develop T2DM. Preclinical data suggest that higher levels of adipose tissue increase the inflammatory response and alter intracellular insulin signaling in insulin-responsive tissues. Thus, further putting individuals at risk for developing T2DM. Intentional weight loss and lifestyle modifications remain leading factors to preventing complications from obesity and T2DM (Carbone et al., 2019).

Cardiovascular Disease is linked as a risk factor and complication of obesity. A literature review by Ortega et al. (2016) not only found that increased Body Mass Index (BMI) increases the risk of developing cardiovascular disease (CVD), but the degree and duration of obesity play a pivotal role in the risk and associated mortality from CVD. Elevated levels of fat mass (FM) exacerbate CVD risk factors such as plasma lipids, blood pressure, glucose/insulin resistance, and inflammation. However, fat-free mass (FFM) which is all the other body components besides fat, appears to have negative consequences on cardiovascular health. Higher levels of FFM occur, so the body can adapt to carrying the extra load and performing daily activities. This appears to be the reason for the extra blood volume seen in obese individuals. The extra blood volume

increases left ventricular stroke volume, which in turn increases cardiac output. This places an extra burden on the heart leading to ventricular changes of hypertrophy and enlargement. The negative consequence of higher levels of FFM predisposes individuals to heart failure.

It has been established that cardiorespiratory fitness lowers the risk of developing CVD and associated mortality. Ortega et al. (2016) also examined several longitudinal studies that were implemented in men and women to evaluate the effects of cardiorespiratory fitness for obese individuals. All studies indicated that improving cardiorespiratory fitness has health benefits and that an obese individual who is fit may have lower CVD risk and related mortality than normal-weight unfit individuals.

Needs Assessment

Implementing goals and incentives in a faith-based setting to reduce obesity and education on associated comorbidities has the potential to make positive impacts on health. Faith-based settings have a deep history of caring for the sick and providing emotional support to those in need (Anderson, 2004). Moreover, utilizing faith in God for divine healing and comfort through prayer addresses the holistic approach to health with emotional and spiritual dimensions. The Gaston Department of Health and Human Services (2019) found that 2, 257 individuals between the years 2013-2017 listed heart disease as a major cause of death. In men, 246.9 deaths per 100,000 were due to cardiovascular disease, and 137.8 per 100,000 for women. Behavioral risk factors adverse health conditions included heart disease, high blood pressure, high cholesterol, and diabetes. Faith-based organizations are prime candidates to offer educational information

to improve health and lifestyle choices with holistic support to improve the health of the community and decrease healthcare costs.

Population/Community

The PICOT question for this project is: What is the effect of faith-based education on obesity and comorbidities compared to baseline on the knowledge of members in an urban Baptist Church over 1 month? The population in faith-based settings is diverse between gender, age, race, and socioeconomic status. The members of the church are the target population that would be affected by the problem and intervention. The diversity of the setting is an optimal opportunity to educate many in the community with varying degrees of health literacy and health conditions.

Sponsors and Stakeholders

Stakeholders are defined by any group, organization, or individual that will have a stake in the problem and will benefit from the outcome. The stakeholders in the faith-based setting would be the church members who would benefit most from the education and potential health benefits, the pastor of the church who would potentially have healthier church members to minister to and remain involved in the church, the community with healthier residents, and providers with whom have patients that are more knowledgeable about obesity and comorbidities. The pastor of the church is also a sponsor who can navigate within the organization and offer support and guidance.

Organizational Assessment and SWOT Analysis

Victory Hill Baptist Church is of moderate size located in Dallas, N.C. This urban town is centrally located within Gaston County, which is among the counties in NC that have rates of obesity that are trending worse (County Health Rankings & Road maps,

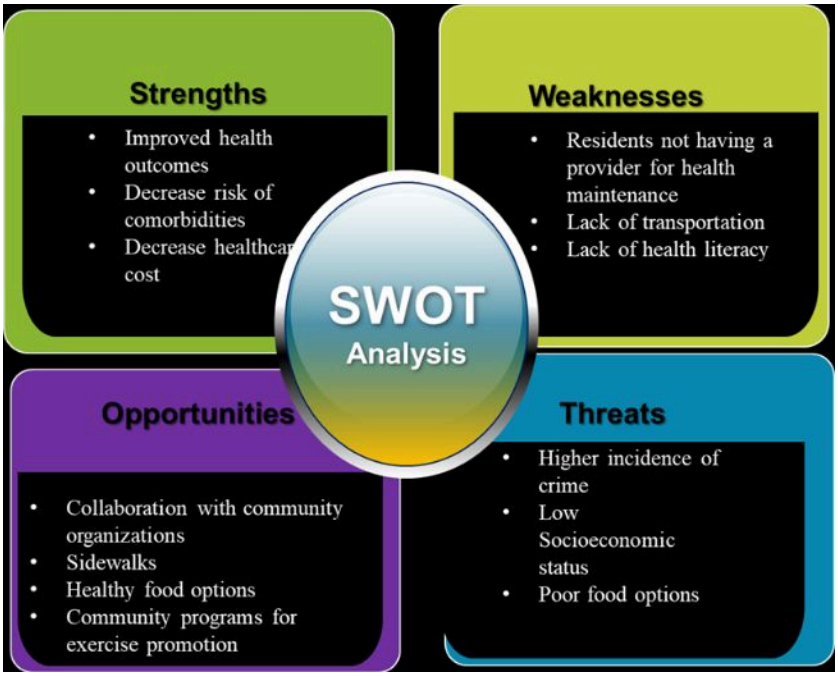
2020). The members are faithful and supportive of one another and have a strong global and supportive missionary outreach. The church has Sunday School for all ages, a senior adult ministry, and a youth ministry. The church is well established and well known within its community and surrounding counties through its previous years of bus outreach ministry. This faith-based setting has many opportunities to relay health information to all ages.

SWOT Analysis

A SWOT analysis (Figure 1) aids the project leader to determine the strengths, weaknesses, opportunities, and threats of the project. Moreover, offering ideas to consider solutions and to address potential problems (Zaccagnini & Pechacek, 2019). The strong community fellowship in the safe environment of the faith-based setting offers many strengths such as companionship when learning together, improved health outcomes, decrease in comorbidities, decrease healthcare cost, a link to healthcare and the community, decrease in obesity, and provision of holistic care when addressing the spiritual and physical needs of the members. Weaknesses to consider would be fear in addressing obesity as a personal health issue, lack of health literacy, and members that do not follow a provider for health maintenance. Opportunities are vast as well, such as educating on healthy food options or planting a garden together, exercise programs, and collaboration with the community. Threats to consider would be members with lower socioeconomic status to engage in better food options, availability for extra attendance for the educational meeting, addressing members' different beliefs on healthcare delivery and implementation.

Figure 1

SWOT Analysis



Available Resources

The property has two buildings that will be utilized for the project, the old sanctuary with the fellowship hall and extra rooms, plus the newer larger sanctuary with Sunday schoolrooms that will be used for educational classes. It also has a large parking lot and available land that could be used for exercise outside if weather permits. Times for educational classes will be presented during announcements and displayed on the church's announcement screen. Classes, screenings, and surveys will be conducted before or after an already scheduled event to have better accessibility for members. Other healthcare workers and educators within the church will be utilized as resources.

Desired and Expected Outcomes

The overall desired outcome of the education program is to prove that a faith-based setting is a path to deliver healthcare education on a community level and increase participants' knowledge of obesity and related comorbidities. The safe and trusted environment of the church will support the expected outcomes by social networking and the camaraderie between members. The outcomes will be validated and retrieved from information provided by a pre-test/post-test questionnaire.

The quasi-experimental design of pre-test-post-test has been used many times in research. The questionnaire to be administered will be the knowledge, attitude, and practice (KAP) questionnaire for obesity. It was developed through extensive research of literature and critically appraised for content validity through evaluation by eight experts. These included faculties from Departments of Medicine, Gastroenterology, Clinical Psychology, Biostatistics, Human Nutrition, Endocrinology, and Metabolism (Ranjan et al., 2019). The KAP tool is strengthened by offering questions that affect obesity, such as diet, eating habits, physical activity, lifestyle habits, and motivation to lose weight. This is an optimal tool to use at a community level to address strategies to modify risk factors, and useful for providers to address gaps with patients and to construct a plan for better outcomes (Appendix A).

Team Selection

The team selection included the project leader (DNP student), the pastor of the church, and nurses from the faith-based department within Atrium Healthcare who have agreed to offer support and suggestions with planning and implementing the project. Atrium Health's Faith Community Health Ministry partners with the communities of

faith to bridge the gap between faith and medicine. The ministry promotes better health through embedding nurses and health promoters in places of worship to offer support through education, coordination of support groups that meet the needs of a specific faith community, bringing attention to members' health concerns, encouraging medical attention, offering knowledge of community services and resources, and support to the clergy. The project leader would also like to incorporate hospital-based registered nurses and other healthcare professionals to implement informational lectures, exercise instruction, or healthcare screening.

Cost/Benefit Analysis

The cost for implementing an educational month-long healthcare project on obesity and comorbidities can be kept to a minimum in a faith-based setting due to the volunteer service of the pastor and members of the congregation. Weekly announcements for educational lectures, exercises, or screenings will be placed as part of the announcements on the auditorium projector screen and made by the pastor during announcements as well.

- The first educational setting will be at the senior meeting. Food is prepared by members, and no additional cost is required.
- 30 minutes of education sessions before schedule midweek service obtains no additional charges.
- The last session for an exercise class and health instruction will offer a healthy breakfast that will be provided by the church.
- Gas for a project leader to attend per week - $10 extra in gas.

The average cost of $40 is based on a 4-week educational program for obesity and comorbidities. The benefits of reducing weight and managing comorbidities far outweigh the minimal expected cost for this educational project.

Scope of the Problem

The prevalence of obesity and disparities is highest among non-metropolitan regions of the Southern United States (Lundeen et al., 2018). This is an alarming factor when considering the health complications associated with obesity. Implementing an educational faith-based awareness on obesity and comorbidities in a non-metropolitan area setting is a prime location to educate the community about this epidemic. The anticipated goal of the project is to bring awareness to the church members of the adverse health outcomes related to obesity and associated comorbidities, and the possible positive changes that can occur through informed decisions that will produce a reduction in weight, decrease in future comorbidities, and decrease in healthcare cost.

The literature review and synthesis exposed the correlation between obesity and comorbidities such as cardiovascular disease, diabetes, and hypertension as among potential life-threatening health conditions affecting our communities to date. Faith-based organizations are positioned to offer education and solutions to community members to improve health, provide spiritual support, and decrease the epidemic rate of obesity. The cost of providing health screenings to members and educational lectures is minimal, compared to the increased cost of cardiovascular disease and diabetes contributes to the healthcare system. The benefits of health promotion interventions in the faith-based setting are beneficial to the members' health and wellness and therefore, result in positive changes in the community and beyond.

Obesity and related comorbidities are a predominant public health concern among Americans (Hemphill, 2018). The epidemic of obesity affects children and adults through all stages of life. A study presented in The New England Journal of Medicine projected that 1in 2 adults will be obese, and 1 in 4 adults will have severe obesity by the year 2030 (Ward et al., 2019). This projection suggests that health care costs will rise due to the complications of chronic disease associated with obesity and that it will be the typical BMI category to be addressed by providers. It is vital that interventions be implemented to halt these astounding projections through policy, environmental, and community levels to educate populations on the health benefits of maintaining a healthy weight.

Goals, Objectives, and Mission Statement

Goals of the Project

Faith-based institutions are successful settings in which to offer community health education (Tagai et al., 2017). In this project, it is the purpose of the Doctor of Nursing Practice (DNP) student to offer faith-based education regarding the damaging effects of obesity and comorbidities to church members. The goal of this project was to increase knowledge of obesity and comorbidities so the community members, who make up the congregation, are equipped to make informed decisions and interventions that will have lasting benefits to personal health. The DNP student believes that the social and spiritual support offered within the faith-based setting to be a source of encouragement that will support members maintain positive health choices.

Objectives

The objectives of the DNP project offered education in a faith-based setting that is clear, realistic, precise, measurable, and delivered in a timely manner. The outcome objectives of the project will be delivered to incorporate the following:

- Educate church members in a faith-based setting regarding obesity and comorbidities.
- Increase knowledge of the damaging effects regarding obesity and management of comorbidities of obesity such as diabetes and cardiovascular disease.
- Deliver four 30-minute educational lectures in a Baptist Church during a church promotion for a health and wellness month.
- Lectures will be delivered first to Seniors at a monthly senior meeting, during two other appointed times that coincide with scheduled church meetings to deliver educational information and offer blood pressure screenings and end with an exercise, health promotion day that will include a healthy breakfast.
- Scripture reading and prayer will be encompassed within meetings to support the spiritual needs of congregates.

The objective outcomes of the project solidify the need in public health to address the health determinants of obesity and give individuals the knowledge and encouragement to combat the determinants. The education will be given in an appropriate timeline that will consist of a health promotion month that will support camaraderie with church members.

Mission Statement

The DNP project will educate the public need for awareness of obesity and the potential threat and management of associated comorbidities. All education will incorporate evidence-based material to champion individuals in making decisions that promote optimal health. The formulation and delivery of health education will seek to do no harm and support holistic health in a professional compassionate manner devoid of judgement.

Educating members of the community in a faith-based setting is a means to target potential populations that have a strong social and spiritual support system. Offering education on obesity with clear goals and objectives targets the knowledge to be enforced to make beneficial decisions that will optimize and improve health. Therefore, reducing comorbidities, healthcare costs, and potentially changing the trajectory of the obesity epidemic.

Theoretical Underpinnings

Nursing theories join concepts and knowledge to achieve goals and provide a foundation to guide actions for nursing practice (Schaffer et al., 2017). It is a way to explain the why and how of practice and to measure interventions. The framework of nursing theories utilizes the building blocks to incorporate person, health, environment, and nursing in which to underpin the philosophy and actions of the nursing profession.

One’s worldview shapes beliefs and actions, and scholars expand on how worldviews impact health and illness (Schaffer et al., 2017). The worldview of the nurse will aid in the thoughts and delivery of care, and it is vital that the nurse understand the attributes of caring and internally align with those concepts to effectively minister in

nursing practice (Newbanks et al., 2018). Many nursing theories of today have removed the biblical concept of caring and replaced it with a humanistic view in which people are basically good, and the source of caring starts from within a person. Watson's (2015) Human Caring Science theory is based on the non-physical world and Eastern philosophies of spirit work such as higher levels of consciousness, working with the life force, or energy. This energy is connected to the universal life force, and through transcendence, one can transcend to a higher level of consciousness. She promotes in her theory that self-transcendence can go beyond time, space, and the physical moment to inform the future experiences of the patient and nurse. Moreover, this theory promotes one to become more Godlike within the manipulation of energy forces.

Theorist Martha Rogers in her Science of Unitary Human Beings' theory holds that we are an indivisible, pan-dimensional energy field. She also proposes the idea that our interactions go beyond our physical realm and energy, and is constantly being exchanged between man and matter (Dossey et al., n.d.). In contrast, Christian Caring as described by Shelly and Miller (2006) states that it is our gratitude in response to God's divine grace and care that allows us to view patients with value, dignity, and worth that expands to every race and culture to render compassionate care. Christian Caring believes that holistic caring is made possible because of the biblical viewpoint that all persons are valuable and made in the image of God (Rieg et al., 2018). "So, God created man in his own image, in the image of God created he him; male and female created he them." (King James Version, 2003, Gen 1:27). It is the Christian belief in a triune God: The Father, Son, and Holy Spirit that is at work in the lives of all who put their faith and trust in him, and who is concerned about every detail of life (Jeremiah 29:11).

The meta paradigm of the biblical worldview for theoretical underpinnings consists of:

- Environment – God created the whole world and everything that consist of the world, seen and unseen. (Colossians 1:16)
- Person – God created human beings in his image and to care for others (Philippians 2:4; Galatians 6:2; Genesis 1:27).
- Health – God wants us to be at peace in all stages of health but promises of comfort for us in times of bad health and distress. The nurse is an extension of God's care (Psalms 147:3; Phil 4:6-7; Philippians 2:4).
- Nursing – Christian nursing is a thankful response and expression of God's grace and the gift of salvation. Compassionate care that is demonstrated by the attitudes and actions of the nurse and ministered freely regardless of race, age, gender, religion, diagnosis, or financial standing (Isaiah 61:1-3; Matthew 25:35-36) (Moorman, 2015).

The theory of Christian Caring is best suited to incorporate in the faith-based Christian setting that aligns with the teachings and beliefs of the church. The DNP student will incorporate encouraging verses, prayer, active listening, and care for the whole person with all educational interventions.

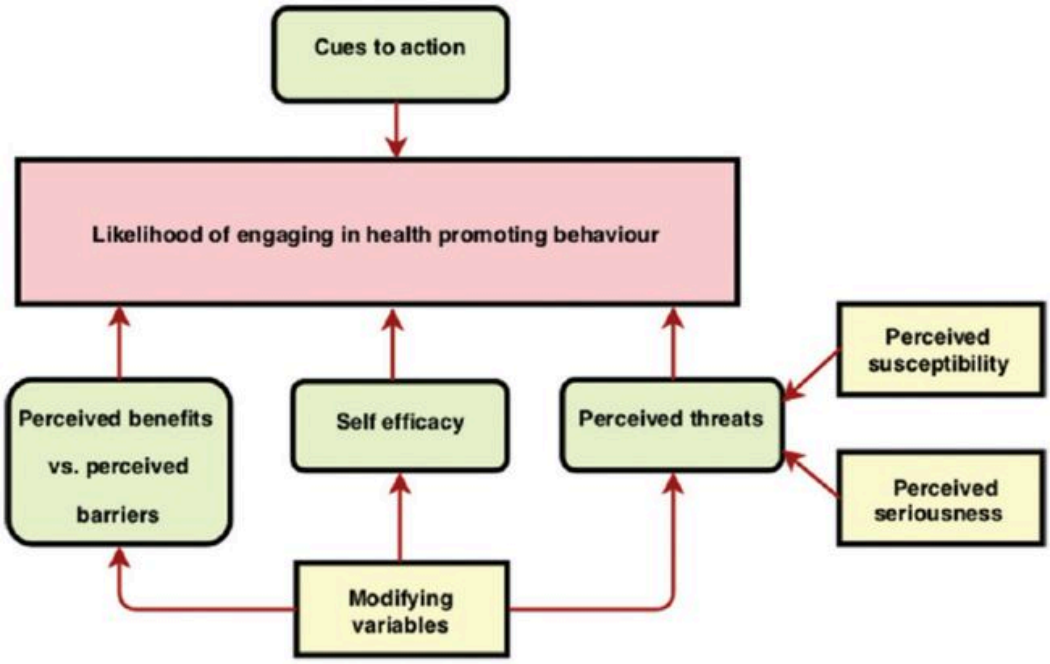
The Health Belief Model (Figure 2) will also be incorporated to guide the education that is to be presented in the project. This model has been utilized in many studies to aid in the development of educational interventions (Malekshahi et al., 2020) The Health Belief Model consists of six components which are:

1. Perceived severity of disease

2. Perceived susceptibility of the disease
3. Perceived barriers to having healthy behaviors against the disease
4. Perceived benefits of healthy behaviors in reducing the risk of the disease
5. Perceived self-efficacy
6. Cues to action

Figure 2

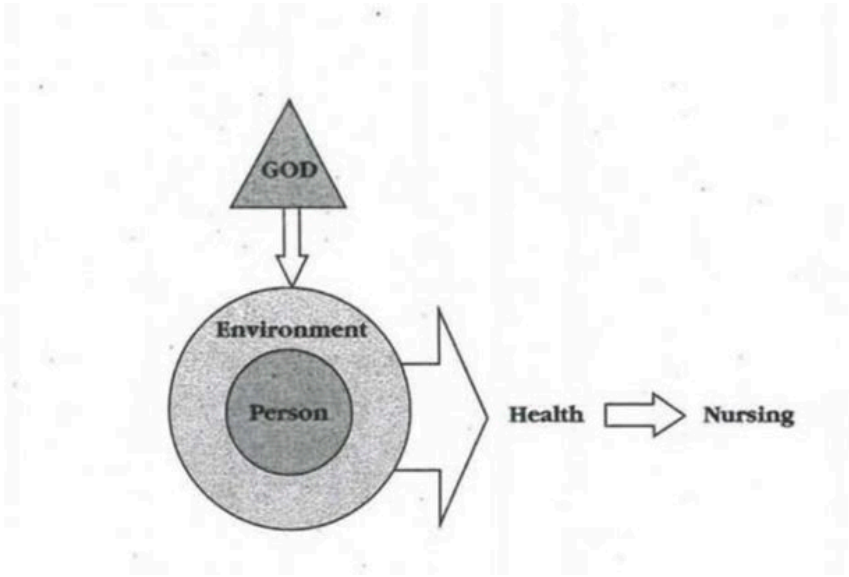
Health Belief Model



Theoretical underpinnings of Christian Caring (Figure 3) are foundational when addressing worldview and aid as a framework for nursing practice (Moorman, 2015). The Health Belief Model (HBM) will address the risks, benefits, self-efficacy, and potential threats to a decline in health, as well as addressing and encouraging the spiritual health of the members in the faith-based setting. It is the belief of the DNP student that the assimilation of both the Christian Caring theory and the HBM will holistically aid in positive health outcomes.

Figure 3

Christian Caring Model



Work Planning

Work planning is an essential component for organizing projects for implementation and successful completion (Zaccagnini & Pechacek, 2019). The utilization of tools such as The Gantt Chart allows projects to remain on task by implementing a timeline. Formulating a plan for all portions of the project and constructing a Work Breakdown Structure (WBS) allows for various aspects of the project to be broken down into smaller pieces and easily monitored. The incorporation of

project management tools is key to keeping the DNP project organized and on task. Likewise, budget tools are available to ascertain direct and indirect costs associated with the DNP project.

Gantt Chart

Project management tools equip project managers to ensure that requirements related to a project stay within the budget and that work are accurate and on time. Outputs can be improved, and projects can remain on task by implementing the use of a Gantt Chart (Zaccagnini & Pechacek, 2019). Projects developed today are likely to use a Gantt Chart that was first developed by Frederick Taylor. The Gantt Chart was also applied to the DNP project. The graph displays a timeline for project steps such as education that will be developed and finalized for the project by September, IRB approval in October/early November, project implementation to start in November, and data analysis of project findings starting January 2022 (Appendix B).

Work Breakdown Structure

The DNP project delegated certain tasks under subheadings of design, plan, implement, monitor, and evaluate. For a successful project, work must be broken down into smaller levels to allow for easier monitoring (Zaccagnini & Pechacek, 2019). The benefits of a work breakdown structure will identify work needed for the project, communication of team members enables the organization of tasks in a logical sequence and provides a means to prepare for the execution of the project. A work breakdown structure was created and served as a guide throughout the implementation phase of the project (Appendix C).

Design

The task outlined under this heading includes the practice setting that the DNP project will be implemented, identification of team members, research, and development of objectives. The faith-based setting was secured after communication with the Pastor, and team members identified to support the project from Atrium Health's faith-based outreach. Objectives for the project were identified after the initial research and problem identification.

Plan

The planning of the work breakdown structure involves meeting with project team members to discuss and receive feedback on the material to be delivered. Formulation of the education that is most beneficial and layout of the program was identified during this stage. Evaluation is made of any potential risk that may impede the steps of the project or implementation.

Implement

The DNP student will discuss the time frame with team members and project partners for the potential timeframe for implementation. Once the project has been approved, the education will be delivered in a faith-based setting. Pre-test and post-test of the Knowledge, Attitude, and Practices (KAP) questionnaire on Obesity will be offered during this time.

Monitor

The DNP project leader will monitor and control any risk that may present during project implementation. This may include cost or any changes to the schedule of the planned educational sessions to be conducted. Communication with the practice partner is

key to controlling any unforeseen changes that may arise due to circumstances in the faith-based setting unrelated to the project.

Close/Evaluate

The close and evaluation of the stage of the project will encourage continued participation from the faith-based members in all the educational sessions. The project will close when all planned educational material has been delivered. Outcomes from the questionnaire will be evaluated and findings reported.

Budget

Developing a budget allows for the allocation of the costs that are related to the development of any project and is an important process that can provide project stakeholders informed as to the estimated costs for implementation (Zaccagnini & Pechacek, 2019) Calculating direct and indirect costs will help alleviate potential budget concerns. Direct cost is those cost that is related to the project, and indirect cost is those cost that is shared between entities such as internet services and office space. The DNP project leader will absorb the cost of supplies to develop the project, travel costs for gasoline, snacks, and a healthy basket. The church will absorb the cost of power, space for project implementation, and food for one session. A budget was created as a guide for the cost of the project (Appendix D).

Planning for Evaluation

It is imperative that providers are engaged with project planning and evaluation in programs that will promote healthier choices and practices. With the current healthcare cost for funding across the globe, DNP projects along with healthcare improvement programs will need to utilize tools and evaluation methods that demonstrate quality

improvement, improved performance, and positive outcomes (Zaccagnini & Pechacek, 2019). The skills learned with creating, implementing, and evaluating the DNP project will aid the DNP student in future best practice and clinical performance for patients.

Tools

Tools to measure outcomes are essential to determine if any project implementation was successful (Zaccagnini & Pechacek, 2019). The tool chosen to evaluate the learning outcomes of this DNP project was the Obesity Knowledge, Attitude, Practice (KAP) Questionnaire to measure knowledge, attitudes, and practice regarding obesity. This tool was developed after literature review and synthesis, focus group discussions, expert validation from eight different fields of medical study, a survey of the developed questionnaire, and statistical analysis. The strength of the tool is that it asks questions regarding different aspects of knowledge, attitudes, and practices that affect obesity. There are some concerns about the applicability of this tool within diverse cultures, and the leading nature of some questions that may be oversimplified (Ranjan et al., 2019).

Evaluation Methods

Evaluation of any project is needed to measure if the outcomes of the project were met (Zaccagnini & Pechacek, 2019). The Logic Model that was first developed in the 1970s was chosen for the DNP project and is a picture of how parts of the program are connected, and the expected goals of the project after implementation. The inputs are the resources that are available in the project, the activities are steps that are carried out in the project to achieve the outcomes, the outputs are the results of the activities, and lastly, the short-term, long-term, and impact goals that stem from the project. The Logic Model

easily clarifies the resources and activities that are needed to guide the DNP project (Appendix E).

Quality improvement methods and tools are key foundations to successful program development and delivery. Nurses play a momentous role in implementing quality improvement programs in a varied array of healthcare settings (Zaccagnini & Pechacek, 2019). The Doctor of Nursing Practice prepared nurse will be equipped to formulate and implement programs that can potentially improve the health of individuals, healthcare delivery, and reduction of healthcare costs.

Implementation

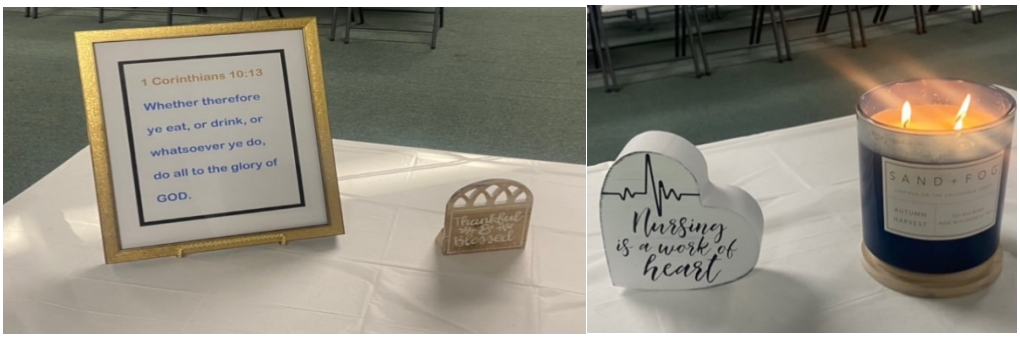
The Institutional Review Board approval for the DNP quality improvement project allowed for project implementation. This was a beneficial time to review the goals and objectives, evaluation plan, and main points to be addressed. A project start date was set and communicated for efficient implementation (Zaccagnini & Pechacek, 2019). As a project leader, it was crucial to reflect on one's leadership style and how best to integrate those qualities for the team and project goals. It is with this reflection that the trajectory of the project promotes smooth implementation and outcomes.

Education was designed to increase the knowledge of individuals in obesity, nutrition, cardiovascular disease, stress, and exercise. The project implementation was delivered to individuals in a faith-based setting. The educational sessions took place in a Baptist Church and were open to all members or guests who wished to attend and be a part of the DNP project. The education sessions were promoted as a health workshop, and topics of each session were announced, displayed via the announcement screen in the sanctuary, and a flyer was made available to congregates. Participants of the education

had the option of participating in a drawing for a healthy basket at the end of the sessions that consisted of a wicker basket, measuring cups, measuring spoons, meal prep containers, almonds, brown rice, nuts, dried fruit, old-fashioned Quaker oats, olive oil, electric blood pressure cuff, an exercise mat, resistance bands, resistance tube, 5 lb. dumbbells, jump rope, water bottle, and two inspirational coffee mugs. The sessions took place after three Sunday evening services and one Saturday morning. A separate room provided a table with informed consent, pre-test/post-test, instructions, and 1 Corinthians 10:13 displayed in a frame as the inspirational verse for the project, along with a burning scented candle (Figure 4).

Figure 4

Inspirational Verse and Candle



The first session consisted of a PowerPoint overview of obesity and the negative consequences of comorbidities. Healthy snacks, fruit, and water were provided in this session for those that attended. The second session focused on nutrition and making healthy choices. An educational poster board was utilized, along with portion size food displays, salt, sugar, and fat displays per specific food items served as great visuals. Educational handouts and plate booklets were made available with the display tables. The DNP leader prepared a low-sodium homemade vegetable soup at this session which received positive reviews. The third session consisted of a PowerPoint session on

cardiovascular disease and a pop-up tent created by Atrium Health's faith-based outreach to look like the inside of the heart with red heart pillows for red blood cells, sponges for fat, and arteries clearly displayed inside the tent. This served as a visual for the negative effects of obesity and cardiovascular disease. Healthy snacks and water were also provided in this session.

The last session consisted of education on stress and exercise. The education was delivered via PowerPoint and safe exercise routines were demonstrated by a church member that worked in cardiac rehab. Educational handouts and an exercise booklet from the National Institutes of Aging were provided. A focus on scripture writing and journaling promoted spiritual growth, stress reduction, and care for the spirit as well as the body. Scripture writing plans were created in booklets and made available to participants and others within the church. This session started with a large healthy breakfast that consisted of oatmeal, fruits, yogurts, nuts, wheat toast, avocado, muffins, juice, and coffee. Each session began and ended in prayer, and scripture was read at each session.

Threats and Barriers

Threats and barriers to the project should be carefully thought through and adjustments addressed for optimal results. It can be assumed that some threats or barriers can be predicted, but others are unforeseen (Zaccagnini & Pechacek, 2019). One threat to this project was the timing of implementation. By implementing in November through the beginning of December, it coincided with the holiday season of Thanksgiving and Christmas. It also was during a busy time in this church with holiday events where project implementation was to take place. The timing of the educational sessions was

placed at a time when Christmas play practice was instituted. This was beneficial for some but did not allow for others to attend due to other obligations. Given the timing of implementation, this threat was identified, and the project start date remained unchanged. The education sessions were well attended given the time of year and other activities that were being implemented within the church. Each session saw an average of 30-35 people and most attended all sessions.

Monitoring of Implementation

During implementation, the DNP project leader must remain in the leadership role and monitor and measure progress against the goals and objectives that were identified (Zaccagnini & Pechacek, 2019). The project leader was able to have considerable interest and encouragement for this project. Those who attended had an interest in improving their knowledge of health concerns that related to our topics. Almost all participants were able to attend all four educational sessions.

Time was closely monitored so those that attended were able to predict a start and end time for all sessions. Most importantly, the time of fellowship with spiritual encouragement brought us all closer together. By utilizing the theoretical underpinnings of Christian Caring and The Health Belief Model, the goals of the project were addressed with each session. The Christian worldview includes the use of good empirical science, and the use of technology as appropriate to aid in the health and healing of individuals (Shelly & Miller, 2006). Science gives us the means to increase our knowledge as it pertains to the physical, but science has limitations with the personal and spiritual aspects of health and healing. The meaning of personal and spiritual are seen through the lens of

a greater worldview, and it is with the Christian worldview in mind that guided each educational session.

- Environment – Encouragement was given to participants, for at the time of the project COVID-19 was continuing to be globally addressed in healthcare and has affected our way of life on the physical, spiritual, and emotional levels. The increased stress can have negative impacts on health. In the Christian worldview, God created the environment and called it good (Genesis 1). Sin has polluted the environment which itself longs for redemption (Romans 8:22), We are called to be good stewards of his creation which encompasses the human communities and culture, and to care for one another (Shelly & Miller, 2006).
- Person – The health sessions promoted evidence-based education to foster and encourage positive choices and interventions for optimal health. Everyone has been viewed as a special creation by God, and spiritual strength can aid in one's ability to make healthy lifestyle choices.
- Health – The education stressed the importance of combating the potentially devastating consequences of comorbidities associated with obesity. Primary prevention was delivered through education to increase knowledge of obesity and comorbidities, and stressed the importance of adhering to secondary prevention through screenings of potential health risks such as lipid profiles, and encouraged compliance with tertiary preventions which would include medication and therapy adjustments as deemed necessary by their providers to prevent further damage from medical conditions. Through our prayer and devotional time together, the Christian worldview was the foundation that supported each on their journey to

health. Regardless of the health state of any one person at that present time, by first trusting in Jesus Christ as their personal Savior, he has promised to lead and guide us in our daily life. To be spiritually healthy gives one the emotional strength to endure what disease and sickness can do to the physical body.

- Nursing – Compassionate care was utilized with the delivery and content of the educational sessions to exhibit respect to all regardless of where they were on their health journey. The Christian worldview is acts of caring to others by realizing God's grace toward us, and the sacrifice of Christ for us allows us to likewise give of ourselves to others (Shelly & Miller, 2006).

Through project development, the Christian worldview was the underpinnings of the developed education, and The Health Belief Model shaped the aim of the education to address target goals. Such as the perceived severity of obesity and the damaging effects, perceived susceptibility of developing comorbidities, perceived barriers that may prevent individuals from meeting healthy weight goals, and how stress and lack of exercise are barriers to weight loss, perceived benefits of engaging in healthy lifestyle choices and perceived self-efficacy by offering spiritual support and encouragement that they can make positive changes to benefit health. The cue to action and likelihood of change is accomplished by addressing the perceived barriers and benefits of obesity and comorbidity education.

Project Closure

Just as important as planning for project implementation, is the planning for the closure of the project. It is important that all loose ends are identified and addressed. Communication is just as important in this stage as in implementation and monitoring.

The pre-test questionnaire was easily obtained before the educational session in the DNP project, but communication and education had to be reinforced to obtain the post-test questionnaire. This also can be related to an unforeseen barrier because interest may have wavered over time and the participants have already received the benefits of the education.

The pre-test was first offered at a monthly senior meeting within the church to jump-start the promotion of the healthy workshop. A brief overview was given of the DNP project and upcoming dates. Survey participation was particularly good, but a smaller number of participants followed through for the post-test survey. This is most likely due to a larger number of people present at the senior meeting that participated but did not participate with continued educational sessions. Each educational session focused on getting the pre-test from participants at the beginning of each session, and information was conveyed that the post-test would be available on the last educational session and thereafter. Participants looked forward to the fellowship and stayed after to talk with one another. These actions supported the camaraderie that is within a faith-based setting.

The gift basket was a source of encouragement to attend the meetings and offered fun competition between those that did attend. A whiteboard was used at the door of the fellowship building to direct people to take the pre-test before coming to the session. White blank cards and containers were also available in the test room for those who wished to participate in the drawing. After the last session and drawing, a couple of weeks were allotted to allow time for any of the eight remaining people that could not come to the last session to take the post-test. Further education that could allow more time to monitor BMI or blood pressure after education may be beneficial, but due to

COVID-19 and time of year of implementation, the DNP project leader focused on increased knowledge to promote better lifestyle decisions. Communication with team members is imperative at project closure to address further ways to benefit from the project and to identify gaps and improvements for future use.

Interpretation of Data

The use of the Knowledge Attitude Practice (KAP) questionnaire for obesity developed by Ranjan et al. (2019), allowed for baseline measurements as pre-test and post-test measurements after implementation of educational materials. This type of quasi-experimental design allowed for testing of the dependent variable of knowledge, attitude, and practice, before and after the intervention of the independent variable of education. The advantages of this type of study allowed quick and easy assessment and correlation of the intervention (Stratton, 2019).

Subjects

The questionnaire was first available to interested participants at a monthly senior meeting within the church, and to promote the educational health workshop. The project and instructions were clearly defined to the congregates. Involvement to take part in the pre-test was encouraged, but not mandatory to attend the educational sessions. Anonymity was ensured by allowing members to complete the questionnaire out of sight of the project leader, and by having no identifying markers on the questionnaires. Instructions to take the pre-test were reiterated before every educational session, therefore, ensuring to obtain a baseline of those in attendance.

The post-test was offered at the last session and made available for approximately 2 weeks after the project closed to allow for the inclusion of a post-test for those that

could not attend the final class of the workshop. The larger number of attendants at the senior meeting was likely to account for the larger number of pre-tests, for not all those in attendance at that meeting attended the health workshop. Most members who did attend took part in all classes, but a roll of names was not issued, and questionnaires were not marked with the identification of the project participant.

Quantitative Data

The KAP questionnaire consisted of three different sections of measurement. The first 14 questions were knowledge questions about obesity, nutrition, and exercise. The next section contained 15 questions measuring attitudes about obesity, nutrition, and exercise. The last 13 questions measured what one practiced with regards to obesity, nutrition, and exercise. A number value was attributed to each question calculated the scores for the 42-question questionnaire. Cumulative totals of the pre-test and post-test were gathered and divided by the number of participants. Likewise, cumulative totals for each section were calculated and averaged by participants. Comparisons between the two tests were then analyzed for improvement (Table 1).

Table 1

Pre-Test and Post-Test Score

Scores
Pre-Test Scores
Total sum of the Pre-test = 6,318 divided by 42 questionnaires = 150.4
Pre-test Knowledge = 2,502 divided by 42 = 59.5
Pre-test Attitude = 2,191 divided by 42 = 52.1
Pre-test Practice = 1,624 divided by 42 = 38.6

Scores
Post-Test Scores
Total sum of the Post-test = 5,034 divided by 32 questionnaires = 157.3
Post-test Knowledge = 1,996 divided by 32 = 62.3
Post-test Attitude = 1,807 divided by 32 = 56.4
Post-test Practice = 1,231 divided by 32 = 38.4

Note. This table demonstrates total scores and averages for each section.

Outcomes

The data analysis revealed a significant increase in overall total scores and substantial gains in the knowledge and attitude sections about obesity. Although a minimal decrease in the practice section was noted, this is likely attributed to the time of year that the health workshop took place. The church was in the middle of Christmas play practice, people were busy with the Thanksgiving and Christmas seasons, and all the obligations associated with the holidays. The weather at this time was also turning cooler which could have limited those who did not have access to exercise facilities or equipment indoors. The questionnaire did not incorporate qualitative data in the form of interviews, observations, or summary questions.

Effectiveness

The KAP questionnaire showed that utilizing faith-based settings to educate on health and wellness produced positive results. The more in-depth discussions about obesity and related comorbidities, educational handouts, and visuals increased knowledge to aid in better decision-making. It also changed attitudes regarding these subjects, by bringing to light the devastating effects of obesity and associated adverse health

conditions. Having a change of attitude is the first step in making positive changes to practice lifestyle modifications.

This project showed that education can be a driving factor for health promotion in faith-based settings. The potential for improved health, decrease in comorbidities, and decreased healthcare costs in our communities will sustain the project. It can also be a driving factor for other healthcare professionals who participate in spiritual organizations to replicate with continued education on obesity or other health topics that will benefit the population. Prolonged engagement with participants would be beneficial to help encourage the implementation of new behaviors. Furthermore, future education utilizing today's technology of fitness apps that track meals, calories, and exercise in easy-to-understand education would have a great benefit for those willing and able to do.

Conclusion

This project proposed that faith-based settings were prime resources in which to deliver health education to combat the devastating consequences of obesity and associated comorbidities and that faith-based settings are supportive by having shared values and camaraderie with one another. Results showed that obesity education increased the knowledge and attitudes of those that took part in the study, but health and wellness changes were not put into practice at the time of the post-test. Retention among the members at every session supported the fact that the time of fellowship, communication, and devotions together supported the research that faith-based settings are a source of encouragement among members.

Implications for Practice

Based on the findings of this project, obesity education delivered to increase knowledge, attitude, and practice in a faith-based setting, incorporating shared values and offering support can be beneficial for future health education that will aid members to make better lifestyle choices regarding health. Additionally, this project also supported the need for education in the community setting, and that health knowledge deficits exist which could result in poorer outcomes. By reaching out to the community in real and substantial ways, healthcare providers can make lasting benefits to the population in trusted settings such as in our local churches or places of worship.

Future Recommendations

This project confirms the use of education in faith-based settings. By incorporating population health education, our communities will receive help from the trickle-down effect of improved healthcare choices and actions, resulting in the potential for decreased adverse health conditions and healthcare costs. By embracing a shared faith, supported by Christian nursing theories, faith-based health educators can encourage one another in physical, emotional, mental, and spiritual health.

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Appendix A

KAP Questionnaire

	Definitely	Probably	Probably Not	Definitely Not	Don't Know
1. Obesity can be assessed by an entity called BMI	1	2	3	4	5
2. More fat over abdomen is dangerous than overall increase in the distribution of fat in terms of causing increased cardiovascular problems	1	2	3	4	5
3. Obesity is associated with heart diseases, such as heart attack, increased blood pressure, increased cholesterol levels, etc.	1	2	3	4	5
4. Obesity is associated with diabetes	1	2	3	4	5
5. Obesity is associated with osteoarthritis (joint problems)	1	2	3	4	5
6. Fasting/Skipping meals is a good way to lose weight	1	2	3	4	5
7. Excess sugar consumption in the form of sweets, additional sugars in coffee/tea/milk, etc., is an important risk factor which leads to overweight/obesity	1	2	3	4	5
8. Frequent consumption of sugar-sweetened beverages (Pepsi/Coca-Cola/sweetened juices, etc.) leads to weight gain	1	2	3	4	5
9. Frequent fried food consumption (samosa, fries, wafers, etc.) leads to weight gain	1	2	3	4	5
10. Excessive consumption of refined foods (breads/biscuits/etc.) leads to weight gain	1	2	3	4	5
11. Constant stress is a risk factor which leads to weight gain	1	2	3	4	5
12. Regular aerobic exercises, such as running, jogging, swimming, playing outdoor sports, etc., is an important way to lose weight	1	2	3	4	5
13. Anti-obesity drugs are preferred way of reducing weight	1	2	3	4	5

14. Meal replacers/supplements are a healthy way to lose weight	1	2	3	4	5
15. I consider myself obese	1	2	3	4	5
16 I consider my current weight to be harmful to my health	1	2	3	4	5
	Always	Very Often	Sometimes	Rarely	Never
17. I am motivated to lose weight	1	2	3	4	5
18. I find it difficult to keep my weight steady	1	2	3	4	5
	Definitely	Probably	Probably Not	Definitely Not	Don't Know
19. I consider a regular breakfast intake to be part of a healthy lifestyle	1	2	3	4	5
20. I consider small and frequent meals help in weight reduction	1	2	3	4	5
	Extremely Confident	Very Confident	Moderately Confident	Slightly Confident	Not at all Confident
21. I am confident that I would reduce sugars/sweets in my diet	1	2	3	4	5
22. I am confident that I would avoid fried foods	1	2	3	4	5
23. I am confident that I would prefer salads/low calorie snacks instead of sweets/fried foods/refined foods in my diet	1	2	3	4	5
	Very Satisfied	Satisfied	Neither	Dissatisfied	Very dissatisfied
24. I am satisfied with my current physical activity	1	2	3	4	5
	Extremely Confident	Very Confident	Moderately Confident	Slightly Confident	Not at all confident
25. I am confident that I would do physical activities such as jogging, bicycling, swimming,	1	2	3	4	5

competitive sports. Or any other activity that makes me healthy					
26. I am confident that I would engage in some sort of household activities when I am free	1	2	3	4	5
27. I am confident that I would use stairs instead of lift	1	2	3	4	5
28. I am confident that I would go to nearby places to walk	1	2	3	4	5
	Always	Very Often	Sometimes	Rarely	Never
29. I feel sad/depressed considering that I am obese/overweight	1	2	3	4	5
30. I add additional sugars in my coffee and tea	1	2	3	4	5
31. I take a sweet dish after meals	1	2	3	4	5
32. I use helpers for my household activities	1	2	3	4	5
	All the time	Most Often	Some of the time	Seldom	Never
33. I eat in response to stress	1	2	3	4	5
	Never	Rarely	1-2/week	2-3/week	>3/week
34. I drink sugar sweetened beverages	1	2	3	4	5
35. I consume fried foods	1	2	3	4	5
	All 7 days a week	5-6 times a week	3-4 times a week	Once a week	Never
36. How often do you take three major meals and two minor meals in a week	1	2	3	4	5
	0	1	2	3	More than > 3
37. Apart from the three major meals and two minor meals, how	1	2	3	4	5

many snacks do you usually consume in a day?					
	More than once a day	4-6 times a week	1-3 times a week	Once in 15 days	Never
38. I include fruits/salads in my diet	1	2	3	4	5
	Everyday	4-6 times a week	1-3 times a week	Once a month	Never
39. How frequently do you exercise?	1	2	3	4	5
	Not at all	<15 mins	15-30 mins	30-60 mins	>60 mins
40. How long do you exercise in a day?					
	Always	Very Often	Sometimes	Rarely	Never
41. I consult my doctor/dietitian for weight reduction	1	2	3	4	5
	I currently exercise regularly and have done so for more than six months	In the last 6 months I have started exercising regularly	I currently exercise but not regularly	I currently do not exercise but intend to start regular exercise in the next 6 months	I currently do not exercise, and I do not intend to start regular exercise in the next 6 months
42. Which of the following statements best apply to you	1	2	3	4	5

Score key: Questionnaire for assessment of knowledge, attitude, and practice of obese individuals about obesity. Scores range from 1 to 5 Each question has five options (a, b, c, d, e)

For questions 6, 13, 14, 18, 24, 29, 30, 31, 33, 40

a=1 b=2 c=3 d=4 e=5

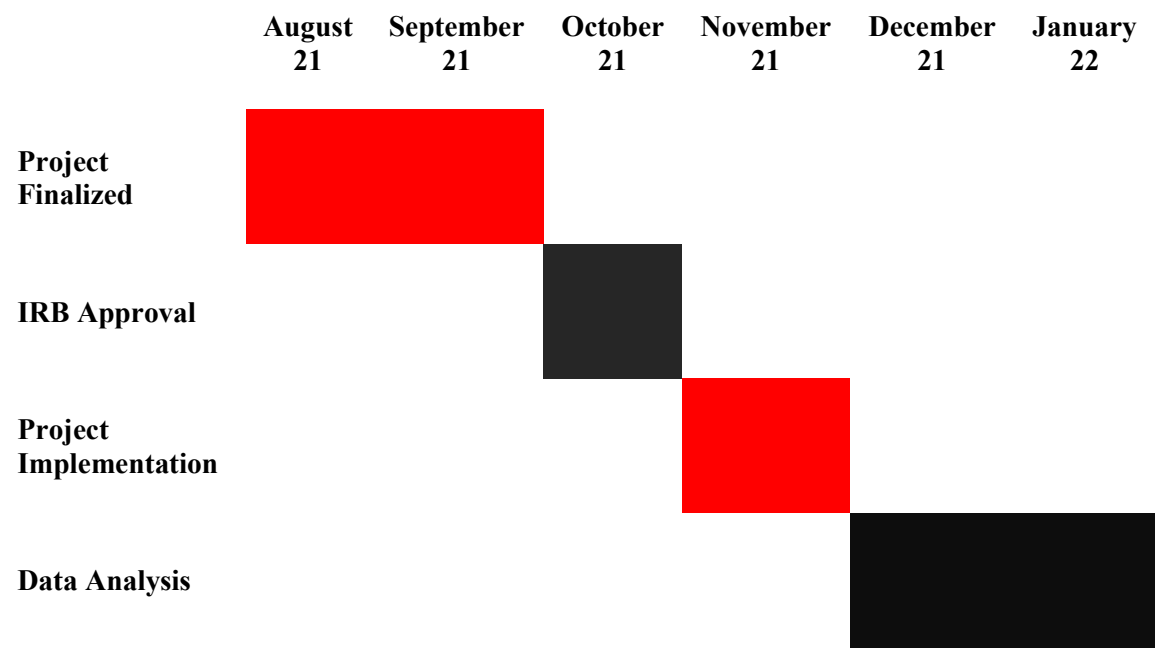
For questions 1, 2 ,3, 4, 5 ,7 ,8 ,9, 10, 11 ,12, 15, 16, 17 ,19, 20 ,21, 22 ,23 ,25 ,26, 27, 28, 32, 34, 35 ,36 ,37, 38 ,39 ,41 ,42

a=5 b=4 c=3 d=2 e=1

Appendix B

Gantt Chart

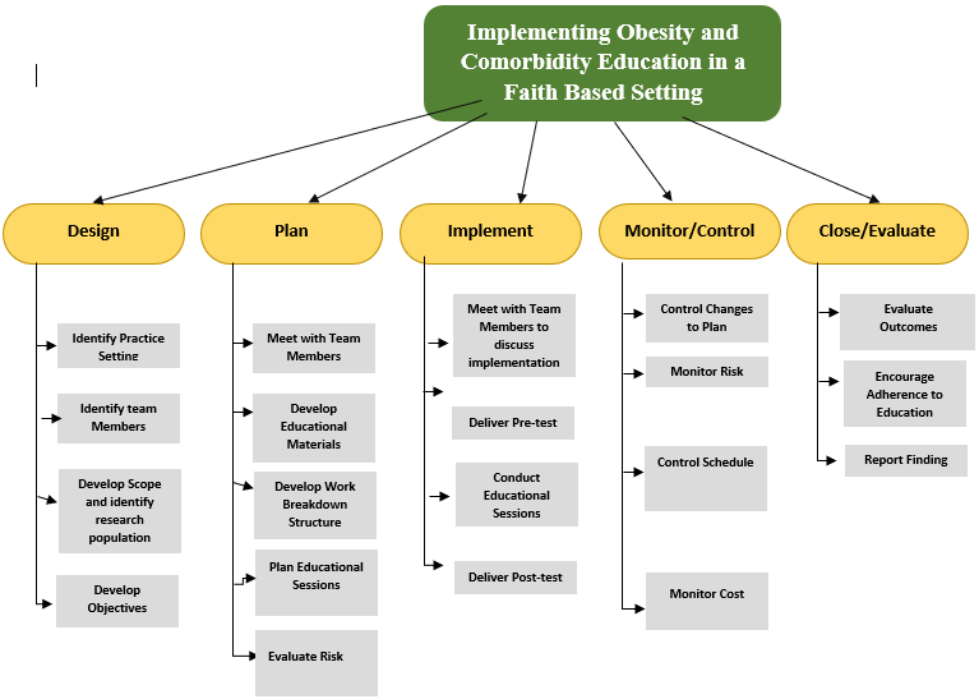
Gantt Chart – Project Timeline



GANTT Chart

Appendix C

Work Breakdown Structure



The Work Breakdown Structure

Appendix D

Budget

Cost Category	Resources	Total Cost
Direct Cost	Travel Cost	$61.00
	Materials	$200.00
Total Direct Cost		$261.00
Indirect Cost	Power for Education Sessions	$ 8.80

Appendix E

Logic Model

Implementing Obesity and Comorbidity Education in a Faith-Based Setting

INPUTS	ACTIVITIES	OUTPUTS	OUTCOMES		
			Short-term	Long-term	Impact
Pastor Church members Church Buildings Projector screens Funding Volunteer Time Faith Committee Members	Research Education Spiritual Encouragement Scripture writing material Training Recruitment Prayer Scheduled meeting times	Delivery of education Participants to scheduled education Discussions Camaraderie Spiritual Strength Knowledge Increase Awareness	Acknowledgement of health status Change in thought process Educated decisions regarding health Better food choices Discussions with provider Reading of scripture Writing of scripture Increased faith and encouragement	Weight loss Improved physical strength Regular exercise Change in diet patterns Decreased blood pressure Improved mood Positive thoughts Improved cardio-respiratory status	Decrease in acute doctor visits Decrease in healthcare cost Long term health improvements No cardiac life-threatening events Consistent exercise Stress management Strong Faith Educate others Encourage others Healthier Community