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Evaluating the Effectiveness of Implementing Depression Screenings
with Uninsured African American Adults

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A Dissertation Submitted to the Graduate School at the University of Missouri-St. Louis
in partial fulfillment of the requirements for the degree
Doctor of Nursing Practice

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Abstract

Problem: Uninsured African Americans are underdiagnosed and often untreated for depression. Individuals usually do not present to their primary care provider with a complaint of depressed mood, however, may report symptoms such as decreased energy, general body aches, digestive concerns, somatic complaints, or older adults' memory or cognitive problems. The purpose of this quality improvement pilot project was to examine the results of the implementation of a depression screening (PHQ-9) in a primary care setting for uninsured adults for detection, diagnosis, and treatment of depression in African American clients.

Methods: The IOWA model of Evidence-Based Practice guided this pilot project in the examination of depression screening in a primary care clinic. The retrospective study utilized a descriptive analysis conducted over three months with a convenience sample of uninsured African American new clients 18 -65 years old.

Results: The PHQ-9 screening questionnaire was given to 100% ($N=24$) of new clients seen over three months. There were 16.6% ($n=4$) whites and 83.3% ($n=20$) African Americans. Of the African American clients 25% ($n=5$) scored 10 –14 indicating moderate depression; 5% ($n=1$) scored six points signaling mild depression; 70% ($n=14$) scored zero suggesting none to minimally depressed. Providers reviewed all client's results and recommended either treatment, counseling, or medication.

Implications for Practice: Utilization of the PHQ-9 screening questionnaire with uninsured African American clients in primary care resulted in an increase in the number of African Americans diagnosed and treated for depression. Incorporating depression screening with the initial primary care visit can be beneficial.

Evaluating the Effectiveness of Implementing Depression Screenings
with Uninsured African American Adults

Depression is a common mental disorder and is one of the leading causes of disability worldwide that can affect anyone, regardless of race, ethnicity, or socioeconomic status, and affect of 3.8% of the global population (Bailey et al., 2019; Cobb et al., 2020; Siu et al., 2016; World Health Organization [WHO], 2021). In 2020, the prevalence of adults aged eighteen or older in the US with one major depressive episode was 21.0 million adults (National Institute of Mental Health [NIMH], 2022). Major depressive disorder (MDD), or clinical depression, is interchangeably and, according to the American Psychiatric Association [APA] (2020), is a common and potentially severe medical illness. The Diagnostic and Statistical Manual of Mental Disorders, 5th edition (*DSM 5*) references this disorder to be associated with features of sadness, hopelessness, and a loss of interest in activities that one once enjoyed. Little to no research about the prevalence of depression or the treatment, specifically in African Americans (AA), is a contributing factor when addressing treatment. However, one study posits the reason depression is often untreated in AA could be contributed to racism (Cobb et al., 2020). The limited studies on AA that explored the prevalence of the major depressive disorder, assessed AA are more likely to have feelings of sadness, hopelessness, and worthlessness than other ethnicities (Bailey et al., 2019; Center for Disease Control and Prevention, [CDC], 2021; Cobb et al., 2020). Furthermore, Bailey et al. (2019) declared providers must be astute to the differences in the presentation of how AA will present depression compared to whites. Depression is a complex interaction with biological and psychosocial factors that can make it difficult to recognize. Although

cultural norms influence the clinical presentation, hopelessness and despair often associated with depression are part of the disorder that may interfere with compliance and treatment to a medical regimen (Feldman et al., 2020; WHO, 2021).

In 2019, the AA population in the United States (US) was 38,872,200 or 12.2 percent of the total population (US Census Bureau, 2020). Uninsured AA account for 10.1 % compared to 6.3 % of uninsured whites in the US (US Department of Health and Human Services Office of Minority Health [USDHHS OMH], 2021) . Uninsured AA in St. Louis City was 10.5 %, slightly higher than in the US as reported in 2019 the American Community Survey 1- year (St. Louis City-MO Gov, n.d; US Census Bureau, 2020). The study further emphasized that AA residents were twice as likely to be uninsured as whites, with 14% AA versus whites at 7%. This lack of insurance creates a barrier to health and mental health services resulting in AA receiving poorer care or no care at all (Walker et al, 2015).

The lack of health insurance is the single greatest obstacle to health care, mental health services, and quality of care and is a major social determinate of health (SDOH) (King et al., 2016). Often underinsured or uninsured individuals will not seek treatment for depression; therefore, when an individual seeks medical treatment in a primary care setting, it is imperative that the providers conduct a physical and mental health assessment (Meyers et al, 2014).

Studies have confirmed recognizing depression in a primary care setting, especially in a patient with co-morbid conditions, is difficult (Ferenchick et al., 2019; Hooker et al., 2019; Park & Zarate, 2019; Richardson & Brahmhatt, 2021). Patients usually do not come in with a complaint of depressed mood, but instead will report

symptoms, such as decreased energy, general body aches, digestive concerns, somatic complaints, or in the case of older adults' memory or cognitive problems (Haftgoli et al., 2010; Riley & Daniel, 2020). Individuals who are depressed are at an increased risk for suicide, and there appears to be a link to medical outcomes and even deaths when it co-occurs with co-morbid diseases (NIMH, 2021).

Bamgbade et al. (2020) highlighted that AA lives with significantly more persistent, chronic, and disabling depression compared to whites, even though whites have a much higher lifetime prevalence of depression. The study further reported that 81% of AA young adults do not seek treatment for depression compared with 66% of their white counterparts.

This quality improvement (QI) pilot project was conducted at a clinic where approximately 92% of the clients served are AA, 18 through 72 years old, low income, all are uninsured, and not routinely screened for depression during their primary care visit. The US Preventive Services Task Force (USPSTF) advocates during a primary care visit or checkup, screening for depression should be completed regularly, using a screening tool such as the Patient Health Questionnaire-9, (PHQ-(9), which can indicate early identification, diagnosis, and need for follow up (Siu et al., 2016).

The Iowa Model of Evidence-Based Practice (EBP) framework guided this project. This EBP QI pilot project examined the effects of the PHQ-9 on diagnosing and initiating treatment for depression. The aim was to increase the number of uninsured AA adults who were screened for depression over three months. The primary outcome measures of interest were the results of the PHQ-9. The secondary outcome measure was to identify if the clients received a further evaluation for a diagnosis of depression, and

treatment initiated. The question for the study was: In AA adults 18 to 65 years old, newly admitted to the clinic, what is the effect of screening for depression using the PHQ-9 on the diagnosis and treatment for depression over three months.

Review of the Literature

A review of the literature was conducted using Cochrane, CINAHL, PubMed, and PsychInfo databases. The key terms and phrases used were depression, AA depression, primary care, Blacks and depression, and AA mental health. Boolean operators included "AA adults" AND "depression" OR "screenings" AND "treatment" OR "Blacks" AND "depression" OR "AA" AND "mental health" OR "treatment," resulting in 236 articles. The inclusion criteria for this study were articles published from 2016 – 2021, peer reviewed, written in the English language, and studies with participants 18-65 years old or older that focused on AA and depression screenings and treatment. The exclusion criteria were articles published before 2016, not written in the English language, participants less than 18 years of age, and did not study depression screenings and treatment in AA. When refining the search using the inclusion and exclusion criteria, ten articles were identified for final review. The level of evidence of the articles selected consisted of two systematic reviews, one meta-analysis, four cross-sectional studies, and three case-control.

Depression is rapidly increasing in society and is less likely to be addressed in AA with their primary provider due to discrimination. Cobb et al. (2020) study suggested structured racism is a significant factor in why depression is often untreated in AA. Therefore, it is critical for providers to acknowledge race and racism in health care and disparities that exist in all aspects of depression as well. Providers must be aware the

presentation of depression among AA is different when compared with whites (Bailey et al., 2019). Additionally, the severity of the depression often leads to an overall degree of functional impairment and the type of treatment available to AA was also different. Low-income, uninsured patients already have many obstacles to adequate self-care. When these patients present to their primary care providers with co-existing depression and other medical conditions, the priority for treatment is the medical condition.

A mental health screening should be included in an annual physical and regular screening visit with the primary care provider (Siu et al., 2016). Understanding a person's health history and self-care practices when living with a chronic health condition can be an avenue to begin discussions about depression (Barnes et al., 2018). Equally important is having the awareness when addressing screening, diagnosing, and treating uninsured AA adults, that age, gender, educational attainment, financial situation, living arrangements, insurance type, and socio-economic status are significant variables of SDOH that significantly affect health outcomes (Cobb et al., 2020; King et al., 2016). Additional factors to consider, AA are at risk for not receiving a diagnosis of depression by primary care providers or open to receiving treatment for depression (Cobb et al., 2020).

Primary care providers must understand it is vitally important to include screening and assessment of mental health in the primary setting and initiate the conversation about depression since AA does not initiate conversations (USDHHS, 2020). Understanding a patient's health history and self-care practices can be a method by which primary care providers can start to have open conversations that can improve patient-provider communications about depression (Barnes et al., 2018; USDHHS, 2020).

Barnes et al. (2018) suggested a person's personal health history, chronic physical conditions, and depression self-care practices were elements of the patient data that should be reviewed and discussed by a health care provider among AA clients ages eighteen and older. Also, AA would not initiate discussion about being depressed when seeing their primary care provider because they did not think it was appropriate to do so in primary care. Fear of not having a choice in making treatment decisions was another reason given for not initiating a discussion with their provider regarding depression (Barnes et al., 2018; Riley & Daniel, 2020).

Murphey and Hankerson (2017) emphasized among AA 24-79 years old, believed the causes of depression are what influenced their decision regarding treatment for depression. The writers examined the views of low-income participants and determined there was an association between what people believed about the causes of depression. The study stressed beliefs about the causes of depression fell into categories; psychosocial, supernatural, and natural causes. The authors concluded a person's belief regarding the cause of depression was associated with the type of treatment accepted and whether the person would adhere to medical treatment.

Hays (2017) indicated the role of religion and social support is a substantial factor in AA and a diagnosis of depression. Often AA does not choose to use the limited resources that are available for mental health in their communities. Studies postulate that AA believes depression is a personal weakness and that prayer when coupled with faith, will be cured. These individuals will seek out a faith-based individual to help guide their mental health, thus leading to a disproportionate number of AA refusing professional psychological assistance as an option (Anthony et al., 2015; Hays, 2017). Mental health

can be treated by a primary care provider in a primary care setting (National Alliance on Mental Illness [NAMI], 2022). However, a small percentage of AA with depression is treated in primary care (Jolly et al., 2016; Olfson et al., 2016).

Kato et al. (2018) proclaimed the percentage of respondents who were uninsured and assessed for depression in the presence or absence of symptoms, was frequently missed, resulting in no treatment. Pfoh et al. (2015) reported that low-income patients had the lowest number of screenings for depression in primary care. Several studies highlighted the dismal numbers of screenings for depression in primary care (Barnes et al., 2019; Borja-Hart et al., 2013; Kato et al., 2018; Pfoh et al., 2015) the need to intensify efforts in addressing screenings to advance the mental health needs to meet the USPSTF recommendations is critical (Siu et al., 2016).

Randle et al. (2019) revealed in an article the routine implementation of depression screening in primary care helped to overcome barriers to diagnosis and treatment for depression resulting in a 41% increase in clients with co-morbidities being diagnosed with depression and there was a net benefit to screening and treating depression.

Surprisingly, the aforementioned studies did not mention the use of a structured screening tool for depression such as the PHQ-9. The PHQ-9 is the self-administered depression component of the Primary Care Evaluation of Mental Disorders (PRIME – MD), a diagnostic instrument for common mental disorders with five modules developed in the mid-1990s and was used by medical professionals (Kroenke et al., 2001). The PRIME-MD, tool was designed to alert the provider to the presence and severity of depression and the possibility of suicidal thoughts (Kroenke et al., 2001). The PHQ-9

screening tool has evolved for medical providers to use for diagnosing depression. In addition, the tool guides prescribing and measuring responses to treatment and recovery (Malpass et al., 2016).

The literature revealed that PHQ-9 is cost-effective and significantly less expensive than other screening tools (Jiao et al., 2017). This tool can guide the provider to diagnose major depressive disorder (Levis et al., 2019) and is dependable and valid. The PHQ-9 aligns with the APA, and DSM-V criteria for indicating major depressive disorder. The PHQ-9 used in primary care by providers is one of the most widely self-reported questionnaires for depression screening. The primary care clinic where this project took place utilized the PHQ-9 to help diagnose depression in clients presenting with mental health issues although it was not a part of routine screening. However, recently the clinic implemented depression screening with the PHQ-9 for all newly admitted clients during their initial visit with a primary care provider.

In summary, AA adults with co-morbid depression commonly not diagnosed or even screened for depression and can face an inferior quality of life. Many AA adults are often reluctant to express their feelings or to discuss whether they are depressed. Studies have shown clients with unrecognized depression see their providers more frequently and consume greater health care resources (Bamgbade et al., 2020; Jolly et al., 2016). It is also known that individuals diagnosed with depression are more likely to be uninsured. Providers having the knowledge and awareness that AA is reluctant to express symptoms of depression should be ready to raise the issue and initiate the discussion with their clients. Open discussions between providers and clients are recommended to overcome diagnostic and treatment barriers. The gaps and limitations in the literature underline the

need for uninsured AA clients to have a screening and evaluation by the primary care provider for depression in primary care. The USPSTF recommends improving depression screening rates to meet the expectancy of the Healthy People 2030 (USDHHS, 2020).

The USDHHS Healthy People 2030 objectives are to increase depression screenings in primary care settings. The PHQ-9 has proven to increase the detection of depression when used in primary care settings (Siu et al., 2016). Recommendations for treatment for AA clients found to be depressed should be adapted to meet the client's needs, with the option to include medication and or medication and counseling. The provider should consider the severity of a client's depression when making recommendations for treating those who screen positive for depression. Care coordination, social activities, and religious involvement could be part of the treatment plan to improve health and depression outcomes.

The need for depression screening at the initial primary care visit was essential to align with the recommendations of the USPSTF and USDHHS (2020). The Iowa Model EBP framework guided the process to address the problem of the lack of screening clients for depression in an urban primary care clinic that serves the underinsured and uninsured. The clinic made depression screening a priority and initiated screenings with all new clients during their initial primary care visit. The goal of the QI project was to evaluate the effectiveness of the implementation of depression screening in the detection of depression in the clinic's population, particularly the AA population. The results of the evaluation provided the clinic with data needed to sustain the standards recommended by the USPSTF and achieve the goals of Healthy People 2030 (USDHHS, 2020).

Methods

Design

This QI pilot was designed to evaluate the effectiveness of the use of the structured self-administered PHQ-9 with AA clients over three months, occurring February 2022 to April 2022.

Setting

This project took place at a small nurse-managed clinic in an urban area that provides primary care and specialty health services. The clinic serves approximately two thousand people annually, 18 – 72 years old, all low-income, and 92% AA. The clinic operates Tuesday – Friday from 9 am – 5 pm. The primary care providers are all volunteers and are comprised of six providers, most are retired doctors and a family nurse practitioner. The services provided include asthma and allergy, neurology, podiatry, GYN, psychiatry, optometry, and chiropractic services. The clinic staff are two registered nurses one being a (DNP) and two volunteer registered professional nurses, a receptionist, and medical records person, the chief executive officer (CEO) is a women's health practitioner, and the chief financial officer (CFO), and an assistant administrator. All the staff both volunteers and employed are White and AA, males, and females.

Sample

A convenience sample of new AA clients registered in the clinic participated in this project. There were 20 AA out of twenty-four new clients 18 – 65 years old who met the criteria for this QI pilot project. The inclusion criteria were adults 18-65 years of age, English speaking, and must be new patients to the clinic. The exclusion criteria were

adults older than 65 years of age, non-English speaking, and established patients of the clinic for more than 30 days. The desired sample size was twenty or more.

Procedures

Preliminary staff meetings for this project took place with the CEO, the administrative assistant, and the clinic staff comprised of the NP, two RNs, the medical records clerk, the receptionist, the medical director, and the psychiatrist. The criteria for client participation in the screenings, the workflow for the encounter, documentation for participation, and the collection of the data were discussed. The clinic staff collectively made the decision to screen all new clients for depression. The clinic CEO and management staff designed a detailed plan for implementing the screening service put in effect in January 2022. Notices of the new depression screening protocol and flyers posted in the receptionist area, and throughout the clinic. The registrar notified new clients at the time of registration that the clinic was conducting depression screenings with all new clients. New clients were given a registration packet containing a consent form and the PHQ-9 questionnaire. The registrar provided instructions on how to complete the questionnaire. Additionally, during the nursing assessment the nurse ensures the clients did not have questions regarding the PHQ-9 form.

Questions the clients may have regarding depression screening the nurse directed them to discuss their question with the primary care provider. The client chart including the screen tool was available to the provider. During the primary care visit the provider tallied the client's scores in accordance with the scoring range provided by the PHQ-9 tool, reviewed the results with the client during the physical examination, and made referrals as needed. The clinic protocol was for clients with scores of ten or greater to

receive further evaluation which may include referrals to the nurse practitioner, social worker, counselor, or psychiatrist. Clients answering yes to having thoughts of self-harm or being better off dead; or with a total score in the range of 15 – 27 received an evaluated by the psychiatric nurse practitioner or the psychiatrist following the clinic safety plan and behavioral health protocol.

Data Collection and Analysis

In collaboration with the psychiatrist and input from the Advanced Practice Nurse (APRN-BC), the investigator developed a depression screening spreadsheet in Microsoft Excel to collect the numerical data from completed PHQ-9 questionnaires. Prior to completing the spreadsheet, the clients were de-identified to protect their information. The data collected and entered on the spreadsheet monthly was from the completed questionnaire including gender, race, age, date of screening, questions from on the PHQ-9 with the client's corresponding response, a total score of the depression screening, if the client was referred for further evaluation for diagnosis with depression, the level of depression, and treatment or resources provided.

The data analysis was performed using Microsoft Excel. A descriptive statistical analysis evaluated the depression screening value and calculate the outcomes of the number of clients identified with depressive symptoms, diagnosed with depression, and who received treatment. A retrospective chart review occurred from February 2022 to April 2022 to evaluate the effectiveness of the screenings with AA. The clinic and Institutional Review Board (IRB) approval were obtained prior to data collection and analysis.

Approval Process

Approvals from the student's doctoral committee of graduate studies, the organization, and the university IRB were given. There are no known ethical considerations.

Results

There was a total number ($N=24$) of new clients screened for depression using the PHQ-9 screening questionnaire at their initial primary care visit from February 2022 – April 2022. Of the total 16.6% ($n = 4$) were Whites and 83.3% ($n = 20$) were AA. Sixty – seven percent ($n = 16$) was AA females, 17% ($n = 4$) AA males, 8% ($n = 2$) White females, and White males ($n = 2$) (see Appendix A). Of the AA clients 25% ($n = 5$) scored 10 –14 indicating moderate depression; 5% ($n = 1$) scored six points signaling mild depression; 70% ($n = 14$) scored zero suggesting none to minimally depressed. There were ($n = 4$) Whites and two of the four had a score of 10 – 20 and diagnosed and treated for depression. The largest group receiving treatment was AA females 72 % ($n = 5$). AA males were 16.66 % ($n = 4$) of the clients screened, in which all had scores of zero and no treatment needed (see Appendix B). AA females 20 – 29-year-olds were the largest group treated at 43% ($n = 3$). The 50 -59-year-olds were comprised of AA females 29% ($n = 2$) and WM 14% ($n = 1$). Of the 30 – 39-year-olds, WF 14% ($n = 1$) received treatment (Appendix). For clients 40 - 49 or 60 -65 years old for PHQ-9 scores of ten or less no treatment needed (see Appendix C). Seven clients ($n = 7$) received treatment, i.e., counseling, medication, or both. The primary care provider prescribed medication for 57% ($n = 4$) on the day of the initial visit, with a follow-up visit to see the psychiatrist for 43% ($n = 3$). Statistically, the total number of clients with PHQ-9 scores warranting

treatment was ($N=7$) for scores ≥ 10 ranging from 10 - 21, with a mean of 13, a median of 11.00, and the mode of treatment was counseling.

Discussion

The clinic-initiated depression screening using the PHQ-9 on all new clients during their initial primary visit to see a health care provider. This QI pilot project evaluated the effectiveness of the implementation of depression screening to detect symptoms of depression and to initiate early intervention with AA clients who screened positive with scores of $10 \geq$. A total of ($N = 24$) new clients were screened for depression from February 2022 – April 2022. The provider informed the client that counseling, social services, and psychiatry were available for depression. A nurse or the primary care provider assisted the client with the questionnaire if needed. All 100% ($N = 24$) received information regarding depression. Those needing further evaluation or medications started medication immediately. The psychiatric nurse practitioner initiated a call to the client within a week after their initial visit and diagnosis, with all the clients' accepting referrals for counseling.

The study question whether the implementation of depression screening utilizing the PHQ-9 in primary care with African American adults, 18 years – 65 years old, who screened positive for depression would accept treatment during the 12 weeks. The purpose of this QI pilot project was to examine the results of implementing depression screening (PHQ-9) in a primary care setting for uninsured adults for detection, diagnosis, and treatment of depression in AA client. The primary care provider prescribed anti-depressive medication for 57% ($n = 4$) with a follow- up visit to see the psychiatrist.

The limitations of this QI pilot project were the self-administration of the PHQ-9 screening tool due to literacy issues in the underserved population which required time to explain or interpret questions. The limited knowledge and experience of the nursing staff and primary care providers using the PHQ-9 screening tool. The method used for monitoring registration, scheduling and tracking referrals, conducting chart reviews, and reviewing the electronic health records could be prohibitive with larger sample sizes.

The recommendation for future studies is to continue to review the effectiveness of depression screening utilizing the PHQ-9 for a more extended period in the primary care setting. PHQ-9 is tool recommended for screening to cost, and effectiveness and can detect and increase in the number of clients reporting depressive symptoms in response to the screenings. Studies that examine the effectiveness of early detection and treatment of depression in uninsured and underinsured AA populations must continue. Training the staff in the primary care setting on the PHQ-9 screening tool, to assist the clients when needed.

Conclusion

The lack of insurance creates a barrier to health and mental health services resulting in AA receiving poorer care or no care at all. The burden of mental disorders is associated with a high prevalence of disability with unmet needs not treated. Issues such as cost, no insurance, beliefs, and structural barriers are significant impediments to treatment (Walker et al., 2015). Often underinsured or uninsured individuals will not seek treatment for depression; therefore, when an individual seeks medical treatment in a primary care setting, the providers must conduct a physical and mental health assessment (Meyers et al., 2014). Recognizing depression in a primary care setting, especially in a

patient with co-morbid conditions, is difficult (Ferenchick et al., 2019; Hooker et al., 2019; Park & Zarate, 2019; Richardson & Brahmbhatt, 2021).

Incorporating depression screening with the initial primary care visit seems to be beneficial. During the three months of evaluating the implementation of depression screening, 100% of the new clients participated and completed the PHQ-9 questionnaire. The results from the data illustrated that using the PHQ-9 screening tool was instrumental in the early detection and intervention of depression in the uninsured and underinsured AA population.

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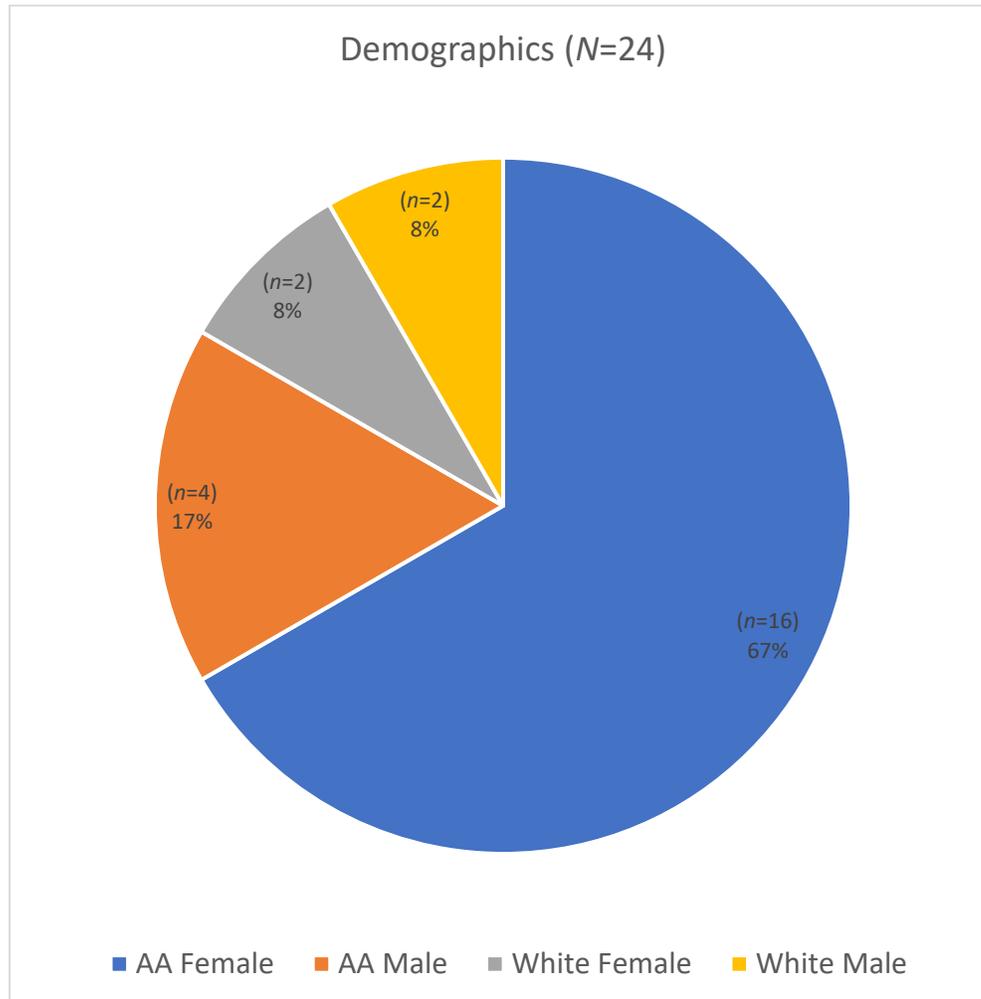
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Appendix A

Figure 1

Demographics of clients screened using the PHQ-9



Note: This represents the percentage of new clients screened from February 2022 - April 2022, with the PHQ-9 questionnaire at the time of the initial visit (N=24).

Appendix B

Table 1

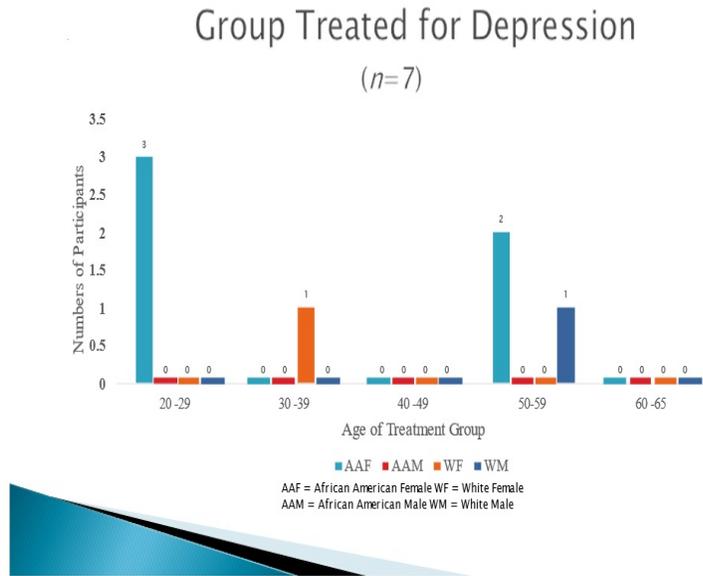
PHQ- 9 results

Race	Number	Scores
AA	5	10 -14
AA	1	6
AA	14	0
Whites	4	10 -20
Treatment Group	Screened 10 ≥ = 7	29%
Race & Gender		
AA F	5	71%
AAM	0	0
WF& WM	2	29%
Age Groups		
20 – 29	3	43%
30 – 39	1	14%
50 – 59	3	43%
Treatment & Referrals		
Primary care provider initiated medication during the initial visit	4	57%
Follow-up visit with psychiatrist	3	43%
Counseling	7	100%

Note: Statistically, the total number of clients with PHQ-9 scores warranting treatment was $N=7$ or 29%. The PHQ-9 scores warranting treatment for $10 \geq$ ranged from 10 - 21, with a mean 13, a median of 11.00 and the mode of treatment was counseling with a SD of 5.

Appendix C

Figure 3



Note: This represents the treatment group by numbers who warranted treatment scoring $10 \geq$ on PHQ-9 by race, gender, and age. There were no AA males in the treatment group.