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EFFECTS OF PHYSICAL EXERCISE ON GENERALIZED ANXIETY DISORDER

EFEITOS DO EXERCÍCIO FÍSICO NO TRANSTORNO DE ANSIEDADE GENERALIZADA

EFECTOS DEL EJERCICIO FÍSICO SOBRE EL TRASTORNO DE ANSIEDAD GENERALIZADA

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ABSTRACT
To identify the effects and possible benefits of physical exercise in individuals with generalized anxiety disorder who use controlled medication, in the perception of the participants. It was characterized as descriptive, exploratory, field research. It used the quantitative-qualitative method, of an applied nature. Participants were individuals aged 18 and 64 with TAG from Quixadá/Ce, using controlled medication and practicing physical exercise for at least 6 months. Data were collected through interviews. The analysis used Excel and the Content Analysis technique. Participants showed improved mood, decreased agitation, help with sleep, greater willingness to carry out daily activities and reduced disordered thoughts. It is concluded that the prescription of physical exercise for patients with anxiety disorder was positive in the view of participants who used physical exercise as a complement to drug treatment.
Keywords: *Physical Exercise. Physical activity. Generalized Anxiety Disorder.*

RESUMO
Identificar os efeitos e possíveis benefícios do exercício físico em indivíduos com transtorno de ansiedade generalizada que fazem uso de medicação controlada, na percepção dos participantes. Caracterizou-se como pesquisa descritiva de caráter exploratório, de campo. Utilizou o método quantiqualitativo, de natureza aplicada. Os participantes foram indivíduos de 18 e 64 anos com TAG de Quixadá/CE, em uso de medicação controlada e prática de exercícios físicos há pelo menos 6 meses. Os dados foram coletados por meio de entrevistas. A análise utilizou o Excel e a técnica de Análise de Conteúdo. Os participantes apresentaram melhoria do humor, diminuição da agitação, auxílio no sono, maior disposição para realizar as atividades diárias e a redução dos pensamentos desordenados. Conclui-se que a prescrição de exercícios físicos para pacientes com transtorno de ansiedade, se mostrou positiva na visão dos participantes que utilizaram o exercício físico como complemento do tratamento medicamentoso.
Descritores: *Exercício Físico. Atividade Física. Transtorno de Ansiedade Generalizada*.

RESUMEN
Identificar los efectos y posibles beneficios del ejercicio físico en sujetos con trastorno de ansiedad generalizada que utilizan medicación controlada, en la percepción de los participantes. Se caracterizó por ser una investigación descriptiva, exploratoria y de campo. Se utilizó el método cuantitativo-cualitativo, de carácter aplicado. Los participantes fueron personas de 18 y 64 años con TAG de Quixadá/Ce, que utilizaban medicación controlada y practicaban ejercicio físico durante al menos 6 meses. Los datos fueron recolectados a través de entrevistas. El análisis utilizó Excel y la técnica de Análisis de Contenido. Los participantes mostraron una mejora del estado de ánimo, una disminución de la agitación, ayuda con el sueño, una mayor disposición para realizar las actividades diarias y una reducción de los pensamientos desordenados. Se concluye que la prescripción de ejercicio físico para pacientes con trastorno de ansiedad fue positiva en la opinión de los participantes que utilizaron el ejercicio físico como complemento al tratamiento farmacológico.
Descriptores: *Physical Exercise. Physical activity. Generalized Anxiety Disorder*.

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INTRODUCTION

Humanity has undergone great revolutions in customs, beliefs, behaviors, and attitudes. In this way, diverse cultures emerge that are nothing more than a reflection of the very complexity of the human being. As a result, it becomes increasingly complex to help the individual himself, reducing him to one of his dimensions, spiritual, psychological and physiological. It is evident that more and more problems related to one of these dimensions affect the others, and may expand the concept of homeostasis of physiology to the search for balance between these three dimensions, since one exerts influence on the other.

One of the behaviors to be taken that can help in this search for this balance is the practice of physical activities and exercises. Several studies have already shown how these habits have a positive and direct influence on various problems that affect the population today[1].

Physical activity can be defined as any practice that, when performed, leads to a caloric expenditure greater than that of rest. Physical exercises, on the other hand, are characterized by the performance of these physical activities in an organized, systematized and progressive manner with specific purposes and objectives, that is, for the improvement or maintenance of physical fitness, health, body composition, among other aspects[2].

The World Health Organization recommends the practice of these activities and exercises for the entire population. In relation to the adult population aged 18 to 64 years, the practice of 150 to 300 minutes of moderate intensity or at least 75 to 150 minutes of vigorous intensity, distributed weekly[3].

A sedentary lifestyle, which is characterized by the absence of the practice of these activities, was considered as the main cause of the increase in the incidence of several chronic diseases. In addition, the vast majority of diseases affected by today's society worsen[4].

When analyzed, the impact of a sedentary lifestyle on the mental health of the population is no different. It can be considered a determining factor for decreased self-esteem, sociability, increased stress, among other problems, symptoms that make up diagnostic characteristics of several mental disorders. On the other hand, individuals who practice moderate physical activity have a lower risk of developing mental disorders when compared to those who are physically inactive[4].

Mental disorders account for approximately 32.4% of the total burden of diseases and represent one of the main health challenges for both developing and developed countries, becoming a concern and a major problem for public health5. It is one of the most common comorbidities, affecting about one third of the population in different age groups[6].

Epidemiological studies show that millions of people around the world are affected by at least one mental disorder. These data have been expanding on a large scale with each passing year[7].

Studies carried out in 1997 already pointed to anxiety as the disorder that most affected the population of Brazilian state capitals[7]. Currently, this data is even more worrying, pointing out that anxiety is the disorder that most affects a large part of the

Brazilian population, consolidating Brazil as the number one country in the *world ranking* in 2020, according to the WHO[8].

The Diagnostic and Statistical Manual of Mental Disorders (DMS-5) presents the different types of anxiety disorders and their characteristics. They are: Separation Anxiety Disorder, mainly affected in children, as well as Selective Mutism; Specific Phobia, commonly characterized by phobia of animals, natural environment, blood-injection-wounds, or situational phobia; Social Phobia; Panic Disorder; Agoraphobia; Generalized Anxiety Disorder; Substance/Medication Induced Anxiety Disorder; Anxiety Disorder Due to Another Medical Condition; and finally, Specified and Unspecified Anxiety Disorder, characterized by the lack of sufficient information to fit into any of the diagnostic types mentioned above[9].

Generalized Anxiety Disorder (GAD) makes up the majority of diagnoses today. Its main symptoms are excessive concern about different types of activities or events in daily life. There is an anxious expectation, characterized by a difficulty in controlling feelings, a concern disproportionate to the real need presented, apprehensive thoughts that can interfere with daily activities, and these same activities, on the other hand, can aggravate the symptoms. Individuals affected by this disorder are also unable to control their excessive negative thoughts, hindering their psychosocial functioning[9].

With the Covid-19 pandemic, there has been a significant and worrying increase in these cases. As a result of the severe social crisis, there is an increase in psychological disorders at various levels of society, according to the study by Faro *et al.*[8].

Studies have already pointed to several benefits of physical exercise for the health of the individual in general1. However, due to the complexity of the topic, there are gaps still to be filled in the understanding of the impacts and benefits of exercise in individuals with anxiety disorders. Based on the above, it is necessary to research non-pharmacological interventions that assist in the treatment, recovery and health promotion of individuals affected by anxiety disorders in order to alleviate this problem. In addition, these interventions help to reduce the demand for and high consumption of pharmacological medications, making it possible to break a cycle of dependence[10].

In view of the above, what interventions could be used to aid in the treatment of these disorders? Based on the already proven evidence on physical exercise cited in the body of this text and because this is a method accessible to the population, the following problem arises: What are the benefits of physical exercise on the health of individuals with generalized anxiety disorder who use controlled medication?

The main objective of the research sought to identify the effects and possible benefits of physical exercise on the perception of participants in individuals with generalized anxiety disorder who use controlled medication. The specific objectives are also to compare the differences in the results between the genders of the research and to verify whether there was a reduction in the use of medications (prescribed by the physician in charge) after the regular practice of physical exercise for at least 6 months.

METHODS

The present study was characterized as a descriptive exploratory field research. The qualitative-quantitative method of applied nature was used.

The research was carried out at the Dr. Everardo Silveira Basic Health Unit (UBS) in the municipality of Quixadá, located in the Sertão Central macro-region of the state of Ceará. Together with the health agents of these teams, individuals with Generalized Anxiety Disorder, aged between 18 and 64 years, who had been using controlled medication and practicing regular physical exercise for at least 6 months, were selected and invited to participate in the study. with a weekly frequency of 3 to 5 times a week with at least 30 minutes/day or that, at the end of the week, this practice totaled 150 minutes per week, as recommended by the World Health Organization (WHO), to be characterized as active individuals and thus form the sample population of the research. To select the participants, the following question was asked: Do you practice any physical exercise? How long have you been practicing?

For data collection, a structured interview was conducted using open and closed questions. The following questions were used: Which medication? Prescription? How long have you been using it? What physical exercises do you usually practice? How long have you been practicing? How many times a week? How long does each workout last? What was the reason for starting this practice? Did you have any medical recommendations? Did you already practice before taking the medication, or only after the prescription? Is your activity prescribed by a physical education professional? What benefits have you noticed after practicing these activities? Regarding anxiety, have you noticed any decrease in symptoms after the inclusion of exercise in your daily life? Were there any changes in the prescription of medication after exercising? What is your perception of the importance of exercising when you have an anxiety disorder? The interview was conducted at the participants' homes under the supervision of the health agent in the area. It was audio-recorded and the participants' answers were transcribed by the interviewer.

For the interpretation of the quantitative data, descriptive statistics were used by excel *software*, and the Content Analysis technique was used for the qualitative data. This technique analyzes speech and information to obtain parameters that make it possible to conclude or deduce a certain information about the production or receipt of the messages and data collected[11]. The categorical analysis presented by Bardin was used, which is based on the separation of the answers obtained into units and categories with the themes that emerge during the interview[12]. This separation occurred later. For such separation, it is necessary that there is a similarity between the grouped data, that is, they belong to or address the same fact[13].

The research was developed in accordance with the ethical precepts of the Code of Ethics for Physical Education Professionals and the legal aspects of research involving human beings set forth in the resolution of the National Health Council No. 466/12. It was submitted to and approved by the Ethics Committee of the School of Public Health of Ceará under protocol number 5.346.196.

RESULTS

The number of participants in the research was a total of 8, 7 women and 1 man. A total of 81 anxiolytic medication users were identified, 21 men and 60 women. Of these 81 users, 12 had been exercising for at least 6 months, however, only 8 agreed to

participate in the research. Based on these data, it was possible to identify a high prevalence of sedentary lifestyle in the study population.

The main medications used were Fluoxetine, Paroxetine, Amitriptyline, Sertraline, Citalopram, Escitalopram and Alprazolam, all prescribed by the responsible professional. Their average use ranged from 30 years to 01 month of use.

When asked which exercises they usually practiced, 62.5% answered weight training, 12.5% water aerobics, 12.5% bicycle and 12.5% bicycle and weight training together. The average time in which the participants performed the exercise ranged from 06 months to 06 years. The number of times ranged from 03 to 06 weekly training sessions with an average duration of 01 hour.

Among the participants, 62.5% reported that they had already exercised before starting drug treatment. 75% said they had received medical recommendations to start practicing some activity or physical exercise after the diagnosis. It is important to note that 87.5% of the participants obtained their exercise prescriptions from Physical Education Professionals.

Regarding the change in the prescription of medication after the beginning of the practice, there was no report of change in the prescription of medication as a result of the inclusion of exercise in the sample studied. When comparing the results between females and males, it was not possible to identify divergences in the data obtained.

Regarding the main reasons for starting the practice of physical exercise, it was found that these were focused on the search for health, sociability and self-esteem/aesthetics. Regarding the benefits noticed after the beginning of physical exercise, improvements in health and self-esteem, weight reduction and symptoms related to other health problems were listed.

Regarding the reduction of symptoms after the beginning of exercise through the participants' statements, it was noted that exercise helps to reduce symptoms associated with anxiety. Specifically, in improving mood, reducing agitation, aiding sleep, willingness to perform daily activities and reducing disordered thoughts.

It was also possible to verify that 100% of the participants consider it extremely important to include the practice of physical exercises in the routine of individuals with this type of disorder to assist in drug treatment. This can be noticed through the following answers "I recommend it a lot, because the practice of exercises improves self-esteem and helps to fight anxiety crises", "It is certainly very important, it will reduce the issue of anxiety itself because you occupy your mind when you are practicing and especially when you like it".

The categories evidenced by the categorical content analysis method presented by Bardin were: Health; Socialization; Health and Sociability; Health and Self-Esteem; Symptom Reduction and Self-Esteem; Health and Symptom Reduction; Symptom Reduction; No Reduction of Symptoms and Mood Variation.

DISCUSSÃO

According to the WHO, health is not just the absence of disease or disease. It can be defined as complete well-being in the physical, social and mental aspects[14].

In the search for health promotion, several means can be used by individuals. The Ministry of Health points to the inclusion of bodily practices and physical activities and exercises in the daily routine as one of the determining strategies that can be adopted for health promotion. They corroborate the data listed in the creation of the National Health Promotion Policy in 2006, which mentions that such practices are one of the eight strategies to be used to achieve health promotion[15].

This can be evidenced in the statements presented by some participants when asked about what led them to practice physical activities. They point out that their onset was due to anxiety and depression, because they were already affected by health problems and reported that, when they practice such exercises, there is an improvement in their health condition.

Some participants also mentioned that their practice began in the search for socialization. Some authors investigated the motivational factors for the practice of physical exercises and showed that the search for sociability, health and leisure were the main aspects that motivated the search for this practice, which is corroborated by the data evidenced in the present study[16].

Self-esteem is a factor that influences the search for exercise, however, this motivational aspect is commonly found in a younger population16. This can also be evidenced in the present study, since the individuals who presented aesthetics as the main factor had a lower mean age than the other participants.

It can be said that the inclusion of physical activity or physical exercise in a person's daily life is extremely important to acquire or maintain a good quality of life. In addition, it can provide several benefits for physical health, such as improved aerobic endurance, strength and flexibility gains, strengthening of the cardiovascular and respiratory system, weight and fat percentage reduction, and may also include slowing down the aging process and reducing the risks of chronic non-communicable diseases, as well as improving mental health. such as reducing stress, fatigue, tension and stimulating brain activity[17].

These same benefits could be noticed by the research participants. The participants point to an improvement in health, based on weight reduction and body changes, improved self-esteem, and a decrease in symptoms related to chronic non-communicable diseases already acquired.

When the focus of the question was directed to the benefits of exercise on anxiety symptoms, 87.5% of the answers were positive in which, in their perceptions, exercise helps to reduce symptoms, specifically in improving mood, reducing agitation, helping with sleep, greater willingness to perform daily activities and reducing disordered thoughts. All these data corroborate the mental health benefits mentioned above. The other participants reported having positive and negative days, with mood swings. It is important to add that there were no data that pointed to an increase in symptoms, thus showing only favorable data in relation to the adherence of this practice to the treatment.

A previous study also presented data that were reaffirmed by the findings of the present study. This study points out that, at the psychological level, exercise acts to reduce anxiety, increase self-esteem and cognition, reduce stress, with benefits in sleep disorders, mood changes and improvement in learning and memory of patients[18].

In recent years, several studies in the literature have sought to investigate the possible benefits that physical exercise can provide to individuals with anxiety disorders. Although all the benefits and their importance have not been consolidated in the studies, some evidence that it is extremely important and that it can provide a significant improvement in these cases[19]. Similar data were found in an integrative review conducted by Correa et al., who analyzed that the use of this methodology significantly helps with anxiety levels, providing an improvement in patients' quality of life[20].

On the other hand, in the perception of the participants in relation to the importance of this practice, there is no clear evidence. However, in the analysis of the data collected, 100% of the interviewees presented positive answers for the inclusion of this practice for patients with anxiety disorder, evidenced through the use of adverbs of intensity, such as "very important", "very important", "too important", as can be seen in the statements of participants 03, 04 and 05. "It is very important that you do any type of exercise, even more so after this pandemic that has already trapped a lot of agents at home", "It is certainly very important, it will reduce the issue of anxiety itself because you occupy your mind when you are practicing and especially when you like it". "I recommend it a lot, because the practice of exercises improves self-esteem and helps fight anxiety crises." These results demonstrate the importance of qualified guidance from the Physical Education Professional for the practice of physical exercise.

Some studies have sought to highlight the benefits of the use of physical exercise associated with traditional psychotherapies. One of these studies revealed a reduction in fatigue and a decrease in mood swings[21]. A second study mentions the positive effects on mood and stress control[22] and, finally, it was seen that these practices associated with cognitive behavioral therapy relieve the symptoms of panic disorder also present in patients with anxiety disorder[23].

With the analysis of the interviews, it was also possible to identify the benefits of the association of drug treatment with the practice of physical exercises in the perception of the interviewees. Participants point out that they achieved significant improvements when the two methodologies were used together. This can be observed in the following statements: "When I used only the medication I didn't have a result like I'm having with the practice of exercises, there were times when I didn't even need to take the medication to be able to sleep", "It decreases my agitation, I am calmer until people were already noticing that I am more relaxed".

Finally, we can cite the study conducted by Batista[18], in which he reinforces the data that support the use of exercise as a treatment. It points out that its benefits can be perceived at the physiological levels, providing greater oxygen transport to the brain, biogenesis and degradation of neurotransmitters, excretion of serotonin and reduction of blood viscosity. Or on a psychological level, acting to reduce anxiety, increase self-esteem and cognition, reduce stress, benefits in sleep disorders, mood swings and improve learning and memory of patients. The results of the present study corroborate the data presented in Batista's study.

As factors that directly influence the results and that can be cited as limiting aspects for the performance of the present study, the following can be mentioned: the high social vulnerability of the study site, which leads to low schooling, as noted in the sample

studied, in which 75% of the individuals did not complete elementary school; lower purchasing power, reducing access to services and information; the pandemic context experienced during the data collection period and the low number of participants able to participate in the research due to the sedentary lifestyle index, which is already a warning, since in a systematic review in 2015 it was already found that a sedentary lifestyle seems to be directly linked to a higher risk of developing anxiety disorders[24].

CONCLUSION

Based on the results obtained, it is concluded that the practice of physical exercises in patients with anxiety disorder was positive in the view of the participants who used physical exercise as a complement to drug treatment. Participants showed benefits such as: improved mood, decreased agitation, sleep aid, greater willingness to perform daily activities and reduced disordered thoughts. Other benefits listed by the participants were: improved health, weight loss, improved self-esteem and decreased symptoms related to other health problems.

Another fact that can be observed was the high number of sedentary lifestyles in the population studied, making it difficult to attract participants who were able to participate in the research. However, it is noted that Anxiety Disorder is a theme that needs further research, both with emphasis on the participant's perception and based on clinical trials that may present new scientific findings. Mental health in Brazil has become a serious public health problem and this disorder is one of the most affected by the population in different age groups, thus requiring greater attention.

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