Assessment of Sport Practice among Adolescent School Students and Its Effect on Perceived Health in Sharkia Governorate –Egypt

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Abstract: Sedentary lifestyle is a major contributing factor to increasing health problems among adolescents. Inactive youth have a high probability of becoming obese adults with increased risk for coronary heart disease, hypertension, and diabetes. This study aimed to assess the frequency of practice of adolescent students towards sport practice, to study some of the risk factors that affect sport practice and to measure the subjective direct and indirect effects of sports participation on perceived health. The sample was selected by multistage simple random sample technique from students of preparatory and secondary schools. The tool in our study was questionnaire which was included data about practice of sports and its association to socioeconomic condition, some lifestyle factors, knowledge, attitude, , the direct and indirect effect on perceived health, then we measured body weight and height of the students and calculated their Body Mass Index. Obtained data revealed that 81.8% our sample practice sports but the majority of them with low level of practice 75.2%, study work were the most barriers against practicing sports 29.4% while fun and social role were the most common motives (30.5%& 23.5%respectively). Low levels of knowledge, attitude as well as negative perception of health & high level of anxiety, feeling depression and psych-physiological score were significant among those not practice sports. In addition; smoking, obesity, female sex were significant associated with non practice of sports. In conclusion; feeling anxiety, depression, negative attitude, low level of father and mother education were the most common predictor factors of not practice sport, so we recommend health education programs, social mobilization to eliminate barriers and increase motives toward sport practice and incorporated more students into sports programs into schools or community.
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1. Introduction:

Physical activity has considerable health benefits for children and adolescents. During the 20th century, the main leading causes of death shifted from infectious to chronic diseases: cardiovascular disease, cancer, and diabetes which they are now considered the most prevalent, costly and preventable of all health problems. Physical activity is considered one of the important issues that may favourably affect some risk factors for cardiovascular disease such as body mass index (BMI), blood lipid profiles and resting blood pressure (Jafar et al 2008). Weight-bearing exercise increases bone mass density among young healthy people and improves aerobic endurance and muscle strength (Marwaha&Sripathy 2008).

Morales and active involvement in sport and exercise has beneficial effects relating to psychological well-being and lowered risk of negative health behaviors including smoking, alcohol use and longevity. exercise is negatively associated with stress, anxiety and depression in adolescents (Seefeldt et al2001) . Physical activity also makes a significant contribution to the overall quality of life at any age and especially in older adults (Brownson et al 2000).

Wasfi et al (2008) reported that World Health Organization (WHO) in 2003emphasized the importance of behaviour risk factor surveillance as a first step for prevention of non communicable diseases.

Physical activity is defined as any body movement produced by a contraction of skeletal muscle those results in a substantial increase over resting energy expenditure. For children, physical activity often consists of play, recreational activities, and competitive sports. Seventy percent of children engage in some vigorous physical activity (activity at 60% or more of maximum heart rate for age), but only 42% of males and 30% of females are vigorously active by the end of adolescence (Anne et al 1998).

In a sample of Icelandic 15- and 16-year-old adolescents, Thorlindsson and colleagues' (1990) reported that sports participation had a direct effect on perceived health. Furthermore, sports participation affected perceived health indirectly through

decreasing smoking, anxiety, feeling depression and psycho- physiological symptoms (Pastor et al 2003).

Despite the reported benefits of sport and exercise, scientists and educators repeatedly report that many young people are physically inactive (Seedfeldt et al 2001). So, this study was conducted to get information about the practice of adolescent students of sport and study some of the risk factors that affect it. Also, this work will threw light the direct and indirect effects of sports participation on perceived health.

2. Subjects and Methods:

The present work was carried on a sample of adolescent school students who were selected from the preparatory and secondary schools.

The school sample was selected by multistage simple random sampling technique from Sharkia governorates. Two districts were randomly selected and from each one it was divided into urban and rural strata, from each area we randomlely selected schools for boys and others for girls from which a simple random sample was selected. Proportion allocation was putted into consideration during selection of our sample.

The sample size was calculate by assuming that the estimated non practice of sport among adolescent student about 22 % (Wasfi et al 2008). The confidence level was 95 % with a power of the study was 80 % and the population size of school student age 12-18 years in Sharkia Governorate was 588,747 (Centraland General Package Statistics System 1996). Putting into consideration10% non response rate, the calculated sample size was (374) that selected according to the proportion allocation of the different stage and gender.

Schools were approached and asked to take part in research on adolescents' health-related lifestyles. Administrative approval was taken from selected school. Adolescents were informed that participation in the study was voluntary and asked to complete the questionnaire with the researcher. The data were collected through:

A- questionnaire: Include:

1) socio-demographic data: as age, sex, residence, parental and maternal education and socio-economic status.

2) Tobacco consumption were measured and classified as: smoker (currently smoked at least 1 year before); passive smoker (continuous exposed to tobacco smoke exhaled by smokers in an enclosed environment); ex-smoker (smoked at least 1 cigarette/day over the year and had not smoked for 6 months or more at the time of study); and non-smoker (never smoked .

3) The knowledge in our questionnaire included 8 closed-ended questions; 3 about the benefit of sport on physical, mental and social health and 5 to assess knowledge regarding the dangerous effects of not practising sport on body weight, diabetes, hypertension, lipid profile and coronary heart disease. Level of knowledge regarding sport benefit was classified as high (66%–100%); acceptable (33% < 66%); and low (< 33%) (Wasfi et al 2008).

4) Attitude towards sport practice was classified as: positive (student agreed that sport practice has an effect on obesity or diseases such as diabetes or heart disease); negative (student agreed that sport practice leads to loss of money, effort or time); and indifferent (student neither agreed that there were beneficial effects nor that there were disadvantages). Sports participation was measured by asking the students how often they participated in sports, types of activities and duration. Then Actual sport practicing of students was classified into: good (student did vigorous exercise ≥ 3 times/week for about 20 min/session and also > 30 min of moderate physical activity most days of the week , acceptable (student did vigorous exercise < 3 times/week for about 60 min and > 30 min of moderate physical activity most days of the week); poor (student did no vigorous activity or irregularly practised vigorous exercise < 60 min/week and 30 min of moderate physical activity most days of the week; and none (did not practise physical activity at all).

Regularity of sport practice were classified into: regular (student practised sport regularly every day or every other day or at least 3 times/week); irregular (student practised sport in an irregular manner, not constantly and not every week or month throughout the year); and occasional (student practised sport occasionally ≤ 1 time/month throughout the year).

Perceived physical fitness was measured by using the single item 'How would you rate your physical fitness? This was assessed on a four point scale that ranges from 1 (not good at all) to 4 (very good).

The three dimensions of psychological distress employed in this work were: subjective feelings of anxiety and subjective feelings of depression and psycho- physiological symptoms. Feelings of anxiety were assessed by asking the students how often they felt nervous (range: 1='almost never' to 5='almost every day'). Feelings of depression were measured by asking the students how often they felt depressed (range: 1='almost never' to 5='almost every day'). These two variables were used only to measure subjective feelings of anxiety or nervousness and bad moods, it was not our intention to measure anxiety disorders or clinical depression. The psycho-

physiological symptoms variable is a mean score from four items measuring how often students suffered from headache, stomach pains, back pains or felt dizzy. Students rated each item on a five-point likert scale (range: 1='almost never' to 5='almost every day (El Sherbini 1996 and Guidelines for promoting physical activity and reducing sedentary living among youth 1997)

Perceived health status, was measured by asking students to assess their health on a four point scale which ranging from 1 (this mean not healthy at all) to 4 (very healthy). The items used in this paper came from a WHO cross-national survey of Health Behavior in School-children (Pastor et al 2003).

Anthropometric measurements as weight and height was measured and body mass index were classified according to WHO classification into underweight, normal, overweight or obese (WHO 1995).

Ethical consideration:

An orientation about the objectives of the study was carried out followed by verbal consent taken from every participant. Confidentiality was maintained through the study.

Data analysis

The data were analysed using Odds Ratio and confidence interval categorical data, and logistic regression analysis was done for significant risk factors. The data were coded and analysed using *SPSS*, version 15 (Statistical Package for social science for windows 1996).

3. Results:

As shown in (table 1) of the results, Most of our sample was practice sports 81.8% but the majority had low level of practice according to our classification (75.2%).

As regard to the regularity of practice sports, regularity was found in 17.6 % of those practice sports and 44.8 % had irregular practice while 37.6 % of them were occasionally practice sports as shown in (table 2)

As shown in (table 3), the most common place of practice sports in this study sample were at road and schools (48.0 % & 43.5% respectively).

On studying the barrier and motives toward practice sports we found that study work load and loss interest were the most frequent barrier against practice sport (29.4%& 27.9%) while tendency to fun and social role were the most frequent motives (30.5% & 23.5%). (Table 4)

Table (1) Practice of sport and perception toward the practice among the studied group

	Frequency	Percentage %
Practice sport:		
Not practice	68	18.2
Practice:	306	81.8
Level of practice:		
Low	230	75.2
Acceptable	43	14.0
Good	33	10.8

Table (2) Regularity of practice sports

	Frequency	Percentage
Irregular	137	44.8
Occasionally	115	37.6
Regular	54	17.6

Table (3) the most common place of practice physical activity:

	Frequency	Percentage
Roads	147	48.0
School	133	43.5
Club	26	8.5
Home	0	00.0

Table (4) common barriers and motives toward practice sports

	Frequency (68)	Percentage
Health problem	4	5.8
Social	15	22.1
Economic	5	7.4
Familial	5	7.4
Study work load	20	29.4
Loss of interest	19	27.9
Motives	Frequency (306)	Percentage
Fun	93	30.5
Social aspect	72	23.5
Skill development	67	21.9
Self esteem	54	17.6
Fitness	20	6.5

As shown in (table 5), Non practice of sport was more significant common among females OR 2.91 (1.64-5.17), obese OR 4.31 (1.95-9.67), smokers OR 1.98(1.1-3.59), and those who their father and mothers were of low educational levels OR 10.2(2.7-41.7) & 8.5 (3.18-23.5) respectively.

Table 6 showed that non practice of exercise was significant more among those with low level of knowledge OR 8.14(33-20.3), negative attitude OR 8.5 (3.5-20.7),feeling anxiety almost every day OR 11.5(5.3-25.2),feeling depression almost every day OR16.196.8-38.7), high psychophysiological score almost every day OR 9.8(4.4-22.2) and those of low bad perception of their health OR 3.58(1.15-11.83) .

According to logistic regreesion analysis in (table 7) we found that non practice of sport was more significant predicting among those feeling depression and feeling anxiety almost every day, those their fathers were illiterate,had high pychophysiological score almost every day ,had negative attitude,had illiterate mothers and had poor level of knowledge.

Table (5) association between practice physical activity and some biological, socioeconomic and life style factor.

Variable	Non practice sport		Practice sport		OR (CI)
	No	%	No	%	
Sex					
Male	27	11.8	201	88.2	
Female	41	28.1	105	71.9	2.91(1.64-5.17)
BMI					
Normal weight	12	10.1	107	89.9	1
underweight	7	14.0	43	86.0	1.45(0.48-4.32)
Overweight	19	16.8	94	83.2	1.8(0.78-4.19)
Obese	30	32.6	62	67.4	4.31(1.95-9.67)
Smoking:					
Smokers	46	22.7	157	77.3	1.98(1.1-3.59)
Non smoker	22	12.9	149	87.1	
Residence:					
Rural	40	18.8	173	81.2	1.1(0.6-1.9)
Urban	28	17.4	133	82.6	
Father education					
Illiterate	7	53.8	6	46.2	10.2(2.7-41.7)
read &write	17	39.5	26	60.5	5.8(2.4-14.3)
basic	19	52.8	17	47.2	10.06(4-25.6)
secondary	10	7.6	122	92.4	0.74(0.3-1.82)
university	15	10.0	135	90.0	1
Mother education					
Illiterate	23	44.2	29	.55.8	8.53(3.18-23.5)
Read and write	19	38.8	30	61.2	6.81(2.49-19.12)
Basic	5	13.9	31	86.1	1.73(0.45-6.46)
Secondary	13	9.1	130	90.9	1.08(0.4-2.98)
University	8	8.5	86	91.5	1

Table (6) association between practice physical activity among the studied sample and their knowledge, attitude, and their direct and indirect perception of health

	Non practice sport		Practice sport		OR(CI)
	No	%	No	%	
Knowledge: good	8	7.7	96	92.3	1
Average	20	11.7	151	88.3	1.59(0.6-4.1)
Bad	40	40.4	59	59.6	8.14(3.3-20.3)
Attitude: positive	35	12.6	242	87.4	1
Indifferent	17	25.0	51	75.0	2.3(1.1-4.6)
Negative	16	55.2	13	44.8	8.5(3.5-20.7)
Feeling anxiety: -Never	13	5.9	204	94.1	1
- To sometimes	22	27.8	57	72.2	6.06(2.7-13.6)
-Almost every day	33	42.3	45	57.7	11.5(5.3-25.2)
Feeling depression:-Never	9	4.3	198	95.7	1
-To sometimes	24	28.6	60	71.4	8.8(3.65-21.7)
-Almost everyday	35	42.2	48	57.8	16.1(6.8-38.7)
Psychophysiologoical score:					
-Never	11	5.8	180	94.2	1
-To sometimes	24	25.3	71	74.7	5.53(2.43-12.8)
- Almost everyday	33	37.5	55	62.5	9.8(4.4-22.2)
Perception of their health					
-Very good	5	11.6	38	88.4	1
-Good	16	14.4	95	85.6	1.28(0.40-4.33)
-Average	23	19.3	96	80.7	1.82(0.60-5.92)
-Bad	24	32.0	51	68.0	3.58(1.15-11.83)

Table (7) Logistic regression analysis of factors predicting practice of sport:

Variables	Beta ±SE	Wald	P
Feeling depression(almost every day)	-4.97±1.49	11.07	0.001
Feeling anxiety(almost every day)	-2.45±0.87	7.88	0.005
Father education(illiterate)	2.89±1.07	7.32	0.007
Pychophysiological score(almost every day)	-1.3±0.51	6.68	0.01
Attitude(negative)	1.16±0.54	4.56	0.03
Mother education(illiterate)	2.36±1.1	4.57	0.03
Knowledge(poor)	2.39±1.2	3.96	0.047

4. Discussion:

Health-related behavior in early life influences later risks for lifestyle-related disorders. It is therefore important to investigate the health behavior among young people in order to improve health promotion activities targeting this group. It would also help to develop health education initiatives targeting students, which requiring a detailed knowledge about the health of students, their health related behaviors, and factors that influence these behaviors (Afifi 2006).

This study revealed that 18.0% of the students did not practice sport while among those who practice sports 75.2 % of them had a poor level of practice. Only 8.9 % of school students had a good level of sport practice ,this may be related to that although children and adolescents are more physically active than adults. Also, many young people do not engage in moderate or vigorous physical activity (at least 3 days a week) (Afifi 2006).

Regular sport practice among our sample was only constituted 17.6 % while other study reported that regular practice of sport among local UAE students (50.6%) which was significantly higher than among non-UAE students (Wasfi et al 2008).This variation in regularity explained as sports clubs are more affordable for UAE , the UAE students' houses are larger and more suitable for sport practice than in our locality ,also The level of knowledge about the benefits of sport was also higher than among our sample.

This investigation clarify that the risk of non participation among female was significant higher about three times more than male. Most investigators of gender differences in physical activity have attributed this to the impact of socialization into sport or exercise involving family, school, or peer group ,20 other found that boys are more likely to have physically active friends and friend's physical activity is among the strongest correlates of one's own physical activity (Vilhjalmsson andThorlindsson1998). Also schools have a role in this differentiation through physical education (PE) classes. Thus, more girls than boys are believed to have negative physical exercise experiences that lower their interest and involvement in subsequent leisure time physical exercise (Ennis et al 1999) This is consistent with results of the Centers for Disease Control in the Youth Risk Behaviour Surveillance 1996.

The majority of collected sample had positive attitudes towards sport practice while participation of sports was about 8 times more among those with positive attitude toward practice of spots. In agreement with our study ;(Zakarian 1994) and (Ann et al 1998) revealed that positive attitudes toward physical education was positively associated with physical activity among young people.

the most motives for practice sports among this study was fun (30.5%) , socialization aspect to form friends and team work (23.5%) ,acquiring skills (21.9%) and for development self esteem (17.6%) this is agreeing with Gill, Gross and Huddleston who found that basic motives for involvement in sport were: achievement/status, team atmosphere, fitness, energy release, skill development, friendship and fun (Biddle 1997).

Fewer children of illiterate fathers practised sport (46.2 %) than did children of higher educated fathers (90%). The level of sport practice was significantly related to father's more than mother's level of education. The results can be explained on the basis that socioeconomic level and economic accessibility to sport practice mainly depends on the father's education level (Afifi 2006).

A high study workload was the main reason given for not practising any kind of sport among our study sample and this is consistence with many researches Also, lack of interest, social role of family or community, economic and health problems played a role in lack of sport practice. The explanation for social and economic problems is attributed to the unavailability of places for sport practice at home due to the small size of apartments, the high cost of sport clubs (Chinna et al 2006), this was evident in our research as most of the students practiced sports in the street or in schools. In agreement with the present study, Kelder et al (1995) concluded that lack of time is negatively associated with physical activity among adolescents . WHO 2007 revealed that many factors prevent young people from regular physical activity, including lack of time and motivation,

insufficient support and guidance from adults, feeling of embarrassment or incompetence, lack of safe facilities and locales for physical activity and simple ignorance of the benefit of physical activity.

Also, Hamlin and Ross (2005) found that social, behavioural and physical changes that characterize adolescence act as barriers to physical activity during this period. Major barriers included a reduction in active transport, altered community design, less physical education time at school and a shift away from active to passive leisure.

Our study found that sport practice among average weight students was significantly better than obese ones as the risk of not practice sports increase by about more than four times among this group compared to the average or normal weight. This result was agreement with Fogelman (2004). In fact obesity may be a risk for non practice sport and otherwise may be the direct result of not practice sport as Henry et al (2004) in their study concluded that the amount of physical activity undertaken by adolescents was very low and attribute this to Cultural and weather restrictions and social change of the community that are not conducive to physical activity and play a major role in levels of physical inactivity. This may explain, in part, the rise in the incidence of obesity in this population (Nerin et al 2004).

Non Smokers had about two fold more of practise sport than smokers. The practice of physical exercise during adolescence as part of a health prevention programme might interfere with the factors that lead young people to start smoking and thereby contribute to a reduction in the prevalence of tobacco use in the population as a whole. Sports participation could reduce smoking and alcohol use in adolescents which in turn would enhance health perceptions (Malek and Bakir 2007).

Also, sports participation might lessen feelings of depression, feelings of anxiety and reported psycho- physiological symptoms, and thus lead to improvements in health perceptions, this result was significant in our study as we found subjective feeling of anxiety, depression and psycho-physiological symptom were significant increase among non participants of sports (Pastor et al 2003).

The present study showed that non practice of sports was significant increase among those who had low level of knowledge about the benefit of sport while Wasfi et al (2008) in their study found that overall mean knowledge score about the benefits of sport among the studied sample was high this difference may be explained due to their believes as they considered that no knowledge is more crucial than knowledge about health, without health, no other life goal can successfully be achieved

Good perception of health was significant about seven times more among those practice sport In spite of that results, Henry et al (2002) reported that the significant direct effect of sports participation on perceived health is not altogether clear. Other variables might be mediating this relationship. For example, it is suggested that sports participation could improve self-esteem by increasing self-efficacy in the performance of specific sport activities and the different components of physical self-concept . It might be that with increasing self-esteem, the more optimistic for increasing the health assessment.

Other explanations of the effect of sport on perceived health could be the improvement of physiological functions (i.e. oxygenated blood for heart muscle needs, heart rhythm disturbances, blood pressure, beta-endorphin concentrations, mono-amines synthesis, etc.). Further research is required to shed light on processes involved in the effect of sports on perceived health.

5. Conclusion and Recommendation

The current study concluded that there was a strong relationship between non sport practice and feeling of depression, anxiety, level of education of father (illiteracy), psycho-physiological symptom, positive attitude toward practice of sport, educational level of father and mother of participants, knowledge about perception of health. So we recommend that health education intervention program to improve perception of health, knowledge and attitude toward sport practice among young people which must be applied in schools, also social mobilization must be enhanced as society must be worked to decrease the influence of barriers against practice sports and enhance and support opportunities for young people to become physically active.

Also, organized sport programs in schools could recruit more children and adolescents into sport and exercise, and reduce or eliminate gender disparities. This would be an important step towards equalizing the life chances of young people and enhancing the health of the public and schools must be increasing area of backyards and tools of practiced spots to motivate and make practicing sports easy.

More research is needed to find the most suitable methods of enhancing practice of sports with low cost.

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