

DOI: <https://doi.org/10.54702/q7gkxy66>**The effect of aerobic exercise on the mental health of people with cancer aged (20-18)**Bushra Kadhim Al-Hamash <sup>(1)</sup> ✉, Rusul Ali Jabur <sup>(2)</sup>

1&amp;2 College of Physical Education and Sports Sciences for Woman / University of Baghdad

**Received: 24/01/2024, Accepted: 23/02/2024, Published: 30/04/2024**This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/)., © Modern Sport**Abstract**

Physical fitness is one of the necessities of life. It is part of the general fitness of a person and one of the components of comprehensive fitness that qualifies the individual to live in a balanced manner within society. It aims to prepare an individual who has physical competence in facing the requirements of life. The problem of the research is that cancer patients who were unable to obtain their needs. It is necessary that this hinders their access to mental and physical health and to highlight the importance of practicing sports activities and its impact on the mental health of cancer patients aged (18-20) years. The research aimed to identify the effect of aerobic exercise accompanied by music on the mental health of cancer. The research used the experimental method with a one-group design with pre- and post-test on a sample of (7) people with cancer aged (18-20) and applied aerobic exercises accompanied by music for a month and a half. The two researchers reached a number of conclusions, the most important of which were: The effectiveness of aerobic exercises with music in improving the mental health index in the research sample. The researchers came up with several recommendations. Paying attention to mental health as it reflects the individual's satisfaction, self-confidence and happiness with himself and with the society to which he belongs. Emphasizing the use of aerobic exercises accompanied by music as it is a factor that helps get rid of boredom and encourages the performance of exercises actively and effectively and has a positive effect on psychological health.

**Keywords** Aerobics , mental health , cancer patients.**Introduction:**

Physical fitness is one of the necessities of life. It is part of the general fitness of a person and one of the components of comprehensive fitness that qualifies the individual to live in a balanced manner within society. It aims to prepare an individual with physical competence in facing the demands of life. Physical fitness is the mirror that reflects the level of development of the various body systems after increasing... Evidence that indicates and supports the positive effects of physical activity on treating some diseases and raising the level of mental health through aerobic exercises. Aerobic exercises are two forms of exercise that are characterized by the rhythm of music or without music, whether that is when performing rhythmic movements or when performing necessary movements. Which is

associated with losing excess weight among the general public. This can lead to all ages because it is entertaining and performed without tools, meaning it does not require expensive tools. Developing the physical and psychological aspects requires a type of aerobic exercise, especially for those suffering from cancer, in order to develop the physical abilities and health aspects that it has. An important and fundamental role in reaching the required level of comprehensive physical fitness for the individual. Recently, developed countries have sought to find modern methods in various forms and methods in order to develop the health aspects and physical and motor capabilities of athletes and non-athletes in order to develop the health aspects on the one hand and keep boredom and routine away from practitioners. On the other hand, especially for

cancer patients, modern aerobic exercises are considered one of the most important methods for developing people's general physical fitness. Therefore, the importance of research lies in benefiting from these modern methods and employing them in improving mental health. The problem with the research is that the motivations that led us to do this research are that the studies There is little seriousness about this topic, and as specialists in the science of physical sports activity, as well as our strong belief that cancer patients who are unable to obtain the necessary needs, this hinders the acquisition of mental and physical health, and to highlight the importance of practicing sports activities 14 and its impact on mental health, we emphasize that practicing activity The athlete has a role in achieving mental and physical health and contributing to providing psychological and health care for this group, which was the aim of the research : Preparing aerobic exercises accompanied by music , and identify the effect of aerobic exercises accompanied by music on the mental health of cancer patients aged (18-20). The research imposed, and there were statistically significant differences between the pre- and post-tests of the experimental research group in favor of the post-test in mental health as a result of the effect of aerobic exercises accompanied by music. The human field: those affected. With cancer at the age of (18-20), in the year (2022-2023), spatial field: Sahih Organization to fight cancer, temporal field: period from 5/12/2022 until 7/3/2023.

#### **Define terms**

**Aerobics:** Fatima Ali Al-Azab defined, "Aerobic movements are characterized by spontaneity, originality, beauty, and harmonious harmony with music and artistic and aesthetic taste, which encourages individuals of both sexes and of different health and social levels to practice them as a physical activity that has direct effects on the body, which gives it agility and beauty." (2).

#### **Method and procedures:**

The researchers used the experimental method with a one-group design with pre- and post-test. The research population was identified in a deliberate manner, which is represented by people suffering from cancer who are visiting the Medical City Hospital, and they number (14) aged (18-20) young men (at an average level for

patients). The researchers chose the research in a deliberate manner, which consists of (7) young patients aged (18). -20) Those present in the Sahih organization, and the sample is considered homogeneous in terms of age, gender, and pathology (the researcher approved the results of the medical examination of the Medical City Hospital for blood diseases)

The researchers used: Testing and measurement - the World Wide Web - A questionnaire form to survey the opinions of experts on the research topic - Physical Exercises Appendix (2) - Music recorder device - iPhone (1)

#### **Mental health index scale:**

After reviewing the references and sources and taking the opinion of the experts, the two researchers adopted the mental health index scale prepared by (Iman Abdel Fattah Al-Bitar and others), Department of Education and Psychology, College of Education for Girls, University of Baghdad (1 Appendix) (5). It was reviewed through a questionnaire form and presented to a group of the experts (7) in Appendix (2) agreed 100% on the suitability of the scale to the research sample. Method of correcting the scale: There is no right or wrong answer. There were three response alternatives: (yes, sometimes, no), and the degree of correction was for the positive item (3, 2, 1), while the weights were reversed for the negative items. Therefore, the highest possible total score for the respondent is (72) and the lowest possible total score for the respondent. It is (24), and the hypothetical average of the scale is (48) degrees. The higher the respondent's score on the mental health index scale, this is evidence of a high mental health index, and the lower his score is from the hypothesized average, this is evidence of a low mental health index. The scale has a reliability coefficient of (0.79).

#### **Exploratory experiment:**

The two researchers conducted the exploratory experiment on Thursday, December 28, 2022, in Sahih Organization, at 10 a.m., on a sample of (3) infected youth, who were from the community of origin and outside the sample. The aim was to identify the obstacles and negatives that the youth might encounter, and to know the time taken to implement the test. -Knowing the need of the

assisting team in terms of efficiency and appropriate numbers, testing the validity of the tools used and the data collection form.

### **Main experience**

#### **Pre-selection:**

The researchers conducted the pre-selection for the experimental research sample on Tuesday, January 10, 2023, at 10 a.m. in the Sahih organization. The test for the mental health scale was conducted. The researchers worked to establish the conditions related to the test in terms of time and place, the relevant tools, the method of implementation, and the supporting work team. In order to control as much as possible, create similar conditions when conducting post-tests

#### **Training curriculum:**

After completing the implementation of the pre-selection of the research sample, the researchers began implementing the training units that included physical exercises (aerobics) accompanied by music, benefiting from scientific sources, professors, experts, and the supervisor. They were implemented in two units during the week, so that the total training units were 12 units. Implementation of the prepared exercises began on the day Tuesday, 10/1/2023, ended on Friday, 24/2/2023, and Appendix (3) explains the details of the training curriculum. Below are some clarifications regarding the training unit - The duration of the training curriculum is one and a half months (6) weeks - The number of total training units (12). Training unit - Number of training units per week (2) Training unit - Training days are Friday and Tuesday - Training unit time is 35-40 minutes. The researchers used

aerobic exercises with music, where the performance was according to the time for each exercise according to the trainer's instructions, and the movement went from slow to medium, then fast, and back to slow according to the instructions, without stopping. Taking into account that there is no rest between the exercises, but when moving to the slow rhythm, this is a rest period because the performance is slower and in a way that allows the trainee to calm down because the rhythm is slow - the music that was used with the aerobic exercises for the experimental group was cut according to the type of exercises and their intensity, between fast, medium and slow rhythm - I used The two researchers used a method of continuous training in a rapid alternating manner by repeating the performance without a rest period, which is the optimal method that suits the research sample and the methodology used.

#### **Post-test:**

After completing the implementation of the training curriculum items, the two researchers conducted the post-test on the experimental research sample on Friday, February 24, 2023. The mental health scale test was conducted, and the two researchers were keen to provide the same conditions and requirements in place and time, as well as the auxiliary tools and assistant work team staff names.

**Statistical methods:** The search data was processed through the Statistical Package for the Social Sciences (SPSS).

#### **Results:**

**Table .1** Description of the research sample in the mental health scale

Variables	Arithmetic mean	Standard deviation	Hypothetical mean
Pre-test	56,724	11,326	48 degree
post-test	60,324	8,963	48 degree

**Table .2** shows the significance of the difference between the pre- and post-tests for the research variables

Variables	Pre-test		Post-test		arithmetic mean of difference	standard deviation of differences	T value calculated	Level Sig	Type Sig
	Mean	standard deviation	Mean	standard deviation					
Mental health index	56.7	11.326	60.324	8.963	3,210	0,632	2,346	0,000	sig

Significant when the significance value  $\leq 0.05$  under degree of freedom

### **Discussion:**

Shown in Table (2): The results of the research indicated that there were significant differences for the mental health index among the experimental research sample and in favor of the post-test. Table (2) shows that the significance of the differences between the pre- and post-tests for the mental health index in the research sample was the arithmetic mean of the mental health index in the test. The cardiac mean was 56,724, with a standard deviation of 11,326, and the arithmetic mean in the post-test reached 60.32, with a standard deviation of 8.96, and the calculated t-value was 2.34. When the error level (0.00) was compared to the function level (0.05), it turned out to be smaller, which indicates the significance of the differences. For the experimental group and for the benefit of the post-test, the researchers attribute the reason for this to the exercises that were applied to the research sample, which are aerobic exercises, which varied in performance between repetition and intensity according to the rhythm and music, which ranged strongly from slow, medium, and fast rhythm, (Shaima Ali) considering that "aerobic exercises With regular repetitions, it was performed regularly and repetitively on different parts of the body. Some sources indicate that the musical accompaniment of the center will give the individual psychological comfort and will free the nervous system from tension and increase his ability to move and then reach the goal in a quick way that helps delay the onset of fatigue. (4).

The researchers believe that the diversity in the use of musical rhythms, between slow and fast, as well as the units containing several exercises and repetition, led to strengthening self-confidence, overcoming the state of internal conflict, and increasing courage, which led to improving the

psychological state of patients, and this is what cancer patients who are exhausted by chemotherapy and have affected their health, need. Psychological Researchers point out that having good psychological health is the mainstay and foundation for the success of treatments and achieving recovery, and this is what was confirmed by (Muhammad Shehata): "Cancer patients believe that the success of treatment depends on the patient's good psychological state, and it constitutes a percentage of 75% of the cancer patient's practice. After receiving treatment for sports activity and movement, his body's fitness levels increase, which of course contributes to more positive functions of the various organs, and here treatment with sports has a double effect" (3).

This is what the results of several recent studies have concluded: that a cancer patient exercising and working to raise his fitness levels contributes positively to improving his health condition and even preventing the disease from recurring again. This is what was confirmed by (Hamad Odeh and Kamal Ibrahim): "The individual's mental health index enhances self-confidence and improves the general self-perception by enhancing the individual's belief in his abilities to accomplish positive steps, relieve stress and psychological pressure, relieve chronic depression, help return to activity, and provide a sense of accomplishment" (1). (Riham & Abeer) pointed out that "it is necessary for physical therapy centers to pay attention to developing the expertise of the therapists working in them on how to apply rehabilitative exercises" (6). this was confirmed by (Basma and Suaad): "Rehabilitation is the process of renewing health and ability to work through various means, whereby we can obtain



the maximum physical, psychological, and social possibility of recovery” (7).

### **Conclusions:**

Through discussing the results, the two researchers reached the most important conclusions:

- The effectiveness of aerobic exercises with music in improving the mental health index among the research group.

### **Recommendations:**

- Paying attention to mental health as it reflects the individual's satisfaction, self-confidence, and happiness with himself and with the society to which he belongs
- Emphasis on the use of aerobic exercises accompanied by music as it is a factor that helps get rid of boredom and monotony, encourages active and effective performance of exercises, and has a positive effect on mental health.
- Preparing educational guidance programs to improve the mental health of people with cancer and healthy people and achieve integrated mental health.

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### **Appendix (1)** Mental health scale

No.	Paragraphs	Yes	Sometimes	No
1	I spend a lot of money buying clothes.			
2	I am meticulous and committed in all areas of my life			
3	I find myself reviewing the work i have done repeatedly for no reason.			
4	It is my nature not to get very emotional			
5	I feel unable to satisfy my physical needs.			
6	I always maintain the safety of my body.			
7	I surrender to the fate of death			

8	I perform religious duties.			
9	I find myself preoccupied with fear of contracting a disease that cannot be cured.			
10	I believe that cleanliness is so important that it comes after the fear of god in terms of importance			
11	I always hesitate to make a decision.			
12	I feel that life is happy.			
13	I enjoy being the center of others' attention.			
14	I deal honestly with others.			
15	Sometimes i have disturbing dreams that bother me after i wake up.			
16	I am not afraid of high and closed places			
17	I feel a loss of sexual desire.			
18	I am very happy to be flawless			
19	I remember god often only in times of distress.			
20	I adhere to religious values			
21	I feel tired and exhausted for no reason			
22	I often feel nauseous or indigestion.			
23	I find myself adapting to different life situations.			
24	I believe that my abilities helped me solve the problems i faced.			

## Appendix (2)

### Used exercises

Exercise number	Description of the exercise Flexibility
1	(Standing - open) Bend the torso forward and raise it
2	(Standing - open - arms aside) Twist the torso to the sides
3	(Standing open - arms in front) Opening and joining the arms
4	(Long sitting open - arms high) Bend the torso forward to touch the left foot, then the right

Exercise number	Description of the exercise endurance strength
1	(Standing - arms aside) Raise the arms in front and to the sides
2	(Long sitting - arms in front) Raise the arms up and lower them in front
3	(Lying - arms aside) Bend and extend the legs
4	(Long sitting) swinging the legs together to the sides

Exercise number	Description of the exercise Endurance distinctive strength of speed
1	(From the brooch position) arms high. Lower and raise the arms
2	(from standing) Jumping forward and backward
3	(From standing) Jumping alternately

Exercise number	Description of the exercise Agility
1	(Standing) Arms up, exchanging legs forward and backward by jumping while raising and lowering the arms
2	(Standing) alternately lowering and raising the arms
3	(Standing) swinging the legs up and down alternately with the hands touching underneath them
4	(Standing with arms outstretched)

### Appendix (3)

Supplement for the first week

Training unit: The first

Unit aim: developing flexibility and endurance strength

The training unit time is 35-40

No.	Exercise number used	Time to perform the exercise	Repetitions	Time repetitions
1	1 flexibility	30 seconds slow + 30 seconds medium + 30 seconds fast	5	7.30min
2	3 flexibility	30 seconds slow + 30 seconds medium + 30 seconds fast	5	7.30min
3	1 endurance strength	45 sec medium 45 sec slow	5	9min
4	3 endurance of strength	45 sec medium 45 sec slow	5	9min

Second week

Training unit: - Second

Unit aim: agility and distinctive strength of speed

Training unit time: 35-40

No.	Exercise number used	Time to perform the exercise	Repetitions	Time repetitions
1	1 Agility	15 sec slow + 15 sec medium + 15 sec fast	5	7.30min
2	4 Agility	15 sec slow + 15 sec medium + 15 sec fast	5	7.30min
3	distinctive strength of speed	30 sec medium 30 sec slow	5	6min
4	3 Endurance distinctive strength of speed	30 sec medium 30 sec slow	5	6min

## تأثير تمارين الايروبيكس على الصحة النفسية للمصابين بمرض السرطان بعمر (18-20)

بشرى كاظم الهماش 1 ، رسل علي جبر 2

2&amp;1 جامعة بغداد / كلية التربية البدنية و علوم الرياضة للبنات

مستخلص البحث

تعد اللياقة البدنية ضرورة من ضروريات الحياة فهي جزء من اللياقة العامة للإنسان وأحد مكونات اللياقة الشاملة التي تؤهل الفرد للعيش على نحو متوازن داخل المجتمع وتهدف الى اعداد فرد لديه كفاءة بدنية في مواجهة متطلبات الحياة وتكمن مشكلة البحث بانه مرضى السرطان الذين لم يتمكنوا من الحصول على الاحتياجات اللازمة بان هذا يعرقل من حصولهم على الصحة النفسية والبدنية وإبراز أهمية ممارسة النشاطات الرياضية وأثرها على الصحة النفسية لمرضى السرطان بأعمار (18-20) سنة. وهدف البحث الى التعرف على تأثير تمارين الايروبيكس بمصاحبة الموسيقى الصحة النفسية لمرضى السرطان. استخدمت البحث المنهج التجريبي ذات التصميم المجموعة الواحدة بالاختبار القبلي والبعدي على عينة تبلغ (7) من المصابين بمرض السرطان بعمر (18-20) وطبقت عليهم تمارين الايروبيكس المصاحبة للموسيقى لمدة شهر ونصف، وتوصلت الباحثتان الى عدد من الاستنتاجات كانت أهمها الى. فاعليه تمارين الايروبيكس مع الموسيقى في تحسين مؤشر الصحة النفسية لدى عينه البحث. وخرجت الباحثات بعدة توصيات. الاهتمام بالصحة النفسية كونها تعكس الرضاء والثقة بالنفس والسعادة لدى الفرد مع نفسه ومع المجتمع الذي ينتمي اليه، التأكيد على استخدام تمارين الايروبيكس المصاحبة للموسيقى كونها عامل يساعد على التخلص من الملل وتشجع على اداء التمارين بنشاط وفاعلية و تؤثر بشكل ايجابي على الصحة النفسية.

الايروبيكس ، الصحة النفسية ، مرضى السرطان

الكلمات المفتاحية