Original Article

"Effectiveness of Self-Instructional Module on Knowledge Regarding Effect of Outdoor Games on Stress and Anxiety Reduction among Adolescents at Selected High Schools in Gwalior District"

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Abstract

Background: Most people and students experience stress and anxiety from time to time. Stress is any demand placed on your brain or physical body. People and students can report feeling "stressed" when multiple competing demands are placed on them. The feeling of being "stressed" can be triggered by an event that makes you feel frustrated or nervous. According to recent studies the average age of onset for many mental health conditions is the typical college age range of 18 to 24 years old, said Courtney Knowles, in fact, according to the National Institute of Mental Health, 75 percent of all individuals with an anxiety disorder will experience symptoms before age 22, as cited. The study aimed to find the Effectiveness of the self-instructional module on knowledge regarding the effect of outdoor games on stress and anxiety reduction among adolescents at selected high schools in the Gwalior District. Methodology- An evaluative approach with a pre-experimental one-group pre-test post-test design was used with a simple random sampling technique to select the sample (N=60). A structured knowledge questionnaire was used to assess the knowledge and SIM was administered to find its effectiveness. The collected data were analyzed by using descriptive & inferential statistics. Results-The mean percentage of post-test knowledge score (81.20%) was higher than the mean percentage of pre-test knowledge score (49.70%). The calculated 't' value is greater than the table value (0.05, 59df) = 2.00. It shows a significant difference between mean pre and post-test knowledge scores. (Calculated x2 values are shown). There was a significant association formed between the type of the family, residential area, and source of information respondents with their pre-test knowledge scores.
Conclusion: The finding of the study shows a deficit in knowledge of adolescents before the administration of SIM. The results indicated that the SIM was effective in increasing the knowledge of adolescents on the effect of outdoor games on stress and anxiety reduction.

Keywords: Stress, Anxiety, adolescents, outdoors games

INTRODUCTION

Most people and students experience stress and anxiety from time to time. Stress is any demand placed on your brain or physical body. People and students can report feeling "stressed" when multiple competing demands are placed on them. The feeling of being "stressed" can be triggered by an event that makes you feel frustrated or nervous. It can be a stress reaction, or it can occur in people who are unable to identify significant stressors in their life. No matter how major or minor an exam is, it tends to a degree of anxiety for every student. The level of anxiety of each student is due to various factors, such as gender, age, and level of education.[1]

The use of the term stress is now so integrated into our thoughts, sometimes feels like it has always been there. In fact, stress, as we currently think of it, is a relatively new concept and is one that occurs in students. From the large number of stresses faced by students and young adults, academic stress emerges as significant health problem. In recent years, it has been estimated that 10% to 30% students experience academic related stress that affect their academic burden or pressure, unrealistic ambitions, limited opportunities, high competitiveness are some of the source of stress which creates tension, fear and anxiety.[2]

Stress is an individual's physical, mental and emotional reaction to a condition that disturbs the normal equilibrium. If Stress is intense, continuous or repeated, if the person is unable to cope or if support is lacking, then it becomes a negative phenomenon leading to physical illness and psychological disorders. Stress is nothing but a state of mental and emotional strain. Playing stress relief games to reduce stress is a good way to rid the body and mind of exhaustion,

anxiety and depression. Games relieve stress a lot faster than traditional relaxation techniques or methods. Games provide effective and instant stress relief solutions.[3]

Anxiety is a natural response to a perceived or imagined threat. It is as natural as many of the emotions that we go through in everyday situations. Anxiety acts like our body's alarm system, warming us of possible dangers or difficulties. Anxiety is a apprehension, tension, or uneasiness from anticipation of danger, the source of which is largely unknown or unrecognized. College students require significantly more effort than students of high school. College students are expected to become more independent and instructors were more demanding and work will be more difficult. These higher academic standards and expectations are even more evident in college. As a result of these new demands, it is common for college students to experience greater levels of stress related to academics.[4]

According to the study of more than 1,00,000 students by Pen's Center for Collegiate Mental Health, more than half of the students visiting campus health clinics listed anxiety as a concern. That finding was borne out by the American College Health Association (ACHA) 2015 National College Health Assessment survey, which reported that nearly one in six college students (15.8 %) had been diagnosed with, or treated for, anxiety. The same survey found that 21.9 % of students said that within the last 12 months, anxiety had affected their academic performance, defined as receiving a lower grade on an exam or important project, receiving an incomplete, or dropping a course. That's up from 18.2 % in the ACHA‟s 2008 survey.[5]

A game is a structured form of play, usually undertaken for enjoyment and sometimes used as an educational tool. Games are distinct from work, which is usually carried out for remuneration, and from art, which is more often an expression of aesthetic or ideological elements. However, the distinction is not clear-cut, and many games are also considered to be work (such as professional players of spectator sports or games) or art.[6]

Outdoor Games/activities may also be pursued for the purposes of finding peace in nature, enjoying life, and relaxing. Outdoor games/activities are also frequently used as a medium in education and teambuilding. The outdoors as a physical or social setting may meet the needs of physical health, self-sufficiency, risk-taking, the building of social ties (including team building), and the needs of achievement (such as practicing, enhancing and challenging skills, testing stamina and endurance, and seeking adventure or excitement). The outdoors can be an environment in which people "show what they can do".[6]

OBJECTIVES OF THE STUDY

1. To assess the pretest knowledge of adolescents regarding effect of outdoor games in stress and anxiety reduction.
2. To assess the posttest knowledge of adolescents regarding effect of outdoor games in stress and anxiety reduction.
3. To assess the effectiveness of self-instructional module on knowledge of adolescents regarding effect of outdoor games in stress and anxiety reduction.
4. To find the association between pretest level of knowledge with their selected socio demographic variables of adolescents.

HYPOTHESES

H1: There will be a significant difference between pre and posttest mean knowledge regarding effect of outdoor games in stress and anxiety reduction among adolescents.

H2: There will be a significant association of pretest knowledge score of adolescents regarding the effect of outdoor games in stress and anxiety reduction with their selected socio demographic variables.

MATERIALS AND METHODS

The research design selected for the present study is Pre- Experimental Design (with one group pre-test and post-test pre-experimental design). In this design pre-test is conducted followed by Self Instructional Module and then post-test for the same group after 7 days. This study was conducted in high schools of Gwalior District. The criteria for selection of the setting are the availability of subjects, feasibility of conducting the study. Population in the present study was all the adolescents of high schools of Gwalior District. The sample for the study comprised of 60 adolescents between age of 15 – 18 years of high schools of Gwalior District Simple random sampling technique was used to draw the samples, which is the type of non-probability sampling technique. The criteria for selecting sample were based on the adolescents who were present during the period of data collection of age group 15-18 years and will to participate. The data was collected using the reliability tested tool (0.90.) which consisted of sociodemographic profile in section A and knowledge questionnaire on outdoor games on stress and anxiety in section B which scored for every correct answer one mark with the maximum score of 30. Permission was obtained from the concerned authority or institution to conduct study. Participants were informed about the purpose of the study. The pretest was conducted by using structured knowledge questionnaire and Self-Instructional Module was conducted on effect of outdoor games in stress and anxiety reduction on the same day. On 7th day, post test was conducted with same structured questionnaire. The respondents took 40 minutes to complete the tool. The data collected from 05-04-2022 to 12-04- 2022 at high schools of Gwalior District. The dada was analyzed in terms of objectives of the study using the descriptive and inferential statistics.

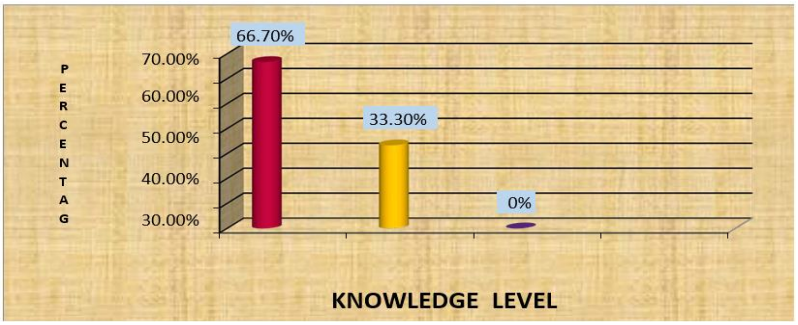
RESULTS

Table- 1: Frequency and percentage distribution of adolescences according to age, gender, religion, type of the family, family income, dietary pattern, residential area, type of recreation, sources of stress and anxiety and source of information. N=60

SL.NO	Demographic Variable	Frequencies	Percentage
1.	**Age group(years)**		
	15-16	50	83
	17-18	10	17
2.	**Gender**		
	Male	34	56.6
	Female	26	43.4
3.	**Religion**		
	Hindu	32	53
	Muslim	18	3o
	Christian	10	17
	Other if specify	0	0
4.	**Type of the family**		
	Nuclear family	30	50
	Joint family	25	42
	Extended family	0	0
	Orphan	5	8
5.	**Family income per month**		
	Rs.5000 or below	5	8
	Rs.5001-10000	15	25
	Above Rs.10001	40	67
6.	**Dietary pattern**		
	Vegetarian	10	17
	Non-vegetarian	17	28
	Mixed	33	55
7.	**Residential area**		
	Rural	6	10
	Urban	15	25
	Semi urban	39	65
8.	**Type of recreation**		
	T V	10	17
	Computer	18	30
	Sports	10	17
	Mobile	20	33
	Others	2	5
9.	**Source of stress and anxiety**		
	Exams	27	45
	Teachers' behavior	10	17
	Parents behavior	20	33
	Others	3	5
10.	**Source of information**		
	Electronic media	22	37
	Parents / Teachers	20	33
	Health professionals	5	8
	No information	13	22

The data from the table 1.1 & 1.2 shows the following findings, most of the subjects (83%) were in the age group of 15-16 years and remaining 17% were in the age of 17 - 18. Majority of the adolescents 56.6% were male and remaining 43.4% were female. 53% of the adolescents were Hindu, 30% were Muslims ,17% were Christians and others were 0%. Majority of the adolescents 50% were with nuclear family, 42 % were from joint family and 8 % of adolescents were orphans and nobody were from extended family. Adolescents' family income was 67% between above Rs. 10,001 and between Rs.50001- 10000 were 25% and remaining were Rs 5000 or below were 8%.Majorities (55%) of adolescents were on mixed diet and 28% were non vegetarian and remaining 17% were vegetarian. Majorities (65%) of adolescents were from semi urban, (25%) from urban and remaining (10%) were from rural. Majorities (33%) of adolescents were using mobile to relive stress (30%) were using computer and (17%) were playing sports to relive stress, 17% were following TV and remaining 3% were using others methods to relive from stress. Most (45%) of the adolescents were having exams as a source of stress and anxiety,(33%) of them were having stress and anxiety due to parent's behavior ,1 (7%) adolescents had teachers behavior and remaining (5%) were had others as a source of stress and anxiety. Majority (37%) of adolescents received information from electronic media and 33% were received from Parents/Teachers, 22% had no information and remaining 8% from health professionals.

Fig – 1: Classification of Respondents on Pre-test Knowledge level on stress and anxiety reduction by outdoor games n=60



The table figure.1 shows the classification of respondent's knowledge according to their knowledge level in the pre-test. The data showed that, majority of the respondent's (66.70%) had inadequate knowledge, 33.3% had Moderate knowledge and nobody had the adequate knowledge.

Fig 2: Aspect wise Pre-test Mean Knowledge scores of Respondents on stress and anxiety reduction by outdoor games n=60

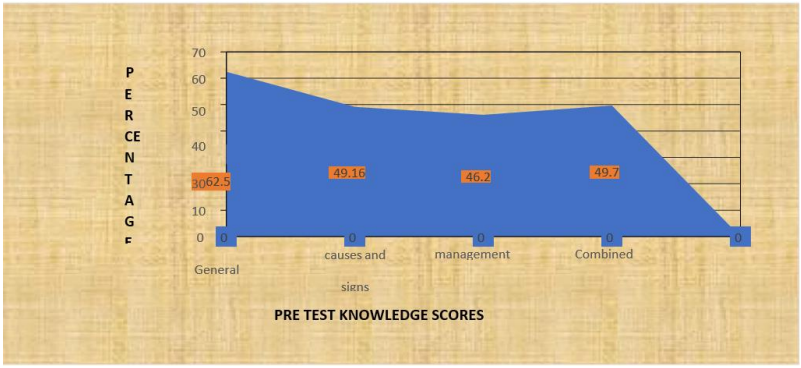


Figure:2 shows that the aspect wise mean and SD percentage of pre-test knowledge scores of respondents in different aspects of knowledge questionnaire mainly the mean percentage of pre-test score of respondents for the whole test is 49.7. The highest mean percentage (62.5%) of knowledge scores of respondents is obtained in the aspect of general assessment tool. It is followed by 49.1% causes,signs and symptoms of stress and anxiety.46.2% in management of stress and anxiety by outdoor games.

Fig 3: Classification of Respondents on Post-test Knowledge score on stress and anxiety reduction by outdoor games n=60

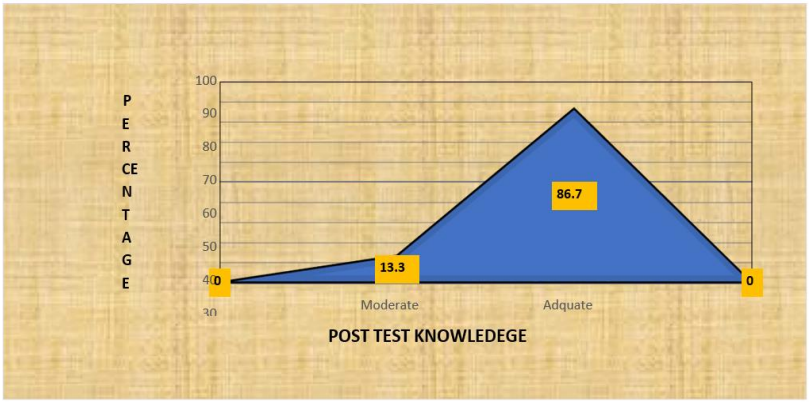


figure.3 shows the classification of respondent's knowledge according to their knowledge level in the post-test. The data showed that, majority of the respondent's (86.70%) had adequate knowledge, 13.33% had Moderate knowledge and nobody had the inadequate knowledge.

TABLE -2: Overall pre-test and post-test mean knowledge scores on effect of outdoor games in stress and anxiety reduction among adolescents

Aspects	Max. Score	Respondents Knowledge				Paired 't' Test
		Mean	SD	Mean (%)	SD (%)	
Pre test	30	14.9	1.75	49.70	5.83	
Post test	30	24.30	1.9	81.20	6.33	27.51*
Enhancement	30	9.41	2.52	31.36	8.36	

* Significant at 5% level, t (0.05, 59df) = 2.009

Table -3 depict that, mean, mean %, SD, SD% of pre-test and post-test knowledge scores, enhancement in post-test knowledge score and paired 't' test value. The mean percentage of pre-test was 49.70% and post-test was 81.20% with the enhancement of 31.36% in post-test. The paired "t" test value is 27.51*. The calculated't' value is greater than table value (0.05, 59df) = 2.00. Hence the null hypothesis (H0) is rejected, research hypothesis (H1) is accepted. This indicates that there is significance difference between mean pre-test and post-test knowledge scores of adolescents. It was concluded that the Self-instructional Module has been effective in increasing knowledge of adolescents regarding effect of outdoor games in stress and anxiety reduction.

TABLE –3: Aspect wise Mean Pre-test and Post-test Knowledge Scores on stress and anxiety reduction by outdoor games n = 60

Sl No.	Knowledge Aspects	Respondents Knowledge (%)						Paired 't' Test
		Pre test		Post test		Enhancement		
		Mean	SD	Mean	SD	Mean	SD	
I	General information on DVT	62.5	12.5	95.75	9.25	4.43	1.9	18.04*
II	Risk factors of DVT	49.16	9.27	83.63	7.90	12.66	4.16	23.37*
III	Prevention of DVT	49.20	8.20	76.73	7.06	15.26	5.26	23.34*
	Combined	49.70	5.83	81.20	6.33	31.36	8.36	27.51*

Table-4, shows that, a highest enhancement (15.26 %) in post-test mean percentage knowledge of Prevention of stress and anxiety by outdoor games aspect followed by 12.66% enhancement in the aspect of causes and signs and symptoms of stress and anxiety, 4.43% in the aspect of general information. The calculated paired 't' test values 27.51 of all aspects were more than the table values at 5% level of significance with 59 degrees of freedom. It indicates that differences between mean pre-test and post-test knowledge scores are significant at 5% level of significance for all the aspects. Hence null hypothesis is rejected and research hypothesis is accepted for all aspects of knowledge.
* Significant at 5% level, t (0.05, 59df) = 2.009

Table- 4: Association between pretest knowledge and their selected demographic variables n = 60

Sl. No	Demographic – variables	Sample (n)		Knowledge level of respondents				Chi-square value ($\chi 2$)
				< Median		> Median		
		No. (60)	%	No. (19)	%	No. (41)	%	
1.	**Age**							2.88 df = 1 NS P>0.05
	15-16	50	83	5	10	45	90	
	17-18	10	17	3	20	7	80	
2.	**Gender**							0.12 df = 1 NS P>0.05
	Male	34	56.6	5	14.7	29	85.3	
	Female	26	43.4	3	11.5	23	88.5	
3.	**Religion**							4.83 df = 3 NS P<0.05
	a) Hindu	32	53.3	2	6.2	30	93.8	
	b) Muslim	18	30	3	16.6	15	83.4	
	c) Christian	8	13.4	2	25	6	75	
	d) Others	2	3.4	1	50	1	50	
	Type of family							
	a) Nuclear family	30	50	3	10	27	90	**10.61*** df = 3 S P>0.05
	b) Joint family	25	42	2	8	23	92	
	c) Extended family	2	3	1	50	1	50	
	c) Orphan	3	5	2	67	1	33	
5.	**Family income**							
	a) Rs 5000 or below	5	8	2	40	3	60	4.83 df =3 NS P>0.05
	b) Rs 5001-10000	15	25	3	20	12	80	
	c) Above 10001	40	67	3	7.5	37	92.5	
6.	**Dietary pattern**							
	a) Vegetarian	10	16.7	1	10	9	90	1.58 df = 2 NS P<0.05
	b) Non-vegetarian	17	28.3	1	5.8	16	94.2	
	c) Mixed	33	55	6	18.2	27	81.8	
7.	**Residential area**							**6.65*** df=2 S P>0.05
	a) Rural	6	10	2	33	4	67	
	b) Urban	15	25	4	27	11	73	
	c) Semi Urban	39	65	2	5.2	37	94.8	
8.	**Type of recreation**							
	a) T V	10	17	2	20	8	80	3.79 df = 4 NS P>0.05
	b) Computer	18	30	1	5.5	17	94.5	
	c) Sports	10	17	1	10	9	90	
	d) Mobile	20	33	3	15	17	85	
	e) Others	2	3	1	50	1	50	
9.	**Source of stress & anxiety**							
	a) Exams	27	45	1	3.7	26	96.3	5.65 df = 2 NS P<0.05
	b) Teachers behaviour	10	16.7	1	10	9	90	
	c) Parents behaviour	20	33.3	5	25	15	75	
	d) Others	3	5	1	33	2	67	
10.	**Source of information**							
	a) Electronic media	22	37	1	4.5	21	95.5	**9.16*** df = 3 S P<0.05
	b) Parents/Teachers	20	33	1	5	19	95	
	c) Health professionals	5	8.3	2	40	3	60	
	d) No Information	13	21.7	4	30.7	9	69.3	

Note-S Significant at 5% level (P<0.05); NS – Not Significant at 5% level (P>0.05)

The above table 4 shows the outcome of association between posttest knowledge regarding effect of outdoor games in stress and anxiety reduction among adolescents with their selected demographic variables.
The chi-square was carried out to determine the association of posttest knowledge regarding effect of outdoor games in stress and anxiety reduction among adolescents with their selected demographic variables such as age, gender, religion, type of family, family income, dietary pattern, residential area, type of recreation, source of stress and anxiety and source of information regarding effect of outdoor games in stress and anxiety reduction. Out of which the knowledge was significantly associated with type of family (10.61 df =3), residential area (6.65, df=2) and source of information

(9.16, df = 3) at 5% level (P<0.05). Hence null hypotheses (H02) was rejected and research hypotheses (H2) was accepted. It evidenced that there was a significant association between the pre test knowledge regarding effect of outdoor games in stress and anxiety reduction among adolescents with their selected demographic variables.

DISCUSSION

The study obtained from statistical analysis based on the data of the study, the reviewed literature, hypotheses which were selected for the study and discussed them in relation to similar studies conducted by other researchers. The purpose of the study is to assess the effectiveness of self-instructional module regarding effect of outdoor games in stress and anxiety reduction among adolescents at selected high schools of Gwalior district. Major findings of the study the major findings of the study are summarized as follows: Findings related to Demographic profile of subjects, Most of the subjects (83%) were in the age group of 15-16 years and remaining 17% were in the age of 17 - 18. Majority of the adolescents 56.6% were male and remaining 43.4% were female. 53% of the adolescents were Hindu, 30% were Muslims, 17% were Christians and others were 0%. Majority of the adolescents 50% were with nuclear family, 42 % were from joint family and 8 % of adolescents were orphans and no body were from extended family. Adolescents family income was 67% between above Rs. 10,001 and between Rs.50 001- 10000 were 25% and remaining were Rs 5000 or below were 8%. 70 Majorities (55%) of adolescents were on mixed diet and 28% were non vegetarian and remaining 17% were vegetarian. Majorities (65%) of adolescents were from semi urban, (25%) from urban and remaining (10%) were from rural. Majorities(33%) of adolescents were using mobile to relive stress (30%) were using computer and (17%) were playing sports to relive stress, 17% were following TV and remaining 3% were using others methods to relive from stress. Most (45%) of the adolescents were having exams as a source of stress and anxiety,(33%) of them were having stress and anxiety due to parent's behavior ,1 (7%) adolescents had teachers behavior and remaining (5%) were had others as a source of stress and anxiety. Majority (37%) of adolescents received information from electronic media and 33% were received from Parents/Teachers, 22% had no information and remaining 8% from health professionals. The findings indicated that there was inadequate level of knowledge among adolescents, which could be due to lack of exposure to information on effect of outdoor games in stress and anxiety reduction, so it was necessary for the investigator to improve the knowledge of adolescents by giving self-instructional module on effect of outdoor games in stress and anxiety reduction, which would enable them to gain knowledge and acquire skill in preventing stress and anxiety effectively and efficiently. The first objective of the study was to assess the pre test knowledge regarding effects of outdoor games in stress and anxiety. The overall mean knowledge score obtained by the subjects in the pre test out of maximum score of 30 was found to be 14.9, with standard deviation of 1.7 and mean score percentage of 49.7. The level of knowledge distribution showed that majority of the subjects 40 (66.7%) had inadequate knowledge, 20 (33.3%) subjects had moderate knowledge and 0 (0%) subjects had adequate knowledge regarding effects of outdoor games in stress and anxiety reduction. The findings indicated that there was inadequate level of knowledge among adolescents, which could be due to lack of information on effects of outdoor games in stress and anxiety reduction, so it was necessary for the investigator to improve the knowledge of adolescents in the high schools by giving self-instructional module on effects of outdoor games in stress and anxiety reduction, which would enable them to gain knowledge and acquire skill in stress and anxiety reduction effectively and efficiently. The overall mean knowledge score obtained by the subjects in the post test, out of maximum score of 30 was found to be 24.30, with standard deviation of 1.9 and mean percentage of 81.2. The level of knowledge distribution showed that majority 52 (86.7%) of the subjects had adequate knowledge and 8 (13.3%) subjects had moderate knowledge regarding effects of outdoor games in stress and anxiety reduction. The findings indicated that there was increase in level of knowledge among adolescents in high schools, which could be due to exposure to sufficient information through self-instructional module on effects of outdoor games in stress and anxiety reduction. The overall mean score percentage obtained by the subjects in the post test (81.2%) was higher than in the pretest (49.7%) and the improvement mean score percentage was 31.36. There was significant difference between the pre test and post test knowledge score with paired „t" value of 27.51 and it was found to be highly significant at the level of $P < 0.005$, so it is inferred that there is a significant increase in the knowledge level of adolescents regarding effects of outdoor games in stress and anxiety reduction. The findings of the study were consistent with a study which was conducted to assess the effectiveness of self instructional module on knowledge regarding anxiety reduction among adolescents undergoing surgery with the sample size of 60. The findings of the study were supported by a study on "physical fitness and academic achievement" by James B Grissom in California. The purpose of the study was to evaluate the relationship between physical fitness and academic achievement. The total 884,715 students from 5th, 7th, and 9th grade school children were included in the study. The results showed that as overall fitness improves through physical activities and sports scores; mean academic achievement scores also improved. This relationship between fitness and achievement appeared to be stronger for higher socioeconomic status (SES) than lower SES students[7].

CONCLUSION

In this study assessed the knowledge of subjects knowledge regarding effect of outdoor games in stress and anxiety reduction among adolescents and found that majority 40 (66.7%) of the subjects had inadequate knowledge in the pre test and maximum 52 (86.7%) number of subjects had adequate knowledge in the post test and concluded that there was a significant improvement in subjects knowledge in the post test after administration of self instructional module. Thus, the self instructional module was found to be effective in improving the knowledge regarding effect of outdoor games in stress and anxiety reduction among adolescents. By provision of self instructional module in high schools of Gwalior

District, will improve the adolescents knowledge regarding stress and anxiety and steps to be followed to reduce stress and anxiety by outdoor games. The adolescents had expressed that they were able to gain more knowledge regarding effect of outdoor games in stress and anxiety reduction and the teaching enabled them to reflect on their own performance and skills; they had actively participated in the learning process. Significant perceived learning among adolescents had taken place in all aspects of self of instructional module regarding effect of outdoor games in stress and anxiety. Hence, the developed self-instructional module on effect of outdoor games in stress and anxiety is instructionally effective, appropriate and feasible, can be used, to motivate and help the adolescents to update the knowledge in the aspect of stress and anxiety reduction.

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CONFLICT OF INTEREST

The author declares no conflict of interest.

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