

**Title:**

The Effect of a Lifestyle Intervention on Psychosocial Factors and Medication Adherence in African-Americans

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**Session Title:**

Rising Stars of Research and Scholarship Invited Student Poster Session 1

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**Keywords:**

Cardiovascular Disease, Lifestyle Intervention and Medication Adherence

**References:**

Brown, L. J., Clark, P. C., Armstrong, K. A., Liping, Z., & Dunbar, S. B. (2010). Identification of Modifiable Chronic Kidney Disease Risk Factors by Gender in an African-American Metabolic Syndrome Cohort. *Nephrology Nursing Journal*, 37(2), 133-142. Kirkendall, K. D., Clark, P. C., Grossniklaus, D. A., Igho-Pemu, P., Mullis, R. M., & Dunbar, S. D. (2010). Metabolic Syndrome in African Americans: Views on Making Lifestyle Changes. *Journal of Transcultural Nursing*, 21(2), 104-113.

**Abstract Summary:**

CVD risk factors and components of Metabolic syndrome affect AAs at higher rates when compared to Caucasians. Lifestyle, psychosocial status and adherence to treatment are factors relating to worse CVD outcomes. A culturally sensitive lifestyle intervention focusing on health behaviors was evaluated for effects on psychosocial factors and medication adherence.

**Learning Activity:**

| LEARNING OBJECTIVES   | EXPANDED CONTENT OUTLINE  |
|---|---|
| The learner will be able to describe cardiovascular disease risk factors in African Americans.  | Risk factors of Metabolic syndrome, health behaviors that predispose this group to CVD, and psychosocial risk factors attributed to CVD will be further expanded upon.  |
| The learner will be able to identify how a culturally tailored intervention affects and impact medication adherence in individuals with metabolic syndrome. | Information will be provided detailing how the Lifestyle intervention was developed with assistance from the participants. Pre and post assessment data will be provided detailing how the LSI impacted medication adherence. |

**Abstract Text:**

**Introduction:** As cardiovascular disease (CVD) has continued to show decline over the past century, African-Americans (AAs) continue to suffer disproportionately from CVD morbidity and mortality. CVD risk factors of obesity, hypertension (HTN), insulin resistance, and hyperlipidemia, all components of the Metabolic Syndrome (METS), affect AAs at higher rates when compared to Caucasians. Lifestyle, psychosocial status and adherence to treatment are also factors that contribute to worse CVD

outcomes. A culturally sensitive lifestyle intervention (LSI) focusing on health behaviors was evaluated for effects on psychosocial factors and medication adherence in AAs with METS.

**Methods:** Participants were AAs (n=120) with HTN and METS, mean age 50 + 8 years, 77% women, who were randomized to the intervention (LSI) or usual care (UC) group. LSI included four group sessions, occurring 2-hrs each over a 2-month time frame, which focused on physical activity, diet, and medication adherence, followed by 10-weekly phone counseling sessions for 2 months. Variables and measures for both groups occurred at baseline (BL) and 6M and included depressive symptoms (BDI-II survey), autonomy support (AST), Healthcare climate (HCCQ), and medication adherence (Hill-Bone Survey; HB). Analysis included correlations, paired t-tests, and ANCOVA to test for group differences at 6M adjusting for baseline covariates.

**Results:** While the LSI did not have any effect upon medication adherence, effects were observed for AST. The LSI group demonstrated an increase in AST scores from BL to 6M, (paired t-test ( $t_{(38)}=-2.9$ ,  $p=.007$ , Cohen's  $d=0.46$ ), while the UC group remained unchanged. After adjusting for AST BL, group differences at 6M ( $F_{(1,76)}=5.21$ ,  $p=.025$ ) remained significant. AST BL scores were highly correlated with BDI-II scores ( $r=-.490$ ,  $p<.001$ ) controlling for multicollinearity, but not with HB ( $r=-.094$ ,  $p=.334$ ). While AST was related to BDI at BL and 6M ( $r=-.417$ ,  $p=.00$ ;  $-.434$ ,  $p<.001$ ) no LSI effects on depression were observed. HB medication scores correlated with age as older adults were more adherent ( $r=-.22$ ,  $p=.04$ ).

**Discussion:** Devising a culturally tailored LSI targeting self-management and psychosocial factors increased autonomy support, which correlated with depression scores. The rationale as to why no effects on depression were directly observed could largely be attributed to the minimal self-rated scores of depression. Although the LSI did not increase medication adherence directly, improvement of other psychosocial factors related to medication adherence may be important in ultimately increasing the patient's ability to successfully manage their chronic illness.