
Original Research Article

Awareness and prevalence of lifestyle drug use among social science students in University of Benin, Benin City

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Abstract

Purpose: The study was to determine the level of awareness and prevalence of the use of Lifestyle Drugs (LD) by Social Science Students (SSS) in the University of Benin, Nigeria.

Methods: A prospective cross-sectional survey was carried out in the Faculty of Social Sciences, University of Benin, Benin City, and Nigeria. Open and close ended questionnaires made up of 40 items on demographic, knowledge of LD, types of LD used by participants, frequency of use, quantity of LD used and reasons for the use of lifestyle drugs was administered to 400 participants.

Results: Out of 400 students that filled the self-administered questionnaire 210 (52.50%) were males and majority were single (91.25%) and between 18 - 24 years. High proportion of respondents (45.2%) was not aware of LD drugs even if they had used them before. Caffeine was the drug commonly used by respondents with 85% admitting taking it while 65.3% used nutritional supplements. Other LD with high frequency of usage were topical skin lightening drugs (45%), alcohol (41.5%) and narcotics (31%). Majority of respondents habitually used caffeine, Nicotine, Alcohol, Cannabis, and

Codeine for recreational purpose. Only 3.7% of oral contraceptive users did so with a prescription, while 10% used them for lifestyle modification. Some males (3.2%) who used drugs for sexual enhancement were given a prescription for those drugs, while other users did not get any prescription. About 16.2% of respondents used topical creams because they received prescription for them, 29.2% used these creams for lifestyle modification. Most participants who used nutritional supplements solely did so to modify their lifestyle.

Conclusion: Many Social Science Students of the University of Benin lacked knowledge of lifestyle drugs as many of them are not familiar with the term LD even when they frequently use them without prescription. Majority of the students used one or more lifestyle drugs for aesthetic, recreational and lifestyle modification purposes. Thus, there is need for awareness programs to enlighten students on proper view and uses of lifestyle drugs.

Keyword: Awareness, Lifestyle drugs, Lifestyle modification, Recreation, Prescription.

Indexing: Index Copernicus, African Index Medicus

Introduction

Lifestyle drugs are generally classified as drugs taken to satisfy a non-medical or non-health related need. The term 'lifestyle drug' refers to medications which treat non-life threatening and non-painful conditions such as baldness, impotence, wrinkles, acne, obesity, amongst others which medical practitioners perceive as either not medical problems at all or as minor

medical conditions relative to others.[1] However, improving the patient's subjective quality of life has always been a primary concern of medicines and these drugs are doing just that thus it finds broad uses in media and scholarly journals [2].

Some examples of lifestyle drugs include drugs that address erectile dysfunction (sildenafil, tadalafil), oral contraceptives e.g. levonogestrel

(Postinor®), drugs that are used to treat balding (alopecia) such as the anti-hypertensive minoxidil and also finasteride, drugs that are used for weight loss such as meridian, orlistat, diuretics (moduretic), drugs used for recreation such as alcohol and nicotine and additional cosmetic related drugs that improve appearance but do not necessarily improve health such as botox, glutathione. Attempts to treat baldness, lighten skin complexion or enhance mental agility are not matters of health, but preference [1]. Lifestyle drugs used in sports though officially prohibited both in-and out-of-competitions due to ethical concerns that they are used to enhance sporting performance. These drugs include anabolic androgenic steroids (aas), hormones, diuretics and masking agents, stimulants, narcotics, glucocorticoids, beta blockers [2]; and those that are used in other conditions to improve wellbeing, examples include drugs used to enhance sexual performance, intellectual or social wellbeing, drugs used for cosmetic purposes, drugs used for recreation such as alcohol, cocaine, cannabis and nicotine, drugs used for preventive measures, food supplements, and drugs used to treat illnesses as a result of one's lifestyle such as smoking, overeating and alcoholism. They also include drugs used to improve intellectual performance such as vinpocetine, cocaine, cannabis, amphetamine and caffeine. Caffeine has been shown to increase alertness and in some studies it improves memory [3]. Children and adults who consume low doses of caffeine showed increased alertness yet a higher dose was needed to improve performance. It therefore comes as no shock that many students take caffeinated drinks and also consume high quantity of coffee and tea. Workers also consume high quantity of coffee and tea before going to work to help improve their performance.

The use of these drugs without prescription is a source of major concern as improper use of LD may result in adverse effects on the users. Students' uses of LD have been reported in literature [4,5,10]. Alcohol and tobacco use have been reported as the most common lifestyle drug used by students in Kenya [5]. Students in the science and medical disciplines are more familiar with LD and their uses in comparison with those from other disciplines [10]. However, undergraduate students' uses of LD among SSS in UNIBEN have received little or no attention.

This study therefore, investigates the level of awareness and prevalence of the use of LD by social science students in the University of Benin, Nigeria with focus on lifestyle drugs used in various conditions to improve quality of life, appearance and sense of well-being including food supplements.

Methods

Study setting: This study was carried out in the faculty of Social sciences of University of Benin main campus Ugbowo, Benin City. The University of Benin which started as an Institute of Technology and funded by the Mid-Western State Government, was accorded the status of a full-fledged University by National Universities Commission (NUC) on 1st July 1971. At present, the University has various academic programme in ten faculties (Education, Arts, Agriculture, Law, Social Science, Management Science, Physical Science, Engineering, Life Science, and Pharmacy) as well as three schools (Basic Medical Sciences, Dentistry and Medicine) and the Institute of Child Health.

Study population or sample: The estimated population is about 40,000 students excluding academic and non-academic members of staff. The Faculty where the study was carried out has a total population of 2377 registered full time students. The sample size was calculated using Raosoft® sample size calculator with response distribution, confidence level and margin of error set at 50%, 95 % and 5% respectively a sample size of 331 was obtained. However 400 was used in order to make up for attrition rate. The inclusion criteria used were consenting participants must be full time students of the faculty of social science from 200 to 400 level and postgraduates students. While the exclusion criteria includes; Individuals who are not students of University of Benin, students below 200 level and students of other faculties in the University of Benin as well as academic and non-academic members of staff of the University of Benin.

Study design and data collection: A prospective cross-sectional study with the aid of structured questionnaire with open and closed ended questions was administered to consenting students in the Faculty of Social Sciences, University of Benin. A sample size of 400 students was drawn from population of 2377 full

time students using convenience sampling technique. The questionnaire comprised of 40 questions in two sections; section one was on social demographic data such as; age, sex, marital status, religion, educational level and economic status, while section two consists of knowledge of LD, types of LD used by participants, frequency of use, quantity of LD used and reasons for the use of LD. Each questionnaire was administered and filled in the presence of pre-trained researcher. Consenting students were assured of confidentiality of their information.

The data collected were analyzed using Statistical Package for the Social Sciences (SPSS version 20). Descriptive statistics including cross tabulations, frequencies and explorative analysis were carried out. Associations among various predictor -parameters such as age, level of education and sex were conducted using GraphPad InStat (version 3.0) by GraphPad software Inc, and Chi squared test for independence. Differences among the analyzed variables were considered significant when $p < 0.05$.

Results

A total of 400 students were surveyed of which 210 (52.50%) were male while the remaining 190 (47.50%) were females. Over 80.5% of the respondents were undergraduates, 13.75% had bachelors of Science degree (Bsc), and 5.55% were postgraduate students. Majority of the

respondents were single (91.25%) and were between 18 and 24 years of age. Only 12 out of the 400 respondents were Muslims and 69.25% earned between ₦10,000 to ₦29,999 monthly. Results in Table 1 on knowledge and use of lifestyle drugs revealed that 54.8% knew what lifestyle drugs are, and 45.2% did not. Caffeine was the drug commonly used by respondents with 85% admitting taking it; nutritional supplements were next in line used by 65.3% of respondents. Other lifestyle drugs with high frequency of usage were topical skin lightening drugs, alcohol and narcotics by 45%, 41.5% and 31% of the respondents respectively.

Table 2 presents data on types and frequency of lifestyle drugs used among participants in the survey. Nutritional supplements were used daily by 14.2 % of respondents, while 41.7% used them occasionally; 12.7% of respondents took caffeine daily while 60.2% used it occasionally. Habitual or everyday users of alcohol, cannabis and nicotine were 4.7%, 4.5% and 6% of participants respectively. It is therefore concluded that the students are occasional users of LD.

Table 3 depicts frequency of use of lifestyle drugs based on gender of respondents. Majority of respondents used caffeine, more than 80% of both genders, similar trend was observed with the use of nutritional supplements as more than 60% of both gender used these drugs, and nicotine use more than 20% from each gender.

Table 1: Frequency and percentage of respondents that use lifestyle drugs

| VARIABLE | YES | % | NO | % |
|--|------------|-------------|------------|-------------|
| <u>Awareness/ knowledge</u> | | | | |
| <u>Do you know what lifestyle drugs are?</u> | <u>219</u> | <u>54.8</u> | <u>181</u> | <u>45.2</u> |
| <u>Usage level</u> | | | | |
| Do you take caffeine? | 340 | 85.0 | 60 | 15.0 |
| Do you take nicotine | 102 | 25.5 | 298 | 75.5 |
| Do you take alcohol | 166 | 41.5 | 234 | 58.5 |
| Do you take cannabis? | 38 | 9.5 | 362 | 90.5 |
| Do you take narcotics? | 124 | 31.0 | 276 | 69.0 |
| Do you take codeine? | 82 | 20.5 | 318 | 79.5 |
| Do you take diuretics? | 39 | 18.7 | 361 | 90.3 |
| Do you take oral contraceptives? | 55 | 13.8 | 345 | 86.2 |
| Do you use drugs for erectile dysfunction? | 54 | 13.5 | 346 | 86.5 |
| Do you take skin lightening pills? | 41 | 11.2 | 359 | 88.8 |
| Do you take steroids | 30 | 7.5 | 370 | 92.5 |
| Do you use topical skin lightening drugs? | 180 | 45.0 | 220 | 55.0 |
| Do you take nutritional supplements? | 261 | 65.3 | 139 | 34.7 |

Table 2: Frequency of use of lifestyle drugs (N=400)

| Type of lifestyle drug | Everyday No (%) | Every other day No (%) | Occasionally No (%) |
|------------------------|--------------------|---------------------------|------------------------|
| Caffeine | 51 (12.7) | 49 (12.2) | 241 (60.2) |
| Nicotine | 24 (6.0) | 14 (3.5) | 63 (15.7) |
| Alcohol | 19 (4.7) | 16 (4) | 131 (32.7) |
| Cannabis | 18 (4.5) | 5 (1.2) | 15 (3.7) |
| Oral contraceptive | 3 (0.7) | 22 (5.5) | 32 (8) |
| Erectile dysfunction | 4 (1) | 13 (3.2) | 35 (8.7) |
| Nutritional supplement | 57 (14.2) | 37 (9.2) | 167 (41.7) |

Table 3: Frequency of use of lifestyle drugs based on gender Male n=210, Female n=190

| VARIABLE | MALE No (%) | FEMALE No (%) |
|---------------------------|----------------|------------------|
| Caffeine | 176 (83.8) | 164 (86.3) |
| Nicotine | 51(24.3) | 51 (26.8) |
| Alcohol | 102 (48.6) | 64 (33.7) |
| Cannabis | 29 (13.8) | 9 (4.7) |
| Narcotics | 73 (38.4) | 51 (26.8) |
| Codeine | 47 (22.3) | 35 (18.4) |
| Diuretics | 22 (10.5) | 17 (8.9) |
| Oral contraceptives | 0 (0) | 55 (28.9) |
| Erectile dysfunction | 54 (25.7) | 0 (0) |
| Skin lightening pills | 20 (9.5) | 21 (11) |
| Steroids | 21 (10) | 9 (4.7) |
| Topical lightening creams | 83 (39.5) | 190 (100) |
| Nutritional supplements | 136 (64.7) | 125 (65.7) |

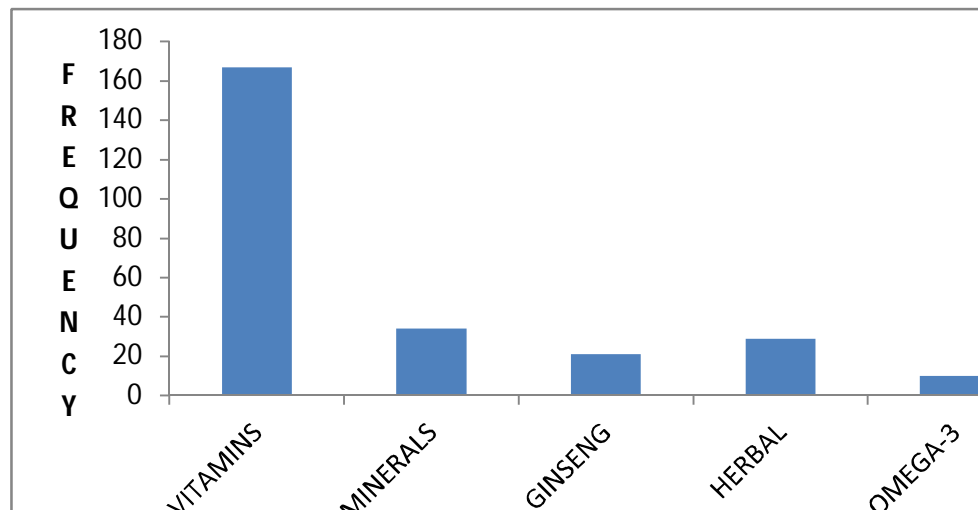


Figure 1: Types of nutritional supplements used

All females in this survey used topical lightening creams, a few also used oral contraceptives (28.9%).

by 8.5% of respondents, 5.3% of respondents use ginseng, 7.3% of respondents use herbal products while 7.5% of respondents use omega-3 fatty acid supplements.

Figure 1 shows that vitamins were used by 41.7% of respondents, mineral supplements used

Table 4: Reasons for the use of lifestyle drugs

| VARIABLE | RECREATION N (%) | HABIT N (%) | PRESCRIPTION N (%) | LIFESTYLE MODIFICATION N (%) |
|----------------------------|---------------------|----------------|-----------------------|------------------------------------|
| Caffeine | 173 (43.2) | - | - | 170 (42.5) |
| Nicotine | 76 (19) | 26 (6.5) | - | - |
| Alcohol | 140 (35) | 26 (6.5) | - | - |
| Cannabis | 38 (9.5) | - | - | - |
| Narcotics | 42 (10.5) | 25 (6.5) | 63 (15.7) | - |
| Codeine | 52 (13) | - | 31 (7.5) | - |
| Diuretics | - | - | 20 (5) | 19 (4.7) |
| Oral contraceptives | - | - | 15 (3.7) | 40 (10) |
| Erectile dysfunction | - | - | 13 (3.2) | 41 (10.2) |
| Skin lightening pills | - | - | 16 (4) | 25 (6.2) |
| Steroids | - | - | 19 (4.7) | 12 (3.0) |
| Topical creams | - | - | 65 (16.2) | 117 (29.2) |
| Nutritional supplements | - | - | - | 261 (65.2) |

Respondents took different products containing the lifestyle drugs in this study. 51.7% of respondents who took caffeine usually take it as coffee. Nicotine gum is more commonly used than cigarettes 25.5% of participants took nicotine as either cigarette (34.4%) or as gum (54.1%), then 166 (41.5%) students take alcohol. Of those who took narcotics, tramadol was the most frequently used by 6.7% of respondents while 7.5% of participants took dexamethasone. Among females who used oral contraceptive pills, 85% used Postinor 2 (levonogestrel) an emergency contraceptive, while 15% used combination 3 (ethinylestradiol, ferrous fumarate and levonorgestrel). Among males who used sexual enhancing drugs, Sildenafil in different brand names was used by 17.6%, while 8.8% used herbal preparations. Skin lightening creams mostly used by the respondents contain either corticosteroids or hydroquinone, and were used by 50% of respondents. In this study, 41.7% of respondents used vitamins as supplements and 7.2% used herbal products.

Discussion

The study revealed that about half of the respondents knew what lifestyle drugs (LD) are, although, those without knowledge may have as well used some of these drugs. In a study conducted in Tanzania, a high level of perception (91.9%) of LD was observed among students [4]. There was high usage of LD in this

survey as more than 85% of respondents admitted using caffeine, these respondents may also have used other LD concurrently or at other time as shown by nutritional supplements used by more than 60% of respondents. Studies in other parts of the world reveal a higher prevalence of LD use among university students in Kenya and Brazil [5, 6]. Caffeine is the most commonly used of the LDs consumed as coffee, and respondents report using it for recreational purpose and habit. Caffeine is readily available in different products such as tea, coffee, and energy drinks. Caffeine consumption among students has been reported due to its stimulating effect on the central nervous system (CNS) thus improving academic performance. Even in low levels, it is said to increase cognitive performance and mood [7, 8], thus consumers crave for more and they tend to become habitual users. Long-term use of caffeine is not free from adverse effects, notably of which is chronic daily headache [9].

Alcohol, Nicotine, Narcotics and Cannabis are all CNS stimulants, Cannabis (marijuana) is classified as illicit drug of abuse. In a French population-based study among medical students, stimulants were taken not only for academic performance, but also to have an active lifestyle, wakefulness, balancing studies and time off, novelty seeking behavior and for their euphoric effects. Some students also sought these drugs due to peer pressure [10]. Low prevalence of

alcohol users was reported with 48.6% male and 33.7% female users in this survey, alcohol use among women is now socially acceptable as people now embrace western culture, while among males, prevalence is low compared to use in other localities like in Brazil, 83.1%, and 92.1% in Kenya among university students [5, 6]. The reason for this observation is not so clear. Tramadol is the narcotic mostly used by participants in this study, probably because it is available even without a prescription in many medicine outlets. Many non-professional medicine sellers readily give it to their clients for most pain-related complaints, for some who may experience "high" as a result of its usage, they usually get refill without resistance, and codeine in antitussives is also commonly used this way. This trend was observed among high school seniors in the United States, those who obtained prescription opioids in the past used it as refill for more opioids [11]. 9.5% of males use cannabis, this is quite worrisome although it is lower than in other studies [5,6], because it is illegal, more worrisome is the fact that it can be cultivated even at homes and used in various forms. The long-term effects associated with psychoactive agents such as alcohol, nicotine and use of cannabis among youths cannot be overemphasized as they are linked to high-risk sexual behaviours and violent behaviours resulting in increased crime rates and sexually transmitted diseases.

Diuretic use without prescription as seen in this study may indicate its use to lose weight among females as it is falsely assumed that the diuretic effect may result in weight loss. Diet pill consumption is among the weight control practices adopted by desperate weight conscious individuals which should be strongly discouraged [12]. This trend is more common among females who want to keep in shape to be attractive. Similarly, males who tend to build up their muscle mass misuse drugs as shown by 36.6% of oral Dexamethasone used without prescription. Weight gain an adverse effect of corticosteroid use is wrongly believed to increase muscle mass. Conversely, studies have revealed that glucocorticoids as different from anabolic steroids are the most common type of drug-induced myopathy, mostly pronounced with fluorinated glucocorticoids like Dexamethasone [13, 14]. Prolonged use of steroids is a risk factor for hypertension, diabetes, osteoporosis, and cataracts [15].

Sexual seeking behavior is a major reason for LD use. One fourth of the males in this survey have taken sildenafil to enhance sexual performance, while 28.9% of females used oral contraceptive (OC) pills to prevent unplanned pregnancies abortion tendency. Other methods of contraception such as barrier method were not explored in this survey. Reduction of unwanted pregnancy among emergent adults (18-25 years of age) has become a public health issue as an increased number of youths attend colleges and thus delay marriage and childbirth [16]. Low prevalence rate of 10.9% and 11% respectively for contraceptive pills were recorded in Tanzania and Ghana among students [5,17]. 85% of females who used OC pills took emergency pill (Levonogestrel) more than combined OC pills; this may be attributable to adherence issues and possible adverse effects from the latter on prolonged use.

Skin lightening creams were used by all females and a few males in this study. Most were not prescribed, thus they were consciously used to enhance aesthetics. This practice is growing as an earlier report in Nigeria showed that 73.3% of women and 27.6% of males used skin lightening products [18]. In Africa, use of skin lightening creams has its root in colonialism and enslavement and globally as a result of white supremacy. Females have higher tendency for this practice than males, reasons for their use includes perceived improvement of one's self-esteem, higher chance of securing marriage partners and good jobs, and light-skin individuals are seen as more beautiful and healthier [19]. Skin-lightening creams containing hydroquinone and corticosteroids were mainly used by participants. These creams have been shown to be associated with some adverse effects such as skin peeling, acne, and itching [20].

LD use among adults is a practice that has come to stay, even if users admit that most of the drugs used are not necessary for their indications [5, 21]. Social acceptance, peer pressure and temporary feelings of self-gratification outweigh economic considerations and safety issues with LD use.

Conclusion

From the findings of this study, there is an

average level of awareness and high usage of one or more lifestyle drugs among social science students especially the use of caffeine and nutritional supplements, topical creams for skin lightening, alcohol and narcotics by males than female students for recreation and lifestyle modification purposes. However, females use more skin lightening pills and topical creams than males. They also use lifestyle drugs beautification, weight loss, increase energy, academic performance and for sexual seeking tendencies occasionally.

Indiscriminate use of lifestyle drugs is an aspect of social life that should be given prompt attention as some of these drugs have long-term adverse effects. Routine educational/awareness interventional programs should be offered to institutions and the public by relevant school authorities and social organizations to curb this trend.

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