

## The relationship between health risk behaviour and physical activity among High School learners in the Mtwarra region, Tanzania

H Pharaoh <sup>1</sup> (MSc), <sup>1</sup> *University of the Western Cape;*  
E Nannyambe <sup>2</sup> (MSc), <sup>2</sup> *St Benedicts Hospital, Tanzania*

**Correspondence Address:**

H Pharaoh  
Department of Physiotherapy<sup>1</sup>  
University of the Western Cape  
Private Bag x17  
Bellville  
7530  
Email: hpharaoh@uwc.ac.za

**Abstract**

**Introduction:**

Physical inactivity is one of the leading risk factors for major non-communicable diseases, which contribute substantially to the global burden of chronic diseases, disability and death.

**Aim:**

The purpose of the study was to investigate the relationship between participation in physical activity and health risk behaviour among high school students in the Mtwarra region, in the United Republic of Tanzania.

**Method:**

A descriptive quantitative study design was used whereby a stratified sample of the high school students, which included male and female students between the ages of 17 to 26 years. A self administered questionnaire was used following written participant and parental consent. The study measured health risk behaviour such as alcohol use, smoking cigarettes, drug abuse, sedentary lifestyle and sexual behaviour. Quantitative data was captured and analyzed using SAS 9.1 and Statistical Package for Social Sciences (SPSS) version 13.0 programmes. The Kruskal-Wallis` test was used to test the means between variables and the Spearman correlation coefficient test was utilized to test associations between variables related to health risk behaviour and demographic variables.

**Results and Discussion:**

Two hundred high school students with a mean age of 20.47 (SD=1.493) participated in this study. Of the total number of participants, 67% was not participating in physical activity. Furthermore, 26% smoked cigarettes, 93% consumed alcohol, 9.5% used drugs and 93% was involved in risky sexual behaviours. The study identified relationships between participation in physical activity and health risk behaviours. The youth involved in risky behaviours like consuming alcoholic drinks and smoking cigarettes were less physically active.

**Conclusion:**

The results of this study provide valuable information to relevant policymakers and stakeholders for the implementation of physical activity programmes in schools of the Mtwarra region, in the United Republic of Tanzania.

**Keywords:** Relationship, Physical activity, perceived benefits, health risk behaviours.

## Introduction

The health consequences of inactive lifestyles of adults are well established. According to current World Health Organization (WHO) estimates, lack of physical activity leads to more than 2 million deaths annually worldwide (WHO, 2002). Statistics from the WHO (2002) show that the mortality is due to factors such as heart disease and stroke (50% of all deaths) and type 2 diabetes (50% of all occurrences). Other conditions created or exacerbated by the lack of physical inactivity include obesity, osteoporosis (leading to up to 50% of hip fractures in women); knee and back pain, stress, anxiety and depression (WHO, 2002). Booth (2000) concurs that physical inactivity is an established risk factor for cardiovascular disease, non-insulin dependent diabetes, overweight, hypertension, depression and anxiety.

According to Dr Luis Gomes Sambo, the director of the Division for the Prevention of Non-Communicable diseases at the regional office for Africa (AFRO), "physical activity need not be strenuous to promote health". He further stated that it should also not be seen as a "new" action but as a part of people's daily life settings and activities, such as walking, the most practiced and most recommended form of physical activity that is absolutely free (WHO, 2002). A study by Frantz (2005) conducted on high school learners in Belhar revealed that when physical activities are implemented, the chance for decrease in health risk behaviours such as engagement in sexual intercourse, drinking alcohol and cigarette smoking among youth increases significantly. The study further indicated that approximately 32% of the high school learners (n=951) in that community were physically inactive and 50% of them were not able to meet the norms for various health-related fitness tests. Frantz (2005) showed that the physically inactive learners (32%) were more likely to participate in health risk behaviours like smoking and drinking.

Physical inactivity in youth is associated with other health compromising behaviours. Jessor (1991) argues that an early age of onset of health risk behaviours is associated with an increased likelihood that adolescents will engage in multiple risk behaviours as they progress through adolescent stages.

Currently the situation worldwide is alarming where

an existing burden of infectious diseases is compounded by the HIV/AIDS epidemics (WHO, 2002b). The World Health Organization reported that in Africa, as elsewhere in the world, non-communicable diseases have become a major epidemic due (WHO, 2002b). This could be due to a rapid transition in lifestyle leading to reduced physical activity, changing diets and tobacco use (WHO, 2002b). Statistics from the Republic of Tanzania suggest that the prevalence of diabetes, hypertension and cardiovascular diseases are increasing, and mortality due to strokes is high (Swai et al., Kitange et al., 1993, Masau & Makene, 2004). A study to assess the behavioural risk factors associated with HIV infection among youth (17-26 years) in the Moshi rural district in Northern Tanzania showed that, 60% of youth reported to consume alcohol and 50% of the sexually experienced females reported to have received a favor for their sexual encounter (Tengia-Kessy, Msamanga & Moshiro, 1998). Whilst working in the Mtwarra region, the researcher gained first hand knowledge that the lifestyle among youths in High Schools of the Mtwarra region, in Tanzania is characterized by a number of health risk behaviours which includes alcohol consumption, cigarette smoking, use of dangerous drugs of addiction, practicing unsafe sex, and a sedentary lifestyle. The purpose of this study was to investigate the relationship between health risk behaviour and physical activity among high school learners in the Mtwarra region, Tanzania.

## Method

Permission to carry out the study was obtained from the Senate Higher Degrees Committee at the University of the Western Cape. The purpose of the study was explained to the Ministries of Education and health and the principals of the three schools in Tanzania. Permission was granted by these authorities. Following a clear explanation of the purpose of the study as well as stating that all the rights of the participants will be strictly adhered to, written consent was obtained from the participants and their parents. This study made use of a cross-sectional descriptive quantitative research design. The study was conducted at the three high schools located within the Mtwarra region, in the United Republic of Tanzania. Two schools are government institutions and one is private. At the time of the

study, 875 students were enrolled in these high schools. A stratified random sampling technique was used to select the sample and the study sample comprised of 200 participants aged between 17 and 26 years.

Items from a reliable and validated questionnaire from the instrument by the World Health Organization to assess the level of physical activity and health risk behaviours in Tanzania in 2004 titled: 'Global School-based student health survey

variables (such as health risk behaviour and a participant's physical activity level) and it was reported in terms of Chi-square and p-values.

## Results

All two hundred questionnaires distributed were completed by the participants of the three high schools of the Mtwarra region, Tanzania. Table 1 summarizes the characteristics of the participants.

Table 1 Students demographic characteristics (N=200)

Variable Measured	Characteristic	Frequency	Percent	Mean age	Standard deviation
Age	17	1	0.5	20.47	1.493
	18	14	7.0		
	19	36	18.0		
	20	63	31.5		
	21	37	18.5		
	22	32	16.0		
	23	13	6.5		
	24	2	1.0		
	26	2	1.0		
Gender	Male	104	52.0	1.48	0.501
	Female	96	48		
Class	Form Five	87	43.5	1.57	0.497
	Form Six	113	56.5		

(Tanzania GSHS Questionnaire, 2004) were used. The items included questions on health risk behaviour and physical activity such as: "What kind of activity are you involved in"; "During your school year were you taught in any of your classes the benefits of physical activity"; "Have you ever smoked cigarettes"; "During your life, how many times did you drink so much alcohol that you were really drunk". Items not pertaining to the study were excluded. The self administered questionnaire which assured confidentiality and anonymity was distributed to the participants. The Statistical Package for Social Science (SPSS) version 13 and SAS version 9.1 were then used to analyze the data. The descriptive data was presented using frequency tables, pie charts and bar graphs. The inferential statistics in a form of cross-tabulation was done to determine the association between

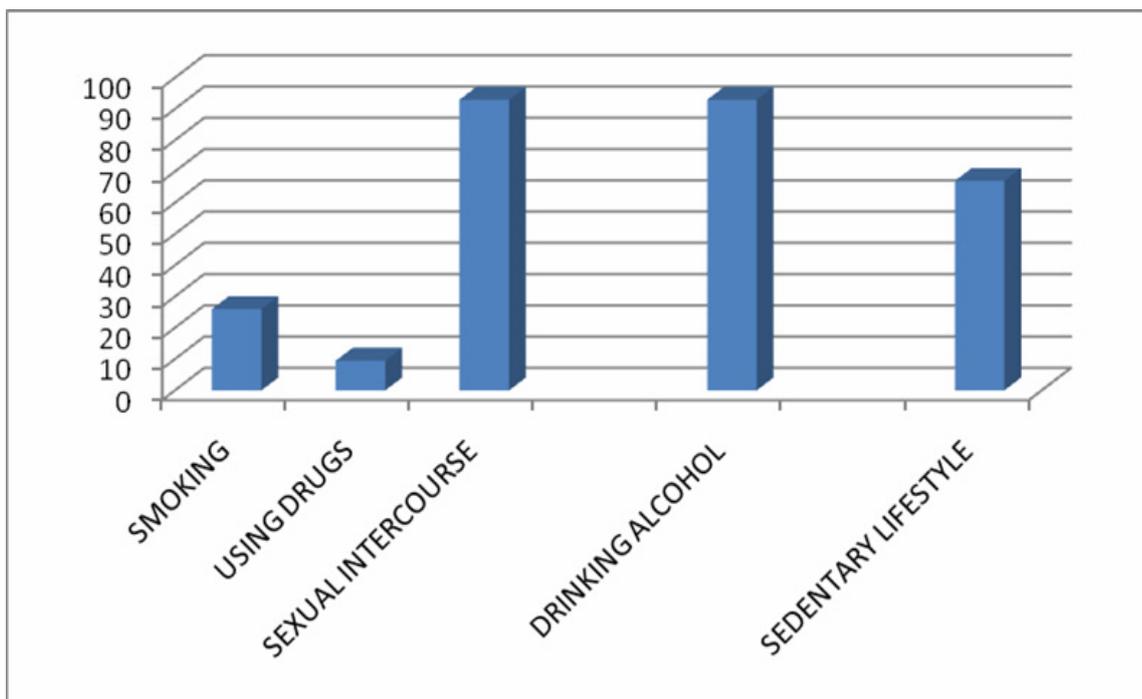
The study sample consisted of 52% males with a mean age of 20.47 years. Most of the participants were in form six.

## HEALTH RISK BEHAVIOURS AMONG HIGH SCHOOL STUDENTS IN MTWARRA REGION, TANZANIA

The study investigated whether participants engaged in Health Risk behaviors such as smoking, drinking alcohol, using drugs, engaging in unprotected sex and living a sedentary lifestyle. Figure 1 highlights the distribution of participants' participation in health risk behaviors.

Twenty six percent of the participants engaged in smoking cigarettes, whilst 9.5% used drugs such as

Figure 1 Health risk behaviors among high school students in Mtwarra region, Tanzania (N=200)



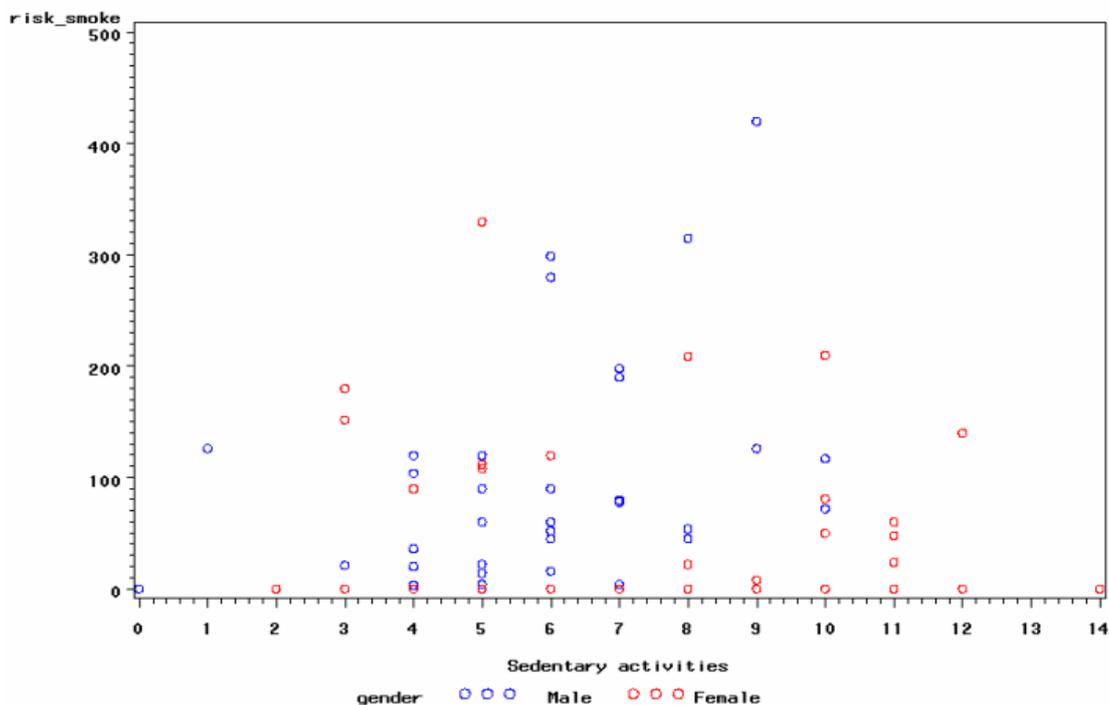
bhangi/cocaine, 93% practiced sexual intercourse, 93% consumed alcohol and 67% had a sedentary lifestyle.

**THE RELATIONSHIP BETWEEN PHYSICAL ACTIVITY AND HEALTH RISK BEHAVIOURS**

Figure 2 below illustrates the relationship between gender, sedentary activity and smoking behaviours

Figure 2 Relationship between smoking and sedentary activity.

Relationship between level of activity and risk behaviors



among the participants. The scatter plot shows that as the habit of cigarette smoking increases, the higher the level of inactivity among participants.

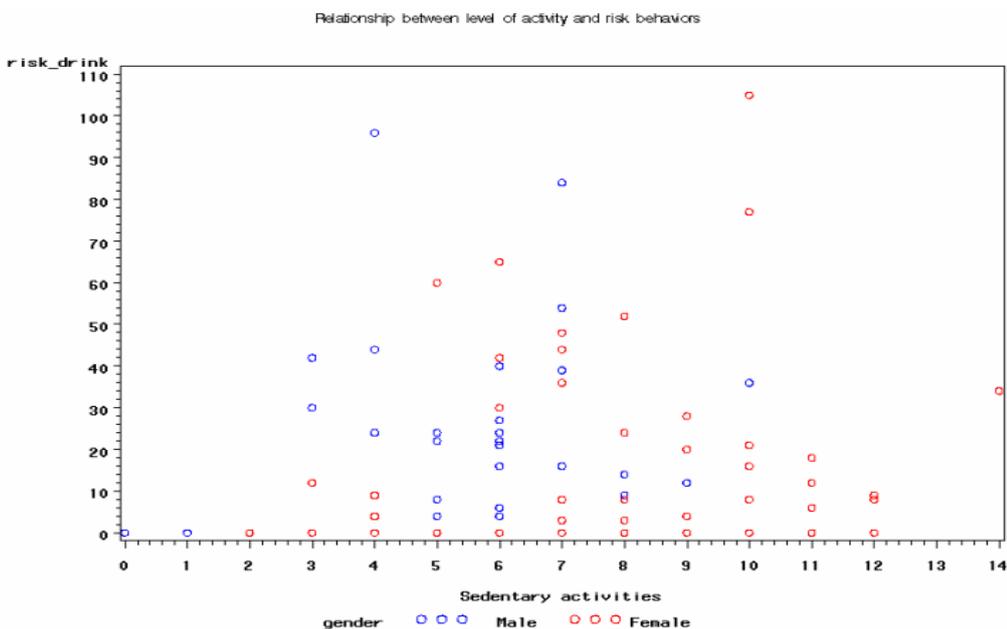
Figure 2 Relationship between smoking and sedentary activity.

Using the Spearman Correlation Test, the study found that among males a weak positive relationship did exist with risk behaviour using drugs (0.2059) and a strong relationship with sexual intercourse (0.67040). However for the female participants a very weak positive relationship existed between sedentary activity and the following health risk behaviours: smoking (0.2429), using drugs (0.3447) and sexual intercourse (0.0399).

Figure 3 depicts that as the participants alcohol intake increased the level of inactivity increased. Females were more severely affected than males.

(Muscari, 1999). Health risk behaviour intentional or unintentional is usually established during youth and extended into adulthood and that contributes to the leading causes of mortality and morbidity (Kann 2000). The results of this current study show that of the 200 participants a high prevalence of participation in alcohol consumption (93%), sexual activity (93%) and unsafe sex (53.5%) existed amongst the participants. The results further indicate the important associations between health risk behaviours and physical activity. On assessing the health risk behaviours of participants (smoking and drinking), it was found that 26% of those who reported that they smoked and 60.5% of those who consumed alcohol did not meet the requirements to be classified as physically active. On applying the criteria recommended by the World Health Organization (WHO, 2003c) to assess the respondents level of participation in physical activity it was found that 67.0 of the participants were sedentary, 28.5% of the participants were moderately active and only 4.5% were classified as

Figure 3 Relationship between drinking alcohol and sedentary activity



**Discussion**

Literature has indicated a number of lifestyle behaviours which account for most of the mortality, morbidity and social problems among adolescents. These behaviours include excessive tobacco use, physical inactivity, alcohol consumption and other drug use, risky sexual behaviours and behaviours that result in unintentional or intentional injuries

physically active. In a study by Phillips (2001) it was found that the motivation to engage in smoking differed between adolescent girls and boys (Phillips, 2001). In a study by French, Perry, Leon and Fulkerson (1994) done in the urban areas of the Midwest, United States of America (USA) it was found that adolescent girls may use smoking as a weight control strategy. According to Killen,

Robinson and Haydel (1997) higher levels of sociability were found to influence smoking onset in girls.

It can be surmised that smoking and drinking can have a great impact on physical activity or more so inactivity. The lack of physical activity could further be re-inforced by an increase in health risk behaviour practices which may predispose adolescents to chronic disease later in life. These leading diseases share key risk factors such as tobacco use, unhealthy diets, lack of physical activity and alcohol use (WHR 2002). Evidence suggests that people who are active when they are young are more likely to become active in later life (Corbin & Pangrazi, 1994)

The outcome of this study thus suggests that the problem of physical inactivity in the Mtwarra region should be of great concern as it places the participants at a higher risk of developing chronic diseases of lifestyle as they grow older especially due to the fact that the participants in the study stay on hostel and therefore are not obliged to walk to school or partake in normal household chores which predisposes them to physical activity.

### **Conclusion**

The research question focused mainly on the relationship between participation in physical activity and health risk behaviours among youth in the Mtwarra region, Tanzania. The results suggest that health risk behaviour has a great influence on the lack of participation in physical activity. The participants engaged themselves in health compromising behaviours at a level that warrants or justifies the development and implementation of responsive prevention and intervention strategies.

The majority of the youth in this study have a sedentary lifestyle whilst also engaging in health risk behaviours. This predisposes them to Chronic Diseases of Lifestyle (CDL) as cardiovascular diseases, type 2 diabetes mellitus, osteoporosis and osteoarthritis. The impact of increased CDL might result in future health challenges to the Tanzanian youth and also to the country which is still struggling with many problems including poverty, non-communicable diseases and HIV/AIDS. The health risk behaviours reported to

be participated by the participants were smoking cigarettes, drinking alcohol, practicing unprotected sexual intercourse and using drugs.

This study highlights the need to plan intervention programmes that are aimed at promoting physical activity in order to combat health problems that may arise in the future.

### **References:**

- Booth, M. (2000). Assessment of physical activity: An international perspective. *Research Quarterly for Exercise and Sport*, 71:114-120
- Corbin, C.B. and Pangrazi, R.P. (1994). Towards an Understanding of Appropriate Physical Activity Levels for Youth. At: <http://www.fitness.gov/activity/activity6/toward/toward.html>
- Kann, L. (2000). Health education in schools. Retrieved June 13, 2006. At: [http://cs.upomona.edu/~jvgrizzel/best\\_practices/hp2010\\_obj85.htm](http://cs.upomona.edu/~jvgrizzel/best_practices/hp2010_obj85.htm)
- Frantz, J.M. (2005). Physiotherapy in management in Non-Communicable Diseases: Facing the Challenge. *SA Journal of Physiotherapy*, Vol 61 no.2 p.1-3
- French, S., Perry, C., Leon, G. and Fulkerson, J. (1994). Weight concerns, dieting behaviour, and smoking initiation among adolescents: A Prospective study. *American Journal of Public Health* 84: 1818-1820
- Jessor, R. (1991). Risk behaviour in adolescents: A Psychological Framework for Understanding and Action. *Journal of Adolescent Health* 12: 597-605
- Killen, J., Robinson, T. and Haydel, K. (1997). Prospective study of risk factors for the initiation of cigarette smoking. *Journal of Consultative Clinical Psychology* 65: 1011-1016.
- Masau, F.B. and Makene, V.W. (2004). Incidence of Cardiovascular diseases at Tanzania Health Institute Hospital in Dar es Salaam, Tanzania.
- Muscari, M. (1999). Prevention: Are we really reaching today's teens? *The American Journal of Maternal/Child Nursing* 24: 87-91

Phillips, J. (2001). Recreational activities of high school learners in the Strand. Unpublished Masters Thesis. University of the Western Cape.

Swai, A.B., Mclart, D.G., Kitange, H.M., Kilima, P.M., Tatalla, S., Keen, N., Chuwa, L.M. and Albert, K.G. (1993). Low prevalence of risk factors for coronary heart disease in rural Tanzanian. *International Journal of Epidemiology* 22: 649-651

Tanzania GSHS Questionnaire (2004) [www.cdc.gov/gshs](http://www.cdc.gov/gshs) or [www.who.int/school\\_youth\\_health/gshs](http://www.who.int/school_youth_health/gshs)

Tengia-Kessy, A., Msamanga, G.L and Moshiro, C.S. (1998). Assessment of behavioural risk factors associated with HIV infection among youth in Moshi rural district, Tanzania. *East African Medical*. 75 (9):528-32

World Health Organization (2002a). Reducing risks, promoting healthy life. Geneva: World Health Organization

World Health Organization (2002b). Physical Activity in Youth. " Move for Health" World Health Day 2002. Retrieved April 30, 2006, from [http://www.who.int/archives/world-health-day/fact\\_sheets2.en.shtml](http://www.who.int/archives/world-health-day/fact_sheets2.en.shtml)

World Health Organization (2003c). How much physical activity is needed to improve and maintain health: Non communicable disease prevention and health promotion. Retrieved April 30, 2006, At:[http://www.who.int/hpr/physactiv/pa.how\\_much.shtml](http://www.who.int/hpr/physactiv/pa.how_much.shtml).

World Health Report. (2002). Reducing Risks: Promoting Healthy Life. World Health Organization. Geneva