

## **KNOWLEDGE OF SECONDARY SCHOOL STUDENTS IN IKENNE LGA, OGUN STATE, NIGERIA ON PHYSICAL ACTIVITY AS A MEANS OF HEALTH PROMOTION**

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### **ABSTRACT**

*Physical exercises (PE) are beneficial to the physical development and functioning of the human body, useful for the reduction of the risks of chronic disease conditions such as Cardio Vascular Diseases (CVDs), diabetes, hypertension, and obesity. The objective of the study therefore was to determine secondary school students' knowledge and use of physical exercises for health promotion in Ikenne Local Government Area, (LGA), Ogun State, Nigeria. The study was descriptive and cross-sectional in design. Four out of the eleven public secondary schools in the study area were randomly selected by balloting for study. Data were collected using pre-tested semi-structured questionnaires interview 502 students. Data were treated using EPI-INFO version 6 software to carry out the descriptive and inferential statistical analysis. The survey results showed that the ages of the students ranged from 10-30 years, with a mean of (15.6±2.4) years. All the respondents had heard about PE and their main sources of information included television, (63.7%) and school, (59.6%). Ninety five percent of the students reported ever participating in PE; among this subgroup, 74.6%, were currently involved in PE. The mean weekly frequencies of participation in PE at home and at school were (3.5±2.1) and (3.3±2.4) times respectively. There was no significant relationship between perception on participation in PE and sex of the respondents ( $p>0.05$ ). A sizeable percentage of respondents were aware that physical inactivity could predispose one to obesity, (49.6%), heart-related health problems, (43.6%), and hypertension, (33.7%). There was a significant relationship between awareness of health problems and class of students with those in higher classes having a higher level of awareness ( $p<0.05$ ). A total of 72.7% reported that PE improves one's immunity while, 48.6% claimed that PE help to relieve tension and stress. 45.2% reported that PE improve students' concentration in class and 29.7% disclosed that PE help students' to perform better in their studies. The mean knowledge score based on a 21-point scale on the health benefits of PE was (13.0±3.5). There was a significant relationship between the mean knowledge score and age of the students with those who are older having a high level of knowledge ( $p<0.05$ ). The study concludes that involvement in PE is common among secondary school students there is a need to improve their knowledge on the health benefits of PE. It is recommended that health education strategies such as advocacy and peer education and mass media be used to upgrade their knowledge about the therapeutic effects of PE.*

**Key Word:** Physical exercise, Health promotion, Secondary School Students knowledge, Ikenne and Physical exercises.

## 1. INTRODUCTION

The term “Physical Exercise” (PE) refers to the progressive structural bodily movement aimed at promoting physical fitness. It is a healthy activity which is an aspect of physical activity. A “Physical Activity” (PA) on the other hand is any movement, which results in the expenditure of energy (Caspersen and Merritt, 1995; Robbins, Power and Burgess, 1997; Gardon, 2000 and Hornby, 2000). It may not be geared toward physical fitness but bodily movement produced by skeletal muscles (Pate, Pratt and Blair, 1995). The term PE is used in this study though the term is closely related to PA. “Physical Exercise” therefore connotes all activities planned and initiated by or for in-school young persons to promote their physical fitness and health generally (Price and Walton (2002). The physical fitness or health promotion brought about by PE could be cardiovascular in nature; it increases the body’s muscular strength, flexibility, and good quality oxygen exchange (enhanced breathing). The human body is a wonderful moving machine. The bones, the joints, and ligaments provide support for movement. All the body is made to work best when it is physically active. The benefits of PE could be physical, when it promotes people’s physical health and mental, psychological, intellectual and mental wellbeing. The effect of PE could be immediate; the effects could also be noticed at a latter time in life. For instance PE has been found to reduce the infirmity associated with old age. (paffenbarger, wing, and Hyde, 1978 and 1994). Regular PE could be cardio-vascular exercises, resistance exercises (weight training), and flexibility exercises which help to strengthen the heart and bring about relaxation Hesson, (2006).

The universal human need for PE has long been recognized and stressed among others by Ademuwagun, (1983) and paffenbarger. It has been noted that most traditional Nigerian societies used games and sports to prepare the youth to be healthy and productive (Ajala, Amusa and Sohi, 2005). In the ancient times, for instance, PE was used by some Nigerian societies for preparing men for war and as a means of self-preservation and self-defense. Even in modern societies PE is an indispensable or compulsory aspect of military training. has adduced some reasons why PE is on decline and these include inadequate facilities, inability to asses equipment, equipment are costly, the available spaces are now acquired for banks, houses and industrialization and lack of government policy relating to physical fitness and well-being.

The need for in-school young persons and adults to engage in regular PE as one of the prerequisites for achieving optimum health has long been recognized but this is not seen as a priority in most schools in Nigeria . Participation in physical exercises is vital to the normal growth and development of secondary school children. It has been observed that exercises enhance learning, better concentration, improved self-control, self-confidence as well as promote health and positive life-long attitudes among students (Daviz and Daviz, 1997;).

In Nigeria, participation in competitive sports by both sexes has gained national recognition (Amusa, 1986; Akingbola 1989). However, the turnout of female students in secondary schools for participation in sports is generally below expectation. Females do not perceive themselves to be strong enough to indulge in PE (Adedeji, 1978). Olatunbosun (1990) has listed some factors

that militate against youth involvement in physical exercises in Nigerian schools. They include negative parental attitude to PE, handicapping conditions, lack of infrastructure, and lack of interest. Parents act as barriers to students' participation in. According to for instance, the family exerts profound influence upon the attitude, perceptions and behaviour of secondary school adolescents regarding the worth of physical exercises. The declining participation of young students in PE motivates this study. Two hypotheses were formulated and tested in this study. The first states that "There is no significant relationship between participants' awareness of the use of PE to promote health and their current participation in PE". The second is that "There is no significant relationship between the socio-demographic characteristic of the students and their pattern of participation in PE as a means of promoting health".

## **2. LITERATURE REVIEW**

Owing to the importance of PE in health promotion, the USDHHS (1990), targeted PE as one of the national health priorities for the year 2000. Few females participate in PE compared with the males (Adedeji, 1978). This was further corroborated by Booth and Sandal, (1997). Male students are more active in physical exercises than the females Clayton Thomas, (undated), has said that there is no evidence whatsoever that vigorous PE and athletics are harmful to women. There are no stresses that can in any way harm reproductive organs or interfere with the menstrual cycle if the PE is moderate (Robins, Power, and Burgess, 1997).

The old arguments about the loss of femininity when a girl demonstrates her athletic ability are fast disappearing (Hanskraus, 1961). This encourages schools to be offering a wider range of women's sports. However, many girls and women still lead a rather sedentary life with not enough activity to tax their cardio vascular system. They often complain of fatigue upon exposure to mild physical activities or exercises. Some girls do participate in PE. They said PE makes them look and feel better', "helps them use extra energy and develops a nice body and good posture'. Many people often associate fitness with good physical performance, not with good health or better performance on the job or in the classroom.

One of the 2010 objectives for the USA is to reduce to not more than 22 percent of adult above age 65 in U.S. who will **not** participate in active lifestyle, While, Casparsen and Kriska, (1997) suggested that less than eight percents of adults over the age of 65. Arthur, Cherie and James, (1985) called for the involvement of all in physical exercises and that should include both young in the schools and colleges and the elderly person. According to Adams (1997), the pattern of involvement in PE varies from childhood to old age with children and adolescents more physically active than the adults. It has been noted that participation in physical activities start to decline after adolescents and the middle ages and peoples involvement in PE decreases dramatically with age (USDHHS, 1996).

According to CDCP, (1998).report, girls are significantly less active than boys at all ages (USDHHS, 1996; This observation was supported by Sallis, Patrick, Long, Calfas, Wootten, and

Shripe, (1992); The age related decline in regular physical exercise is most notable for African-American and Hispanic girls (USDHHS, 1997;). The prevalence of involvement in PE depends on the status of PE and factors influencing their development and promotion among in-school population. Social norms could play a role, in the U.S. some people equate thinness with attractiveness while it attracts social approval (CDCP,1991, 1993 Kustnitz and Fine, 2001). Consequently, there is enormous pressure on people especially children and adolescent to be thin. The pervasive social preference for thinness is often exploited by the advertising and fashion industries The situation accounts for the high prevalence of body dissatisfaction and various kinds of weight lose behaviour among both male and female adolescents in the secondary schools and in the universities (Paxton, Wertheim, Gibbons, Szmukler, Hillier and Petrovich, 1999).

The most important physical exercises that students in Nigeria widely participate in, is football. It is a game that involves the whole body According to Amusa (1986) many Nigerians have little or no time for leisure. He observed that the proportion of Nigerians who actually engage in structured physical exercises is negligible. Okafor (1986) on the other hand noted that there is a growing awareness about the need for individuals to take a greater responsibility for their own health without the use of medication. It was his opinion that Nigeria is gifted with a lot of facilities that can be harnessed and developed for people's use.

In a 1996 survey involving 5,320 men and 7,447 women greater than or equal to 18 years, it was found that the prevalence of physical inactivity among respondents was approximately 30% (n=3967). This was similar to the levels reported for adults in United States (WHO, 2000). The prevalence of physical inactivity was highest among adults of 65 years and above, women, racial/ethnic minorities, persons with a high school education or less, and persons with annual household incomes of less than \$20,000. The prevalence may be different across borders observed Health and Fentem, he was. Studies by Health and Fentem, (1997) revealed that Children and adolescents are more physically active than the adults but participation in PA declines in adolescents. Various factors include planning to use sporting activity/physical activity and recreation settings to promote health accounted for this (Fiona 2005). The other factors because most parents discourage their children from participation in PE due to fear of injury (Amusa, 1986). There are no epidemiological studies to guide decisions about the amount of activity that children require generally but experts estimated that they should be active for half an hour to an hour per day, and that the school should provide 100 to 150 minutes per week of active physical education (WHO, 2004). The need for students to actively participate in PE informed the need for this study.

### **3. RESEARCH METHOD**

The study was descriptive, combining quantitative and qualitative techniques. Five hundred and two questionnaires were administered to the male and female students of public school in Ikene LGA of Ogun State. Simple random sampling methods were used consisting of classifying the schools into Day schools and boarding schools and grouping the schools into urban and rural areas while selection by balloting was adopted to pick the schools covered by the study. Only

students who consented verbally to participate in the study were interviewed. The instrument was pre-tested in two schools which were not selected to participate in the main study but share the same characteristics as the selected schools. The pretest exercise also served as a pilot study of the data collection procedure and it helped in the validity of the instrument. The EPI/INFO version 6, a statistical package was used to facilitate data entry and analysis. Statistical tools such as the mean, range, ANOVA and Chi-Square statistics were used for data analysis.

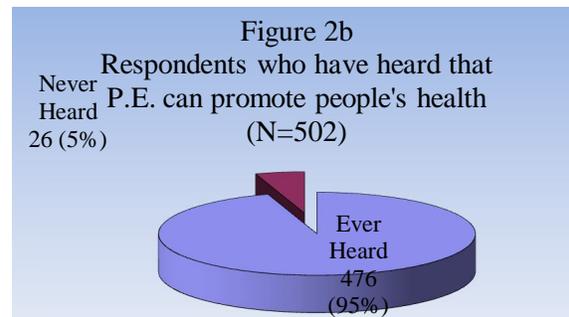
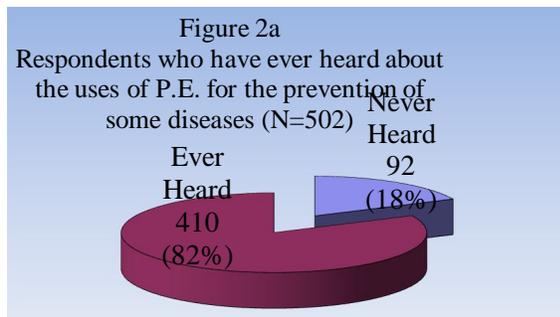
## 4. RESULTS

### 4.1 Socio-Demographic Characteristics

Tables 1a and 1b present the socio-demographic characteristics of the respondents and their parents. Participants in JSS 2 topped, 135(26.5%), the list, closely followed by those in SS1, 125 (24.9%). A majority, 435 (86.7%), of the participants were day students. 52.8% of the respondents were male while female were 47.2%. Their ages ranged from 10 to 30 with a mean and standard deviation for boys and girls as  $(15.8 \pm 2.6)$  and  $(15.2 \pm 2.1)$  respectively. The overall mean age of the participants was  $(15.5 \pm 2.4)$ . 62.9% of the respondents were teenagers aged 15 to 19 years; those of 10 to 14years age bracket were 32.3%.

### 4.2 Awareness and knowledge relating to PE

82.9% of the participants were aware that PE could be used to treat some disease conditions (see figure 1). The television (60.3%) topped the list of the reported sources of information about the therapeutic effects of PE. 82% of the participants also reported that they were aware of the use of PE to prevent some diseases was sources from the school was 46.8%. 95% of the respondents were aware or have heard that PE could be used to promote people’s health. The least mentioned sources of information about the health promotive effects of PE are the hospitals that stood at 2.9% while the church 0.6%.



Source: Researchers fieldwork

### **4.3 Knowledge scores related to the therapeutic effects of PE**

A 25-point knowledge scale was developed to assess participants' knowledge about the therapeutic effects of PE with special reference to the health promoting and disease preventing effects of PE. The overall mean score was 13.03%. A total of 57.6% of the respondents had individual knowledge score above the overall group mean knowledge score, while the individual knowledge scores of 42.4% were below the group mean knowledge score.

A step was further taken to determine the knowledge mean score of the participants by class. The results are shown in table 1 revealed that students in JSS2 had the highest mean knowledge score of 1.65 followed by SS2 students with a mean score of 1.59. A significant relationship was found between participants' class and knowledge of the therapeutic effect of PE. A comparative analysis of the mean knowledge scored of the participants' by sex (gender) is contained on Table 2 showing that the females had a higher mean knowledge score of 0.81, while that of the male was 0.79. A significant relationship between gender and knowledge score was not established.

The mean knowledge scores of the participants by age group as presented in table 3 revealed that respondents within the 15–19 age group had the highest mean knowledge score (0.83) followed by those within the 10-14 age group with a mean score of 0.76. The relationship between the participants' ages and mean knowledge scores was not found to be significant. The mean knowledge scores of the respondents whether they were day students or live in boarding facilities revealed that those with boarding facilities was 0.75, while those without were 0.81. There was no significant relationship between the mean knowledge scores with type of residence or living situation (see table 4 for details). Table 5 highlighted that participants' who repeatedly participated in PE at home had a mean score of 0.81, while those who did not had 0.75. No significant difference was found.

## **5 TESTING OF THE FORMULATED HYPOTHESES**

Hypothesis 1: "There is no significant relationship between participants' awareness of the use of PE to promote health and their current participation in PE"

The result on table 6 showed the relationship between the participants' awareness of the use of PE to promote health and their pattern of participation in PE. 95.8% of those who were aware of the use of PE to promote health were still involved in PE. A similar phenomenon was also found among those who were not even aware of the use of PE to promote health. There was no significant difference in participation in PE for health promotion by level of awareness ( $p > 0.05$ ).

Hypothesis 2: There is no significant relationship between the socio-demographic characteristic of the students and their pattern of participation in PE as a means of promoting health.

Table 7 focused on the relationship between students' key socio-demographic characteristics and the pattern of participating in PE for health promotion. The relationship between participation in PE for health promotion and the students' gender revealed that 54% of the male adolescent and 44% of the female adolescents participated in PE as a means of promoting Health. 52.0% of

females and 48.0% male did not use PE as a means of promoting health. There was however no significant relationship between participation in P.E for the purpose of health promotion by the sexes or gender of the respondents ( $p>0.05$ ).

Table 8 showed the relationship between Patterns of participation in PE as a means of promoting health by class. 65.4% of the respondents participated in PE to promote health as students in JSS2 topped the list with 25.4%. The relationship between the use of PE to promote health was not found to be significantly related to class.

Relationship between patterns of participation in PE as a means of promoting health by type of residence is presented in table 9. Among students who indulged in PE for health promoting 88.0% were day students. Among the subgroup 37.7% who did not participate in PE as a means of promoting health, 83.8% were also day students. The study revealed that there was no significant relationship between participation in PE for health promotion and type of residence.

## **6. DISCUSSION**

### **6.1 The Socio demographic characteristics**

A significant portion of socio-demographic attributes of the study participants reflected what is characteristic of secondary school populations in Nigeria that most of the students were teenagers within the normal secondary school age group as stipulated in the Nigerian Educational Policy (Fafunwa, 1987; Federal Ministry of Education (FMOE), 1998). According to the national policy on education, at the age of six years children should be in the first year of primary school, while at the age of 11 years, under normal circumstances, school children should be in the first year of the secondary school (i.e. JSS 1) (Ojo, 2004;). The implication of this is that at the age of 16 or 17 years school children should be in the final year of secondary school (i.e. SSS 111) The results of previous studies carried out in Ogun State among secondary school students which highlighted the mean age or age range of secondary school students agreed with this study (Fafunwa, 1987, Ogunbiyi, 2004; on residential status, Sotonwa and Banjo, 2004; Abisoye, 2004).

In Nigeria PE constitute both curricula (Fafunwa, 1987; FMOE, 1998) and co-curricular activities (Adams, 1997). This may have accounted for why many students were not only aware of physical exercises as health promoting activities but, were also familiar with some of the benefits associated with involvement in PE. The study has revealed that the print and electronic media as well as the school are important sources of information about PEs among the participants. It is to be noted that the print and electronic media are influential and credible sources of information to people generally (Ajuwon, Mcfarlan, Hudes, Adedapo, Okikiolu, and Lurie, 2002). The print and electronic media at the disposal of the participants therefore need to be encouraged to be serving as channels for the dissemination of factual information about PE to in-school adolescents in the study area.

The conclusion therefore is that while at school, adolescents constitute a captive audience that can be readily, cheaply and effectively reached with health promoting messages by teachers. This is more so because teachers are usually perceived not only as role models but as credible sources of information (Fafunwa, 1987, Sotonwa and Banjo, 2004). Combined use of the school,

the print and electronic media could be appropriately used to promote the social marketing of regular involvement in PE among the students and other adolescents of similar socio-demographic characteristics. There are two major advantages inherent in the use of the combined strategies (Ajuwon et al, 2002; Adeyi, Kanki, Odutolu and Idoko, 2005). First, the approach helps to prevent contradictory messages. Second, the approach helps to ensure that the weaknesses of one channel are counterbalanced by the strength of the others (Adesegun and Jimoh, 2005).

The study found that there were cases of outright lack of knowledge among the participants about the relationship between participating in PE and the occurrence of some disease conditions. These gaps in knowledge need to be addressed through well designed educational interventions. This is crucial because lack of knowledge is among the important underlying factors which adversely influence people's health behaviours or health related practices (Green and Kreuter, 1991).

## **6.2 Perceptions of PE**

The results found that the respondents have several misconceptions related to involvement in PE. For instance a sizeable proportion of them shared the view that participation in PE is not necessary after graduating from secondary school. Some other misconceptions which were documented included the following: That it is not safe for girls to indulge in PE during menstruation, involvement in PE easily makes a girl's breast to sag, and boys or girls who participate in PE are usually dull academically. Ajuwon, (2000) noted some misconception associated with HIV AIDs in his study carried out in Ibarapa area of Oyo State among Secondary school students. He noted that educational interventions aimed at debunking unscientific beliefs, views or opinions are needed. There is the need for educational messages to stress that participation in PE should last throughout people's lives (White, 1999; WHO, 2002) and that it promotes the health of adolescents (Adams, 1997) and adults (WHO, 2002) of both sexes (Sallis, Patrick, Long, Calfas, Wootten, and Shrpe, 1992,). It is necessary to upgrade in-school adolescent's awareness about the role of PE in promoting healthy ageing (USDHH, 1996, Morriss, 1997; WHO, 1997, 1998, 2004), so as to drive home the point that involvement in PE should be a life long activity.

The involvement in PE for at least twice a week reported by 32.1% of the participants was rather low. It could be argued that the low frequency of involvement in PE per week is a reflection of their little motivation to be involved in PE. Some of the disclosed reasons for not indulging in PE such as "no time/it's a waste of time", "lack of interest", and "lack of the teaching of PE" at school's may have contributed to this state of affairs.

The results have shown that ball-related games were enjoyed most by a majority of the students. The indulgence in these games such as football, volleyball, hand-ball, table-tennis and basketball, is not done with the aim of ensuring health promotion. Some of the games such as football, are among the in-school and inter-collegiate competitive sports. A total of 65.1% had ever indulged in PE with the promotion of their health as the primary motive. This finding is of public health importance as the prevalence is not considered to be encouraging enough. Since regular involvement in PE (not for competitive purposes) is a direct investment in health, it is desirable

for an overwhelming majority of the students to indulge in PE for the purpose of health promotion.

## **7. IMPLICATIONS OF THE FINDINGS FOR HEALTH PROMOTION AND EDUCATION**

It is important to target teachers to enhance students participation in PE because they continue to serve as role models (Fafunwa 1987), locos-parentis (White, 1999; Fafunwa, 1987) and influential behavioral and attitudinal change agents for adolescents in school settings. They need to be empowered with knowledge and skills needed for raising students' critical consciousness and interest in PE for health promotion.

The in-school adolescents need training programmes aimed at facilitating their adoption of regular indulgence in PE for health promotion. This will entail upgrading their functional knowledge relating to the basic principles and practice of PE for health promotion as well as the inculcation of skills needed for indulgence in PE for health promotion.

Journalists in the print and electronic media need to be empowered to be designing and disseminating factual and scientifically sound information relating to PE for health promotion since the mass media, based on the results of this study, constitute an important source of information and motivation to be involved in PE for the students.

## **8. CONCLUSION**

The study concludes that there is the need to implement interventions aimed at raising of students knowledge about the therapeutic effects of PE, empowerment of students with appropriate skills relating to physical exercise and the promotion of the application of PE related skills and discouragement of negative attitudes and promotion of the positive ones relating to PE. In addition, it concludes that there is the need to tackle the misconceptions which may be militating against the adoption of PE by the students not only for competitive purposes but for health promotion as well.

The study further concludes that there is the urgent need to invest in the recruitment of qualified physical education teachers, and the re-orientation of those currently in service. The provision of essential facilities in the schools for generating and sustaining students' interest in PE cannot be over-emphasized.

## **9. RECOMMENDATIONS**

1. School-based educational interventions that feature the active involvement of students should be designed and implemented to promote universal indulgence in PE among the students using the findings of this study as base line.
2. The print and electronic media need to be involved in the dissemination of messages about the therapeutic effects of PE. In order to do this more effectively, the capacities of

mass media practitioners need to be enhanced through training on the design and dissemination of media messages which appropriately address the needs of school populations.

3. There is the need for authorities of Ogun State educational system to put in place appropriate facilities and other resources in secondary schools with a view to creating an enabling environment for the adoption of indulgence in PE for health promotion.

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Table 1

Comparison of the mean knowledge scores of respondents by class

| <i>Class</i>     | <b>Number</b> | <b>Mean</b> | <b>Variance</b> | <b>Std. Dev.</b> |
|------------------|---------------|-------------|-----------------|------------------|
| JSS 2            | 133           | 1.654       | 0.228           | 0.477            |
| JSS 3            | 120           | 1.567       | 0.248           | 0.498            |
| SS 2             | 125           | 1.592       | 0.243           | 0.493            |
| SS 3             | 124           | 1.246       | 0.252           | 0.502            |
| ANOVA            |               |             |                 |                  |
| <b>Variation</b> | <b>SS</b>     | <b>Df</b>   | <b>MS</b>       | <b>p-value</b>   |
| Between          | 2.383         | 4           | 0.596           | 0.044443         |
| Within           | 120.241       | 497         | 0.242           |                  |
| Total            | 122.624       | 501         |                 |                  |

Kruskal wallis-Chi Square=9.735, df=4, p-value<0.05. Source: Researchers fieldwork

Table 2

Comparison of the mean knowledge scores of respondents by sex/gender

| <b>Gender</b>    | <b>Number</b> | <i>Mean</i> | <b>Variance</b> | <b>Std. Dev.</b> |
|------------------|---------------|-------------|-----------------|------------------|
| Male             | 262           | 0.798       | 0.162           | 0.402            |
| Female           | 237           | 0.810       | 0.154           | 0.393            |
| Difference       |               | -0.012      |                 |                  |
| ANOVA            |               |             |                 |                  |
| <b>Variation</b> | <b>SS</b>     | <b>Df</b>   | <b>MS</b>       | <b>p-value</b>   |
| Between          | 0.019         | 1           | 0.019           | 0.727990         |
| Within           | 78.734        | 497         | 0.158           |                  |

|       |        |     |  |  |
|-------|--------|-----|--|--|
| Total | 78.754 | 498 |  |  |
|-------|--------|-----|--|--|

Kruskal wallis-Chi Square=0.121, df=1, p-value>0.05. Source: Researchers fieldwork

Table 3

Comparison of the mean knowledge scores of respondents by age group

| Age Group | Number | Mean  | Variance | Std. Dev. |
|-----------|--------|-------|----------|-----------|
| 10-14     | 159    | 0.761 | 0.183    | 0.428     |
| 15-19     | 315    | 0.832 | 0.140    | 0.375     |
| 20-24     | 22     | 0.727 | 0.208    | 0.456     |
| 25-30     | 2      | 0.500 | 0.500    | 0.707     |
| ANOVA     |        |       |          |           |
| Variation | SS     | Df    | MS       | p-value   |
| Between   | 0.850  | 3     | 0.283    | 0.146517  |
| Within    | 77.864 | 494   | 0.158    |           |
| Total     | 78.715 | 497   |          |           |

Kruskal wallis-Chi Square=5.370, df=3, p-value>0.05. Source: Researchers fieldwork

Table 4

Comparison of the mean knowledge scores of respondents by type of residence-either day or boarding students

| Type of Residence | Number | Mean   | Variance | Std. Dev. |
|-------------------|--------|--------|----------|-----------|
| Boarding          | 67     | 0.754  | 0.188    | 0.434     |
| Day               | 432    | 0.810  | 0.154    | 0.393     |
| Difference        |        | -0.056 |          |           |
| ANOVA             |        |        |          |           |
| Variation         | SS     | Df     | MS       | p-value   |
| Between           | 0.176  | 1      | 0.176    | 0.292340  |
| Within            | 78.461 | 494    | 0.159    |           |
| Total             | 78.637 | 495    |          |           |

Kruskal wallis-Chi Square=1.111, df=1, p-value>0.05. Source: Researchers fieldwork

Table 5

Comparison of the mean knowledge scores of respondents by prevalence of involvement in PE at home

| Involvement in PE at Home | Number | Mean   | Variance | Std. Dev. |
|---------------------------|--------|--------|----------|-----------|
| Yes                       | 422    | 0.813  | 0.153    | 0.391     |
| No                        | 77     | 0.753  | 0.188    | 0.434     |
| Difference                |        | -0.060 |          |           |
| ANOVA                     |        |        |          |           |
| Variation                 | SS     | Df     | MS       | P-Value   |
| Between                   | 0.231  | 1      | 0.231    | 0.227255  |
| Within                    | 78.523 | 497    | 0.158    |           |

|       |        |     |  |  |
|-------|--------|-----|--|--|
| Total | 78.754 | 498 |  |  |
|-------|--------|-----|--|--|

Kruskal wallis-Chi Square=1.460, df=1, p-value>0.05. Source: Researchers fieldwork

Table 6  
Relationship between participants' awareness of the use of PE to promote Health and their current Participation in PE (N=476)

| Awareness about the use of PE to promote health | Currently participating | No longer participate in PE |
|---|-------------------------|-----------------------------|
| Group aware                                     | 340<br>(95.8%)          | 15<br>(4.2%)                |
| Group not aware                                 | 112<br>(92.6%)          | 9<br>(7.4%)                 |
| Total   | 452<br>(95.0%)          | 24<br>(5.0%)                |

Mantel Haenzel; Chi Square=1.94, df=1, p-value>0.05  
Source: Researchers fieldwork

Table 7  
Pattern of participation in PE as a means of promoting health by gender (sex)

| Pattern of participation                                | Male           | Female         | Total          |
|---|----------------|----------------|----------------|
| Do not participate in PE as a means of promoting health | 84<br>(48.0%)  | 91<br>(52.0%)  | 175<br>(34.9%) |
| Participate in PE as a means of promoting health        | 181<br>(55.4%) | 146<br>(44.6%) | 327<br>(65.1%) |
| Total   | 265<br>(52.8%) | 237<br>(47.2%) | 502<br>(100%)  |

Kruskal Wallis-Chi Square=2.19, df =1, p-value>0.05  
Source: Researchers fieldwork

Table 8  
Relationship between patterns of participation in PE as a means of promoting health by class

| Class | Use of PE for health promotion | Do not use PE as a means of promoting health | Total          |
|-------|--------------------------------|--|----------------|
| JSS 2 | 93<br>(28.4%)                  | 40<br>(23.1%)                                | 133<br>(26.6%) |
| JSS 3 | 76<br>(23.2%)                  | 44<br>(25.4%)                                | 120<br>(24.0%) |
| SSS 1 | 75<br>(22.9%)                  | 50<br>(28.9%)                                | 125<br>(25.0%) |
| SSS 2 | 83<br>(25.4%)                  | 39<br>(22.5%)                                | 122<br>(24.4%) |

|       |                |                |     |
|-------|----------------|----------------|-----|
| Total | 327<br>(65.4%) | 173<br>(34.6%) | 500 |
|-------|----------------|----------------|-----|

Kruskal Wallis-Chi Square=3.41, df =3, p-value>0.05

Source: Researchers fieldwork

Table 9  
Relationship between patterns of participation in PE as a means of promoting health by type of residence

| <b>Pattern of participation in PE</b> | <b>Living in boarding house</b> | <b>Living as day students</b> | <b>Total</b>   |
|---------------------------------------|---------------------------------|-------------------------------|----------------|
| Do not participate in PE              | 28<br>(16.2%)                   | 145<br>(83.8%)                | 173<br>(34.7%) |
| Participate in PE                     | 39<br>(12.0%)                   | 287<br>(88.0%)                | 326<br>(65.3%) |
| Total                                 | 67<br>(13.4%)                   | 432<br>(86.6%)                | 499            |

Kruskal Wallis-Chi Square=1.37, df=1, p-value>0.05

Source: Researchers fieldwork