

More than Exercise: LTPA and Health Behavior by Health Profile in Korean Midlife

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Background : Leisure time physical activity (LTPA) provides health benefits across the lifetime, yet LTPA levels decrease from early adulthood into older age. Midlife is a critical period where maintaining LTPA may delay later decline in everyday functions. While this decline is multifactorial, understanding differences in health behaviors between those who do and do not engage in leisure-time PA (LTPA) may offer insight.

Methods : We analyzed 2,062 Korean adults aged 40–59 from the 2023 KNHANES, grouped by sex and health/functional status (i.e., being healthy, chronic conditions, and having ICF-defined disability). LTPA compliance was defined as ≥ 150 min/week in the leisure-time domain based on the 2020 WHO guideline. Differences in health perceptions and behaviors were compared between active (≥ 150 min/week) and inactive groups.

Results : LTPA adherence varied across subgroups. In men, the chronic disease group had the highest adherence (25.5%); in women, the healthy group had the highest (20.8%). Among those with disabilities, women showed higher adherence (15.8%) than men. Active participants reported higher rates of weight control (90.7% vs. 71.3%, $p < .001$), health check-ups (85.6% vs. 70.6%, $p < .001$), cancer screening (79.4% vs. 64.8%, $p < .001$), and not smoking (88.5% vs. 81.9%, $p = .004$). Dental visits were marginally higher (62.2% vs. 57.0%, $p = .054$), while alcohol consumption (58.6% vs. 58.3%, $p = .947$), vegetable intake (98.1% vs. 97.3%, $p = .323$), and sufficient sleep (45.9% vs. 44.5%, $p = .750$) did not differ between groups.

Conclusions : Adherence to LTPA among middle-aged adults is associated with preventive health behaviors, suggesting that LTPA has the potential to serve as a starting point for broader health behavior changes. Integrating LTPA promotion with other preventive strategies may contribute to improving overall health outcomes. Further research is needed to understand the unique differences among individuals with disabilities.

Effective Coverage of Maternal & Newborn Health in Sub-Saharan Africa: A Case Study of Key Factors

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Background : Substantial disparities in Effective coverage (EC) of maternal and newborn health (MNH) services have been observed across and within countries. This study aimed to identify societal and health system factors contributing to those variations across Sub-Saharan Africa.

Methods : A mixed-method case study design with document review was employed. EC rates were estimated using demographic and health survey (DHS) datasets. Then, two countries were selected per MNH domain from high, medium, and low performance categories. Country level documents and international databases were reviewed for further analysis of factors.

Results : A total of 118,614 women participants were included. EC of 4⁺ antenatal care (ANC) visits ranged from 7% in Ethiopia to 64% in Liberia; institutional delivery from 9% in Ethiopia and Nigeria to 81% in Rwanda and postnatal care for newborns from 1% in Ethiopia to 68% in South Africa. These discrepancies are largely explained by differences in societal and health system factors. High-performing countries exhibited higher health service availability and readiness. For instance, Ghana and Liberia scored 83% and 84%, respectively, for tracer indicators of ANC service availability, compared to 43% (Ethiopia) and 64% (Malawi). They also demonstrated better position in health system readiness, women's education, media and internet access, and relative political stability.

Conclusions : The study has indicated the critical role of strong health systems, adequate healthcare financing, favourable societal conditions, and political stability in achieving higher EC of MNH services. Countries with lower EC need to learn from better-performing counterparts to strengthen their MNH service coverage and quality.

Keywords : Effective Coverage; Health Service Delivery; Health Systems; Maternal and Newborn Health; Societal Factors; Sub-Saharan Africa.

Occupational Physical Activity and Sleep in Full-time Women Aged 45–64: A Prospective Study

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Background : This study examined the prospective association of occupational physical activity (OPA) levels with the risk of self-reported sleep disturbances among full-time women aged 40–64, and further explored whether leisure-time physical activity (LTPA) and occupation moderated this relationship.

Methods : Data were drawn from 5,305 participants in the MJ Health Cohort (2009–2022), with a mean follow-up time of approximately 5 years. Participants were categorized into four OPA levels: sedentary or light, moderate, moderately heavy, and heavy. Cox proportional hazard models estimated adjusted hazard ratios (HRs) for incident sleep disturbances, controlling for demographic, lifestyle, and health-related factors. Stratified analyses assessed the potential moderating roles of LTPA and occupational category.

Results : A clear dose-response relationship emerged between OPA levels and sleep disturbance risk. Compared with sedentary/light OPA, moderate OPA was associated with an 11% higher risk (HR=1.11, 95% CI: 0.98–1.26, $p=0.10$), moderately heavy OPA showed a borderline-significant 18% increase (HR=1.18, 95% CI: 1.00–1.40, $p=0.05$), and heavy OPA was linked to a significant 49% increase (HR=1.49, 95% CI: 1.03–2.16, $p=0.03$). No significant interaction was found for LTPA ($p=0.81$) or occupational category ($p=0.39$).

Conclusion : Higher OPA levels are associated with an increased risk of sleep disturbances in full-time middle-aged and older women, independent of LTPA and occupation. This study emphasizes that excessive occupational physical activity may be detrimental to sleep quality, highlighting the need to improve workplace conditions and reduce OPA levels to help enhance employees' sleep.

The development of a novel index of gender equality to assess variations in health

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Background : Gender inequality is a key determinant of health worldwide. Despite this, capturing and assessing gender inequality is difficult, and has typically been done at an international level by comparing countries. Such approaches do not provide sufficient granularity to guide gender equality approaches within countries. To address this gap and provide a way of examining the relationship between gender inequality and health, we sought to develop a multi-dimensional measure of gender equality for Australia.

Methods : Using Australian census-linked data, we assembled a measure of gender inequality operationalised at Statistical Area 3 & 4 and comprising of 12-indicators. These were: poverty; housing stress; receipt of single parent pension; annual income; investments and wealth; time spent on domestic chores; caregiving; STEM education; full-time employment; occupational skill level; retirement savings; and valued male dominated occupations. We used three different weighting approaches to derive the overall index, with indicators weighted: (1) equally, (2) as determined by principal components analysis, and (3) as determined by a survey of a panel of experts.

Results : There was high correlation between the measures derived using the different weighting approaches. Applying the gender equality index, we calculated that on average, Australian women are approximately 70% more disadvantaged than men, with this inequality consistent across all areas and at both geographic levels.

Discussion : We derived a composite measure of gender equality across Australia called the Australian Gender Equality index (AGEI). Applying this new measure, we calculated that Australian women are disadvantaged relative to Australian men across Australia. Given the role of gender equality as a determinant of health, there is a need for further analyses to assess the implications for health outcomes.

Modeling Factors Associated with Pertussis Case Finding Using Zero-Inflated Negative Binomial Regression: Evidence from Yogyakarta, 2024

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Objectives : Yogyakarta reports a pertussis incidence rate that surpasses both national and global averages. Despite achieving more than 95% coverage of basic immunization, outbreaks continue to occur, with an increasing trend of reported cases observed between 2022 and 2024. Notifications recorded in the Early Warning and Response System (EWARS) remain lower, and notable gaps persist in case detection across the districts.

Methods : This study employed an analytic cross-sectional design and was conducted between March and June 2025. A total of 105 surveillance officers were recruited through stratified random sampling. Data collection was carried out via online interviews. Analysis was performed using Zero-Inflated Negative Binomial (ZINB) regression with Stata 17.

Results : Vaccine-Preventable Disease training had a statistically significant positive association with pertussis case detection (adjusted IRR = 5.21; 95% CI: 1.37–19.70), each additional monitoring and evaluation significantly reduced the likelihood of zero-case findings (adjusted IRR = -2.47; 95% CI: -4.31 to -0.64). The best model is the model with an AIC value of 364.

Conclusions : These findings suggest that PD3I training and routine monitoring and evaluation play a critical role in enhancing surveillance officers' capacity for pertussis case detection. Strengthening these components, particularly in health centers that have not yet reported any cases, is essential to improve the overall effectiveness of the surveillance system.

Key words : Pertussis, Case Finding, Outbreak