

Correlates of sedentary behaviour among individuals at risk of developing type 2 diabetes mellitus in a low resource setting

Poster number

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Sedentary behaviour was positively associated with socio-economic factors and negatively associated with environmental factors and lifestyle factors.

BACKGROUND

- The physical activity transition is a shift in more active lifestyles to more sedentary lifestyles, resulting in increased sedentary behaviour (SB)¹.
- SB is defined as behaviours that generally involve sitting and/or reclining positions and low levels of energy expenditure².
- It is well-established that prolonged SB is associated with adverse health outcomes, including type 2 diabetes mellitus (T2DM).
- There is, however, a scarcity of information regarding the correlates of SB among individuals at risk of developing T2DM in low-income settings such as SA, where T2DM-related mortality is the second underlying natural cause of death³.

AIM

- The aim is to determine the prevalence of SB and identify the variables associated with SB among adults at risk of developing T2DM in a low-resource setting in SA.

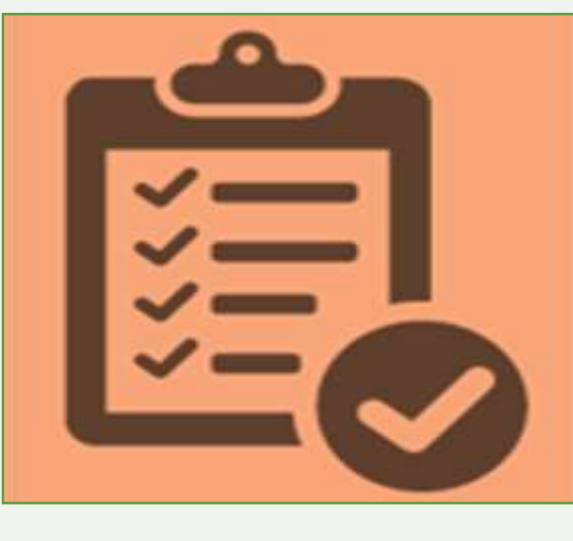
METHODS

- Design: Secondary analysis of cross-sectional data from the South African Diabetes Prevention Program (SADPP).
- Target population: black and mixed-ancestry adults aged ≥25-65 who are at high-risk of T2DM and reside in low-income communities in the Western Cape.
- Analysis: Robust regression to explore the association between SB as a continuous variable and each of the sociodemographic, lifestyle behaviours, psychological, biochemical and environmental variables, adjusted for age and sex.

Figure 1: Schematic diagram of study methods




South African Diabetes Prevention Program (SADPP) (n=698, 81% female) (52 ± 45-65 years of age)



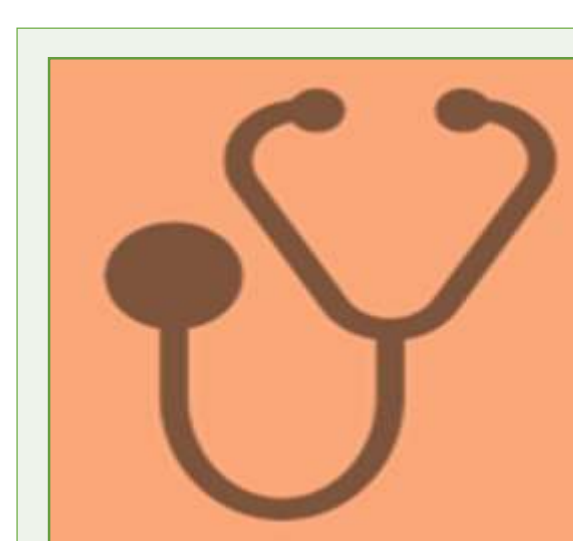
QUESTIONNAIRE

•Age, gender, education level, household income, marital status, occupation, NEWS-A, chronic stress, depression and anxiety, life satisfaction, PA barriers, self-efficacy, support networks, PA and SB



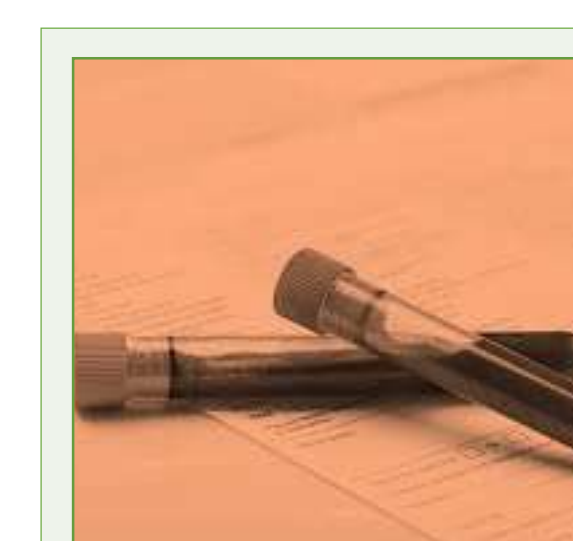
ANTHROPOMETRY

Weight, height, waist circumference and calculated BMI.



BLOOD PRESSURE

Systolic and diastolic blood pressure.



BIOCHEMICAL

Glycosylated haemoglobin, fasting and two-hour glucose, cholesterol

RESULTS

- Among the 698 participants, the median time (minutes/day) spent in SB and in front of a screen (screen time) was 180.0 and 137.1 minutes/day, respectively.
- SB was positively associated with type of housing, but negatively associated with environmental factors (i.e., lower safety, and walking infrastructure scores, barrier to physical activity), and lifestyle factors (poor and good self-reported sleep quality).

Table 1: Multivariable robust linear regression models exploring the independent associations between SB and exposure variables

Variable	β-coefficient estimate	95% CI	P-value
Multiple R-squared: 0.074			
Age	-0.52	-1.66 - 0.63	0.374
Gender			
Male	Ref	Ref	Ref
Female	-13.12	-39.24 - 12.99	0.324
Type of housing			
Built formal unit/privately owned	Ref	Ref	Ref
Council/core house	36.57	15.79- 57.36	0.001
Informal housing (e.g., shack)	27.69	0.91- 54.48	0.043
Sleep quality			
Excellent	Ref	Ref	Ref
Good	-35.39	-61.34- -9.44	0.008
Fair	-18.65	-48.57 - 11.28	0.222
Poor	-37.35	-67.20 - -7.49	0.014
PA barrier			
Yes	Ref	Ref	Ref
No	-28.64	-48.28 - -9.00	0.004
Walking infrastructure and safety	-26.52	-39.29 - -13.75	0.034

CONCLUSIONS

- SB was correlated with socio-economic, environmental and lifestyle factors. As such, multicomponent interventions that consider all these factors may decrease SB and improve health outcomes in low-income communities.
- Future research should be encouraged to use prospective designs including objective measures of SB and characterize domain- and pattern-specific SB and their correlates.

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