awakenings, and feelings of nonrestorative sleep). Insomnia items that were reported as "most of the time" were considered positive and contributed to the composite score (range: 0-4). We estimated associations between age at menopause and insomnia symptoms using linear regression models and logistic regression models for continuous and binary outcomes, respectively. Models were stratified by White/non-White race and were adjusted for age, education, physical activity, parity, marital status, and survey year.

Results: Among 4,435 women, 338, 701, and 3,396 reported premature, early, and normal menopause, respectively. In White women, premature menopause was associated with a higher mean composite insomnia score than those who had normal menopause (b=0.20, p=0.03). However, this association was not seen in non-Whites. For individual insomnia survey items, premature menopause in White women was associated with greater odds of nonrestorative sleep (OR=1.98, 1.30-3.03) compared with normal menopause. In contrast, a premature menopause was not associated with nonrestorative sleep in non-Whites. Premature menopause was not associated with other individual insomnia symptoms for both groups.

Conclusion: Premature transition to menopause is associated with increased insomnia symptoms in White women. Among individual insomnia features, premature menopause had the greatest impact on nonrestorative sleep. Given the importance of sleep quality for various health outcomes, our findings highlight a need for more dedicated sleep assessments in women who experience premature menopause.

Support (If Any):

0058

CONSUMER DIGITAL HEALTH AND PERSON GENERATED HEALTH DATA – OPPORTUNITIES AND CHALLENGES FOR SLEEP DISPARITIES RESEARCH AND CLINICAL PRACTICE

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Introduction: Social and structural determinants of health—including economic/educational inequalities, healthcare access, systemic racism, and lifetime stress—account for 60-80% of modifiable risk factors that contribute to sleep health disparities. Many sleep interventions use population averages to create "one-size-fits-all" approaches, but are limited by individual heterogeneity in number, magnitude, interplay, and amplification of social determinants. Person-generated health data (PGHD) from widely available consumer wearable and mobile technologies are emerging tools for developing personalized digital interventions targeting unique, multi-level needs of individuals or populations. PGHD can objectively measure individual lived experiences and biobehavioral health including sleep in an objective, low-cost, accessible, and continuous manner outside of intermittent clinical care. However, PGHD are a form of real-world data and are not captured in controlled research settings, impeding their acceptance and use across the healthcare ecosystem. Most studies involving PGHD use "bring-your-own-device" designs which have systematically underrepresented populations experiencing health disparities, including Black or American Indian/ Alaska Native individuals, and low-income populations, limiting their potential to address health inequities. Further, systemic barriers in the healthcare enterprise, including logistical, implementation, validation, interpretation, reimbursement, privacy, and data security challenges could handicap the entire field. To address these gaps, the American Life in Realtime (ALiR) was developed as a generalizable research infrastructure involving a holistic and sociodemographically representative registry of continuously-collected Fitbit and health data. The current study reviews the current challenges associated with the use of consumer PGHD to measure and improve population-specific sleep health and describes how the ALiR advances a critical community resource to mitigate methodological gaps and fully realize the immense potential of consumer PGHD in an equitable manner.

Methods: Leveraging a multidisciplinary perspective, including biomedical engineering, behavioral psychology, clinical medicine, and health policy and economics, we discuss the state-of-the-science regarding sleep PGHD producing technologies, from basic science to clinical application. We explore the strengths and weaknesses of current and emerging initiatives such as All of Us at the National Institutes of Health. Finally, we introduce ALiR and describe how it's sample, recruitment methods, and data elements can be used to mitigate field-wide methodological gaps to improve health equity in sleep research.

Results: To date, 1007 individuals consented to participate in ALiR. Racial/ethnic distributions include 65% White, 13% Black, 4% American Indian / Alaska Native, 9% Asian, 1% Hawaiian / Pacific Islander, 8% Mixed, and 26% Hispanic/Latino, with relatively even gender and age distributions. Seventy percent of individuals are without a bachelor's degree, and 20% have at least one chronic condition (e.g., obesity, cardiovascular disease). Overall response rates exceed 87%, averaging 90% for surveys and 82% for Fitbits. Planned analyses will include a framework for leveraging ALiR to mitigate methodological gaps associated with use of PGHD for sleep health from basic science to clinical application.

Conclusion: ALiR establishes a generalizable research infrastructure to use PGHD to explore the influence of population-specific lived-experiences on sleep and other health outcomes in virtually any population. This novel and ongoing research infrastructure which will ultimately be publically available, providing an invaluable resource to better understand and intervene on sleep health disparities.

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0059

DOES DISCRIMINATION MODERATE THE RELATIONSHIP BETWEEN INSOMNIA AND TELOMERE LENGTH IN OLDER ADULTS FROM THREE RACIAL/ETHNIC GROUPS?

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Introduction: Both insomnia and discrimination have been associated with adverse physical and mental health outcomes. Evidence suggests that discrimination may moderate the effects of sleep on telomeres, DNA sequences at the end of chromosomes that protect them from degradation. The purpose of this study was to determine the relationship between insomnia and telomere length among older non-latinx white, black, and latinx individuals and whether discrimination moderated this relationship differently based on race or ethnicity.

Methods: This study is a secondary analysis from the Health and Retirement Study, a longitudinal project sponsored by the National Institute on Aging. Our analysis consisted of 3,205 US participants who provided information on sleep problems as well as salivary samples from which telomere data were assayed. We computed a linear regression to examine the relationship between insomnia symptoms and telomere length in each racial/ethnic

group, including interaction terms to assess moderating effects of discrimination.
Results: Insomnia symptoms were associated with shortened telomere length among non-latinx white participants (β -0.046, p=0.015, [-0.06, -0.01]). Discrimination had a moderating effect between insomnia symptoms and telomere length among black participants (β -0.28, p=0.045, [-0.33, -0.00]). Analyses remained significant after adjusting for age, medical co-morbidities, smoking status, and a history of depression.
Conclusion: Our results suggest that symptoms of insomnia may contribute to telomere erosion, with potentially adverse effects on genomic integrity. For black individuals, those who experienced discrimination were at greater risk of telomere damage associated with insomnia.
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0060

SLEEP DISPARITIES BY RACE/ETHNICITY DURING PREGNANCY: AN ENVIRONMENTAL INFLUENCES ON CHILD HEALTH OUTCOMES (ECHO) STUDY

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Introduction: Poor sleep during pregnancy is common and associated with increased risk of adverse perinatal outcomes. Racial/ethnic minoritized groups in the United States experience worse sleep than non-Hispanic Whites (nHW), likely due to downstream effects of systemic and structural discrimination. Nonetheless, the extent of sleep disparities in the perinatal period remains understudied. In this analysis we estimated the prevalence of subjective measures of sleep in a multi-racial/ethnic pregnant population from the Environmental influences on Child Health Outcomes (ECHO) program.
Methods: Participants self-reported their race and ethnicity and were grouped into four categories: 1)nHW, 2)non-Hispanic Black/African American (nHB/AA), 3)Hispanic, 4)non-Hispanic Asian (nHA). Our analysis examined trimester-specific nocturnal sleep duration, sleep quality, and sleep disturbances (derived from the Pittsburgh Sleep Quality Index and the ECHO maternal sleep health questionnaire) by race/ethnicity. A total of 1119,2409 and 1284 participants in the first (T1), second (T2) and third trimesters (T3) reported on sleep duration. 1107,1742 and 783 participants in T1,T2 and T3 reported on sleep quality. 1112,1758, and 787 participants in T1,T2 and T3 reported on sleep disturbances Linear or multinomial regression were used to estimate associations between race/ethnicity and each sleep domain by trimester, controlling for body mass index (BMI) and age. We repeated analyses within education strata (high school degree, GED/equivalent; some college and above)
Results: nHB/AA participants reported shorter sleep duration (T2: β=-0.55 [-0.80,-0.31]: T3: β=-0.65 [-0.99,-0.31]), and more sleep disturbances (T2:β=1.92 [1.09,2.75]; T3:β=1.41 [0.09,2.74]) compared to nHW. Hispanic participants reported longer duration compared to nHW (T1: β=0.22 [0.00004, 0.44];T2: β=0.61 [0.47,0.76];T3: β=0.46 [0.22,0.70]), better sleep quality (Compare to Very good quality OR for Fairly good T1: OR=0.48 [0.32,0.73], T2: OR=0.36 [0.26,0.48], T3: OR=0.31 [0.18,0.52]; Fairly bad T1:OR=0.27 [0.16,0.44], T2:OR=0.46 [0.31,0.67], T3: OR=0.31[0.17,0.55]), and fewer sleep disturbances (T2 β=-0.5 [-1.0,-0.12]; T3 β=-1.21 [-2.07,-0.35]). Differences persisted within the subsample of high SES women.
Conclusion: These findings highlight racial/ethnic disparities across multiple domains of sleep health during pregnancy. Given the stark racial/ethnic disparities in perinatal outcomes and their associations with sleep health, further research is warranted to investigate the determinants of these disparities, such as downstream effects of systemic and structural discrimination
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0061

ASSOCIATIONS BETWEEN SLEEP, ADVERSE CHILDHOOD EXPERIENCES AND HIGH BODY MASS INDEX IN A NATIONAL SAMPLE OF ADOLESCENTS

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Introduction: Adverse childhood experiences (ACEs) are independently associated with short sleep duration (SD) and an increased obesity risk that tracks into adulthood. Similarly, substantial research has demonstrated an association between deficient sleep and overweight/obesity in adolescents. Not known is how sleep duration and ACEs may interact in association with obesity risk in adolescents. This study explored ACEs as a moderator between sleep duration and obesity risk in a national sample of adolescents.
Methods: Using the National Survey of Children's Health 2017-2018 dataset, we included adolescents (10-17 yrs) with available SD and Body Mass Index (BMI) data. Parents reported adolescent's SD, and number of ACEs. We classified adolescents as overweight/obese if they had a BMI ≥85th percentile. Using a stepwise approach and accounting for complex survey design, logistic regression (STATA 16.0) estimated the interaction between SD and the number of ACEs in adolescents, controlling for selected covariates (i.e., demographics, social determinants, sleep regularity, exercise, and mental/physical health outcomes).
Results: In a sample of 26,013 adolescents (mean age=13.81, SD=2.29; 52% male, 70% White, Non-Hispanic), 27% were classified as overweight/obese, 47% had >1 ACE, and 34% had SD <8-10 hours/night. Accounting for covariates and ACEs, every hour increase in SD was associated with 6% decrease in the odds of overweight/obesity (OR=0.94, p=0.04). There was a significant interaction between SD and ACEs. Compared with having no ACEs, the association between longer sleep and lower odds of high BMI was weakened or even reversed if an adolescent experienced one ACE (OR=1.18, p=0.02) or two or more ACEs (OR=1.13, p=0.04).
Conclusion: Adolescence may be a critical period in the life course for the interaction between SD and ACEs on obesity risk. Increasing SD is a known intervention target to decrease obesity risk, yet in children experiencing one or more ACE, this protective role may be dampened. Our results suggest that sleep and