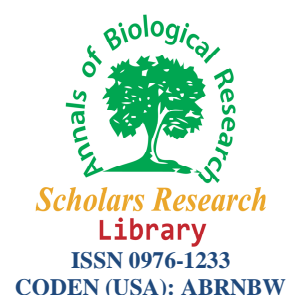




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Annals of Biological Research, 2012, 3 (3):1667-1671
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Evaluation of some physical fitness factors related to health in addicted men

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ABSTRACT

The purpose of this research was to study of some physical fitness factors related to health in addicted men. 132 addicted men were selected randomly. Information was collected by a questionnaire and body evaluation and aerobic step test, body strength, flexibility and body composition. Questionnaire was included precedent and type of addiction, movement habits, exercise and clinical information. Data were analyzed by chi-square and independent T test. The results showed that individuals had undesirable physiological agents like aerobic power, body strength (back muscles) and flexibility; and very low amount of fat was observed in body composition. It seems that the weakness of aerobic power has been resulted from using narcotics and blocking of respiration paths and reduction in other physical fitness factors is due to lack of movement and special movement habits and feeding disorders. So, according to addiction type and addiction history of samples, there is a need to train and exercise and it appears as an essential.

Keywords: addiction, prison, aerobic power, body composition, body strength, flexibility

INTRODUCTION

Nowadays, addiction as one of the humanity problems has compromised human life and as it is a psychosomatic disease, in addition to spiritual, psychological and social problems leads to different physiological and structural problems. Due to formal statistics, 200 million people in the world abuse narcotics which comprises 3.4 percent of world population and 4.7 percent of this population are over 15 year old [9]. The research center of addicts in Oklahoma in

department of addicts' body state researches have pointed out some of these structural side effects like ache, muscle stress, exhaustion, lumbago and disorder of mechanical balance of body [4, 7]. What obtained from researches is that the addiction phenomenon as one of the complex risk of body health in addition to make disorder in psychological and social states, makes disorders in physical structures and body function and reduces mechanical performance of addicts. However, despite of such scientific basics, certain aspects of physiological capacities like aerobic power and physical factors like strength and flexibility and body composition of addicts has been studied less. Based on this requirement, the researcher has decided to study some physiological factors of addicts by a field study. It seems that the given information would have more efficient results in planning and designing rehabilitation and exercise programs of addicts, especially sport trainers in maintenance and reeducation centers and job treatment camps of addicts. Rather than, several reports related to structural and physiological abnormalities of non-addicts, there is not any research studied the society of addicts, although a few researches have studied their cardiovascular and respiratory capacities [2, 6]. Camargo and Colp (1975) has performed a research related to pulmonary function studies in Ex-Heroin users. They performed the pulmonary function test on a group of 22 Ex-Heroin people who had not had certain pulmonary symptom or disease. The life capacity and whole pulmonary capacity was natural in all the tests except four cases. Only two cases of addicts had intense blocked reciprocity paths. Nevertheless, reciprocity dispersion capacity has been decreased in whole patients meaningfully. Patients who had significant reduction in their reciprocity dispersion capacity had reduction in all pulmonary volumes. There was a correlation between destruction degree of pulmonary function and duration of using narcotics [6]. Sporer and Dorn (2001) performed a research as Heroin-related non-cardiogenic pulmonary edema. 20 of individuals (74%) had intense hypoxia, 6 of them (22%) had advanced symptoms in early hours and one had advanced intense hypoxia during 4 hours, 9 of them (33%) required mechanical depletion and 18 patients (66%) had been cured only by oxygen supplementary. Results showed that NCPE was one of the side effects of excess continual usage of heroin [4].

MATERIALS AND METHODS

132 addicted men (18-61 years old) were selected randomly. Physiological factors like aerobic power (maximum used oxygen VO₂max) was measured indirectly through Astrand step test and for its evaluation Astrand-Remond nomogram was used. Body strength and flexibility were evaluated by dynamometer and sit and arrival test, respectively and body composition was measured and evaluated by using caliper and Rion-Baoun nomogram [4]. Before performing research, pilot study was done.

Statistical method and information analysis

Chi-square test was used to find relationships between variables and independent T test was used to compare difference among groups.

RESULTS

Addiction history of samples:

Table 1. Frequency of distribution of samples in terms of addiction history

Addiction history	number	percent
One year	42	31.8
Two years	20	15.2
More than two years	70	53
Total	132	100

In table 1 frequency of distribution of samples has been given in terms of their addiction history. As Statistical information shows more percent of individuals have had addiction history of more than two years.

In figure 1, the frequency percent of samples has been given based on used narcotic type. Based on statistical information the highest percent of samples' frequency is related to addiction to opium 55% and the least one is hashish 10% and the mean one is heroin 35%.

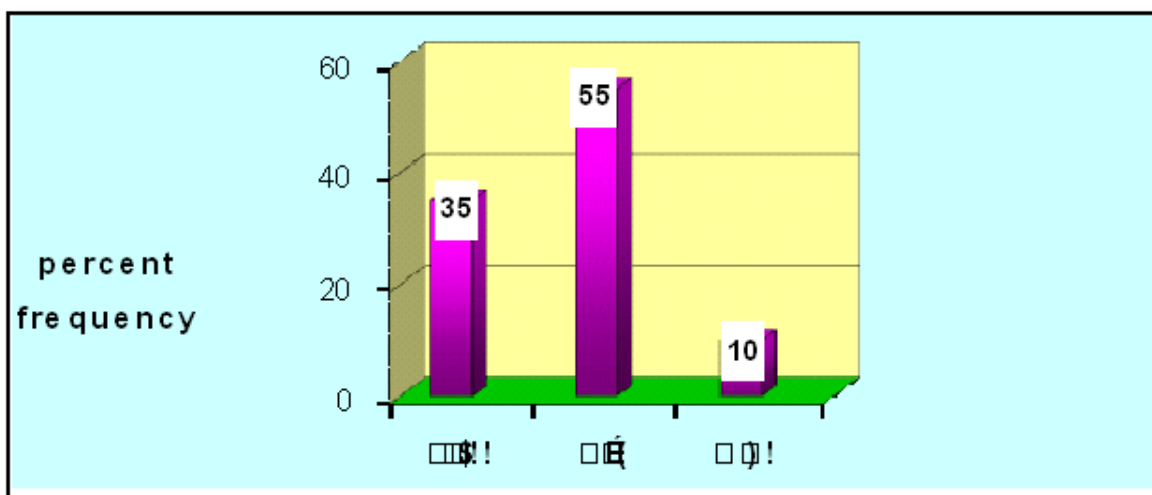


Figure 1. The frequency percent of samples based on used narcotic type

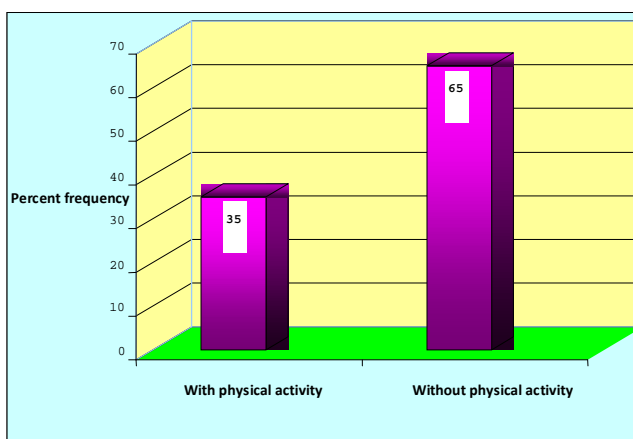


Figure 2. The frequency percent of samples in terms of physical activity

Physical activity of samples:

In figure 2, the frequency percent of samples has been given based on their physical activity. Based on statistical information, 65 percent of individuals had not physical activity which could have negative influence on their physical state.

Age, length and weight features of samples:**Table 2. Mean and standard deviation of age, length and weight of individuals**

Variable Index	Weight	Length	Age
range	50-90	160-185	18-61
Mean	67.66	171.58	33.53
Standard deviation	6.85	4.71	8.65

In table 2, mean and standard deviation of age, length and weight of samples have been given.

Physiological features of samples:**Table 3. Physiological features of samples**

Variable Index	Fat percent (%)	(Kg/N) Trunk strength	Flexibility(cm)	Aerobic power(ml/kg)
Range	6-32	85-165	7-43	26.7-58.3
Mean	12.66	123.07	22.6	42.4
Standard deviation	4.33	13.78	7.4	5.4

In table 3, physiological features of samples including aerobic power, flexibility, body strength and their fat percent have been presented.

DISCUSSION AND CONCLUSION

As mentioned there are not any researches on studying and presenting report about physical fitness state of addicts clearly, but comparison of addicts' physiological state with non-addicts shows very low fitness level, while more comparative studies on addicts' society in the future will make conclusion more precise. Research results show that 65 percent of individuals had not have physical activity, 56 percent had not have appropriate sleeping habit and as mentioned before addiction has known as a psychosomatic disease which can cause both psychological and physical side effects; so lowness of physical fitness level in under research population is expected. Statistical results in the present research showed that there is meaningful relationship between addiction history and reduction of aerobic power in addicts ($P=0.05$). However, it seems that it can make more information accessible to study the relation between aerobic power of selecting more samples and direct measurement methods. This result shows that it is more likely that aerobic power reduction of samples is due to using narcotics. As Camarago [2] and Sporer-Dorn [6] have shown addiction has negative influence on pulmonary function and reduces cardio-pulmonary strength [5, 8]. Also several researches have reported the effects of long usage of narcotics on reduction of pulmonary and cardiovascular functions [10]. So, it seems that the most reduction of aerobic power of samples has significant relation with physiological effects of using narcotics on cardio-pulmonary system than physical changes in muscle-skeleton system.

Statistical findings of research show that there is a meaningful relation between addiction history and each power strength and organism factors; but there is not any meaningful relation between addiction history and flexibility ($P=0.05$).

The average body strength (back) of group was 123.07 kilograms which represents weak state of this group [59]. Studies show that addiction leads to some physical side effects like superficiality of reciprocity, reduction of immune system's function, bony inflammation and muscle weakness and aching. According to multiple reports on influence of narcotics on muscular-neural system and reduction of movement control in people it seems that reduction in muscular function like opening strength of back muscular is resulted from long usage of narcotics [11, 12]. Statistical results show 12.66 fat percent in those people which is relatively low level of fat in men [1]. Different references have reported the influence of narcotic usage on digestion system including side effects like diarrhea, nausea and vomiting that these cases lead to lack of sufficient amounts of nutrition and body electrolytes like sodium, potassium and chloride and in the other hand it leads to neural changes like appetite reduction [10] that the combination of these factors impose undesirable changes on body composition and body weight over time [1, 8]. In this research no meaningful relation has been observed between addiction history and flexibility reduction, but mean flexibility of 22.6 cm has been obtained provided medium state which we can subject to age and reduction of physical activity in most samples.

General conclusion of research:

Findings of this research showed weak physical fitness state in addicted men. In evaluation of physiological state, their aerobic power was weak and undesirable. Also, they had undesirable states in terms of some health related physical fitness factors. It seems that, in order to improve and reduce state and physiological side effects in those people, special researches, training and planning are required. The main fact is that applying physical activity programs with focus on health related factors can make their general rehabilitation process more efficient.

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