

The relationship between physical activity and the quality of life in University of Misan employees, Iraq

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Abstract

The present study was conducted with the aim of determining the relationship between physical activity and the quality of life in University of Misan employees, Iraq. This research was applied in terms of purpose; as well, it is a descriptive study of the type of correlation in terms of the data collection method. The statistical population included all the employees of university of Misan in Iraq in 2021, whose number was about 3500. The size of the statistical sample was determined 346 people using Morgan's table. The sampling method was in a clustered and available manner. Data collection tools were Beck physical activity questionnaires and the World Health Organization Quality of Life Questionnaire. The validity of the questionnaire was confirmed by 9 sports management professors. The reliability was obtained as 0.87 and 0.91 respectively in a pilot study. In order to analyze the data, descriptive statistics methods including frequency tables and charts; and inferential statistics (multiple regression) were used at a significance level of 0.05. The findings showed that physical activity had effect on all components of the quality of life (physical performance, general health, physical pain, limitation of physical function, feeling of freshness, mental health, limitation of emotional performance and social function) in University of Misan employees in Iraq. Enriching employees' free time with sports activities, encouraging them to participate in sports competitions, paying expenses, creating sports spaces and developing public sports are among the solutions to improve the quality of life of the employees.

Key Words: physical activity, quality of life, University of Misan, Iraq

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hand, and the crowd of facing problems such as job pressure and tensions on the other hand, has caused. Since the increase in the quality of life among employees leads to an increase in social productivity and individual and social vitality; this has prompted the health authorities to take a closer look at this issue. In fact, the quality of life is a structured and multi-dimensional complex that casts a shadow in the fields of physical, mental and social health, and the results of it are significantly affected in the field of health policies related to human resources in service sectors. Research results have shown that improving physical health and especially mental health is one of the most important things in order to optimize the quality of life of employees [1].

Many models have been proposed for the quality of life that have a high overlap and differences can be seen among them, simultaneously. Some models emphasize on personality structures as mediators, but some consider social efficiency more important. Re-reading different concepts of quality of life has led to the presentation of a definition by the quality of life group by the World Health Organization. This definition is presented for a person's understanding of their position in a context of value and cultural systems related to their goals, expectations, standards and interests. From this point of view, quality of life is a comprehensive concept that includes physical health, personal growth, psychological states, independence level, social activities and interaction with the environment, which also depends on the person's perception of these dimensions. In fact, the quality of life includes objective and subjective dimensions that are related to each other. On the other hand, it should be noted that the quality of life is a dynamic concept; as personal and social values, needs, and attitudes may change over time in response to life experiences and events.

INTRODUCTION

In today's era, the concept of quality of life is discussed in many scientific discussions due to the complexity of daily affairs on one

Each component of the quality of life can have significant effects on other aspects of life [2].

Every person does different things in the field of physical and mental health to reach quality standards of life, which sports and recreational activities is one of them. People who participate in various sports and physical activities benefit from the physical and mental benefits and improve their quality of life Mohammad Gholinejad P(2019). The growing development of design, selection and psychometric studies to test the quality of life has been evident, since measuring the quality of life has changed from a small subject to a large academic field from 1970 to today [3]. Examining the quality of life is important from several aspects. First, it shows the services and programs that are organized in order to improve the quality of life of people and various social groups. On the other hand, measuring the quality of life is a basic tool for measuring the effectiveness of policies and measures of health, recreation, therapy, etc. (Habibi et al., 2009).

The main consequences of lack of physical activity which is increasing in many countries are the spread of non-communicable diseases and the decrease in the general health of the population around the world. The World Health Organization states that about 17% of adults are not physically active despite confirming the benefits of physical activity. Even in communities that are physically active, it has been reported that about 60% of them do not achieve the minimum recommended amount of physical activity (30 minutes of moderate physical activity per day). Exercise and movement as a multi-dimensional tool have many health, social and economic effects [4]. The personal and social functions of sports along with improving the level of general health increase some aspects of the quality of life [5]. As well, people's desire to increase the quality of life has led to more physical and sports activities. Therefore, exercise causes physical and mental well-being, enjoyable and refreshing life and social connections by emphasizing people's health [6]. The sociological transformations of the 1990s caused an increase in the importance of quality of life [7]. The quality of life is determined based on a person's perception of his life situation [8]. It is related to factors such as gender, education,

age, culture, social class, illness, and social environment [9].

Awareness of the role of physical activity in improving health and preventing disease has increased dramatically over the past few decades [10, 11]. Physical activity is defined as body movements due to the contraction of skeletal muscles that result in energy expenditure [12-16]. Physical activity includes performing light, moderate and vigorous activities that are performed regularly added to part of a person's daily life. Regular physical activity performance can significantly benefit long-term physiological and psychological well-being [17]. One of the methods that people use to shape their bodies to make an ideal body shape is physical activity and sports [18]. In addition, there is evidence related to the role of physical activity in psychological well-being such as improvement of depression and anxiety. physical activity that has positive effects on physical and mental health is one of the essential factors that increase the quality of people's lives [19].

Considering that the achievement of universities' goals depends on the motivation and performance of their employees in addition to financial and facilities resources; examining the employees job issues, especially the quality of life, is one of the necessities that plays a role in improving the employee's performance of higher education. The employees want an environment that fulfills their needs for scientific self-actualization, respect and dignity while performing various educational, research and service activities. Physical activity can be one of the effective interventions to increase the quality of life. Physical activity is done in different forms such as work, leisure and sports, as well as the quality of life also includes various dimensions such as physical function, general health, physical pain, performance limitations, emotional issues, mental health, feeling of vitality and social function.

In Iraq, development authorities have not yet paid the necessary attention to the concept of quality of life. Also, no research has been done in the field of employees' quality of life with the approach of physical and sports activities. Therefore, due to the increasing number of people participating in sports, it is important that the quality of life of the participating people should be scientifically investigated in order to know

about the level of quality of life of active people and the various components of the tendency towards sports and physical activities. Therefore, it is felt necessary to conduct this research in order to study the role of physical activity in different aspects of the quality of life of employees will be reviewed who spend many working hours without movement and often behind desks and computers. The issue of the present research is to determine the components of physical activity which are related to different dimensions of quality of life. Therefore, the main problem of the current research is whether there is a relationship between physical activity and the quality of life of University of Misan employees or not. If there is a relationship, which of the aspects of physical activity are more effective in the quality of life of the employees? And which of the dimensions of the quality of life are probably more affected by physical activity?

METHODOLOGY

This research was applied in terms of purpose; as well, it is a descriptive study of the type of correlation in terms of the data collection method. The statistical population included all the employees of university of Misan (Faculty members and official staff) in Iraq in 2021, whose number was about 3500 persons. The size of the statistical sample was determined 346 people using Morgan's table. The sampling method was in a clustered and accessible manner. Finally, 340 questionnaires were returned correctly through the distribution of online questionnaires. Data collection tools were Beck's physical activity questionnaires in the three components of physical activity with 16 physical activity questions related to work, related to leisure time, and related to sports; as well, the World Health Organization's Quality of Life questionnaire with 36 questions was used to measure the quality of life. WHOQOL is divided into 8 components of physical function, general health, physical pain, limitation of physical function, feeling of freshness, mental health, limitation of emotional function and social function. WHOQOL validity and reliability were confirmed in different groups (Nadaei and Ain Ali, 2020). The form and content validity were confirmed by using the opinions of 9 sports management professors.

Also, the reliability of the physical activity questionnaire and job burnout questionnaire was obtained 0.87 and 0.91 using Cronbach's alpha method, respectively.

to analyze the data, frequency tables and charts were applied in the descriptive statistics section; And Kalmogorov-Smirnov tests and multiple regression were used in the inferential statistics section. Statistical operations were performed using SPSS software version 23 and at a significance level of 0.05.

Findings

From the perspective of descriptive statistics, 17.1% of the participants were between 21 and 30 years old from the total of 340 participants in the survey, as well, 30.6% were between 31 and 40 years old, 34.1% were between 41 and 50 years old, and 18.2% were 51 years old and older. Therefore, most of the employees were between 41 and 50 years old. In terms of education, 28.2% had a bachelor's degree or lower, 34.1% had a master's degree, and 37.7% had a doctoral degree. Therefore, most of the employees had doctorate degrees. Also, 71.5% of the participants were male and 28.5% were female. In terms of work experience, most of the employees (22/4) had less than 5 years of experience. After that, 6 to 10 years of work experience and more than 26 years of work experience were the next groups in terms of abundance.

Tab. 1. Predicting physical function based on physical activity components

Physical activity* physical function	(β)	B	Sig	R ²	F	Sig
Total		0/23	0/01	0/44	67/74	0/01
Work-related activity	0/16	0/14	0/03			
Sports-related activity	0/25	0/24	0/01			
Leisure related activity	0/19	0/17	0/01			

According to the results of Table 1, it is clear that there is a linear relationship between physical activity and physical function considering that the significance level is less

than 0.05. The value of f is 67/74 in this relationship. The independent variables have been able to predict 44% of the variance of the dependent variable according to the Coefficient of Determination (R²) obtained. Three variables of physical activity related to work, exercise and leisure time are significant predictors for physical function; The obtained regression equation is as follows:

$$\text{Physical Function} = 0.16(\text{work}) + 0.25(\text{exercise}) + 0.19(\text{leisure time}) + 0.23$$

Tab. 2. Predicting general health based on physical activity components

Physical activity* general health	(β)	B	Sig	R ²	F	Sig
Total		0/21	0/01	0/47	70/76	0/01
Work-related activity	0/09	0/10	0/09			
Sports-related activity	0/28	0/30	0/01			
Leisure related activity	0/27	0/29	0/01			

According to the results of Table 2, it is clear that there is a linear relationship between physical activity and general health considering that the significance level is less than 0.05. The value of f is 70/76 in this relationship. The independent variables have been able to predict 47% of the variance of the dependent variable according to the Coefficient of Determination (R²) obtained. Three variables of physical activity related to exercise and leisure time are significant predictors for general health; The obtained regression equation is as follows:
 General health = 0.28(exercise) + 0.27 (leisure time) + 0.21

Tab. 3. Predicting physical pain based on physical activity components

Physical activity* physical pain	(β)	B	Sig	R ²	F	Sig
Total		0/37	0/01	0/38	47/74	0/01
Work-related activity	0/12	0/16	0/04			

Sports-related activity	-0/19	0/23	0/01			
Leisure related activity	-0/32	0/17	0/01			

According to the results of Table 3, it is clear that there is a linear relationship between physical activity and physical pain considering that the significance level is less than 0.05. The value of f is 47/74 in this relationship. The independent variables have been able to predict 38% of the variance of the dependent variable according to the Coefficient of Determination (R²) obtained. Three variables of physical activity related to work, exercise and leisure time are significant predictors for physical pain; The obtained regression equation is as follows:

$$\text{Physical Pain} = 0.12(\text{work}) - 0.19(\text{exercise}) - 0.32(\text{leisure time}) + 0.37$$

Tab. 4. Predicting limitation of physical function based on physical activity components

Physical activity* limitation of physical function	(β)	B	Sig	R ²	F	Sig
Total		0/15	0/01	0/38	57/68	0/01
Work-related activity	-0/11	0/76	0/04			
Sports-related activity	-0/18	0/42	0/01			
Leisure related activity	-0/19	0/48	0/01			

According to the results of Table 4, it is clear that there is a linear relationship between physical activity and limitation of physical function, so that with the increase of physical activity, the limitation of physical function in the employees decreased. Three variables of physical activity related to work, exercise and leisure time are significance and reverse predictors for limitation of physical function; The obtained regression equation is as follows:

$$\text{Limitation of Physical Function} = -0.11(\text{work}) - 0.18(\text{exercise}) - 0.19(\text{leisure time}) + 0.15$$

Tab. 5. Predicting feeling of freshness based on physical activity components

Physical activity* feeling of freshness	(β)	B	Sig	R ²	F	Sig
Total		0/31	0/01	0/48	92/55	0/01
Work-related activity	0/06	0/21	0/34			
Sports-related activity	0/36	0/44	0/01			
Leisure related activity	0/38	0/58	0/01			

According to the results of Table 5, it is clear that there is a linear relationship between physical activity and feeling of freshness considering that the significance level is less than 0.05. The value of f is 92/55 in this relationship. The independent variables have been able to predict 48% of the variance of the dependent variable according to the coefficient of determination (R²) obtained. Three variables of physical activity related to exercise and leisure time are significant predictors for feeling of freshness; The obtained regression equation is as follows:

$$\text{Feeling of Freshness} = 0.36(\text{exercise}) + 0.38(\text{leisure time}) + 0.31$$

Tab. 6. Predicting mental health based on physical activity components

Physical activity* mental health	(β)	B	Sig	R ²	F	Sig
Total		0/60	0/01	0/52	98/56	0/01
Work-related activity	0/18	0/32	0/01			
Sports-related activity	0/38	0/56	0/01			
Leisure related activity	0/44	0/64	0/01			

According to the results of Table 6, it is clear that there is a linear relationship between physical activity and mental health considering that the significance level is less than 0.05. The value of f is 98/56 in this relationship. The independent variables have been able to predict 52% of the

variance of the dependent variable according to the coefficient of determination (R²) obtained. Three variables of physical activity related to work, exercise and leisure time are significant predictors for mental health; The obtained regression equation is as follows:

$$\text{Mental Health} = 0.18(\text{work}) + 0.38(\text{exercise}) + 0.44(\text{leisure time}) + 0.60$$

Tab. 7. Predicting limitation of emotional function based on physical activity components

Physical activity* limitation of emotional function	(β)	B	Sig	R ²	F	Sig
Total		0/18	0/01	0/31	56/97	0/01
Work-related activity	0/07	0/24	0/18			
Sports-related activity	-0/27	0/45	0/01			
Leisure related activity	-0/18	0/39	0/01			

According to the results of Table 7, it is clear that there is a linear relationship between physical activity and limitation of emotional function considering that the significance level is less than 0.05. The value of f is 56/97 in this relationship. The independent variables have been able to predict 31% of the variance of the dependent variable according to the coefficient of determination (R²) obtained. Two variables of physical activity related to exercise and leisure time are significant predictors for limitation of emotional function; The obtained regression equation is as follows:

$$\text{Limitation of Emotional Function} = 0.27(\text{exercise}) - 0.18(\text{leisure time}) + 0.18$$

Tab. 8. Predicting social function based on physical activity components

Physical activity* social function	(β)	B	Sig	R ²	F	Sig
Total		0/45	0/01	0/39	71/03	0/01
Work-related activity	0/22	0/34	0/01			

Sports-related activity	0/35	0/57	0/01			
Leisure related activity	0/08	0/13	0/08			

According to the results of Table 8, it is clear that there is a linear relationship between physical activity and social function considering that the significance level is less than 0.05. The value of f is 71/03 in this relationship. The independent variables have been able to predict 39% of the variance of the dependent variable according to the coefficient of determination (R²) obtained. Two variables of physical activity related to work and exercise are significant predictors for social function; The obtained regression equation is as follows:

$$\text{Social Function} = 0.22(\text{work}) + 0.35(\text{exercise}) + 0.45$$

Tab. 9. Predicting quality of life based on physical activity components

Physical activity* quality of life	(β)	B	Sig	R ²	F	Sig
Total		0/40	0/01	0/48	98/03	0/01
Work-related activity	0/18	0/24	0/01			
Sports-related activity	0/29	0/39	0/01			
Leisure related activity	0/31	0/47	0/01			

According to the results of Table 9, it is clear that there is a linear relationship between physical activity and quality of life considering that the significance level is less than 0.05. The value of f is 98/03 in this relationship. The independent variables have been able to predict 48% of the variance of the dependent variable according to the coefficient of determination (R²) obtained. Three variables of physical activity related to work, exercise and leisure time are significant predictors for quality of life; The obtained regression equation is as follows:

$$\text{Quality of Life} = 0.18(\text{work}) + 0.29(\text{exercise}) + 0.31(\text{leisure time}) + 0.40$$

DISCUSSION

The purpose of this study was to investigate the relationship between physical activity and the quality of life in University of Misan employees, Iraq. For this purpose, the relationship between physical activity components and each of the quality of life components was investigated through multiple regression test.

The results of the first hypothesis showed that all three components of physical activity related to work, sports and leisure time were significant predictors for physical function, so that the increase in physical activity of employees would improve their physical function [20]. According to the physical benefits of mobility include improving and increasing balance, strength, coordination, flexibility, and tolerance. Physical activity leads to the improvement of mental health, motor regulation and recognition performance. Among the components of physical activity, the activity related to sports had the greatest impact on improving physical function [21]. Vagetti et al. (2014) reported that performing sports exercises, slow and vigorous running for one hour a day and three times a week strengthens many physiological functions of the body. Regular exercise and physical activity reduce blood triglyceride levels, increase HDL levels, maintain body balance, lower blood pressure, prevent heart attacks and osteoporosis.

According to the findings of the second hypothesis, physical activity was a significant predictor for general health. In a situation where the two variables of physical activity related to sports and leisure time were effective on general health, and physical activity related to work had no significant relationship with general health. In justifying this finding according to [22]. Watanabe et al. (2000), it should be stated that the prevalence of mental illnesses is lower in people who are physically active. While exercise can be effective in preventing common diseases such as cardiovascular disorders, high blood pressure, osteoporosis, diabetes, asthma, arthritis, etc., it can also prevent disability and pain caused by the aforementioned diseases [23]. Showed that people participating in public sports (in all indicators) had a better condition than inactive people.

The third hypothesis showed that physical activity was a significant predictor for

physical pain, so that increasing physical activity reduces physical pain. Of course, this issue applies to physical activities related to sports and leisure time. Work-related physical activity had a direct and positive relationship with physical pain, meaning that work-related physical activity increased physical pain. However, it should be stated that physical activity in general reduces physical pain [24]. Discussed the effect of Pilates in improving pain, functional disability and quality of life. they concluded that the Pilates method can be used to improve pain, functional disability and aspects related to quality of life. In addition, this method did not cause any harm to the patients [25]. Concluded that Pilates may be a useful tool in reducing back pain symptoms and have a significant effect on quality of life in this sample of patients. In general, it can be said that exercises that affect neuromuscular function and improve muscle function can be considered as a suitable option to improve the quality of life of people with pain. According to Al-Masoudi's study (2021), reducing pain as a result of combined exercises can be one of the reasons for improving the quality of life. Therefore, combined endurance and strength exercises can be introduced as a suitable solution to improve the quality of life of employees.

According to the findings of the fourth hypothesis, there is a significant linear relationship between physical activity and limitation of physical function, so that as physical activity increases, the limitation of physical function of employees decreases. Three variables of physical activity related to work, exercise and leisure time were significant and inverse predictors for limitation of physical function [26]. According to following an active lifestyle is effective in preventing diseases at all ages, from childhood to old age, and having appropriate sports activities for each age can prevent the occurrence of diseases and improve the quality of life [27]. The results of have also shown that physical activity is widely recognized as a strategy to promote people's health, maintain functional capacities, and is also an effective factor in preventing and controlling a range of diseases. Active lifestyle and physical activity empower people. Employees can prevent the reduction of their physical efficiency, postpone old age or reduce its

incidence through coherent and effective programs in improving performance [28].

Based on the findings of the fifth hypothesis, physical activity has been effective on the feeling of freshness of the employees of University of Misan in Iraq. Two variables of physical activity related to sports and leisure time were significant predictors for feeling of freshness; While work-related physical activity did not have a significant relationship with it. In general conclusion, it can be said that doing sports activities during free time, in addition to physical benefits, also has beneficial effects on dealing with nervous and mental problems. People who do sports regularly, in addition to immunity from many diseases and deficiencies, have a harmonious personality, orderly life and more efficiency. Aw well. they have more social relationships by gaining a cheerful spirit and benefiting more from life. In this sense, many psychologists recommend doing sports as a way to relieve anxiety, boredom and nervous pressure. Therefore, it is the case that people report feeling good after performing sports activities and this feeling of being good also leads to more satisfaction with life [29].

According to the findings related to the sixth hypothesis, physical activity was a significant predictor for mental health. All three components of physical activity related to work, sports and leisure time were significant predictors for mental health, respectively [30]. Habibi and colleagues (2009) compared the mental health of 255 physical education and non-physical education teachers based on demographic characteristics. the results showed that the psychological well-being of physical education teachers was higher compared to non-physical education teachers. Salman (2014) also found that the mental health of physically-active working women was better than that of working women who were not physically active. The results of this research were not consistent with the findings of Souri et al. (2015) who reported that physical activity was not effective only in terms of mental health. in justifying this issue stated that although inactivity may have adverse effects on the quality of life of people and its components, but this effect is not so significant as to harm the mental health of people [31].

According to the results of the seventh hypothesis, physical activity related to sports and leisure time were significant

predictors for limitation of emotional performance, so that limitation of emotional performance decreased with increasing physical activity [32]. Reviewed previous studies and stated that moderate exercise is accompanied by a reduction in depression, anxiety, psychosomatic disorders, obsession, psychosis and neuroticism.

The results of the eighth hypothesis showed that physical activity is a predictor of social function and the components of physical activity related to work and sports were significant predictors for social function [33]. Showed that exercise improves all quality-of-life variables except social functioning. One of the reasons for this inconsistency is the short duration of the sports activity. Participating in sports activities brings people together locally and spatially [34, 35]. The findings of Asadi and Gouderzi (2003) show that 55% of Tehran University professors consider physical and sports activities as an effective variable in increasing the quality of educational activities, and 37% for the quantity of their educational activities. Also, 64% of the faculty members mentioned the role of exercise on mental health as well as 58% on physical health. Among the mentioned professors, 40% identified regular exercise and physical activity as a very effective factor in communicating with colleagues and students.

The results of the ninth hypothesis showed that all aspects of physical activity are effective on the quality of life of the University of Misan employees in Iraq. Also, in a general conclusion, it should be acknowledged that all the eight dimensions of physical, mental and social quality of life are affected by physical activity. This result has been confirmed in most of the researches in this field, in the most relevant we can refer to that there was a significant relationship between physical performance, general health, physical pain, limitation of physical function, feeling of freshness, mental health, limitation of emotional performance and social function [36, 37]. Of course, a number of researches were also in conflict with the present results. For example, reported that, except of the physical dimension, other dimensions of quality of life did not show a significant change in response to sports activity [38]. The difference in the statistical population of those who were elderly people, as well as the application of a short-term exercise

protocol, can be counted among the reasons for this inconsistency.

Health is an important issue in the quality of life, and the role of exercise is very important in this regard. The quality of life of active and inactive people is different from each other. The importance of quality of life is one of the most popular studies among new studies. People want to improve their quality of life. Therefore, governments all over the world should pay more attention to improving the quality of life of their people day by day, try to reduce the incidence of physical and mental illnesses and the related deaths, and provide health services and increase the physical, mental and social well-being of people. This well-being can be provided through physical activity and sports. As mentioned, exercise is effective in both physical and mental dimensions. For a long time, people have realized the tremendous effects of physical benefits of exercise; But the mental and psychological dimension of the benefits of exercise has attracted the attention of researchers in recent years. Therefore, the importance of exercise in life is quietly evident. By using a sports program, regular, and continuous physical activity, it is possible to increase various dimensions of the quality of life, especially physical functions. Also, exercise can help to increase the efficiency and effectiveness of employees; and paved the way for improving the quality of life of them so that their valuable experiences can be used for the improvement of the university and society in various dimensions.

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