

Extended Abstract

Introduction

Chronic non-communicable disease (NCDs) for the past three to four decades have accounted for higher proportions of the morbidity and mortality in most low and middle-income countries. This however is projected to increase in these regions (1, 2). Hypertension and diabetes are known to be leading contributors to the aggregate cases of NCDs globally (3). Generally, this has been attributed to changing environmental and individual lifestyle behaviors such as physical inactivity and obesity, which are associated with urbanization however data on the major factors to curb the incidence are limited in most developing countries. Regular physical activity enhances reduced risk of NCDs (4); yet the availability and proximity to PA-enabling spaces faces major challenges.

While Ghana is going through a protracted polarized epidemiological phase, with the existence of both infectious and chronic disease, it is predicted that most poor urban areas will experience increasing burden of hypertension and diabetes. Moreover, the selected study areas of Accra are characterized by high rates of extreme poverty and the dynamics of the existence of PA-enabling spaces like parks and gyms are not well understood. This paper examines the availability of PA-enabling centres in the study areas and also explores the relationship between time spent to get to the centres and NCD risk by sex.

Data and Methods

The study forms part of a cross sectional survey (2nd-wave of the EDULINK Urban Health and Poverty, 2011) conducted in three urban poor communities in Central Accra. In total 29 enumeration areas were randomly selected. Afterwards 1160 households were systematically selected; however, the response rate was 70% (806 households). 974 individuals (15-59 for men and 15-49 for women) were interviewed to determine the knowledge of PA centers, and only 585 were who responded to the time (minutes) used get to the centers were included in this study.

To determine the risk of hypertension and diabetes, the respondents were asked if they had been diagnosed with any of the condition as 'Yes' or 'No'. Also respondent's anthropometric measurements on waist and hip circumference were measured to determine the waist-hip ratio (WHR). In order to answer the research questions, we conducted a logistic regression analysis while controlling for the age, sex and educational level using SPSS version 20 (SPSS Inc. Chicago, USA).

Preliminary Results

Descriptive results

In Table 1, we present a simple description of some background characteristics of the respondents. It can be seen that a higher proportion of the males compared to females know about the fact that there are PA centres in the community. Also the males spent less time reaching the nearest PA centre compared to their female counterparts. Similarly a higher proportion of the respondents had been diagnosed with hypertension compared to diabetes in the

poor urban area: the females consisted of higher proportions compared to the males (17% vrs 6.2% and 4.4% vrs 1.4% respectively).

Discussion

The difference in the proportions by sex who may know about PA-enabling spaces may explain why there are more physically inactive females compared to males. One reason can be attributed to the fact that the females may consider the distance to the center to be farther than expected. Hence, the higher proportions of females living with diabetes and hypertension could be explained by the thought of lack of proximity to these centers.

Tables

Table 1: Background characteristics of selected variables

Characteristics	All (n=585)	SEX	
		Male (n=)	Female (n=)
PA centres N=974 (%)			
Yes	788 (69.5)	87.1%	76.1%
No	186 (16.2)	12.9%	23.4%
Mean WHR	0.842	0.843	0.841
<i>Std. deviation</i>	0.104	0.100	0.109
Mean time (minutes)	8.33	7.89	8.77
<i>Std. deviation</i>	7.814	7.118	8.440
Diabetes N (%)			
Yes	17 (2.9)	1.4%	4.4%
No	568 (97.1)		
Hypertension N (%)			
Yes	69 (11.8)	6.2%	17.4%
No	516 (88.2)		

References

1. World Health Organization (2011). Global Status report on noncommunicable diseases 2010. Geneva Switzerland.
2. Gersh BJ, Sliwa K, Mayosi BM and Yusuf S. (2010). The epidemic of cardiovascular disease in the developing world: global implications. *European Heart Journal* 31: 642-648.
3. De-Graft Aikins A. (2007). Ghana's neglected chronic disease epidemic: a developmental challenge. *Ghana Medical Journal* Vol 41, No (4) pp 154-159.
4. Luke A., Bovet P., Forrester T.E., Lambert E.V., Plange-Rhule J., Schoeller D.A., Dugas L. R., Durazo-Arvizu R.A., Shoham D., Cooper R.S., Brage S., Ekelund U. and Steyn N. P. (2011). Protocol for the modeling the epidemiologic transition study: a longitudinal observational study of energy balance and change in body weight, diabetes and cardiovascular disease risk. *BMC Public Health* 11:927
5. Agyei-Mensah S. and de-Graft Aikins A. (2010). Epidemiological transition and the double burden of disease in Accra, Ghana. *Journal of Urban Health* Vol.87 (5):879-897.