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Research article

A clinical trial to establish the relationship between behavioural patterns and health status

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ABSTRACT

In the present time, bad lifestyle is a major cause of metabolic and heart-related disorders including stroke, obesity and diabetes. The present work aimed to establish the relationship between behavioural patterns and health status in human. A randomized clinical trial was conducted in Borella in which 50 patients were selected for the present study. All the patients were registered in the OPD of the Ayurvedic hospital, Borella. A questionnaire was used to collect information about the habits and health-related issues. The results suggested that there was no significant relationship of bad habits including cigarettes smoking, alcohol consumption and the day time sleeping with the body mass index (BMI). The study concluded that the intake of sweets and oily foods was positively related to increased BMI.

INTRODUCTION

Nowadays, changes in behaviour and habits become a major cause of the increasing prevalence rate of non-communicable diseases. In ancient, Sri Lankans work hard to earn their needs and stayed healthy. However, due to the globalization and the industrialization, their lifestyle has completely changed.

Researchers have identified that unhealthy behaviours are implicated in up to 40% of premature deaths in the U.S. and contribute to persistent disparities in health (Mokdad et al., 2014). Behaviours are routinely undertaken as non-health related reasons such as exercises, alcohol consumption and sleep duration. It is influenced by social, cultural, and economic forces (Bourdieu, 1984). When considering bad habits prevail in society, it has been identified that alcohol consumption is a risk factor for non-communicable diseases (NCD).

A national survey on NCD risk factors conducted in Sri Lanka during 2008 estimated prevalence of alcohol use of 26% among males aged between 17–64 years. Studies on alcohol consumption show the global average of alcohol consumption for individuals above 15 years of age is 6.2 litres of pure alcohol per year (WHO, 2014). In Sri Lanka, the overall prevalence of current drinkers was 27.8% and the 45-54 years age group had the highest rate (De Silva et al., 2009)

The health promotion and diseases prevention are very important applications in today's' society for the improvement of health related issues which includes all acute and cronic diseases. It has been identified that the models of health promotion and the diseases prevention are undergone by the several generational changes in perspective of social cognitive theory (Bandura, 1998).

Before implementing health development programs in society, we have to be considering their behaviour pattern to get the best outcome. Because, with time passed, human behavioural patterns also changed. Researchers have identified that there is a large amount of health behaviour change in many important areas such as smoking, blood pressure, cholesterol and alcohol consumption (Holdershaw and Gendall, 2008). When comparing the behaviour of the past man with the present man there is a big change in their behaviour patterns with the embracing of modern lifestyle.

Behaviour defined as a response which is observed directly or indirectly. In the prevention of disease, it is very essential to understand the current behaviour patterns likewise whether they get used to following healthy habits or not. Health-related behaviour is one of the most important elements in people's health and well-being. In the case of reducing the incidence and the burden of chronic diseases, it is vital to understand health-related behaviours including risk perceptions. The

screening of current behaviour patterns among the people are perceived future needs for health.

The aim of this study is a workout on the social-demographic status of the people and to find out the relationship between behavioural patterns and health status.

MATERIALS AND METHODS

Study design

A cross-sectional descriptive study was carried out among the randomly selected 50 cases who were attending to the OPD of Ayurvedic teaching hospital, Borella. The study sample was drawn using a systemic random sampling technique. A self-administered questionnaire was used for data collection. The survey was done prior to the study to identify people behaviour pattern which will effect to the health.

Sample selection criteria

Patients participated in the OPD clinics in Ayurvedic teaching hospital, Borella on Friday were randomly selected. However, pregnant mothers, lactating mothers and mentally ill patients were excluded from the study. The participants were informed about the study and written consent from each selected participant has been obtained.

Data collection

Data were collected by using pre-designed self-administered questionnaire. The author has measured their height in centimetres and weight in kilograms and calculates the body mass index (BMI).

The *swasthavrutta* senior lecturer has carried out the validity of the questionnaire. The questionnaire consisted of following two parts.

1. The socio-demographic data of the participating outdoor patients to the hospital, which included age, gender, marital status.
2. Sleeping pattern, habits and present ill status.

For the purpose of the study, normal BMI was defined as a BMI of 18.5-24.9, overweight as BMI more than 25 and underweight as BMI less than 18.5.

Data Analysis

Data entry and statistical analysis were done using SPSS version 16. The continuous variables were recorded as mean and standard deviation (SD). The descriptive statistics were presented in the form of frequencies and percentages for qualitative variables. Chi-square test was used to see the relationship between the variables. A p value of less than 0.05 was considered significant throughout the study.

RESULTS

The total number of the participants was 50 and the socio-demographic status of the study sample is shown in Table 1. The mean age of the sample population was 43.66±5.299.

A majority (64%) of the participants belong to urban area whereas only 18% were reported from the rural area. More than two third of the participants were recorded to be married. Moreover, a majority of respondents were Buddhists (78%).

Table 1. Socio-demographic characteristics of the study sample

Characteristics	Frequency	Percentage
Gender status		
Male	21	42.0
Female	29	58.0
Total	50	100.0
Residential status		
Urban	32	64.0
Rural	18	36.0
Total	50	100.0
Religious status		
Buddhist	39	78.0
Muslims	2	4.0
Hindus	2	4.0
Christians	7	14.0
Total	50	100.0

The results from Table 2 and Fig. 1 showed that more than half of the study sample was overweight. The mean and the standard deviation of the sample was 25.46±4.427. Less than half of the studied sample reported having a normal body mass index (BMI).

Table 2. Body mass index of the respondents

Respondents	Gender		Total
	Male	Female	
Underweight (<18.9 kg/m^2)	3 (6%)	1 (2%)	4 (8%)
Normal weight (18.9- 25 kg/m^2)	9 (18%)	11 (22%)	20 (40%)
Overweight (>25 kg/m^2)	9 (18%)	17 (34%)	26 (52%)
Total	21 (42%)	29 (58%)	50 (100%)
Mean ± SD	10.81±2.409	15.32±13.574	

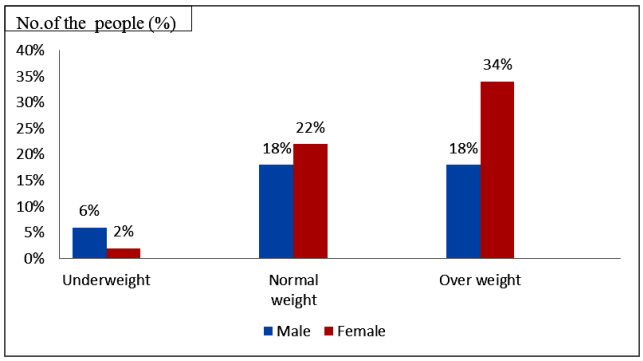

Fig. 1. Distribution of underweight, normal weight and overweight participants

The number of subjects with BMI and their day time sleeping status is shown in Table 3 and Fig. 2. There was no significant difference among BMI and the day time sleeping as given in the following calculation.

$$\chi^2 (2, N = 50) = 0.328, p = 0.849$$

The number of subjects BMI and the smoking status is shown in Table 4 and Fig. 3. There was no significant difference in BMI with smoking status as per the following calculation.

$$\chi^2 (2, N = 50) = 1.036, p = 0.596$$

Table 3. The relationship between BMI and day time sleeping

Participants	Day time sleeping		Total
	No	Yes	
Underweight	2 (4.0%)	2 (4.0%)	4 (8.0%)
Normal weight	14 (28.0%)	6 (12.0%)	20 (12.0%)
Overweight	17 (34.0%)	9 (18.0%)	26 (52.0%
Total	33 (66.0%)	17 (34.0%)	50 (100.0%)

Table 4. The relationship between BMI and smoking status

Participants	Smoking status		Total
	No	Yes	
Underweight	3 (6%)	1 (2%)	4 (8%)
Normal weight	20 (40%)	0 (0%)	20 (40%)
Overweight	25 (50%)	1 (2%)	26 (52%)
Total	48 (56%)	2 (4%)	50 (100%)

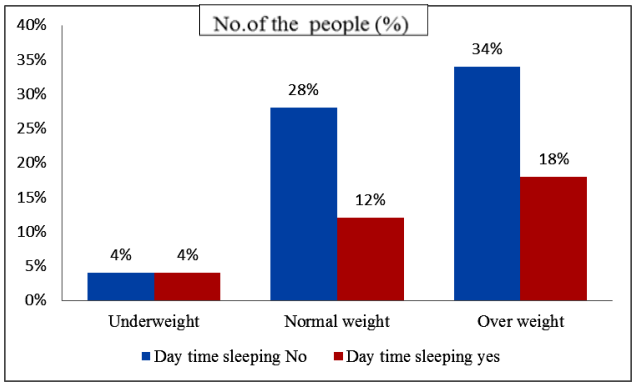

Fig. 2. Graphical presentation of the relationship between BMI and day time sleeping

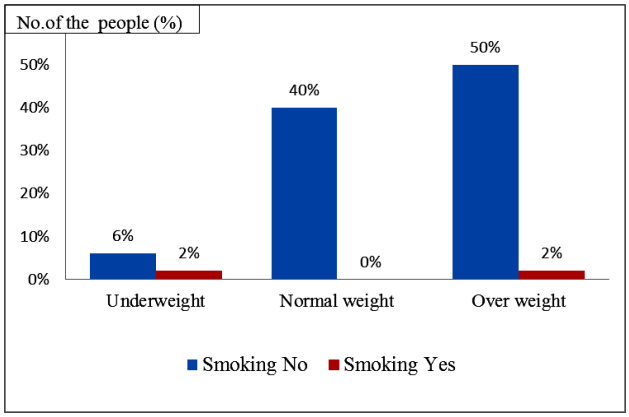

Fig. 3. Graphical presentation of the relationship between BMI and smoking status

The number of subjects BMI and alcohol consumption condition is shown in Table 5 and Fig. 4. The results shown that there was no significant difference between BMI and alcohol consumption as per the following calculation. Males of all BMI categories were found to be in major proportion that use smoking in their daily routine. This ratio was too high in comparison of females.

$$\chi^2 (2, N = 50) = 1.036, p = 0.596$$

Table 5. Relationship BMI and alcohol consumption status

Participants	Use of alcohol		Total
	No	Yes	
Underweight	2	2	4
Normal weight	16	4	20
Overweight	21	5	26
Total	39	11	50

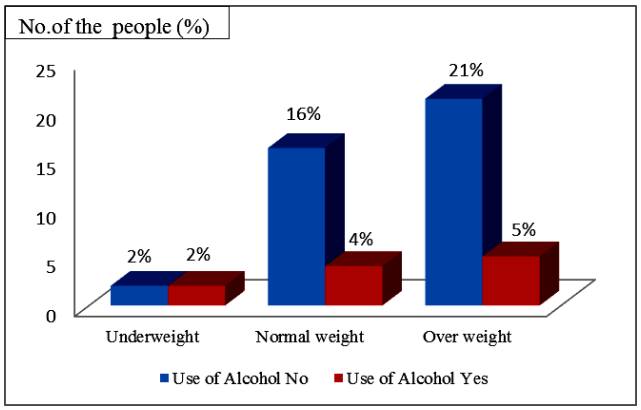

Fig. 4. Graphical presentation of relationship BMI and alcohol consumption status

As shown in Fig. 5, there was a significant difference between BMI and sweet food intake status as per the following calculation. The majority of (almost 50%) participants that used sweet food in their daily diet were recorded to be overweight. In this category, females were found to be in major portion.

$$\chi^2 (2, N = 50) = 10.131, p = 0.006$$

Similarly, Fig. 6 shows that there was a significant difference between BMI and oily food intake data as per the following calculation.

$$\chi^2 (2, N = 50) = 8.602, p = 0.014$$

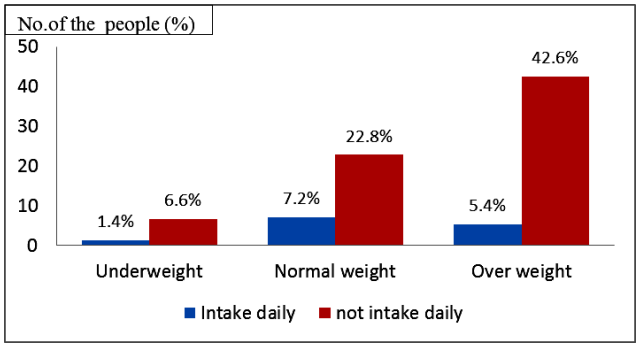

Fig. 5. Graphical presentation of the relationship between BMI and sweet food intake status

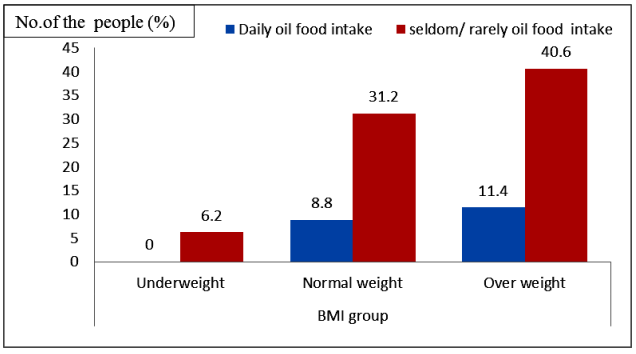

Fig. 6. Graphical presentation of the relationship between BMI and oily food intake status

DISCUSSION

According to the literature, violent behaviour, drug use and smoking are less socially acceptable behaviours among adolescents (León et al., 2010). This may explain why our study found a problem, the behaviour pattern with drinking alcohol and smoking together with aggressive behaviour and not in the compromising behaviour (Azeredo et al., 2016).

Studies showed that there is a strong relationship between subjective social status and both psychological functioning and physical health (Goodman et al., 2001). Some studies revealed that adolescents' health behaviour that mobility is an important issue for the explanation of the difference between social groups. And also social position is a better indicator of socioeconomic status than the social class of origin.

CONCLUSION

The results of this study revealed that there was no statistically significant relationship with the cigarettes smoking, alcohol consumption and the day time sleeping, with the BMI. Intake of sweets and oily foods positively related to increased body mass index.

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this article.

REFERENCES

Azeredo CM, Levy RB, Peres MFT, Menezes PR, Araya R (2016). Patterns of health-related behaviours among adolescents: a cross-sectional study based on the National Survey of School Health Brazil 2012. BMJ Open, 6, e011571.

Bandura A (1998) Health promotion from the perspective of social cognitive theory. Psychology & Health, 13, 623-649.

Bourdieu P (1984). Distinction: a social critique of the judgment of taste. Harvard University Press, Cambridge, USA.

De Silva V, Samarasinghe D, Gunawardena N (2009). Alcohol and tobacco use among males in two districts in Sri Lanka. Ceylon Medical Journal, 54, 119-124.

Goodman E, Adler NE, Kawachi I, Frazier AL, Huang B, Colditz GA (2001). Adolescents' perceptions of social status: Development and evaluation of a new indicator. Pediatrics, 108, e31.

Holdershaw J, Gendall P (2008). Understanding and predicting human behaviour. Proceedings of ANZCA08 Conference, *Power and Place*. Wellington, July 2008.

León JC, Carmona J, García P (2010). Health-risk behaviours in adolescents as indicators of unconventional lifestyles. Journal of Adolescence, 33, 663–671.

Mokdad AH, Marks JS, Stroup DF, Gerberding JL (2004). Actual causes of death in the United States, 2000. Journal of the American Medical Association, 291, 1238–1245.

WHO (2014). Global Status Alcohol Report. World Health Organization, Geneva. Access on 12 December 2018. The contents are online available at http://www.who.int/substance_abuse/publications/globalalcohol_report/msb_gsr_2014_1.pdf?ua=1.

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