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Bahby Banks

Process Evaluation of a Paired Intervention to Increase Rural African-American Participation in HIV/AIDS Clinical Trials

Dissertation committee: Eugenia Eng (Chair), Giselle Corbie-Smith, Suzanne Maman, Margaret Shandor Miles, and Allan Steckler

Abstract:

Background: In 2001, 70% of all rural AIDS cases were in the U.S. South, of which 60% were African-American or Hispanic. Yet, persistently low enrollment of this population in HIV/AIDS clinical trials has created a critical gap in research and their access to state of the art treatments. To increase minority participation in clinical trials, Project EAST conducted a paired educational intervention that targeted providers and their HIV/AIDS clients. A total of 11 providers and 38 clients at two community health clinics in the eastern region of North Carolina participated in a series of group education sessions (4 for providers and 5 for patients) facilitated by trained project staff.

Methods: This study conducted the process evaluation of the paired intervention. Data sources included: (a) session audio recordings, (b) verbatim transcripts from facilitator debriefings and participant focus group discussions, (c) implementation checklists, (d) narrative summaries from participant observation, (e) recruitment tracking forms, (f) attendance logs, and (g) community advisory board (CAB) transcripts to assess context.

Findings: The paired intervention was delivered and received as intended. Mean dose delivered scores were .88 for patient sessions and .98 for provider sessions. Mean dose received scores for each of the 4 client groups were .92, .86, .83, and .83, whereas, dose received scores for the 2 provider groups were higher (.97 and 1.0). Fidelity evaluated via facilitator debriefings was essential for identifying deviations from the written session plan. However, the implementation checklists proved to be more precise in capturing the quality and integrity of the paired intervention, as major deviations were found with a small number of the sessions facilitated. Focus group data indicated that clients had high satisfaction with: interactive activities, being in a group with other patients, facilitator characteristics, and discussion with a clinical trial expert. Providers indicated high satisfaction with: interactive activities, facilitator characteristics, session content, and intervention tools used to demonstrate peer influence related to clinical trial participation. In contrast, facilitators reported (a) lack of feedback or questions from participants,(b) interpretation of participants’ body language as tired or bored, and (c) their own lack of knowledge about clinical trials to answer participants’ more specific questions. Finally, although types of
participants were reached as planned and recruitment procedures were followed, only 32 of the 38 clients completed the sessions, and for approximately half of the providers enrolled, HIV was not their primary specialty.

**Conclusions:** The findings provide important insights to make educational strategies about HIV/AIDS clinical trial opportunities accessible and relevant for rural, minority populations, as well as their local service providers. As researchers work to establish best practices in recruitment, referral, and enrollment of racial and ethnic minorities in HIV/AIDS clinical trials, conducting a process evaluation can yield essential understanding and recommendations for comparable educational interventions to be undertaken in rural regions of the U.S.

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**Zulfiya Chariyeva**

**The Role of Self-Efficacy to Explain the Effect of Counseling Time on Changes in Risky Sexual Behavior among People Living with HIV: A Mediation Analysis**

*Dissertation committee:* Carol Golin, MD (Chair); Jo Anne Earp, ScD; Suzanne Maman, PhD; Chirayath Suchindran, PhD; Cathy Zimmer, PhD

*Abstract:* Little is known about the amount of motivational interviewing (MI) counseling time needed to reduce risky sexual behavior among people living with HIV or the roles that self-efficacy and motivation to practice safer sex play in the relationship between amount of MI time and sexual risk behavior.

In Study 1, I used hierarchical linear regression models to examine the impact that the amount of MI counseling patients received had on their self-efficacy to practice safer sex. Analyzing data collected in 4 month intervals from a cohort of 490 people living with HIV for 12 months (number of observations=1577), I found that patients who received more MI time and a greater number of MI sessions had greater self-efficacy to practice safer sex.

In Study 2 hierarchical negative binomial regression was used to examine the association between amount of MI time and sexual risk behavior. I conducted a mediation analysis to evaluate the extent to which changes in self-efficacy and motivation to practice safer sex explained the association between predictors and outcome. I conducted analyses from a cohort of 183 people living with HIV (a subsample of the cohort of 490 in Study 1) who received safer sex motivational interviewing at several points over 12 months (number of observations=600). I found that as the amount of counseling time and number of provided sessions increased over time, participants’ sexual risk behavior decreased. I concluded that the effect of counseling time and number of counseling sessions on sexual
risk behavior was mediated by self-efficacy to practice safer sex. On the other hand, motivation to practice safer sex did not mediate the relationship, although I documented a statistically significant positive association between motivation to practice safer sex and safer sexual behavior.

These findings suggest that the amount of time spent in motivational interviewing, whether measured in number of sessions or number of minutes, is an important factor for enhancing safer sex self-efficacy and safer sexual practices among people living with HIV. Counseling time has its effect on sexual behavior in part via changes in self-efficacy to practice safer sex.

My research suggests that MI based prevention programs for people living with HIV need to enhance self-efficacy to practice safer sex in order to ensure a behavior change. My findings provide evidence that more time spent counseling people living with HIV can have a positive impact on patient and public health outcomes.

Noel Kulik

Social Support and Weight Loss Among Adolescent Females

Dissertation committee: Dr. Deborah Tate, PhD (chair); J. Michael Bowling, PhD; Susan Ennett, PhD; Edwin Fisher, PhD; Dianne Ward, PhD

Abstract: The growing rates of overweight and obesity among adolescents continue to pose significant health risks, yet this trend can be reversed with continued improvement of multi-component interventions that not only help youth reduce body weight, but maintain weight loss and healthy diet and exercise habits well into adulthood. Peer support has been shown to impact diet and physical activity among adolescents, yet whether it impacts weight loss remains largely unexplored.

The purpose of this research was 1) to examine the role of social support from family and friends for adolescents enrolled in a weight loss intervention, and 2) test the effects of peer support skills training in a randomized controlled 16-week weight loss intervention on feasibility, satisfaction, adherence, and perceived support among a group of overweight adolescent females randomly assigned to a cognitive-behavioral (CB) intervention or a cognitive-behavioral intervention enhanced with social and peer support strategies (CB+SS).

Findings from Study 1 show that baseline friend encouragement for healthy eating was lower (8.5+/−3.9), compared with the amount of encouragement reported from family (16.3+/−5.1); however, results indicate that even when
controlling for other predictors of weight loss (change in vigorous physical activity and program attendance), in a regression model ($R^2 = 38.1\%$, $F(5, 43) = 5.285$, $p < .001$), baseline friend encouragement for healthy eating ($b = .265$, $p = .036$) and change in friend encouragement for healthy eating ($b = -.347$, $p = .014$) remained significant predictors of weight loss at 12 months. In Study 2, groups differed on their perception of friend support for healthy eating ($F(1,33) = 9.16$, $p = .005$) and exercise ($F(1,33) = 5.69$, $p = .023$); however, groups did not differ on the percentage of participants who lost any weight, 3% or 5% of their initial body weight. Participants lost an average of 6.4 pounds (SD: 7.65) with a range from -30.0 to 7.2 pounds. Adherence to the enhanced peer support component outside of the group sessions was minimal, yet, participants in the highest tertile of adherence lost significantly more weight from Week 4 to Week 16 than the lower two tertiles ($F(2,16) = 3.591$, $p = .051$) even though they did not experience significantly higher rates of support.

Taken together, the results of the two studies suggest peer support from participants’ existing social network may be helpful for weight loss but support from other adolescents in a group based weight loss program does not increase weight loss. Creating and building social support for healthy eating and exercise from friends can be a useful tool for maintaining weight loss, but future studies are needed to test the role of support. Further research can also distinguish those adolescents who may benefit most and least from increased support from peers in a weight loss intervention as well as how to best develop support and program components for adolescents that are engaging, lasting and fun.

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2012 Dissertation Abstracts

Janelle Armstrong-Brown

The Impact of Racial Residential Segregation on Physical Activity and Diet Among Older African American Church Members: A Mixed Methods Study

_Dissertation committee:_ Eugenia Eng (Chair), J. Michael Bowling, Marci Campbell, Malcolm Cutchin, Wizdom Powell Hammond, and Catherine Zimmer

_Abstract_

**Background:** Physical inactivity and poor diet are two factors contributing to disproportionate disease rates among older African Americans. Previous literature indicates that older African Americans are more likely to live in racially segregated neighborhoods and that racial residential segregation is associated with opportunities for physical activity and healthy food access. Little is known about the impact of racial residential segregation on diet and physical activity
among this population. Using the concept of therapeutic landscapes, the objective of this study was to examine the relationship between racial residential segregation, physical activity and fruit and vegetable intake among older urban African Americans living in the Southeastern, US.

**Methods:** In this mixed methods study, 472 participants from 3 counties in NC completed a baseline survey for Action Through Churches in Time to Save Lives of Wellness, a cancer screening and physical activity intervention. Baseline data collected included address, demographics, diet, and physical activity type and duration. Participant addresses were geocoded and linked to census data. Racial residential segregation was measured as the proportion of African Americans residing in a participant’s census tract. The study measured a neighborhood walkability score, counts of recreational facilities within a 1-mile radius, and counts of supermarkets, fast food restaurants, and conveniences stores within a 3 mile radius of a participant. Descriptive statistics and multilevel logistic and linear regression were used to investigate the availability of physical activity and dietary resources. Qualitative in-depth interviews were conducted with 12 participants from racially segregated areas in order to understand the perception of the neighborhood environment on physical activity and diet.

**Results:** Racial residential segregation was associated with more minutes of physical activity, but lower odds of meeting physical activity recommendations. Racial residential segregation was also associated with an increase in the number of convenience stores. No significant association was found between racial residential segregation and fruit and vegetable intake. Emergent themes for physical activity included feelings of safety, physical appearance of neighborhood, knowing your neighbors, and neighborhood opportunities for physical activity. For diet, emergent themes included food variety, food quality, prices, and store ambience.

**Conclusion:** Racial residential segregation was associated with higher levels of physical activity and lower odds of meeting physical activity recommendations. There were no significant associations between racial residential segregation, availability of food resources, and diet. Qualitative interviews revealed that participants were able to be physically active in their neighborhoods, but had limited food options in their local supermarkets and traveled outside of their neighborhoods to find quality food at a reasonable price. Future research is needed to determine the mechanisms by which racial residential segregation can operate as a therapeutic landscape for older African Americans.
Rebecca Davis Ochtera

Conceptualizing HIV-Associated Stigma and Exploring the Correlates of HIV Testing Behaviors of Incarcerated Men in North Carolina

Dissertation committee: Carol Golin, MD (Chair); Robert DeVellis, PhD; Laura Nyblade, PhD; Wizdom Powell, PhD; Kathy Zimmer, PhD

Abstract: National HIV testing guidelines recommend routine testing for all individuals and annual testing for those with greater likelihood of infection via high risk activities. Rates of HIV-infection for incarcerated men are estimated to be six times the rate of the general population, but little is known regarding inmate HIV testing behaviors. Evidence suggests HIV-associated stigma may influence HIV testing. However, the ability to assess the relationship between stigma and HIV testing behaviors for inmates is hindered by a lack of adequately designed and validated stigma measures appropriate for domestic use.

Study 1 presents a newly developed theoretically-based conceptual model of the stigma process and measures developed to test the conceptual model’s components. Utilizing data collected from a sample of 1,100 inmates throughout North Carolina (NC), Classical Test Theory and Structural Equation Modeling determined independence, reliability, and validity of these measures. Results also showed empirical support for the structure of the proposed conceptual model including differential, yet generally significant, relationships between stigmatizing attitudes and beliefs and support for enacted stigma behaviors.

Study 2 utilized nested model binary and multinomial logistic regression to explore correlates of ever- and recent-HIV testing, including stigmatizing attitudes and beliefs, for 819 incarcerated men in NC. Eighty percent of the sample had ever tested for HIV and, of those, 36% reported recent testing. Results generally indicated significantly higher probability of ever HIV testing with black race, education beyond high school, prison recidivism, and higher HIV knowledge. Blacks were more likely to have tested recently; those with higher education and greater HIV knowledge were more likely to have non-recently tested. Overall, stigmatizing attitudes and beliefs were not found to be related to HIV testing behaviors in this population.

These findings suggest general HIV-associated stigmatizing attitudes and beliefs may not play an important role in NC inmates’ decisions regarding if and when to seek testing for HIV. Based on study results, interventions to increase HIV testing for this population should address HIV knowledge, target white men, and be tailored to reach those with lower education levels. Additional research is needed to determine the association between HIV testing and structural as well as contextual variables for incarcerated men.
Ashley Brooks Russell

Trajectories of Adolescent Dating Abuse Perpetration and Victimization: The Impact of Pubertal Timing and the Role of Peer Context

Dissertation committee: Vangie Foshee, Chair; Susan T. Ennett; Beth Moracco; Carolyn Halpern; Antonio Morgan-Lopez

Abstract
Although pubertal timing has been associated with many adolescent health risk behaviors, its relationship to dating abuse has rarely been considered. This dissertation utilized structural equation modeling to investigate associations between the pubertal timing of boys and girls and developmental trajectories of adolescent dating abuse perpetration and victimization from grades eight to 12 (Study 1), and examine theoretically-based processes through which pubertal timing influences the development of dating abuse (Study 2). The data for these studies come from a multi-wave study of adolescents conducted from 2002 to 2005 in two rural counties in North Carolina. Three cohorts of students completed questionnaires in school, beginning in sixth, seventh, and eighth grades, every six months for six waves, and one year later for a total of seven waves.

The first study (n=2,053) used two theoretical models, the early maturation model and the off-time model, to propose hypotheses about associations between pubertal timing and trajectories of dating abuse. After testing the relationships using two measures of pubertal timing and four dating abuse outcomes for boys and girls, one significant finding emerged. As hypothesized for girls, early pubertal timing versus all others was related to an increase in psychological dating abuse victimization in eighth grade. There were no significant associations between pubertal timing and dating abuse for boys after including control variables.

The second study (n=1,092) expanded on the first by utilizing social network data to characterize an adolescent’s peer context and test if the peer context, as well as individual characteristics, mediate the relationship between pubertal timing and psychological dating abuse victimization for girls. Pubertal timing was related to friend substance use and friend substance use and emotional distress were related to psychological dating abuse victimization, but none of the mediators accounted for a significant indirect effect.

The few significant findings limit implications for practice. Nonetheless, evidence from numerous other studies indicates that the timing of puberty increases risk for several problems behaviors. Further research is needed to identify the processes through which pubertal timing impacts these risky behaviors, regardless of whether dating abuse is also implicated.