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The Impact of Physical Activity Participation on the Self-Esteem of the Students. A Cross Sectional Study from RAKMHSU – RAK -UAE

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Abstract

Positive self-esteem helps people to feel good about themselves and gives them confidence to do things and confront social challenges. Positive self-esteem is improved by certain factors including increased physical activity. This can be utilized in the university age group, especially when considering medical and health sciences colleges where higher stress levels are recorded. Aim: To assess the relationship between physical activity and self-esteem among medical and health sciences students. Methods: an online questionnaire-based cross sectional study involved 198 students from RAK Medical and Health Sciences University was conducted to identify the level of physical activity and self-esteem score. Results were tabulated and analyzed using SPSS. Results: there was significant positive correlation between physical activity and self-esteem ($r = 0.604$). However, the correlation was higher for female students with no significant difference. Correlation among colleges did not show significant differences.

Keywords: physical activity, self-esteem, university students, sports, medical university.

1. Introduction

Physical activity is defined as any bodily movement produced by skeletal muscles that require energy expenditure. The term "Physical activity" is not identical to "exercise". Exercise is a subsection of physical activity which is structured, repetitive, and purposeful [1]. Physical activity helps the students to develop the knowledge, attitudes, motor and behavior skills, and confidence needed to carry out a healthy lifestyle [2]. Moreover, the health benefits of sports, such as increased aerobic power, increased muscle strength, and decreased obesity [3] were reported consistently. It also gives more positive perceived body image in sports participants, as stated by Koivula (1999) [4]. This would be more noticeable in the adolescence age group. Besides, physical activity participants score higher grades in school and have higher aspirations with lower scores on measures of loneliness and anxiety than do non-participants [5-8]. Adolescence is a critical developmental period in which the individual experience major physical and emotional transition. Adolescents, hence, struggle to deal with these changes in addition to their educational and social commitments necessitating significant psychological adjustment. The adolescents adjustment failure, yet found in only 20% of them, has serious impact of their self-esteem as reported that there is general decline in self-esteem among adolescents especially among girls [9-13]. The decline in self-esteem can affect badly the daily functioning and future aspirations in this age group.

Educators strive to study the factors which improve students' self-esteem due to the fact that individuals with high self-esteem have better self-knowledge, more active engagement in daily activities and show optimistic attitude and sound psychological health. [14-16] Positive esteem also protect against eating disorders and other body image-related problems.

Self-esteem include different aspects of the individual thinking and perception about self and body. For instance, Harter highlighted 12 domains of self-esteem including perceived intelligence, athletic competence, physical appearance, scholastic competence, and social acceptance and he believes to categorize self-esteem components [17]. Interestingly, these Subdomains showed consistent gender differences, as seen by Marsh who found the largest

Gender differences in the domains of physical ability and appearance, where boys have higher scores than girls did^[18]. Research suggests that the physical changes related to puberty are more difficult for girls to cope with and as girls are more interpersonally oriented, they become more vulnerable to opinions and comments about their physical appearance^[19]. In spite of the clear link between physical activity participation and physical abilities, the relation between physical activity participation and general self-esteem is less clear. Previous research is inadequate and variable. Some studies^[20-24] have shown higher self-esteem in sports participants with similar scores for males and females. On the other hand, the link between sports and self-esteem were not proved or even the correlation was negative in other researches^[25, 26].

In the present study, we focused on physical activity level in College age group, as a possible protective factor for self-esteem in response to the concern that medical college students face different difficulties and fall under tremendous stressors, which can interfere with the desired academic performance. Medical and health sciences students are one important segment of our young population and the Sports officers at medical Universities and colleges face many difficulties in encouraging those students to participate in sports. There is no such study in this region (United Arab Emirates).

1.1. Research Objectives

To find out the impact of physical activity participation on the self-esteem of the students.

1.2. Research Methodology

A questionnaire based Study was conducted in RAK Medical and Health Sciences University - Ras Alkhaimah – UAE from the period of October 2014 to December 2014 after obtaining the ethical approval from the University Research and Ethics Committee (on 29.10.2014). The study aimed to include participants from both genders in the four constituent colleges; Medical, Dental, Pharmacy and Nursing. The questionnaire was online based including socio-demographic data about students' age, family income, family education and residency. It also included graded evaluation of their physical activities and academic performance during the academic year (2013-2014). The GPA of the participants was checked and the sports participation claimed by the students was crosschecked with the sports officer records. The questionnaire was constructed with reference to similar previous studies and according to the recommendation of World Health Organization (WHO)^[27]. The self-esteem was assessed by the Rosenberg Self-Esteem Scale (Rosenberg, 1965)^[28] which comprise ten items Likert scale answered on a four-point scale (the score for each item ranged from 1-4 or strongly agree to strongly disagree). The total score can be interpreted as; high self-esteem for a score of more than 35, normal if the score was from 20-35 and low self-esteem if the score falls below 20. The scale, as indicated by the author's family, can be used without explicit permission. The questions were modified to fit the local conditions for our students. Finally, administrative and academic faculty validated the questionnaire. The incomplete entries were excluded then the data were collected in a worksheet and analyzed statistically using the SPSS software (IBM SPSS version 19).

2. Results

The total number of participants was 198 with 65 male students (33%) and 133 females (67%). There was equal number of participants from MBBS and BDS Colleges (57 each) while Pharmacy students were 46 and 38 students from

the Nursing College. The majority of students are (56%) in the age range (18-20 years) followed by (35%) in the range (20-22 years old). The students belong to different nationalities as there were 49% from the Middle East, 36% Asians, 12% Africans and 3.5% Americans. The most popular sports were walking, jogging and running, and dancing. Fig1 shows the frequencies of the physical activity categories of the participants according to gender, which shows, generally, higher levels of physical activity in males. According to the WHO, the recommended physical activity is 150 minutes or more per week. Less than 40% of our students only met this recommended duration. Fig2 shows the distribution of physical activity according to the colleges. It can be noticed that most of the MBBS students fall in the high physical activity levels while most of BDS students fall in the low physical activity levels.

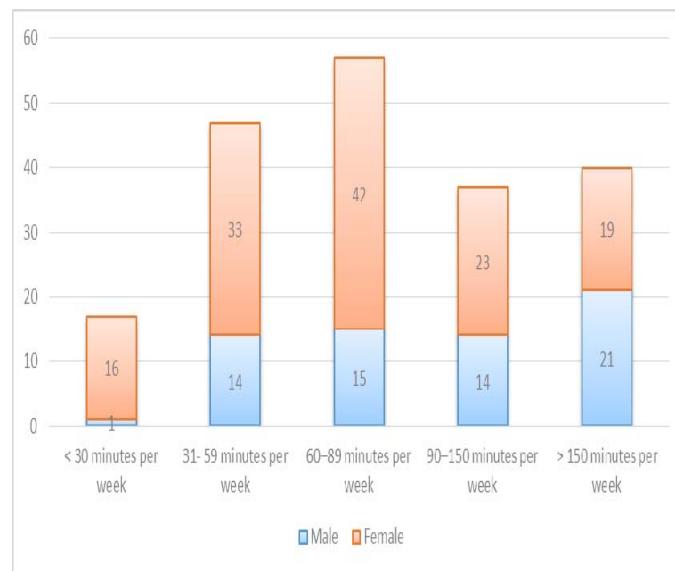


Fig 1: Distribution of Physical activity, Gender-wise

The mean GPA of the total sample was (3.39 ± 1.35). However, the mean GPA was higher for females with statistically significant difference ($p = 0.01$).

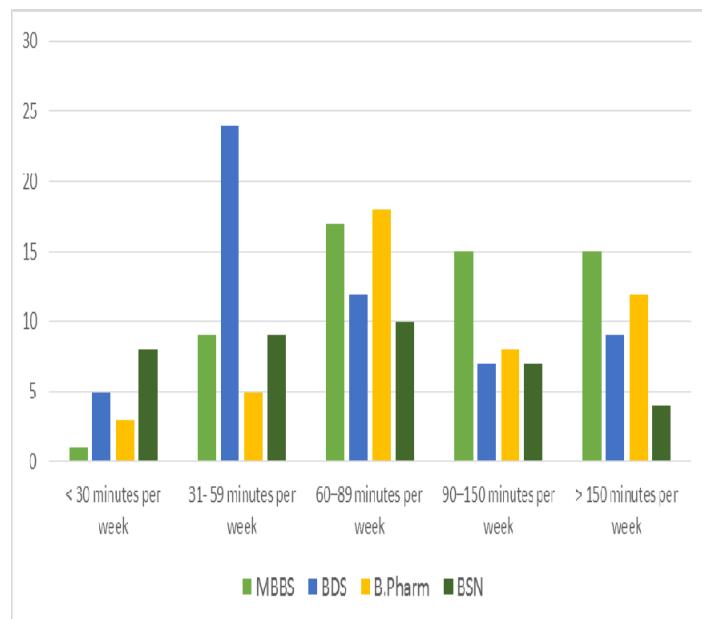
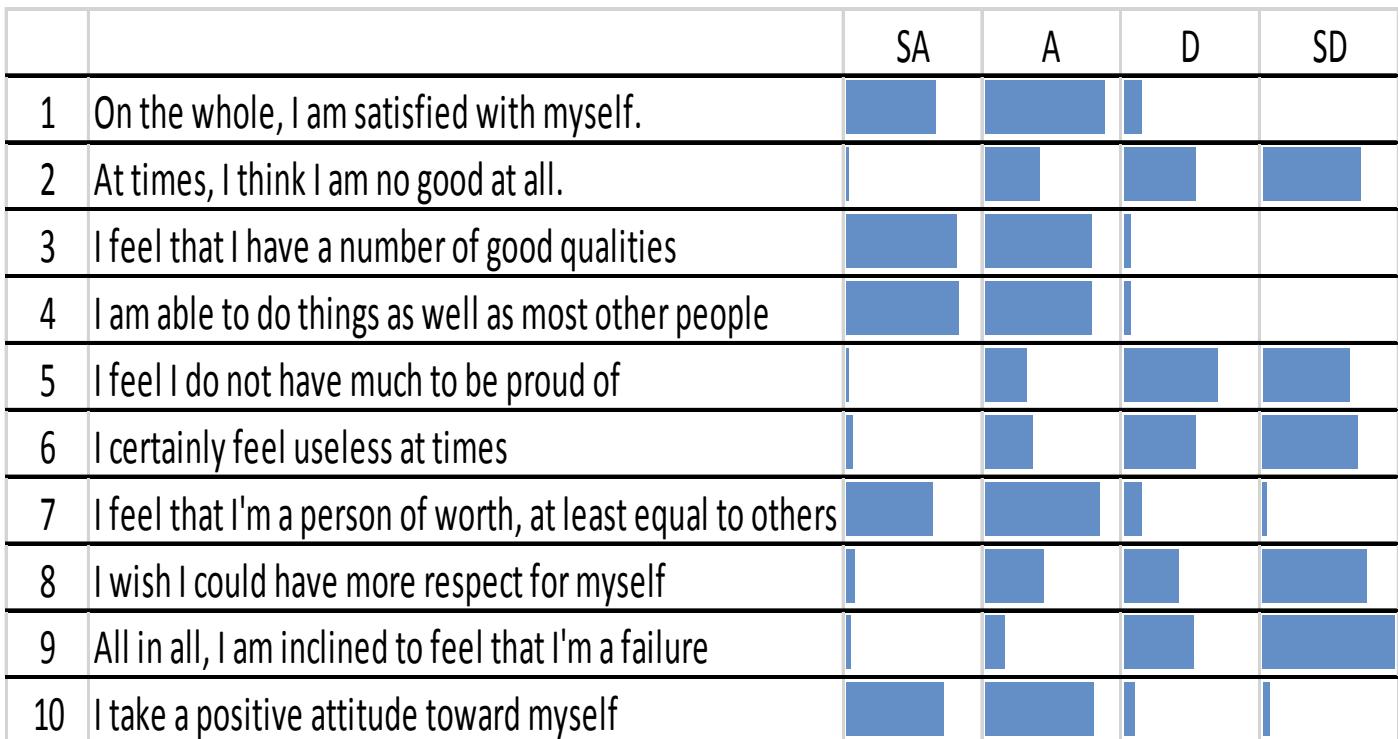


Fig2: Distribution of physical activity level according to colleges

Table 1: The frequency of responses for the Rosenberg self-esteem items.

SA: strongly agree, A: agree, D: disagree, SD: strongly disagree

The mean of self-esteem scores for the whole study sample was (33.03 ± 3.82) and the scores ranged from 25 to 40, which reflect a normal to high self-esteem level. This can be inferred also by reading table (1) which shows that the responses were clustered in the (strongly agree) and (agree) for the items with positive attitude (1, 3, 4, 7 and 10 items), and (strongly disagree) and (disagree) in the negative attitude items (2, 5, 6, 8 and 9 items). The self-esteem mean was slightly lower in females (32.9 while in males it was 33.9), however the difference was not significant statistically. This did not go with the gross differences in the physical activity levels and GPA between male and female students. Similarly, the self-esteem scores did not reflect significant differences among the four constituent colleges.

Interestingly, the physical activity and self-esteem showed good positive statistically significant correlation for the study population ($r = 0.604$, $p < 0.001$). This correlation was lower in males when gender was considered; as the correlation coefficient was 0.47 in males and 0.63 in females and both correlations were statistically significant ($p < 0.001$). Unlikely, the strength of correlation between physical activity and self-esteem did not differ very much when the colleges were compared ($r = 0.552$ for MBBS, 0.572 for BDS, 0.543 for B. Pharm and 0.633 for Nursing).

On the other hand, the correlation between GPA and self-esteem was weak if compared to the correlation between physical activity and self-esteem, yet positive ($r = 0.236$).

3. Discussion

Several studies were conducted to assess the relationship between physical activity and self-esteem. However, these studies focused on the school age students and athletes.^[29-31] In this study, the relationship between physical activity and self-esteem was assessed in college students' age which represents a difference from other studies because participation in physical activity in this age group is exclusively optional and self-driven as there are no regular sports sessions or classes.

The variability in our study population is achieved as they belong to different colleges, which in turn reflects the academic stress, and different nationalities.

Different scales can measure self-esteem. Tremblay and colleagues (2000) used 16 items from the Self-Description Questionnaire to assess the relationship between physical activity, academics and self-esteem among 6th grade students. This self-esteem measure had a reliability (Cronbach's alpha) of 0.88. They found that the physical activity was strongly and positively related to self-esteem and this trend was similar for male and female children. However, they reported that self-esteem tends to decrease with increasing age, especially in females in adolescence age and that vigorous physical activity may help them to pass this critical period.^[32] This was consistent with our findings that self-esteem was slightly lower in our female students and physical activity was correlated significantly with self-esteem, though the correlation was stronger for female students.

Using different scales, other study involving older population (11th grade) found the same positive correlation between physical activity and self-esteem but they considered gender and type of sports as moderating factors. These findings were inferred by using two scales for the self-esteem; Self-Perception Profile and Body-esteem Scale. The former was developed by Neeman and Harter (1986)^[33] and has reliability of (0.80) and the later was developed by Mendelson and White (1998)^[34] and has a reliability of (0.92). Gender and type of sports effect was concluded when they found better satisfaction with weight and appearance in boys while females' self-esteem was higher when they participated in non-competitive sports.^[35] Comparatively, the most popular sports were non-competitive and this may explain the stronger correlation between physical activity and self-esteem in female students in our study.

Rosenberg's Self-esteem Scale was used by Faulkner and his colleagues (2006) to study the effect of vigorous physical activity and juvenile delinquency and they found that physical

activity was positively correlated to self-esteem ($r = 0.16$). The same scale was used in our study and the reliability index for this scale is (0.86)^[36].

Due to lack of similar studies on university age students in general and for medical colleges in specific, it was difficult to compare our results with other populations. The correlation was almost similar for MBBS, B. Pharm and BDS colleges. The BSN students showed little higher correlation. This may be explained by the fact that most BSN students are females (35 females and 3 males) and this agrees with previous findings that females benefit more from non-competitive sports with regard to self-esteem. Other factors, like socioeconomic status and GPA, can play a role in the self-esteem as well but this is not the focus of this study.

4.1. Conclusion and recommendations

In conclusion, the correlation was in consistency with most of the previous studies which found significant relationship between physical activity and self-esteem by using different study designs and self-esteem scales. This finding can be considered to recommend increased physical activity participation for college student who face self-esteem problems.

4.2. Research Limitations

The study was conducted in RAK Medical and Health Sciences University during the period of October 2014 to December 2014. As the questionnaire was internet-based, the students' participation was not granted and some results were unauthentic. Moreover, the physical activities inside our campus include indoor activities only such as gym, table tennis and billiards while outdoor activities are practiced after the college hours and the sports facilities are in a separate building.

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