

*Full Length Research Paper*

# Physical activities in patients with psychological disorders

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**Alterations in human life pattern in contemporary societies together with reduction of physical activities as well as increase in psychological disorders such as depression and anxiety endanger health of human beings. Regarding the positive effects physical activities on prevention, management and cure of psychological disorders, this study was conducted to investigate the status of sport and daily life as well as job-related physical activities in patients who referred to psychiatric centers. This study was a part of interdisciplinary research programme. The total population was 1500, the psychological part administered on 500 patients. The necessary data on physical activities of the patients were collected by means of a reliable and valid questionnaire and they were analyzed by statistical methods. The results showed that among different groups who referred to psychiatric centers, women, illiterate, low income groups and middle aged referred more than others. 97% of the patients did not exercise at all and 92% of them spent their leisure time in lying and sitting position or just sleeping. The results suggest that an active pattern of life be improved in the society to diminish the cases of psychological disorders.**

**Key words:** Physical activities, psychic patients, Iran.

## INTRODUCTION

Almost half of the population experience psychological disorders in the lifetime and cure expenditure of such diseases almost increase progressively. Typically cure and treatment system of a given society exposed to large number of psychological disorders will not be able to manage and cure all of them (Martinsen et al., 2000). The ancient philosophers and physicians have associated psychological disorders with the god's anger and dissatisfaction. But after renaissance and mainly after 17th century, awareness of human being on this subject has been increasing. Furthermore, human knowledge on various aspects of mental disorders, from pathology to management and medication has been improving as well (Hockenbury, 2004). The commonest psychological disorders such as anxiety and depression have been confirmed to be associated with low physical activity. During

recent years a number of researches have been carried out on physical activities, anxiety and depression, which indicate that physical activities can have supportive role against depression in adults (Daumit et al., 2005). The findings of other study suggest that exercise may be effective in improving depressive state, hormonal response to stress and physiological fitness of adolescent females with depressive symptoms (Chanudda et al., 2006). In addition, other researches show that the quality of physical activities in psychologically acute disordered individuals is less than normal individuals. In a WHO report, low physical activity level is cited as one of the 22 fundamental factors threatening health of human being in the world. In fact, low physical activity level is considered as a major problem in developing and developed countries. The acquired data in different part of the world reveals that low level physical activity range varies from 60 to 80%. Due to social and biological differences, women suffer from depression and stress twice more than men (World Health Organization, 2003). The mental

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health pattern in Iran is similar to the western countries, but it seems that the prevalence of psychiatric disorders in Iran may be lower than these countries. It is estimated that at least about 7 millions of Iranian population suffer from one or more of the psychiatric disorders. It shows the importance of the role of the psychiatric disorders in providing preventive and management programs in Iran. According to the reports of ministry of health, the frequency of these disorders in Iran is 21% in population over 15 years old. In Iran 28% of women and 13% of men suffer from psychological disorders. The prevalence of depression in population over 15 years old is 34% in Zanjan city, 44% women have depression which is the highest in the country. For the points mentioned above, the focus of this study is to investigate the status of sport, daily life and job-related physical activities in patients referring to psychiatric centers.

## MATERIALS AND METHODS

This study is a descriptive one which was performed on 500 patients who referred to either private or governmental psychiatric centers of Zanjan city in 2004. In private cure centers through a previous coordination with physicians, all patients were introduced by assistants to the trained interrogators in the physician's office.

In the case of psychologically sick who had been hospitalized, again after making necessary coordinations with the head of the hospital, the patients were interviewed and the interrogator obtained necessary data either directly from the patients or their attendants such as their children, siblings or the others who had thorough knowledge of the patients physical, job, daily and sport related physical activities. All the data were registered on the basis of patients' claims.

The instrument of collecting and measuring data was International Physical Activity Questionnaire (IPAQ) together with comments of medical experts inside the country. The testing of questionnaire reliability was performed by estimating a Cronbach alpha coefficient, which varied from 0.80 to 0.97 for different scales of questionnaire designed for patients.

This questionnaire included 56 questions in four parts. The first section had 12 questions containing general data such as age, sex, education level and income level, place of residence, place of birth and the frequency of their reference to treatment centers. The disease was diagnosed on the basis of the claim made by the visiting physician.

The second part of the questionnaire embodied 8 questions related to the amount of daily life-related physical activities in morning time, after waking up, the quality of daily conveyance, the quality and quantity of using stairs in house, the type of physical activities in leisure time, the severity of daily physical activities, etc.

Thirteen questions in the third section of the questionnaire hold job-related physical activities such as nature of job, its duration, quality of physical tiredness at work-place and severity of job related physical activities. The fourth part of questionnaire had 23 questions related to formal or informal sport-related physical activities. The questions of this part were designed so that quantity of sport-related physical activities in formal category (under supervision of a coach) and informal one (without a coach) were investigated and described.

The main variables under consideration throughout this study have been sport, job and daily life-related physical activities of patients who referred to psychological cure wards. The questionnaires were filled in with observance of ethical consideration in

consideration in physician office or private and government clinics by trained interrogators. All questionnaires were filled out by interrogators and then were looked over by principal members of this research and all necessary revisions carried out for the purpose of improvement of the study throughout trial and performance stage. For the purpose of data analysis the collected data related to physical activities of patients were encoded first and then were saved in SPSS by research operator and analyzed by using tables, charts, central indices and their frequency. Excel and Minitab were also used for some measurements as well as for compound and comparative ranking.

## RESULTS

Of 500 patients under investigation, more than 70% had behavioral disorders of anxiety and depression. The mean of the patient's age was 33. The most frequent age group was 21 to 40 years old (56%).

Prevalence of psychological disorders such as depression and anxiety in women (67%) was twice more than men (33%). Prevalence of psychological disorders in organic psychosis and personality disorders in women and men were almost identical while disorders such as substance abuse was more in women compared to men. About 50% of patients in our study were illiterate or had primary school education and 42% of them had guidance school or secondary education. On the basis of income, 75% of the patients had low income and only 2% of them had high income.

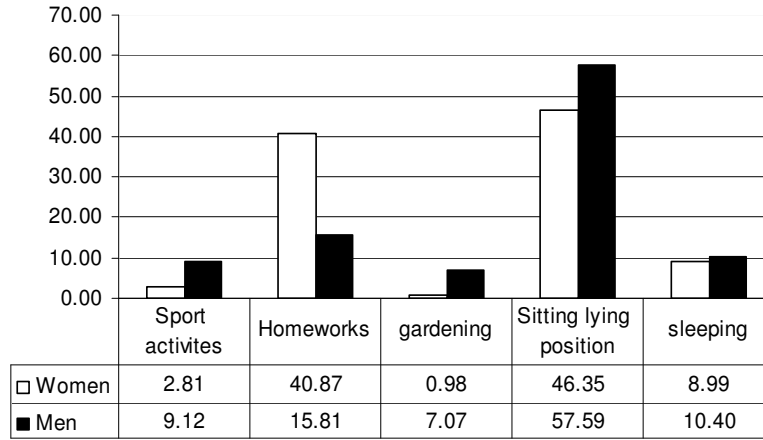
Accordingly, residents of urban areas (83%) referred to cure center more than residents of villages (17%). Among these patients 86% of them did not have any morning time physical activities such as running and bicycling. Only 40% of these patients used walking as a means of their daily transportation and the rest used vehicles. Almost 6% of them claimed to have physical and sport exercise in their leisure time. In contrast, ~28% spent their time in domestic works and ~66% spent their time in sitting, lying position while watching TV, getting together and the like or just spent their free time sleeping (Figure 1).

Among various jobs, housewives comprised the most frequent referents (Figure 2).

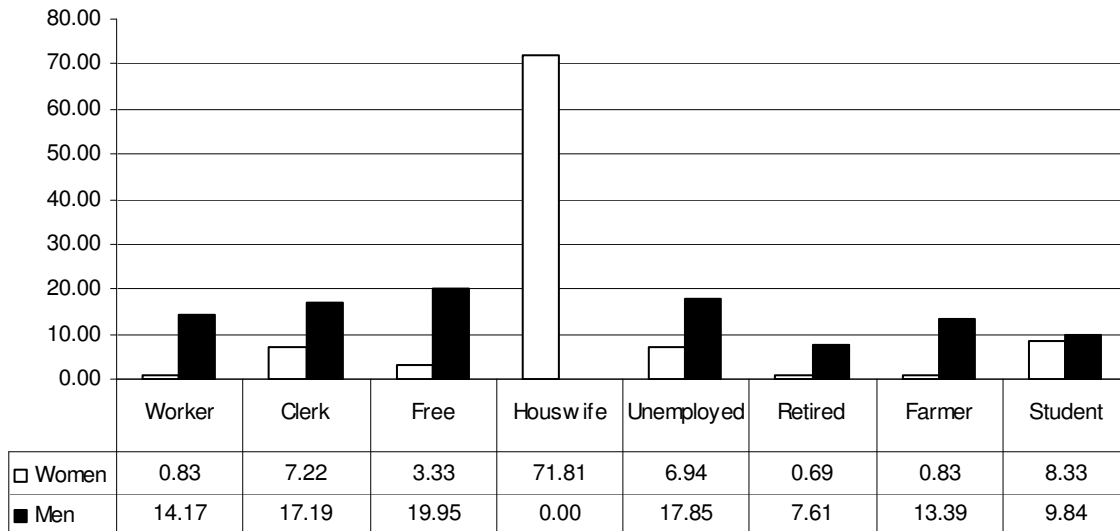
The vehicle of transportation in 83% of the patients from home to work-place and vice-versa was motorcycles but the rest were unemployed, sixty six percent of these patients did not use stairs at their work place. The most active part of their body at work was their hands (82%). According to claims made by patients, job-related physical activity in 41% of them was average. Nineteen percent had trivial physical activities and only 19% had been considerably active. However, 82% of them did not felt tiredness at their work place.

Questions on the status of formal and informal sport-related physical activities among these patients revealed that 94% of them did not perform such activities under supervision of a coach (Figure 3).

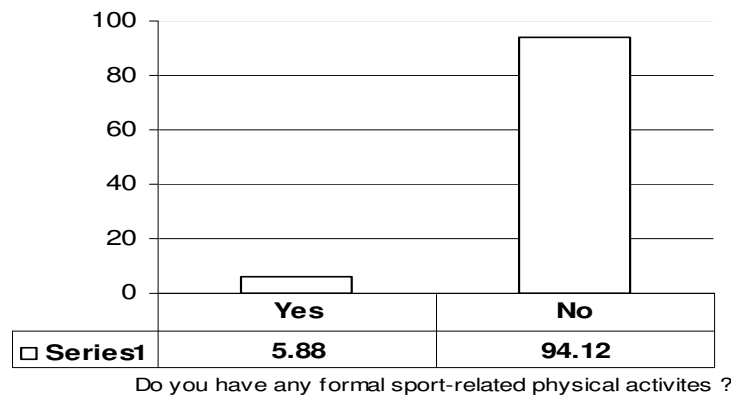
Sports of interest to only a few of them who had sport-



**Figure 1.** Comparison of the quality of physical activities of psychologically disorderd patients in their free time.



**Figure 2.** Comparison of the jobs of psychologically disorderd patients in Zanjan.



**Figure 3.** Comparison of the quality of formal sport-related physical activities (with a coach) in psychologically disorderd patients in Zanjan.

related physical activities were body building, football, judo, karate, taekwondo and swimming (6%).

The mean of the duration of formal sport related physical activities in these patients has been 2 month. Their participation level in sport competition at school level was 3% and at province level was 1%. At time of their reference to cure centers 3% had continued their sport-related physical exercises. On the other hand, 97% had not been exercising or had already stopped.

Considering informal sport-related physical activities people do in park, or nature, this research indicated that 89% of them did not perform any kind of exercise to be considered as sport and finally the left 11% were interacted in individual and team sport. The mean of each session of the exercise has been 7 min. Sport and exercise schedule of 86% of the patients was disorganized, whereas 12% of them had regular exercise. The mean of total time of informal exercise was 7 months. Among 11% of these who exercised, 6% informed that they were continuing their informal exercises, yet 94% of patients stated they did not have sport related physical activities.

## DISCUSSION

The patients with psychological disorders experience a life with disability and low quality. Psychological disorders affect social and family relations. Many studies have revealed that physical activities reduce diseases such as chronic heart disease, muscular, skeletal, psychological disorders as well as cancers. Some researchers have found inverse relationship between physical activities and psychological disorders (Goodwin, 2003; Paffenbarger and Leung, 1994; Camacho, 1991; Farmer, 1998). Moreover, many investigators have found positive association between physical activities and improvement of psychological status (Lennox et al., 1990; Cooper Patrick et al., 1997). In spite of all the effort throughout this research, scarce data is available on quality and quantity of physical activities of patients and a number of patients either emphasize the effect of physical activities on their well being or talk on role of low level of physical activity. The result of this study indicates that 94% of psychological patients did not perform any sort of sport-related physical activities. Moreover, 66% spent their free time in sitting or lying position. The low physical activity status in the patients in this study exceeded that of normal individuals. A research in Canada reports that the amount of low physical activities in women in their free time was 68% and in men 56% (Weyer, 1992). Another research in Taiwan shows that physical activities in their free time has been 30% (Koezuka et al., 2006). Though majority of physicians recommend that daily walking or bicycling for 30 min can reduce chronic heart diseases, type II diabetes, psychological disorders and osteoporosis but in the USA only 1 out of 4 has proper physical activities in leisure time (Battling et al., 2005). Our research suggests that 88% of patients had jobs with low physical activity

such as housewifery, official work and studies. We have found higher percentage of patients with low physical activity level as compared to the WHO report and other similar reports (60 to 80%). Furthermore, depression is one of the widespread disorders in the middle-aged women and is relevant to decrease in their capacities and to their weight gain (Pignone et al., 2002; Miranda and Green, 1999; Myers et al., 2002). The outcome of this investigation asserts that psychological disorders, especially depression, in women (67%) were twice as compared to that in men (33%). The findings are in accord with WHO research report undertaken in USA (Bromberger, 2004) and also with reports of ministry of health in Iran. The number of referents in 21 to 40 years old was more than other age groups. These findings are in agreement with reports of ministry of health in Iran concerning development of psychological disorders in age group over 15 years old. However the results assert the findings of faculty of medicine in Harvard university that consider the age of 11 as the start point for stress and the age of 30 for initiation of behavioral disorders 24. It seems that in many countries these ages are mostly exposed to psychological disorders. Participants of this research were almost illiterate or had low level of education and were unemployed or had low income. The study advocate the study conducted in Brazil in the USA in which illiteracy and poverty are considered as threatening factors of health (Regier et al., 1993; Kessler et al., 2005).

## Conclusion

The various researches carried out on the relationship of low physical activity with psychological disorders, especially anxiety and depression, it seems that the quantity of physical activities in psychologically sick people has been lower than ordinary individuals. On the other hand, activity level has been in women, illiterate, people with low income and middle-aged compared to the other people. The findings of this investigation suggest to prevent economical and humanistic damages of psychological diseases especially anxiety and depression in society. It is essential that sport, daily life and job-related physical activities among women, illiterate, low income groups and middle-aged receive priority in health and sport related programs. Sports like physical activity is another important parameter in addition to education and income to reduce psychological disorders.

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