



ISSN No: 2319-5886

International Journal of Medical Research & Health Sciences, 2016, 5, 9S:49-54

Relationship between sport, self-efficiency and tendency toward addiction in teenagers: A clinical practice on the basis of Pender's health promotion model

Behnam Beidi¹, Mino Mottaghi^{2*} and Shayesteh Salehi³

¹MA of community health nursing, Faculty of Nursing and Midwifery, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran

²PhD of Nursing, Faculty of Nursing and Midwifery, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran

³PhD of educating Nursing, Faculty of Nursing and Midwifery, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran

*Corresponding Email: m.motaghi912@gmail.com

ABSTRACT

Each year a very big amount of population die because of addiction. Regarding the great population of teenagers, many of these dead persons are teenagers. In this study, the researcher made an attempt to study the relation between 2 variables of sport and self-efficiency and tendency towards addiction in teenagers. Method: this study which is itself a part of a greater one, is a semi-empirical research with 2 groups, 310 students of 9th of first period of high school in Ahwaz in 2015)Data collection was carried out by questionnaires; a researcher-made questionnaire in 3 parts (personal and familial questions, questions concerning to Pender's health promotion model and sport questions) which has been used after determining its justifiability and stability. All the interventional sessions were 7 which were held in 40 days. At the end of these sessions, there held sport and recreational matches in 2 months. Then as posttest, questionnaires were given to students for second time. Findings: according to results obtained in this study, before interventions tendencies toward addiction were in a high level but after applying interventions, they were meaningfully decreased ($P < 0.05$) as far as relationship between self-efficiency and sport level of students were concerned, it was determined that before interventions these variables were in a low level but after these interventions, they were meaningfully high ($P \leq 0.05$). Conclusion: results of this study demonstrated that the rate of tendency toward addiction decreased after interventions and the difference was statistically meaningful ($P \leq 0.05$). Also the self-efficiency and sport increased after intervention, and again this difference was meaningful ($P \leq 0.05$). By these results one can understand that perceived self-efficiency and sport influence each other and both have a great impact on teenagers' tendency toward addiction. According to the carried out intervention, it is quite clear that one can influence teenagers' behavior related to addiction tendency and perceived self-efficiency of them directly, through not very much investment whether by time or economically. By this we can indirectly make a positive impact on teenagers' behavior concerning addiction by increasing perceived self-efficiency of them.

INTRODUCTION

Throughout the year, 480000 persons die because of smoking and using addictive substances in the world. Hereof, 90 % of cases are related to lung cancer, 60% to respiratory diseases and 30% to cordial diseases [1]. According to

World Health Organization (WHO) statistic, 1.8 milliard children being between 10-24 years old lived today, which is the most number of children in all historical era. These children and teenagers are subject to many problems, injuries and diseases. (WHO, 2014) in many studies, they highlight the decrease in age of using addictive substances. As in these studies, teenagers between 12-17 years old were studied and sometimes the age was reported even younger [2-7]. Other studies also proceeded to investigate the relationship between childish and teen ages and dangerous behavior, initiation age of addiction to addictive substances, long term side effects of them, preventing this disease in teen ages, presenting regional, country & world plans in order to confront this desolater calamity [4, 8].

One of the related factors to teenagers' addiction is their mental health which is of very significant and influential factors influencing mental health of teenagers, physical activities and recreational sport for them. According to WHO's statistics in 2010, more than 80% of teenagers being between 11-17 years old, in all around the world have in a low and unacceptable level of activities [8].

According to conducted studies, the rate of addictive substance usage is getting increased. Also variation of these substances is very much. In recent years, differences were not related to the rate of use but the type of addictive substances. As drugs like heroin, cocaine, methamphetamine and self-made substances and ecstasy tablets are used by many people especially teenagers [7, 8]. The researcher attempt to conduct this research as no other research ever done on the basis of Pender health promotion model concerning addiction.

MATERIALS AND METHODS

The present study is a semi-empirical research conducted with two groups of pre and post interventions in a region of Ahwaz city. After taking permit of Islamic Azad university moral committee and Ahwaz education center, a list of all masculine high schools of 1st region of Ahwaz (including 29 schools) was provided by researcher. Among 29 schools, 4 schools were selected accidentally and divided into two groups of control and experimental, again accidentally.

The researcher chose 340 students of 1st grade of high school from among 4 schools; that is every school has got 3 classes of 9th grade with 28 students in each class (just 2 schools, one experimental and the other as control group have 30 students in each class). In order to collect data, a researcher designed questionnaire has been used. This questionnaire has got 3 parts. In first part, there asked personal and familial questions. In second part, questions related to health promotion model of Pender and in third part questions related to sport interventions were posed. Justifiability of questions was confirmed by 10 professors of Azad Islamic University of Isfahan and Jondi Shapour medical university of Ahwaz. Stability of these questions was 0.879 by SPSS software and Cronbach's Alpha test. Formal justifiability of questions was also checked by 20 boy students of 9th grade of first period of high school at 1st region of Ahwaz who were not students of those 4 understudy schools and necessary corrections were applied. In order for collecting questionnaires, researcher along with 3 instructed trainer attempted at giving and taking questionnaires. Due to big number of questions and in order for increasing amount of better and more precise answers, questionnaires were coded, given and taken to students in 3 sequential days. In order to increase comfort and student's sense of assurance concerning safety of their answers, they put their questionnaires in an envelope and throw them to a box, So that the researcher would not directly take them from students. On the basis of sampling number formula, researcher had to check 284 samples in this study and by baring the possibility of decreasing number of students in mind, he studied 340 students. After taking questionnaires and deleting the incomplete ones (those that were not filled in all parts) and questionnaires of students who failed to participate in 2 sessions as they were on a trip, finally 310 students remained in this study. In order to take permission of these students, the students and their parents have given a written permit letter to researcher knowingly.

In this study which itself is a part of a greater one, sport interventions were held for experimental group in 7 sessions in sport ground of their school. This ground has got proper spaces and dimensions for playing all sports like football, volleyball, basketball and ping-pong. These sessions begun at November 6th of 2015 and ended at December 16th of 2015. These sport interventions were designed completely on the basis of health promotion model of Pender. Besides these interventions, they were also prepared by essential instructions. Pender's model is a kind of behavior changing model which has dimensions of primary dependence behavior, perceived benefits, perceived obstacles, perceived self-efficiency, related feelings to behavior, situational impacts, interpersonal impacts, commitment to plan of healthy action and behavior. Sport interventions were carried out on these bases. Each of these sessions

lasted 90 minutes, which were divided into two 45-minute ones. In first 45-minute, the researcher attempted to instruct and present aerobic sport exercises according to his knowledge and instructions on the basis of Pender's model of health promotion. then in second 45-minute, he grouped students according to their sport interests and regarding the limitation of number of available sports guided each group to a part of the ground which was appertained to a special sport. These sports include football, volleyball, basketball, badminton and ping-pong. In these 45 minutes, students played their favorite sport and recreation. Besides these sessions, health messages related to sport, health and addiction were also presented to students.

After the end of sessions, the instructor held 2 months of sport matches by the help of researcher and schools' principals, according to a special sport field selected by students. After the end of match's period in February 15th 2016, the researcher gave the researcher designed coded questionnaires to students again this time as posttest and again through the method of collecting data as in first step. In this study, there occurred no interventions for control group. Then data of first and second questionnaires were entered to SPSS program and were analyzed by descriptive statistic test, paired t and Pearson correlational coefficient.

RESULTS

According to results of personal and familial variables of students, it was assigned that most of participated students of the research (50.7%) were 14 years old. as far as weight was concerned, the most frequency (31.1%) was for students weight between 41-50 kg and concerning their height, most frequency (39.6%) belonged to students of 160-170 height. indicators of body mass showed that in most students (49.3) is lower than 18.5 and thin. also average of last grade was for most of students (50.1%) was 12-14. number of sister in 68.9% of students family was 0-1 also the same was the case for 63.3% students but this time concerning their brothers that was 0-1. mean of number of sisters and brothers was 1.19 ± 1.08 and 1.38 ± 1.17 , respectively. also 39.6% of students were the second or third child of their family and mean of birth rank in all students was 2.55 ± 1.85 . 78.0% of students live with their father ,mother and sister and brother. Father's age was for most of students (52.8%) between 40-50 years old.

a mean of mother's age was for most of students (64.2%) between 30-40 years old. mean of mothers age was 40.13 ± 5.93 . mothers education was for 31.4% of students, diploma.

Table1. Mean of score of research units for tendency towards addiction in pre and posttests

Steps	Mean	Standard deviation	Mean difference	Test's statistic	Degree of freedom	Meaningfulness level
Pretest	17.06	4.38	16.09	89.829	340	<.001
Posttest	33.15	1.64				

Regarding the results of the table above, mean of score of research units for tendency towards addiction in pre and posttests, it was determined that mean of this score in pretest was 17.06 ± 4.38 which has been increased to 33.15 ± 1.64 in posttest. Results of paired t test demonstrated a meaningful difference between score in two steps. ($p < 0.05$) and mean of students was meaningfully more in posttest than pretest. Then in posttest, tendency towards addiction meaningfully decreased. In pretest step, rate of tendency toward addiction was for 66.0% in an average level and after interventions in posttest , it reached to a low level for all of students.

Table2. Mean of score of research units for perceived self-efficiency in pre and posttests

Steps	Mean	Standard deviation	Mean difference	Test's statistic	Degree of freedom	Meaningfulness level
Pretest	14.45	4.09	9.06	-58.969	340	<.001
Posttest	23.51	2.48				

Regarding results of this table concerning mean of score of research units for perceived self-efficiency in pre and posttests, it was assigned that this mean was in pretest 14.45 ± 4.09 which was increased to 23.51 ± 2.48 in posttest. Results of paired t demonstrated a meaningful difference in the scores of these two steps. ($p < 0.05$) and mean of student's score in this part was meaningfully more than pretest. Therefore, rate of self-efficiency in students was meaningfully increased in posttest. In pretest step, the perceived self-efficiency was in 78.9% of students in an average level which come to a high level for 94.1 % of students after interventions in posttest.

Table3. Mean of score of research units concerning sport and sportive activities in pre and posttests

Steps	Mean	Standard deviation	Mean difference	Test's statistic	Degree of freedom	Meaningfulness level
Pretest	22.62	6.33	16.97	-83.793	340	<.001
Posttest	39.60	4.31				

results of mean related to research units scores of sports and sportive activities in pre and posttest show that this mean for questions related to sport and sport activities was in pretest 22.62 ± 6.33 and increased to 39.60 ± 4.31 in posttest. Results of paired t test demonstrated a meaningful difference in scores of these two steps. ($p < 0.05$) and mean of scores of students in posttest was meaningfully more than pretest. therefore, rate of sport and sportive activities was meaningfully more than pretest in students, that is in pretest step rate of sport and sportive activities was in 61.3% of students in an average level, and after intervention and in posttest it came to a high level for 90.0% of students.

Table4. Relationship between rate of change in tendency towards addiction and change in sport and perceived self –efficiency variables

Rate of change due to intervention	Tendency towards addiction	
	Correlational coefficient	Level of meaningfulness
Perceived self-efficiency	.822	<.001
Sportive activities	.750	.000

results of the above table concerning relationship between rate of change in tendency towards addiction and change in sport and perceived self –efficiency variables show that there exists a meaningful relation between addiction tendency of students and perceived self-efficiency of them ($r = 0.822$, $P < 0.001$). The same is the case with relation of tendency toward addiction and sportive activities ($r = 0.75$, $P = 0.00$) the more improvement in perceived self-efficiency and sportive activities get, the less tendency toward addiction will be.

DISCUSSION

In this research, one can see that 66% of students had an average tendency toward addiction and 28.2% of students had a great tendency toward addiction. These amounts are related to state of them before interventions. After interventions, it was determined that all students come to low level of tendency towards addiction. Mean of non-addictive behavior in students was 17.6 before interventions which reached to 33.15 after interventions. These findings demonstrate a meaningful change ($P < 0.001$) in tendency toward positive behaviors and keeping themselves away of addictive substances. High amount of tendencies toward addiction means that they do not behave well and true concerning tendency toward non addiction and do not consider these behaviors.

Ou et al (2016), in a research concerning using alcoholic drinks by parents and reflection it in teenagers in Hung Kong, come to this conclusion that 48.6% of teenagers has ever used these drinks and even high portion of them, about 16% of teenagers monthly use these alcoholic drinks. This is while half of them did not use these drinks and stated that they want to do it in one year one can see the agreement of this results and the present study. In Mohammadi Zeidi et al (2015), the rate of preventing behavior boy students of 8th grade (guidance school) in Ghazvin reported as 24.11 which means preventing behavior of addiction is low and is in agreement with findings of this study. In Gil Rounton et al (2016) it was seen that rate of alcohol and marijuana usage is considerably high in teenagers of Virginia (north of Carolina) which is in agreement to this research and shows the high usage of addictive substances in teenagers. But after interventions which was not that influential in decreasing dangerous behavior of them, this findings was not in harmony with findings of this study. The reason of this disagreement may be freedom to use addictive and alcoholic substances and much accessibility of them for teenagers of outside countries which is current among youth despite legal punishments.

In this study, 93.8% of students have had sportive activities below the average level. After interventions, results of posttest showed that 90% of students stand in high level of sportive activities. Scores of mean of students was 22.62 before interventions and came to 39.60 after these interventions. This demonstrates a meaningful impact of interventions on students' sport ($P < 0.001$) studies conducted by Babi et al (2016) and Kurenju et al (2016) and Belton et al showed that sportive activities of students are in average level. This finding is also in agreement with findings of the present study. Also according to results of these studies, it was determined that family and school's support and a safe environment has an effect on increasing this behavior. According to Boune et al (2016), regular sportive activities decrease rate of depression in teenagers. Gaw et al (2016) also point out that there is a relation

between depression and smoking in teenagers. One can conclude that lower depression means fewer times of smoking. Sport is also effective in order to decrease depression. This again is in agreement with findings of our study. According to obtained results, there exist a direct and so meaningful relation between sport, self efficiency and tendency toward addiction in teenagers. The more sport students play, the better state of self-efficiency they will have. ($p=0.000$) one may understand from Boune et al(2016) and Kurenju et al(2016) that sport leads to decrease in depression and a person who is less depressed ,has less tendency towards addiction. This result very well points out why intervention of sport make the tendency toward addiction decreased.

According to these results, one notice that sport and sportive and recreational activities cause the teenager and students' mental health to increase and have a positive influence on reducing their tendency toward addiction.

78.9% of students had got an average level of self-efficiency which reached to a high level after intervention in posttest for 94.1% of them. Regarding perceived self-efficiency score, before interventions this score was 14.45 and after interventions, it becomes 23.51.this result show a meaningful change ($P<0.001$) in rate of students' self-efficiency.

In a study conducted by Blank et al (2016) on men and women of New Zealand University, it said that the more self-efficiency men have got, then the more self-confidence will have and then they will try using alcoholic drink. Contrary to men, women use more drink when they have less self-efficiency. Cause of obtained results in men and students may be their age difference. Because as they get older, enter to a new place like university or get away from their family and have more freedom and access to alcoholic drink and also cultural viewpoint of youth related to alcohol in outside countries they want to show himself as an adult and the same as others so they use this substance. Herein existence of so much self confidence in men so much influences doing this action. Results of research by Bakeli et al (2016) on perceived self-efficiency and self-confidence teenagers of Australia concerning their behavior not to have dangerous behavior like smoking, alcohol drinking and addictive substances and also keeping their friend away from these substances, show that the more perceived self-efficiency is in a student, the more away they will be from mentioned dangerous behavior and he will encourage his friend to have positive behavior more and better. This finding is in a complete agreement to findings of the present study. In another research by Jaber et al (2015) in Jordan, after 3 years period of follow-up, boy students had a more progress in using addictive substances. The most significant reason in this respect is the low level of self-efficiency and self-confidence to say no to these substances. This is also in agreement with findings of our study.

CONCLUSION

According to discussed terms, sportive interventions on the basis of Pender's health promotion model have a very positive influence on self-efficiency and being away from addictive substances. This results show that students have not true behavior in younger ages and also besides being in danger, they have high capacities to be changed. These students are like the filled part of a container and one can pour other useful information in their empty part so that they could be well guided toward a good and brilliant educational life and future. Increased perceived self-efficiency along with sports and their direct impact on being away from addiction are very significant and are to be paid more attention in students. Even younger teenagers (12 years old ones) are subject to incorrect behavior and danger of addiction as well. This period is very important and according to results of this study one can clearly see that we can provide students and teenagers by much better future through spending sufficient time, energy and investment.

Acknowledgment

It is essential to express my gratitude to all people who cooperate in this study especially students and schools authorities.

REFERENCES

- [1] Prochaskajj•BenowitzN. The past, present, and future of nicotine addiction therapy. Annual Review of Medicine. 2016;67: 1-20.
- [2] State of World Population. The power of 1.8 billion adolescents: youth and transformation of the future. 128 pages. Link address. 2014.
- [3] Lee, K.A., et al., Secondhand smoke exposure and susceptibility to initiating cigarette smoking among never-smoking students in selected African coun..., Prev. Med. 2016.

- [4] Runton N, Hudakrp. The Influence of School-Based Health Centers on Adolescents' Youth Risk Behaviors. *Journal of Pediatric Health Care*, 2015; PP. 1-9.
- [5] Debnam K, Milamaj, Furr-holden C, Bradshaw C. The Role of Stress and Spirituality in Adolescent Substance Use. *Substance Use & Misuse*. 2016; 51(6): 733-741.
- [6] Green km et al. Racial Differences and the Role of Neighborhood in the Sequencing of Marijuana and Tobacco Initiation Among Urban Youth, 2016.
- [7] Roditis M, Delucchi K, Cash D, Halpern-Felsher B. Adolescents' Perceptions of Health Risks, Social Risks, and Benefits Differ Across Tobacco Products. *Journal of Adolescent Health*. 2016;58: 558-566.
- [8] WHO. The Ottawa Charter for Health Promotion [Online]. 2010b.
- [9] Auwm A. Cross-sectional study on parental pro-drinking practices and adolescent alcohol drinking in Hong Kong. *Public health*. 2016;10(3).
- [10] Babey SH, Wolstein J, Diamant AL. Adolescent Physical Activity: Role of School Support, Role Models, and Social Participation in Racial and Income Disparities. *Schools & After School*. 2016;48: 172-191.
- [11] Schofield TJ, Conger RD, Gonzales JA, Merrick M. Harsh parenting, physical health, and the protective role of positive parent-adolescent relationships. *Social Science & Medicine*. 2016; 157: 18-26.
- [12] Belton S, O'Brien W, Issartel J, McGrane B, Powell D. Where does the time go? Patterns of physical activity in adolescent youth. *J Sci Med Sport*. 2016.
- [13] Guo J, Lee T, Liao J, Huang C. Prevention of Illicit Drug Use through a School-Based Program: Results of a Longitudinal, Cluster-Randomized Controlled Trial. *Journal of Adolescent Health*. 2015;56: 314-322.
- [14] Buckley L, Chapman RL. Characteristics of adolescents who intervene to stop the risky and dangerous behavior of their friends. *Accid Anal Prev*. 2016; 88: 187-193.
- [15] Jaber R ET AL. Predictors of Cigarette Smoking Progression among a School-Based Sample of Adolescents in Irbid, Jordan: A Longitudinal Study (2008–2011). *Nicotine Tob Res*. 2015;18(4):403-9.