Effectiveness of the Health Action Process Approach on Promoting the Health Behaviors of Male High School Students in Al-Rusafa District

فاعلية نهج عملية العمل الصحي على تعزيز السلوكيات الصحية لطلبة المدارس الإعداديـة الذكور في منطقة الرصافة

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المستخلص:
الاهداف : هدفت الدراسة الى تقييم مدى فعالية النهج القائم على العملية الصحية في تطبيق البرنامج على السلوك الصحي للطلاب في الأنشطة البدنية المعتادة، وتحديد العلاقة بين عمر الطلاب، والحالة الاجتماعية والاقتصادية للأسرة والمشاركة في تمرين بدني منتظم و الفعالية الذاتية المضادة للتدخين في منطقة الرصافة.
المنهجية : كان تصميم البحث لهذه الدراسة شبه تجريبي. اشتملت عينة الدراسة على طلاب الثانوية العامة الذكور، حيث بلغ حجم العينة النهائي (١٦٠). العينة كانت غير احتمالية (عينة ملائمة)، حيث تم اختيار (٨٠) طالب لمجموعة الدراسة و (٨٠) طالب للمجموعة الضابطة للطلبة الذكور في سن ١٥-٢٠ سنة، أجريت عملية جمع البيانات باستخدام الاستبيان. تم إعطاء الاستبيان للمشاركين للإجابة عليها ذاتيا. كما تم استخدام الاستبيانات لجمع البيانات في ٣ نقاط زمنية (ما قبل التطبيق للبرنامج، وبعد التطبيق الأول بعد شهر واحد من تطبيق البرنامج، وبعد التطبيق الثاني بعد ثلاثة أشهر من تطبيق البرنامج) في المدرسة الثانوية.
النتائج: أظهرت النتائج عدم وجود فرق معتد به إحصائيًا في تراكيب نهج عملية العمل الصحي بين مجموعات الطبقة الاجتماعية والاقتصادية للعائلة. أقل من نصف المشاركين في مجموعة الدراسة يمارسون الرياضة بانتظام مع انقطاعات أطول. أكثر من نصف المشاركين في مجموعة الدراسة يؤدون تمرينًا خلال الأسبوع ثلاث مرات على الأقل وفي كثير من الأحيان لمدة ٣٠ دقيقة، إلى حد التعرق (ن = ٤١؛ ٥١،٢٥%) مع مجموعة التحكم (ن = ٣١؛ ٣٨.٧٥٪). كان هناك اختلاف كبير في الكفاءة الذاتية التحفيزية للطلاب لممارسة الرياضة بانتظام، والتعامل مع الكفاءة الذاتية للبقاء نشيطًا بدنيًا، وتوقعات نتائج التدخين، والفعالية الذاتية لمكافحة التدخين.
الاستنتاج: استنتجت الدراسة إلى أن نهج عملية العمل الصحي له تأثير إيجابي على تعزيز السلوك الصحي، فهو يعزز تحفيز طلاب مجموعة الدراسة، والكفاءة الذاتية، والتعامل مع الكفاءة الذاتية للبقاء نشيطًا بدنيًا، والنتائج المتوقعة للإقلاع عن التدخين في حين أنها لم تعزز في مجموعة الطلاب الضابطة.
التوصيات: توصي هذه الدراسة بتطبيق نهج العملية الصحية لتعزيز السلوك الصحي للطلاب وتثقيف الطلاب حول السلوك الصحي والرياضة وفوائدها على الصحة وتثقيف الطلاب حول التدخين وآثاره الضارة على الصحة.
الكلمات المفتاحية: الفاعلية، نهج عملية العمل الصحي، السلوك الصحي.

Abstract:
Objectives: The study aimed to evaluate the effectiveness of the Health Action Process Approach based on the application program on students' engaging in regular physical exercise and to identify the relationship between students' age, family's socioeconomic status and engaging in regular physical exercise and antismoking self-efficacy in Al-Rusafa District.
Methodology: A quasi-experimental design. The study sample included high school male students, the final sample size was (160). Non-probability sampling (convenience sample) are chosen, (80) students study group and (80) students control group aged 15-20 years. Data collection were conducted by using the questionnaire. The study questionnaire was given to participants to complete. The questionnaires were also used to collect the data in 3 time points (pre-application of program, post-application phase I after one month of application, post- application phase II after three months of application of program) in high school.
Results: There was no statistically significant difference in the health action process approach constructs among family's socioeconomic class groups. Less than a half of participants in the study group perform exercise regularly with longer interruptions. More than a half of participants in the study group perform exercise during the week at least three times or more often for 30 minutes, to the extent of sweating (n = 41; 51.25) were compared to the control group (n = 31; 38.75%). There was a significant difference in the students' mmotivational self-efficacy for exercising regularly, coping self-efficacy for staying physically active, smoking outcomes expectancies, and anti-smoking self-efficacy.
Conclusions: Health action process approach has positive effect on promoting health behavior, as it was enhancing the study group students' motivation self-efficacy, coping self-efficacy for staying physically active and outcome expectancies quitting smoking while, it is not enhancing the control group students.
Recommendations: The study recommends applying the health process approach to enhance students' healthy behavior, educating students about healthy behavior and sports and their benefits to their health, educating students about smoking and its harmful effects on health.
Keywords: Effectiveness, health action process approach, health behaviors, high school students

Introduction

Healthy behaviors of high school students aims at improving health, protecting and enhancing physical, cognitive, mental and social wealth of the individual to the utmost degree. The purpose of improving health is to add positive behaviors to individuals, and to ensure their continuity [(1)].

There is a Physical inactivity has been identified as the fourth leading risk factor for global mortality (6% of deaths globally). This follows high blood pressure (13%) tobacco use (9%) and high blood glucose (6%). Overweight and obesity are responsible for 5% of global mortality, levels of physical inactivity are rising in many countries with major implications for the general health of people worldwide and for the prevalence of Non-communicable diseases (NCDs) [(2)].

Higher levels of sedentary behavior among children and young people are associated with greater risk of obesity and cardiovascular disease risk factors, greater risk of depressive symptoms, higher overall energy intake and consumption of energy-dense food and drinks, and lower intake of fruit and vegetables, lower academic performance, delayed cognitive development and poor school performance, reduced psychosocial wellbeing and self-worth, poor sleep patterns (e.g., short or delayed sleep) [(3)(4)(5)].

Tobacco use is one of the biggest public health threats the world has ever faced, in most countries the great majority of smokers begin to use tobacco before age 18-years among those young people who smoke, nearly one-quarter smoked their first cigarette before they reached the age of ten [(6)].

Schools are in a uniquely powerful position to play a major role in reducing the serious problem of smoking and other tobacco use by kids. Children spend almost a third of their waking time in school, or about 135 hours per month; and much of the peer pressure kids feel regarding whether or not to use tobacco occurs in school, nearly 90 percent of adult smokers begin smoking at or before the age of 18 [(7)]. A wealth of evidence has shown that 60 min of daily Moderate to vigorous physical activity (MVPA) provides important benefits for body composition, cardiovascular and metabolic health, musculoskeletal health, mental health, and academic achievement among youth, consequently, the practice of physical activity is one of the main focuses for scientists and politicians regarding general public health, personal (gender, age and weight status) and contextual factors (school or out of school) have been considered as crucial in the quantity and quality of physical activity practice of individuals [(8)].

Different types and amounts of physical activity are required for different health outcomes, the WHO recommends that children and adolescents should accumulate at least 60 minutes of moderate- to vigorous-intensity physical activity daily to provide additional health benefits. Most of the daily physical activity should be aerobic. Vigorous-intensity activities should be incorporated, including those that strengthen muscle and bone, at least 3 times per week. Recent research has also suggested that people should reduce extended periods of sedentary behavior, such as sitting at work or watching TV, which may constitute an independent risk factor for health regardless of activity levels. Schools, through effective organization and delivery, are well-placed to maximize participation, enjoyment, and skill development for all students including those with diverse needs, abilities and interests [(9)]. Tobacco is known to be the only legal consumer product that can cause harm to everyone exposed to it and kills most of those who use it as intended, tobacco is also considered as the single most preventable cause of death in the world, the use of tobacco is widespread due to low prices, strong marketing, lack of education about its negative effects, and poor public policies against its use [(10)]. Continued efforts to prevent and reduce teenage smoking are critical in order to combat youth tobacco use [(11)]. The research aims to evaluate health behavior, to evaluate Health Action Process Approach, to determine the effectiveness of the HAPA-based the application of program on students' engaging in regular physical,

identify the relationship between students' age, family's socioeconomic status (SES), and engaging in regular physical exercise, identify the relationship between students' age, family's SES, and antismoking self-efficacy, Investigate the differences in students' engaging in regular physical exercise and antismoking self-efficacy relative to the groups of SES, grade and smoking status.

.Methodology

Design of the Study

The research design for this study is a quasi-experimental; the study is carried out between October 10th, 2018 to June 16th 2019 on high school male students in Al-Rusafa district in Baghdad City.

Sample of the study

The sample size is 160 students of Non-probability (Convenient sample) are chosen, (80) students a study group and (80) students control group.

Ethical Considerations

University of Baghdad, School of Nursing Research ethics committee had approved the study protocol. All the research related activities were executed based on the applied laws of respecting human subjects' rights. The students´ verbal consent has been taken and all measurements were taken by personnel who did not know if the subjects were in the study or the control group. from College of Nursing/ University of Baghdad, 2 experts from Iraqi Nutrition Research Institute and 3 faculty members from ministry of health.

Study Instrument:

Part one: Socio-demographic characteristics

Demographic data that include student's age and grade. The family's socioeconomic status consists of parents' level of education, household's occupation, and family's monthly income. The overall score ranges from below 7 to 38. Higher score indicates better socioeconomic status (higher socioeconomic level). The score of less than 7 indicates Low level, the score of 7-33 indicates moderate level, and the score of 34-38 indicates high level [12].

Part Two: Scale of the Study:

The researcher used the Duration and Type of Exercise Scale, questions about regularity, intensity of physical exercise, Motivational Self-Efficacy for Physical Exercise, Preactional Self-Efficacy for Physical Exercise, Exercise Outcome Expectancies, Coping Self-Efficacy for Physical Exercise, Smoking Status, Smoking Outcome Expectation, Anti-smoking Self-Efficacy, Outcome expectancies – Quitting Smoking.

Validity

Validity of the instrument (questionnaire) was done after experts' reviewed and content validity was established to investigate the clarity, relevance, and adequacy of the questionnaire in order to achieve the present study′s objectives. A preliminary copy of questionnaire was designed and distributed to (9) experts. They were 4 faculty members from College of Nursing/ University of Baghdad, 2 experts from Iraqi Nutrition Research Institute and 3 faculty members from ministry of health.

Reliability

Reliability of the research instrument is concerned with the consistency and dependability to measure the study variables. The reliability of the questionnaire determined by (test-retest) for the stability reliability. Pearson correlation coefficient used to measure the reliability. The normal range of reliability coefficient is from (-1.00) through (.00) to (+1.00). The reliability coefficient is viewed as satisfactory when it is above (0.70) [13].

Data Collection

The process of data collection was conducted from February 19th 2019 to June 4th 2019, were also used to collect the data in 3 time points (pre- application, post-application I after one month of application, post- application II after three month of application) in high school.

Statistical Data Analysis:

The statistical analysis of the data of the study is done by using Microsoft offices excel 2010 and SPSS package ver. 24.

Descriptive Data Analysis:

Statistical tables (Frequencies and percentages).

Inferential Data Analysis:

Multivariate analysis and analysis of variance (ANOVA) for equality of Means are used.

Results

Table (1): Participants' Socio-demographic Characteristics

Variables	Study (N = 80)		Control (N = 80)	
	Frequency	Percent	Frequency	Percent
Age				
15	6	7.5	2	2.5
16	16	20.0	23	28.75
17	31	38.75	27	33.75
18	15	18.75	19	23.75
19	8	10.0	6	7.5
20	4	5.0	3	3.75
Mean (SD)	17.19 ± 1.23		17.16 ± 1.11	
Socioeconomic Level				
Low level	6	7.5	5	6.25
Moderate level	65	81.25	67	83.75
High level	9	11.25	8	10.0

The age mean for participants in the study group is 17.19 ± 1.23; For the control group, the age mean is 17.16 ± 1.11; Regarding the family's socioeconomic level, more than a half of families in the study group are of the moderate socioeconomic level (n = 65; 81.25%). For the control group, more than a half of families are of the moderate socioeconomic level (n = 67; 83.75%).

Table (2): Descriptive Statistics for the Values of the Duration and Type of exercise of the study Sample for study and control group

Physical activities	Study Group (n = 80)					Control Group (n = 80)				
	Every day (f %)	3-4 times a week f %)	Once a week f %)	1-3 times a month f %)	Never f %)	Every day f %)	3-4 times a week f %)	Once a week f %)	1-3 times a month f %)	Never f %)
Bicycling	10 (12.5)	14 (17.5)	13 (16.25)	7 (8.75)	36 (45)	11 (13.75)	12 (15)	12 (15)	16 (20)	29 (36.25)
Walking	69 (86.25)	2 (2.5)	2 (2.5)	2 (2.5)	5 (6.25)	65 (81.25)	4 (5)	4 (5)	2 (2.5)	5 (6.25)
Gymnastics, aerobics	4 (5.0)	6 (7.5)	12 (15.0)	7 (8.75)	51 (63.75)	5 (6.25)	6 (7.5)	5 (6.25)	6 (7.5)	58 (72.5)
Endurance sports (swimming, running, jogging)	12 (15)	6 (7.5)	15 (18.75)	13 (16.25)	34 (42.5)	9 (11.25)	10 (12.5)	8 (10)	21 (26.25)	32 (40)
Bodybuilding (weight training, weightlifting etc.)	5 (6.25)	2 (2.5)	5 (6.25)	11 (13.75)	57 (71.25)	4 (5.0)	7 (8.75)	6 (7.5)	10 (12.5)	53 (66.25)
Martial arts (karate,	5 (6.25)	2 (2.5)	2 (2.5)	7 (8.75)	64 (80)	4 (5.0)	2 (2.5)	1 (1.25)	9	64 (80)

judo, taekwondo, kickboxing, boxing, etc.)									(11.25)	
Sport games (baseball, soccer, volleyball, tennis, handball, basketball)	21 (26.25)	15 (18.75)	11 (13.75)	11 (13.75)	22 (27.5)	27 (33.75)	22 (27.5)	8 (10)	4 (5)	19 (23.75)

The most reported physical activity concerning duration and type of exercise for participants in the study and controls group is walking (n = 69; 86.25%; n = 65; 81.25%) respectively.
Less than a half of participants in the study group reported that they exercise regularly with longer interruptions (n = 38; 47.5%), For the control group, two-fifth reported that that they exercise regularly with longer interruptions (n = 32; 40.0%), More than a half of participants in the study group reported that they exercise during the week at least three times or more often for 30 minutes, to the extent of sweating and being out of breath (n = 41; 51.25) compared to the control group (n = 31; 38.75%).

Table (3): Tests of Within-Subjects Effects for the Motivational Self-Efficacy for exercising regularly

Motivational Self-Efficacy		Mean	Std. Deviation		N		
Study Pretest		7.94	2.324		80		
Study Posttest I		9.4000	1.13182		80		
Study Posttest II		11.3125	.46644		80		
Source		Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Mot. SE (Study)	Sphericity Assumed	458.325	2	229.162	188.901	.000	.705
	Greenhouse-Geisser	458.325	1.153	397.375	188.901	.000	.705
	Huynh-Feldt	458.325	1.160	395.245	188.901	.000	.705
	Lower-bound	458.325	1.000	458.325	188.901	.000	.705
Error (Mot. SE Study)	Sphericity Assumed	191.675	158	1.213			
	Greenhouse-Geisser	191.675	91.117	2.104			
	Huynh-Feldt	191.675	91.608	2.092			
	Lower-bound	191.675	79.000	2.426			
Motivational Self-Efficacy		Mean	Std. Deviation		N		
Control Pretest		7.5875	2.30406		80		
Control Posttest I		7.7250	2.11669		80		
Control Posttest II		7.7000	2.24116		80		
Source		Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Mot. SE (Control)	Sphericity Assumed	.858	2	.429	.136	.873	.002
	Greenhouse-Geisser	.858	1.020	.842	.136	.719	.002
	Huynh-Feldt	.858	1.020	.841	.136	.719	.002
	Lower-bound	.858	1.000	.858	.136	.714	.002
Error(Mot. SE Control)	Sphericity Assumed	499.808	158	3.163			
	Greenhouse-Geisser	499.808	80.559	6.204			
	Huynh-Feldt	499.808	80.619	6.200			
	Lower-bound	499.808	79.000	6.327			

There was a (a priori p = 0.01) significant difference (F (1.153, 91.117) = 188.901, p = 0.01) in the students' Motivational Self-Efficacy for exercising regularly over time for participants in the study group. The omnibus effect (measure of association) for this analysis is .705, which indicates that approximately 70% of the total variance in the students' Motivational Self-Efficacy for exercising regularly values is accounted for by the variance in the administered intervention. For the control group, there was no significant difference (F (1.020, 80.559) = .136, p = 0.1) in the students' Motivational Self-Efficacy for exercising regularly over time. The omnibus effect (measure of

association) for this analysis is .002, which indicates that approximately .02% of the total variance in the students' Motivational Self-Efficacy for exercising regularly values is accounted for by the chance.

Table (4): Tests of Within-Subjects Effects for the Smoking Outcomes Expectancies

Smoking Outcome Expectancies		Mean	Std. Deviation		N		
Study Pretest		14.2250	3.33746		80		
Study Posttest I		16.5125	2.51070		80		
Study Posttest II		20.6375	3.32327		80		
Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Smoking Outcomes Expectancies (Study)	Sphericity Assumed	1689.825	2	844.912	302.364	.000	.793
	Greenhouse-Geisser	1689.825	1.798	939.656	302.364	.000	.793
	Huynh-Feldt	1689.825	1.838	919.571	302.364	.000	.793
	Lower-bound	1689.825	1.000	1689.825	302.364	.000	.793
Error (Smoking Outcomes Expectancies Study)	Sphericity Assumed	441.508	158	2.794			
	Greenhouse-Geisser	441.508	142.069	3.108			
	Huynh-Feldt	441.508	145.172	3.041			
	Lower-bound	441.508	79.000	5.589			
Smoking Outcome Expectancies		Mean	Std. Deviation		N		
Control Pretest		14.4875	3.57910		80		
Control Posttest I		13.6250	3.36916		80		
Control Posttest II		13.5375	3.25282		80		
Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Smoking Outcomes Expectancies (Control)	Sphericity Assumed	44.108	2	22.054	2.662	.073	.033
	Greenhouse-Geisser	44.108	1.006	43.854	2.662	.107	.033
	Huynh-Feldt	44.108	1.006	43.844	2.662	.107	.033
	Lower-bound	44.108	1.000	44.108	2.662	.107	.033
Error (Smoking Outcomes Expectancies Control)	Sphericity Assumed	1309.225	158	8.286			
	Greenhouse-Geisser	1309.225	79.458	16.477			
	Huynh-Feldt	1309.225	79.476	16.473			
	Lower-bound	1309.225	79.000	16.572			

There was a (a priori p = 0.01) significant difference (F (1.798, 142.069) = 302.364, p = 0.01) in the Smoking Outcomes Expectancies over time for participants in the study group. The omnibus effect (measure of association) for this analysis is .793, which indicates that approximately 79% of the total variance in the Smoking Outcomes Expectancies values is accounted for by the variance in the administered intervention. For the control group, there was no significant difference in the Smoking Outcomes Expectancies over time.

Table (5): Tests of Within-Subjects Effects for the Anti-Smoking Self-Efficacy

Anti-Smoking Self-Efficacy		Mean	Std. Deviation		N		
Study Pretest		8.47500	3.06460		80		
Study Posttest I		9.8625	1.05235		80		
Study Posttest II		11.5875	.49539		80		
Source		Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Anti-Smoking Self-Efficacy (Study)	Sphericity Assumed	389.025	2	194.512	62.681	.000	.442
	Greenhouse-Geisser	389.025	1.209	321.883	62.681	.000	.442

	Huynh-Feldt	389.025	1.217	319.608	62.681	.000	.442
	Lower-bound	389.025	1.000	389.025	62.681	.000	.442
Error (Anti-Smoking Self-Efficacy Study)	Sphericity Assumed	490.308	158	3.103			
	Greenhouse-Geisser	490.308	95.479	5.135			
	Huynh-Feldt	490.308	96.158	5.099			
	Lower-bound	441.508	79.000	5.589			
Anti-Smoking Self-Efficacy		Mean	Std. Deviation			N	
Control Pretest		8.0875	3.51918			80	
Control Posttest I		8.5250	3.07285			80	
Control Posttest II		8.4500	3.01011			80	
Source		Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Anti-Smoking Self-Efficacy (Control)	Sphericity Assumed	8.758	2	4.379	.570	.567	.007
	Greenhouse-Geisser	8.758	1.005	8.719	.570	.453	.007
	Huynh-Feldt	8.758	1.005	8.717	.570	.453	.007
	Lower-bound	8.758	1.000	8.758	.570	.453	.007
Error (Anti-Smoking Self-Efficacy Control)	Sphericity Assumed	1213.908	158	7.683			
	Greenhouse-Geisser	1213.908	79.359	15.296			
	Huynh-Feldt	1213.908	79.373	15.294			
	Lower-bound	1213.908	79.000	15.366			

There was a (a priori p = 0.01) significant difference (F (1.209, 95.479) = 62.681, p = 0.01) in the Anti-Smoking Self-Efficacy over time for participants in the study group. The omnibus effect (measure of association) for this analysis is .442, which indicates that approximately 44% of the total variance in the Anti-Smoking Self-Efficacy values is accounted for by the variance in the administered intervention. For the control group, there was no significant difference in the Anti-Smoking Self-Efficacy over time.

Discussion

Part-I: Discussion of Participants' Socio-demographic characteristics

There was no statistically significant difference in the Health Action Process Approach constructs among family's socioeconomic level groups in the pretest time. Looking over results of families' socioeconomic status displays that almost families of moderate socioeconomic status and groups. That is, the families are invariant in terms of socioeconomic status which could be mirrored in their physically inactive behavior and unsatisfactory antismoking behaviors, the age mean for participants in the study group is 17.19 ± 1.23; For the control group, the age mean is 17.16 ± 1.11; Regarding the family's socioeconomic level.

A study conducting on sample from a public, urban, Illinois middle school stated to examine the relationship between socioeconomic status and physical fitness and established odds ratios for achieving Healthy Fitness Zone status in junior high school students. Low socioeconomic status can potentially affect the physical fitness of a student in a number of ways, including to lack of health education within the household, low-quality and nonnutritive food, and lack of recreation facilities within the community. However, this study found the finding seems to indicate that there is no difference in physical fitness between boys of high and low socioeconomic status but that weight status and body composition may be impacted, the age mean for

participants in the study 16.28±1.07 years old, ranging from 14 to 19 years old [14].

The age mean for participants in the study group is 17.19 ± 1.23; For the control group, the age mean is 17.16 ± 1.11; Regarding the family's socioeconomic level, more than a half of families in the study group are of the moderate socioeconomic level (n = 65; 81.25%). For the control group, more than a half of families are of the moderate socioeconomic level (n = 67; 83.75%).

Part-II: Discussion of Regularity and Intensity of Physical Exercise

Less than a half of participants in the study group reported that they exercise regularly with longer interruptions (n = 38; 47.5%), followed by those who reported that they exercise regularly with short interruptions (n = 21; 26.25%), those who do not exercise (n = 17; 21.25%), and those who exercise regularly without interruptions (n = 4; 5.0%). For the control group, two-fifth reported that that they exercise regularly with longer interruptions (n = 32; 40.0%), followed by those who reported that they exercise regularly with short interruptions (n = 26; 32.5%), those who do not exercise (n = 19; 23.75%), and those who exercise regularly without interruptions (n = 3; 3.75%).

In Tunisia, a study conducted to assess the frequency of physical activity in Taiwanese adolescents and to identify associated socio-demographic and behavioral variables, the sample was 2235 adolescents (1157 boys and 1078 girls) aged 12-18 years. Although 80% of adolescents reported engaging in some physical activity, only 28.4% of the sample met recommended guidelines. Boys and urban adolescents were more active than rural adolescents; and the prevalence of physical activity declined with age. Mean sedentary time was 9.5 hours each day [15].

Part-III: Discussion of the Motivational Self-Efficacy for Physical Exercise

There was a significant difference in the students' Motivational Self Efficacy for exercising regularly over time for participants in the study group. The omnibus effect (measure of association) for this analysis was .705, which indicates that approximately 70% of the total variance in the students' Motivational Self-Efficacy for exercising regularly values is accounted for by the variance in the administered intervention. For the control group, there was no significant difference in the students' Motivational Self-Efficacy for exercising regularly over time. The omnibus effect for this analysis is .002, which indicates that approximately .02% of the total variance in the students' Motivational Self-Efficacy for exercising regularly values is accounted for by the chance. This finding reflects the positive effect of the HAPA-based intervention in enhancing students' Motivational Self-Efficacy for exercising regularly.

A study conducted on Spanish Secondary Schools bases on Self-Determination Theory, to analyze how motivational processes within physical education classes can predict intention to participate in sport or physical activity outside of the school curriculum. Participants included 1,692 Spanish students. The study result displayed that perception of basic psychological need support from teachers predicted autonomous and controlled motivation to physical education through basic psychological need satisfaction.

Furthermore, autonomous motivation to physical education positively predicted enjoyment, perceived importance of physical education, and intention to participate in sport or physical activity outside school [16].

Part IV: Discussion of the Smoking Outcome Expectation

There was a significant difference in the Smoking Outcomes Expectancies over time for participants in the study group the omnibus effect for this analysis was .793, which indicates that approximately 79% of the total variance in the Smoking Outcomes Expectancies values is accounted for by the variance in the administered intervention. For the control group, there was no significant difference in the Smoking Outcomes Expectancies over time. This finding indicates that the HAPA based intervention helped students to realize potential deleterious consequences of smoking behavior.

In North-East Thailand conducted an experimental study. They were divided into either a study group (n = 99) or a control group (n = 127). Participants in the study group underwent two days of a smoking prevention program and the control group was not subjected to this program. Participants in the study group were smokers and non-smokers. Regarding knowledge related to the dangers of cigarettes, the study group had significantly higher scores than the control group at the three different stages (pre-program, immediate post-program, and one month post-program p = 0.001, 0.001, and 0.024 respectively). The influential factor significantly related to decision-making related to quitting cigarettes was advice, especially from friends and families [17].

Part V: Discussion of Anti-smoking Self-Efficacy as Shown in Table (5):

There was a significant difference in the Anti-Smoking Self-Efficacy over time for participants in the study group. The omnibus effect for this analysis was .442, which indicates that approximately 44% of the total variance in the Anti-Smoking Self-Efficacy values is accounted for by the variance in the administered intervention. For the control group, there was no significant difference in the Anti-Smoking Self-Efficacy over time. This finding implies that students remarkably developed behaviors that enable them to evade smoking behaviors and even passive smoking they possibly can expose to by smoker peers.

A cross-sectional study in United States of American was to examine the impact of personality factors, cognitive factors (sense of coherence and self-efficacy) and coping resources (family and friend social support) on cigarette smoking behaviors among college students. The study results displayed that students who reported lower levels of conscientiousness (implies a desire to do a task well, and to take obligations to others seriously) and self-efficacy had a greater likelihood to had tried cigarette smoking. Also, students who had lower levels of self-efficacy reported smoking more frequently and greater quantities of cigarettes than students with higher levels of self-efficacy. Self-efficacy was the most significant predictor of smoking behaviors [18].

Conclusions

According to discussion of the present study findings, the study concludes the following:

1. Given the results of families' socioeconomic status in study displays that almost all families of middle to poor socioeconomic stats and groups.

2. The Health Action Process Approach has positive effect on promoting health behavior, it enhances the study group students' motivation self-efficacy, preactional self-efficacy, exercise outcome expectancies, coping self-efficacy for staying physically active, smoking outcomes expectancies and outcome expectancies quitting smoking While, it does not enhance the control group students.

3. Anti-smoking self-efficacy has increased over time. This means that students have developed behaviors that can evade smoking and even passive smoking.

4. There is no statistically significant difference in the Health Action Process Approach constructs among families' socioeconomic level groups in the pretest time, exercising regularity groups in the pretest time.

Recommendations

In view of the above conclusions; the following points and remarks would be recommended

1. Implementation of the Health Action Process Approach to promoting health behavior of students
2. Educating students about health behavior and sport and its benefits for health
3. Educating students about smoking and its harmful effects on health and how to avoid it and the interest of students in other activities and concerns
4. Focusing on high school students to participation in sports programs and maintain healthy athletic behavior.

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