Personal Health Risks Behaviour Profile among University Students in the South East Nigeria: Implication for Health Education

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Abstract
This descriptive survey was carried out in order to determine the personal health risks behaviour profile among university students in the south east of Nigeria. A random sample of 900 students completed the questionnaire designed for the study. Out of this number 821, representing about 91.2% return rate, were used for data analysis. Means and standards deviations were used to describe the personal health risks behaviour profile of the students. T-test was used to test the entire hypotheses. Results showed that the respondents had no identifiable mental health-related, nutrition-related, physical activity-related, substance abuse-related and personal health care-related risks. T-test showed that no significant differences existed in most of the personal health risks behaviour profile between male and female respondents. Where significant differences existed, they inclined towards favouring the females. The study supports the need for compulsory health education curriculum activities to help educate the students in making healthy behaviour choices and leading a healthier lifestyle in order to improve or at worst maintain the status quo in their personal health risks behaviour profile.
Keywords: Personal health, Risks behaviour, Profile, Students, Health education

1. Introduction

Health risk behaviours such as excessive drinking, illicit drug use, unsafe sexual activity, and impaired driving represent considerable risks both to the individual and to society. Not only are these behaviours associated with some of the leading causes of death worldwide (Mokdad, Marks, Stroup, Gerberding, 2005; Schwartz, Forthun, Ravert, Zamboanga, Umaña-Taylor, Filton, et al. 2010) (e.g., traffic crashes, drug overdoses), but they also pose costs to society in terms of property damage, violence, imprisonment, diminished lifespan, and treatment expenses (Kolek, 2006).

Health behaviours are those activities engaged in by people who are basically healthy that have an impact upon their health status (Kasl & Cobb, 1966). Included in this classification are such activities as: seeking information about health-related matters; going to the doctor, clinic, or dentist for check-ups, prophylaxis, or immunizations; engaging in exercise and good nutritional practices; wearing seat belts; practicing 'safe sex'; periodic self-examinations of breasts or testes; and moderate use of alcohol. Also under the rubric of health behaviours are those activities that place one's health at risk, such as: smoking cigarettes; misusing drugs; drinking to excess; and sharing needles.

Risk health behaviours may be defined as those threatening the righteousness of young people and interfering the way for them to be responsible adults. These behaviuors are generally listed in six groups: behaviuors contributing to accidents with or without intention; smoking; alcohol and other substance use; unintended pregnancies and sexual behaviuors contributing to sexually transmitted diseases; unhealthy diet behaviours and physical inactivity. Risk health behaviours are generally acquired during adolescence and their results are reflected on to adulthood and cause important increases in mortality and morbidity (Eaton, Kann, Kinchen, Ross, Hawkins, Harris, et al., 2006). Accidents as the leading causes of deaths in the adolescent period are closely related to risky behaviours. In addition, cardiovascular diseases and cancers, which are the first two causes of adult mortality, are also closely related to risky attitude and behaviours in the adolescent period (Tenore, Sharp, & Lipsky, 2001). Although these health risk behaviours are often first initiated in adolescence (Steinberg, 2004) they may be even more prevalent and dangerous during emerging adulthood, the late teens and early twenties (Arnett, 2005) when the adolescent is expected to have entered the university. Many emerging adults live independently from parents, allowing for increased freedom to spend their time and money as they wish (Aquilino, 2006).

While in the past, only a small proportion of youth lived away from home to follow an intensive higher education programme for several years, today there is a real expansion worldwide in the number of university students studying in a city. While youth in industrialized countries have greater opportunities for university education, the largest proportion of university students is citizens of transitional and developing countries

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(Turkish Board of Higher Education, 2004). There is thus an urgent need for collecting data related to the health risk behaviour of university student cohorts in these universities. University students reportedly use alcohol and drugs to conform to perceived social norms, to relieve stress, to feel good, and to celebrate, more often, after an examination (Gomberg & Nirenberg, 1993). Also students who live independently are subject to less parental control that can inhibit unhealthy behaviour. Such students are more prone to poor eating habits, lack of sleep, or the acquisition of new habits, such as smoking or drug use. All these factors do not contribute positively to the development of a healthy lifestyle (Gomberg & Nirenberg, 1993).

Some socio-demographic variables can significantly influence health risk behaviours of college students. Consistent gender differences in alcohol consumption have been reported in recent as well as past studies (Humara & Sherman, 1999; Zucker & Harford, 1983). In these studies male alcohol users outnumbered female alcohol users and a greater preponderance of heavy alcohol consumption existed among males compared to females. Engs, Diebold, and Hanson's (1996) gender analysis of at-risk drinkers from a national sample of college students categorized about one out of three men as being at risk, compared to about one out of five for females. Men were also more likely to report that it was socially acceptable to be intoxicated occasionally (Svenson, Jarvis, & Campbell, 1994). Variations in drinking behaviour among men and women might be partially caused by differences in societal and cultural attitudes regarding the use of alcohol and drug use (Schall, Kemeny, & Maltzman, 1992). Getting drunk may be viewed as permissible for men but inappropriate for women (Doherty & Szalay, 1996; Poulson, Eppler, Satterwhite, Wuensch, & Bass, 1998).

Health policy scholars (Schwartz, Forthun, Ravert, Zamboanga, Umaña-Taylor, Filton, et al. 2010) have recommended that studies of risk taking focus on emerging adulthood as well as on adolescence. University students tend to be among the highest-risk subgroups of emerging adults in terms of risk behaviours such as binge drinking, (Slutske, 2005) impaired driving (Chou, Grant, & Dawson, 2005), and misuse of prescription drugs (Arnett, 2005; Whitten, 2008), among other personal health risks behaviours.

The proper health behaviour is especially important for young people since it determines not only their own health but also health of the next generation. The aim of the research was to determine the personal health risks behaviour profile among state university students in the south east Nigeria, where a similar study may not have been conducted. Specifically, the study used the mental health, nutrition, physical activity, substance abuse and personal health care behaviour among the students to reach conclusions about their personal health risks behaviour profile. Corresponding hypotheses were tested on gender basis.

The study is considered significant in that it may guide universities in the south east, Nigeria developing curriculum activities to help educate the students in making healthy behaviour choices and leading a healthier lifestyle. Incorporating alcohol/binge-drinking programmes, eat disorder programmes, AIDS awareness programmes, stress management programmes, and health education courses are a few methods universities may take to improve the students' health and educate them about health and wellness, as well as improving the accuracy of the perceptions of university student behaviours.

2. Methods
2.1 Participants and Setting
Between March and May 2010, a descriptive survey was carried out among 900 university students of both genders randomly drawn from six out of nine universities in the area under survey. In each university 150 undergraduates were randomly selected using the multi-stage sampling procedure. The first stage involved randomly drawing six universities using simple random sampling technique of balloting without replacement. The second stage involved drawing two faculties in each of the universities decided in the first stage, using also simple random sampling technique of balloting without replacement. This process yielded a total of twelve faculties. The third and final stage involved drawing of 75 students from each of the faculties drawn in the second stage using the stochastic approach.

2.2 Instrument
The researchers used a self-developed questionnaire, the personal health risks behaviour profile questionnaire (PHRBPQ), which consisted of 34 items arranged in two sections; A and B. Section A, contained one item about the gender of the participants. Section B, consisted of 33 items on personal health risks behaviour profile statements of which six items enquired about mental health behaviour profile, six enquired about nutrition behaviour profile, seven enquired about physical activity behaviour profile, five enquired about substance abuse behaviour profile and nine enquired about personal health care behaviour profile. The respondents were required to indicate on a 4-point scale, the frequency they get involved in the personal health risks behaviour using always (AL), occasionally (OC), rarely (RA) and never (NE).

Five experts in health education from two institutions of higher learning in Enugu State, not included in the study, were used for validating the PHRBPQ. Thirty undergraduates of both genders in a State University, not included in the study were used for test of reliability. The data yielded a Cronbach alpha reliability

coefficient of 0.72. The reliability coefficient was higher than Ogbazi and Okpala's (1994) criteria of 0.60 acceptable for good instruments.

2.3 Procedure
Permission was granted from the Dean of the faculties of each university participating in the study prior to data collection. A consent note with the explanation for the research purpose, method of response and assurance of anonymity was attached to each copy of the PHRPQ. Nine hundred copies of PHRPQ were administered on the students during a faculty course and were collected immediately after completion.

2.4 Data Analysis
The completed copies of the PHRBPQ were examined for completeness of responses and copies that had incomplete responses were discarded. Out of 900 copies of the PHRBPQ administered; 821 (Male 309, Female 512) representing about 91.2% return rate, were used for analysis. In describing the Means and standard deviations were used to describe the respondents' personal health risks profile. A criterion mean of 2.50 was set for making decisions. In this case, a mean below 2.50 was considered at risks personal health profile on relative items and a mean of 2.50 and above was considered at no risks personal health profile. T-test statistic was used to analyze data in order to ascertain the differences in health risks behaviour profile between male and female respondents. An alpha level of 0.05 was set for the t-test. All data analyses were done with Statistical Package for Social Sciences (SPSS, 2008) Version 17.0 for Windows.

3. Results
Means and standard deviations of mental health behaviour profile and results of t-test are listed in Table 1. Each mental health behaviour profile has a mean score that is above the criterion mean of 2.50. Overall the mental health profile ($\bar{x}$ = 3.22, SD = .68) of the respondents indicates that the respondents are not at risk of mental health problems. The standard deviations in the specific and overall mental health behaviour profile indicate that responses cluster around the mean. When male and female respondents are compared, both show stable mental health profile. T-test indicates differences in specific mental health behaviour profile between male and female respondents are not significant, expect in 'I have friends or relatives with whom I discuss problems' where a significant difference exists in favour of male respondents and 'I do not let stress build up and give me headaches or an upset stomach' where the difference in favour of female respondents. However, difference in the overall mental health behaviour profile between male and female respondents was significant in favour of female respondents.

Table 1: Mental health behaviour profile

Mental Health Behaviour	Total (n = 821)		M (n = 309)		F (n = 512)		
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	t-cal.
I allow myself to cry.	3.47	0.49	3.43	0.49	3.49	0.50	-1.756
I express feelings such as love, fear, and anger constructively.	3.43	0.66	3.48	0.66	3.96	0.66	1.669
I have friends or relatives with whom I discuss problems.	3.35	0.86	3.43	0.84	3.31	0.87	2.000*
I do not allow anxiety interfere with my activities at school or at home.	2.79	0.65	2.76	0.66	2.81	0.64	-1.030
I do not let stress build up and give me headaches or an upset stomach.	3.11	0.82	3.03	0.79	3.16	0.83	-2.254*
I have hobbies that help me get away from daily tasks.	3.17	0.51	3.18	0.51	3.16	0.51	0.381
Overall	3.22	0.68	3.22	0.67	3.32	0.69	-2.031

M = Male, F = Female, * Significant at $p < .05$, df = 819, Critical value = 1.960

Means and standard deviations of nutrition behaviour profile and results of t-test are listed in Table 2. Each nutrition behaviour profile has a mean score that is above the criterion mean of 2.50. Overall the mental health profile ($\bar{x}$ = 3.12, SD = .70) of the respondents indicates that the respondents are not at risk of nutrition-related problems. The standard deviations in the specific and overall nutrition profile indicate that responses do not vary so widely from the mean. When male and female respondents are compared, both show stable nutrition profile. T-test indicates differences in specific nutrition profile between male and female respondents are not significant, expect in 'I avoid eating foods made with butter and other solid fats' where a significant difference exists in favour of female respondents.

Table 2: Nutrition behaviour profile

Nutrition Behaviour	Total (n = 821)		M (n = 309)		F (n = 512)		
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	t-cal.
I eat a wide variety of foods, including meat, milk, fruits and vegetables, breads and cereals.	3.44	0.75	3.48	0.72	3.41	0.77	1.195
I avoid foods high in refined sugar.	3.05	0.67	3.05	0.67	3.05	0.66	-0.087
I avoid adding salt to my food.	2.99	0.71	2.97	0.73	2.99	0.70	-0.440
I avoid eating foods made with butter and other solid fats.	2.97	0.86	2.87	0.94	3.02	0.79	-2.428*
I eat breakfast.	3.20	0.63	3.16	0.60	3.22	0.65	-1.368
I avoid eating between meals.	3.50	0.53	3.48	0.51	3.51	0.52	-1.018
Overall	3.12	0.70	3.17	0.73	3.20	0.66	-0.605

Means and standard deviations of physical activity behaviour profile and results of t-test are listed in Table 3. Each physical activity behaviour profile has a mean score that is above the criterion mean of 2.50. Overall the mental health profile ($\bar{x}$ = 2.97, SD = .80) of the respondents indicates that the respondents are not at risk of lack of physical activity-related problems. The standard deviations in the specific and overall physical activity profile indicate that responses are not far away from the mean. When male and female respondents are compared, both show stable physical activity profile. T-test indicates differences in specific mental health behaviour profile between male and female respondents are not significant, expect in 'I warm up and cool down when I exercise' and 'I enjoy some exercises or strenuous sports that I can continue with throughout my life' where significant differences exist in favour of female respondents.

Table 3: Physical activity behaviour profile

Physical Activity Behaviour	Total (n = 821)		M (n = 309)		F (n = 512)		
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	t-cal.
I do vigorous exercise such as running, swimming, or biking at least 3 times a week.	3.46	0.59	3.44	0.59	3.47	0.61	-0.588
I exercise to build muscle strength and endurance at least 3 times a week.	2.75	0.74	2.78	0.67	2.73	0.78	0.983
I stretch to build flexibility.	2.97	0.65	2.95	0.61	2.98	0.68	-0.684
I warm up and cool down when I exercise.	3.02	1.01	2.88	1.02	3.11	0.93	-3.182*
I enjoy some exercises or strenuous sports that I can continue with throughout my life.	2.63	1.01	2.55	1.04	2.69	0.98	-1.968*
I maintain a healthy level of body fat, neither too much nor too little.	3.05	0.99	2.98	1.10	3.09	0.91	-1.601
I get 7 to 8 hours of sleep each night.	2.90	0.96	2.89	0.98	2.90	0.94	-0.113
Overall	2.97	0.80	2.92	0.85	2.99	0.79	-1.195

Means and standard deviations of substance abuse behaviour profile and results of t-test are listed in Table 4. Each substance abuse behaviour profile has a mean score that is above the criterion mean of 2.50. Overall the substance abuse behaviour profile ($\bar{x}$ = 3.12, SD = .78) of the respondents indicates that the respondents are not at risk of substance abuse-related problems. The standard deviations in the specific and overall substance abuse profile indicate that responses are not at much variance from the mean. When male and female respondents are compared, both show stable substance abuse profile. T-test indicates differences in specific substance abuse behaviour profile between male and female respondents are not significant.

Table 4: Substance abuse behaviour profile

Substance Abuse Behaviour	Total (n = 821)		M (n = 309)		F (n = 512)		
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	t-cal.
I avoid smoking cigarettes and using other forms of tobacco.	3.16	0.78	3.15	0.77	3.16	0.78	-0.201
I try to avoid the secondhand smoke of others.	3.40	0.79	3.45	0.77	3.37	0.81	1.450
I avoid drinking alcohol.	3.06	0.70	3.09	0.67	3.04	0.72	0.969
I avoid using illegal drugs such as marijuana.	2.99	0.74	2.98	0.76	3.00	0.72	-0.513
I avoid riding with a driver who is under the influence of alcohol or drugs.	3.01	0.85	3.02	0.89	3.01	0.83	0.157
Overall	3.12	0.78	3.14	0.78	3.12	0.78	0.355

Means and standard deviations of personal health care behaviour profile and results of t-test are listed in Table 5. Each personal health care behaviour profile has a mean score that is above the criterion mean of 2.50. Overall the personal care health profile ($\bar{x}$ = 3.12, SD = .77) of the respondents indicates that the respondents are not at risk of personal health care-related problems. The standard deviations in the specific and overall

personal health care profile indicate that responses are not at much variance from the mean. When male and female respondents are compared, both show stable personal health care profile. T-test indicates differences in specific personal health care profile between male and female respondents are not significant, expect in 'When under medical treatment, I follow my doctor's instructions about activities and using medications' where a significant difference exists in favour of female respondents.

Table 5: Personal health care profile

Personal Health Care Behaviour	Total (n = 821)		M (n = 309)		F (n = 512)		
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	t-cal.
I brush and floss my teeth daily.	3.20	0.64	3.19	0.64	3.21	0.64	-.390
I keep my skin and hair clean.	3.52	0.53	3.53	0.53	3.51	0.52	0.519
I have my teeth checked twice a year.	3.48	0.59	3.51	0.59	3.47	0.61	0.910
I see my doctor every two years for a complete checkup.	2.73	0.74	2.70	0.69	2.75	0.76	-0.970
When under medical treatment, I follow my doctor's instructions about activities and using medications.	2.95	0.67	2.88	0.65	2.99	0.67	-2.270*
I avoid using nonprescription medicines.	3.04	0.99	3.03	1.05	3.05	0.96	-0.402
I have blood pressure checked once a year.	2.66	1.01	2.64	1.03	2.66	0.99	-0.436
I know the seven warning signs of cancer.	3.06	0.96	3.04	0.99	3.07	0.94	-0.372
I practice monthly self-examinations for cancer (breast exam for girls; testicle exam for boys).	3.47	0.55	3.49	0.52	3.46	0.57	0.781
Overall	3.12	0.77	3.11	0.79	3.13	0.76	-0.360

4. Discussion

The present study determined the personal health risks behaviour profile among university students in the south east of Nigeria. The results of the study showed that the students were not at risk of any personal health problem. The results are plausible but may misrepresent the actual personal health profile of the students. This suspicion gave rise as a result of series of woefully inconsistent findings of previous studies with the present one across the globe.

For instance, investigators who conducted similar studies in the United States, as well as in various countries in Europe and Asia (Cook & Bellis, 2001; Knight, Kirinchich, Farmer, & Hood,, 2002; Maswanya, Moji, & Takemoto, 1999; Patricka, Covin, Fulop, Calfas, & Lovato, 2009; Piko, 2002; Schmidt, Krasnik, Brendstrup, Zoffmann, & Larsen, 1989; Siegel-Itzkovich, 2002; Nies, Artinian, Stephanie, Wal, Sherrick-Escamilla, 2004; Takakura, Nagayama, Sakihara, & Craig, 2001) demonstrated that, in general, students were involved in risk taking behaviours and as a result were liable to encounter unprecedented personal health in the present and in the future.

It is well documented that the mental health problems among today's university cohorts in the industrialized countries are more frequent than observed previously. For example, in the United States, it is estimated that 37% of young adults between the ages of 15 to 24 years have a diagnosable mental disorder, and many of these individuals are college students (Becker, Martin, Wajeeh, Ward, & Shern, 2002). It has also been estimated that between 40-70% of college and university students engage in binge drinking at least once a month (Rivers & Shore, 1997; Department of Health and Human Services, 1993). This fact could also apply to the university students that constituted the population of the present study.

Alcohol and drug abuse is associated with tremendous individual and social costs including suffering, accidents, family violence, reduced productivity, crime and health care expenditures (Addiction Research Foundation, 1995; Health Canada, 1992; Centre of Addiction and Mental Health (CAMH) & Canadian Centre on Substance Abuse, 1999; Single, Williams, & McKenzie, 1995). Similarly, physical inactivity, unhealthy diets and smoking are the most modifiable risk factors for cardiovascular disease, stroke, diabetes mellitus, chronic lung diseases and many cancers. Collectively, these risk factors and associated diseases contribute to the vast majority of preventable disability, morbidity, and mortality. Therefore, the results of the present may have serious implications for health education.

Consistent gender differences in health risk behaviours have been reported in recent as well as past studies (e.g., Humara & Sherman, 1999; Zucker & Harford, 1983). Male alcohol users outnumbered female alcohol users, and a greater preponderance of heavy alcohol consumption existed among males compared to females. Engs, Diebold, and Hanson's (1996) gender analysis of at-risk drinkers from a national sample of college students categorized about one out of three men as being at risk, compared to about one out of five for females. Men were also more likely to report that it was socially acceptable to be intoxicated occasionally (Svenson, Jarvis, & Campbell, 1994). Variations in drinking behaviour among men and women might be

partially caused by differences in societal and cultural attitudes regarding the use of alcohol (Schall, Kemeny, & Maltzman, 1992). Getting drunk may be viewed as permissible for men but inappropriate for women (Poulson, Eppler, Satterwhite, Wuensch, & Bass, 1998). In addition, a heightened concern for physical safety and well-being, recognition of potential dangers attributed to drug and alcohol use; and exclusion of sex and dating as activities done for fun among women may be important factors in augmenting women's resistive attitudes toward alcohol and drug abuse (Doherty & Szalay, 1996). The gender differences in certain personal health risks behaviour profile among university students in the south east of Nigeria found in the present study are therefore worthwhile.

5. Implication of the Findings for Health Education

Health education is teaching and counselling on healthy living. Health education covers topics such as hygiene, nutrition, and sex education. It also addresses alcohol and drug misuse, smoking, and other threats to health. At the secondary level of education, health education is included within a course of personal and social education; it may also be integrated into subjects such as biology, home economics and physical education. At the tertiary level, health education is a course of study in most conventional and non-customized institutions.

Physical inactivity, unhealthy diets, excess alcohol intake, and smoking are the most modifiable risk factors for cardiovascular disease, stroke, diabetes mellitus, chronic lung diseases and many cancers. Collectively, these risk factors and associated diseases contribute to the vast majority of preventable disability, morbidity, and mortality. Alcohol and drug abuse is associated with tremendous individual and social costs including suffering, accidents, family violence, reduced productivity, crime and health care expenditures (Addiction Research Foundation, 1995; Health Canada, 1992; Centre of Addiction and Mental Health (CAMH) & Canadian Centre on Substance Abuse, 1999; Single, Williams, & McKenzie, 1995). Despite many recent technical breakthroughs in health care, human behaviour remains the largest source of variance in health-related outcomes (Schroeder, 2007). People's health and well-being, including those of university students, are robustly affected by lifestyle factors such as smoking, hygiene, diet, and physical activity, all of which involve behaviours that are potentially controllable by the individual. The results of the present study notwithstanding; health education is challenged to engineer behaviour modification of the university students using eclectic approach.

6. Conclusion and Recommendation

The results of the study indicated that university students in the south east of Nigeria had no personal health risk problems. There is fear to rely in these results because of inconsistent findings across the globe. The results of the study may not be used in making any reliable conclusion concerning other university students in Nigeria and elsewhere. However, the students studied represent an important group of the Nigerian-student university population and information generated will be useful in the planning of future health education and other health-related programmes in universities. The study supports the need for compulsory health education curriculum activities to help educate the students in making healthy behaviour choices and leading a healthier lifestyle in order to improve or at worst maintain the status quo in their personal health risks profile.

Health risk problems among university students have been gradually increasing in recent years. The findings of the present study cannot be generalized for all university students, since the study sample only included limited faculty students; however, the study variables can guide other researchers in their future studies on the personal health risks behaviour profile among university students in Nigeria and elsewhere. There is an urgent need for compulsory health education curriculum activities to help educate the students in making healthy behaviour choices and leading a healthier lifestyle in order to improve or at worst maintain the status quo in their personal health risks profile.

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