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2020

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Jason Mulimba Were

University of Western Ontario, jwere2@uwo.ca

Emmanuel Kojo Kyeremeh

University of Western Ontario, ekyereme@uwo.ca

Bridget Annor

University of Western Ontario, bannor@uwo.ca

Saverio Stranges

University of Western Ontario, saverio.stranges@uwo.ca

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Citation of this paper:

Were, Jason Mulimba; Kyeremeh, Emmanuel Kojo; Annor, Bridget; and Stranges, Saverio, "The Epidemiology of Overweight and Obesity in Ghana: Examination of Predictors and Risk Groups among Women of Childbearing Age" (2020). *Africa Western Collaborations Day 2020 Abstracts*. 25.

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The Epidemiology of Overweight and Obesity in Ghana: Examination of Predictors and Risk Groups among Women of Childbearing Age.

Jason Mulimba Were¹, Emmanuel Kyeremeh², Bridget Osei Henewaah Annor³ and Saverio Stranges^{1,4,5,6}

¹Department of Epidemiology and Biostatistics, Western University, London, Ontario, Canada.

²Department of Geography and Environment, Western University, London, Ontario, Canada.

³Arthur Labatt Family School of Nursing, Western University, London, Ontario, Canada.

⁴Department of Population Health Luxembourg Institute of Health, Strassen, Luxembourg.

⁵Department of Family Medicine, Western University, London, Ontario, Canada.

⁶The Africa Institute, Western University, London, Ontario, Canada.

Background: Although Ghana has one of the highest prevalence of overweight and obesity in Africa, few studies have examined the relationship between socio-demographic factors and overweight/obesity. In addition, studies detailing the independent relationships for overweight and obesity categories are missing from the literature. Likewise, studies seeking to identify high risk groups for both overweight and obesity are lacking. Given these, the current study sought to address this lacuna in the literature. It considered first; the individual level socio-demographic predictors of overweight and obesity and second; the high-risk groups for overweight and obesity in Ghana.

Methods: This study utilized data from the 2014 Demographic and Health Survey. Participants included women with valid anthropometric measurements, non-pregnant women and those who had given birth 2 months or more prior to the survey date. The study used Body Mass Index (BMI) – weight in kilograms by height in metres squared (kg/m^2) - as the dependent variable. BMI was categorised according to World Health Organization guidelines as follows: underweight/normal weight $<25 \text{ kg}/\text{m}^2$; overweight $25 - 29.9 \text{ kg}/\text{m}^2$; and obesity $\geq 30 \text{ kg}/\text{m}^2$. Based on literature, individual-level socio-demographic factors that influence BMI were selected as independent variables. The first objective employed multinomial logistic regression to determine the influence of the independent variables on overweight and obesity, while the second objective, used a decision tree analysis to determine the high-risk groups for overweight and obesity.

Results: Findings show that among women of childbearing age, prevalence estimates for overweight and obesity were 24.8% and 15.3% respectively. Also, increase in age and wealth led to an increase in the risk of both overweight and obesity whereas being a Muslim (compared to Pentecostals) was also associated with an increase for both overweight and obesity. Compared to those in rural areas, women who lived in urban areas were less likely to be overweight (RRR= 0.73, 95% CI: 0.56, 0.96) and obese (RRR= 0.61, 95% CI: 0.42, 0.88). Further, being married or formerly married, having primary or secondary education, being exposed to media, and one's residential region is associated with overweight. Breastfeeding was a protective factor against obesity (RRR= 0.59, 95% CI: 0.41, 0.84). Other risk factors for obesity included parity (three children versus none) and Ethnicity (Ga/Dangme, Ewe, Gurma, Grusi Versus Mole-Dagbani). Relative to other independent variables, wealth and age were the most influential predictors for both overweight and obesity. The probabilities of being overweight and obese were 35% and 45% respectively for women classified in the wealthy quintiles (richer/richest) and aged between 38-49 years. Similarly, the probabilities of being overweight and obese were 40% and 28% respectively for women classified in the wealthy quintiles and aged between 28-37 years. Women aged 23-26 years, classified in the middle/richer/richest quintiles, and living in the rural area were 45% and 13% likely to be overweight and obese, respectively.

Conclusion: Our study found that age and wealth are strong predictors for both overweight and obesity. Furthermore, older, and wealthier women constitute the high-risk group for overweight and obesity in Ghana. Based on these, the study advocates for group specific interventions with respect to overweight and obesity.