

## Barriers to Sustainable Physical Activity: A Study of Biomechanical and Socioeconomic Factors among Middle-Aged Women in Jordan

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### Abstract:

**Background:** Physical inactivity among middle-aged women in Jordan is a significant public health concern. Various biomechanical and socioeconomic barriers limit their ability to engage in sustainable physical activity, increasing the risk of chronic diseases. Understanding these barriers is essential for developing targeted interventions.

**Objective:** This study explores barriers to sustainable physical activity (long-term adherence to exercise) and proposes solutions aligned with environmental, economic, and social sustainability. Assessing the biomechanical (age-related physical changes, health conditions, lack of tailored programs) and socioeconomic barriers (financial constraints, time limitations, cultural norms, lack of infrastructure) to physical activity among middle-aged Jordanian women and examining their impact on participation.

**Methods:** A cross-sectional survey was conducted among 500 randomly selected middle-aged women (40–60 years old) in Jordan. Data were collected using a structured questionnaire assessing physical activity barriers. Descriptive statistics, Chi-square tests, ANOVA, and logistic regression were used to analyze relationships between barriers and physical activity levels.

**Results:** Key barriers include biomechanical barriers, were joint pain (79.3%), reduced flexibility (73.4%), and fatigue (69.2%), while financial constraints (82.4%) were the most significant socioeconomic barrier. Cultural expectations (66.7%) also influenced participation. Regression analysis identified financial constraints (OR = 1.90,  $p < .001$ ) and chronic health conditions (OR = 1.62,  $p = .002$ ) as key predictors of physical inactivity.

**Conclusion:** Addressing these barriers requires sustainable interventions such as affordable community programs and culturally adapted infrastructure. Future research should explore longitudinal trends and intervention effectiveness to improve physical activity levels among Jordanian women.

### Keywords:

Sustainability, Physical activity barriers, middle-aged, women.