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Research Article

Impact of the Program "Move Tx®" Of Physical Exercises in The Quality of Life of Transplant Recipients

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Abstract

Organ transplantation represents a survival for patients who suffer from limitations. The transplant patient is someone who has generally suffered many deprivations due to their underlying pathology and has the desire to resume their routine. Exercise has proved to be an important ally in this recovery. Several benefits are observed with the practice of physical activity: prevention of osteoporosis, prevention of diabetes and hypertension, muscle mass gain, improvement in sleep quality and mood, minimization of immunosuppressant side effects. Although there is no consensus on exercise protocols for transplant patients, the advantages provided by their practice are observed, so that exercises should be stimulated after being released by the medical team and accompanied by a physical education professional. The study aims to determine the impact of the "if you move tx" exercise program on the quality of life of transplant recipients. For that, the method used was the application of a questionnaire (google docs) addressing issues in this area. The questionnaire consists of four sections: questions of personal presentation, aspects that improved after joining the program with scores from 0 to 5, questions to define items such as exercise, transplantation, disposition, care, balance, quality of life and finally, leaving a comment if you wanted. The questionnaire was sent to the virtual communication group so that it could be answered. The results were obtained through the analysis of the collected data demonstrated by the google docs platform itself through graphs showing the percentages reached in the answers related to the questions addressed, allowing a visualization of the different scores attributed to each question. It was concluded that the referred exercise program had positive impacts on several aspects of quality of life, such as strength gain, self-esteem, improvements in medical exam parameters, etc.

Keywords: transplantation; exercise; quality of life

Introduction

The physical education professional and pulmonary transplant Liège Gautério CREF 017513-G/RS noticed that, after discharge from pulmonary rehabilitation, most patients did not continue physicalexercises, and many presented weights gain, compromising the transplanted organ due to the appearance of rejection.

Knowing that physical exercises are strong alliesagainst weight gain and mitigate many side effects ofimmunosuppressants, he idealized the project "Moves TX®" with the objective of encouraging transplant recipients to exercise and maintain health,thus providing a higher quality of life.

The program consists of a series of videos made available by the You Tube platform, involving easy- to-perform exercises, using accessories such as water bottles, ball, broomstick. Aspects such as strength, aerobic conditioning, flexibility, coordination, balance, etc. are worked out.

This program aims to make the transplant recipient insert the exercises in his/her routine, so that, over time, he can choose other modalities of physical activities, in addition to the exercises of the platform mentioned.

After the launch of the YouTube channel, a virtual communication group was created so that doubts were clarified and for greater interaction on the part of participants, motivating each other to go hiking, running and other practices.

Parallel to this group, another group was formed, withnutritional guidance, by nutritionist and renal transplant recipient Camila Romaquelo (CRN3 27349)

for transplant recipients, providing an integrated work with food management.

Objective

The present work aims to analyze the relationship between physical exercises of the program "If Tx moves" and quality of life in transplant recipients in 4 months of treatment (between April and August 2020).

Material And Methods

For the development of the research, a self- administered questionnaire was prepared, by Liège Gautério, in collaboration with psychologist Inês Costa (CRP07/26827) with the objective of evaluating the quality of life of transplant recipients inserted in this project. The questionnaire (divided into 4 sections) was sent to the virtual communication group via

Section 1 consisted of the following questions: age, gender, type of transplant, time of transplantation,

Results

Section 1 whether to practice exercises before transplantation, if exercises were practiced after transplantation and how often.

The study included 27 transplant recipients of the "If Mexe TX" project, 63% male and 37% female.

37% transplanted liver, 25.9% transplanted kidney,14.8% transplanted from lung, 11.1% transplanted from the heart and 11.1% transplanted from the liver and kidney.

63% already practiced some physical activity before transplantation and 37% did not practice exercises before transplantation.

100% practices exercise after transplantation.

37% three times a week,22, 2% four times a week, 22.2% daily and 11% twice a week.

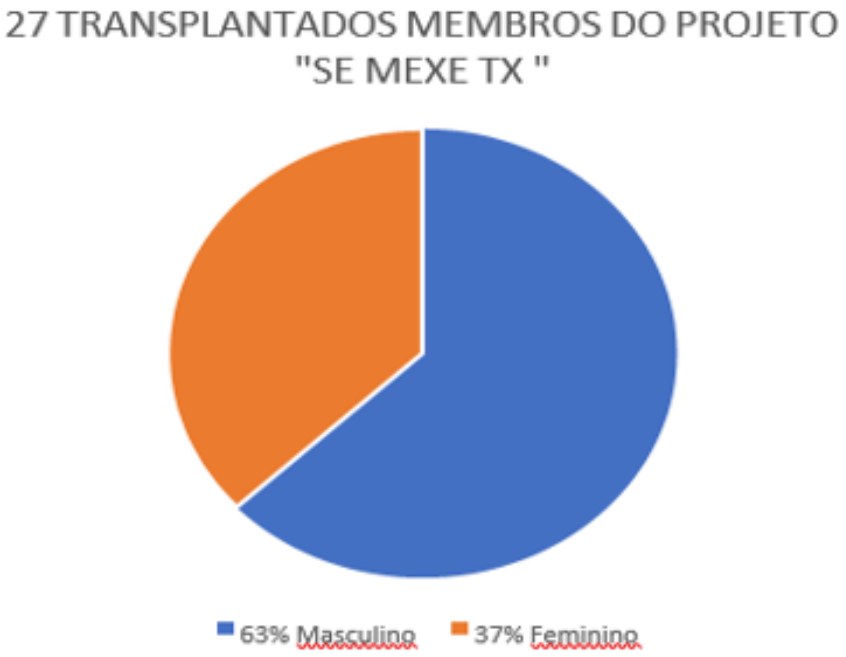
Insection 2, 11 items were presented that should receive a score from 0 to 5, according to their level of improvement, after entering the project where 0 means no improvement and 5 means great improvement.

These aspects were: disposition, sleep, self-esteem, mood, weight, strength, respiratory conditioning, medical examinations, body anaesm, diet, psychological aspects.

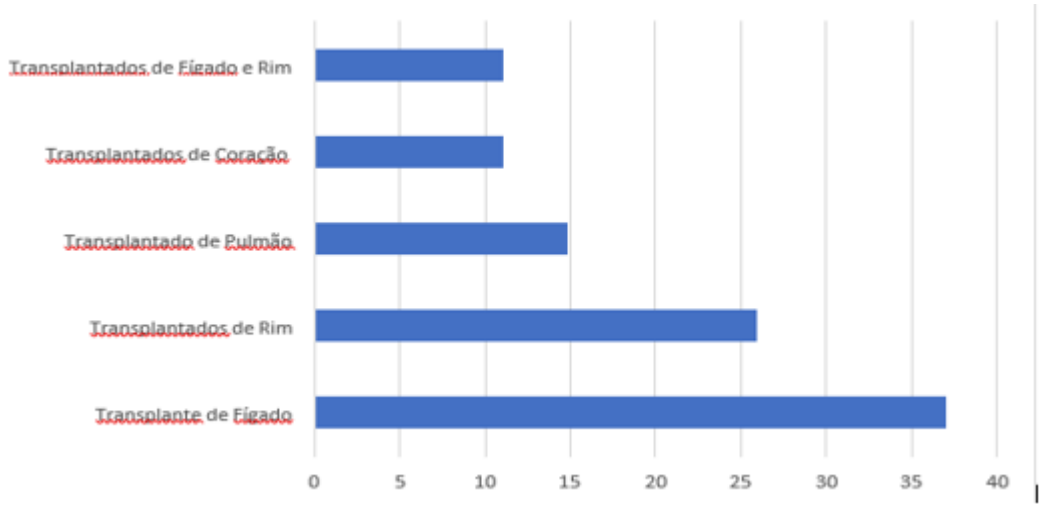
Section 3 consisted of six questions, where the participant should define the following aspects: physical exercise, quality of life, disposition, transplantation, care and balance.

Section 4 was free for the participant to leave a comment if he wanted to.

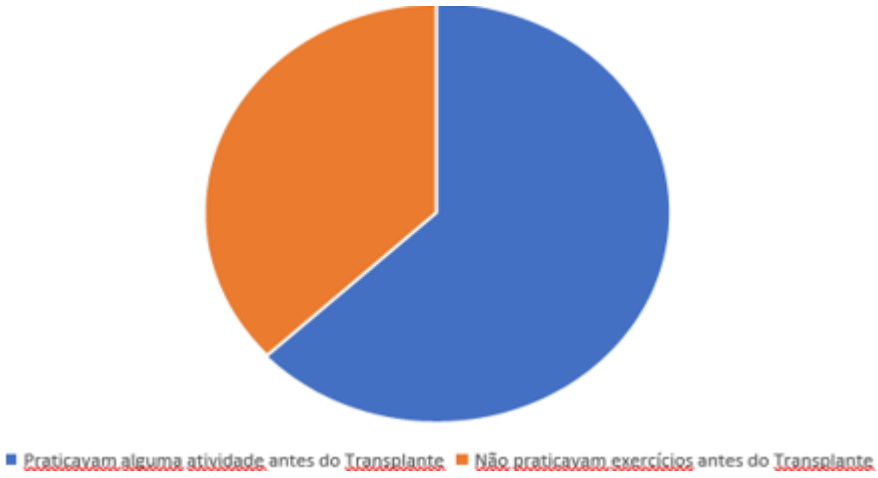
The study included 27 transplant members of the "Se Mexe TX" project, 63% male and 37% female. (Fig 1)



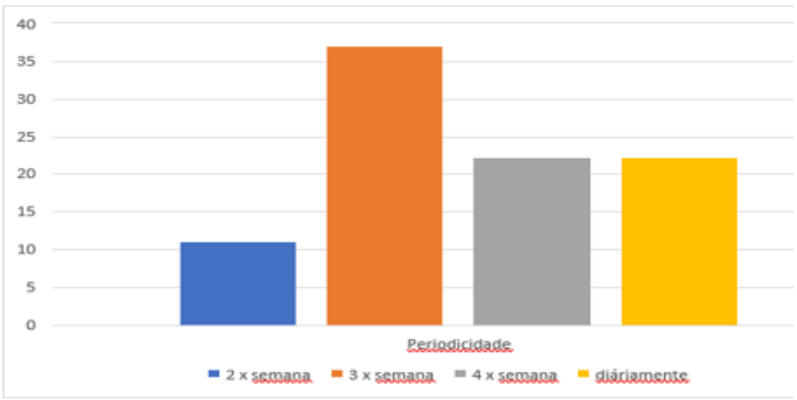
37% transplanted liver, 25.9% kidney transplanted, 14.8% transplanted from the lung, 11.1% transplanted from the heart and 11.1% transplanted from the liver and kidney. (Figure 2)



63% already practiced some physical activity before transplantation and 37% did not practice exercises before transplantation. (Fig 3)



100% practices exercise after transplantation. 37% three times a week, 22, 2% four times a week, 22.2% daily and 11. 1% twice a week. (Fig



Section 2

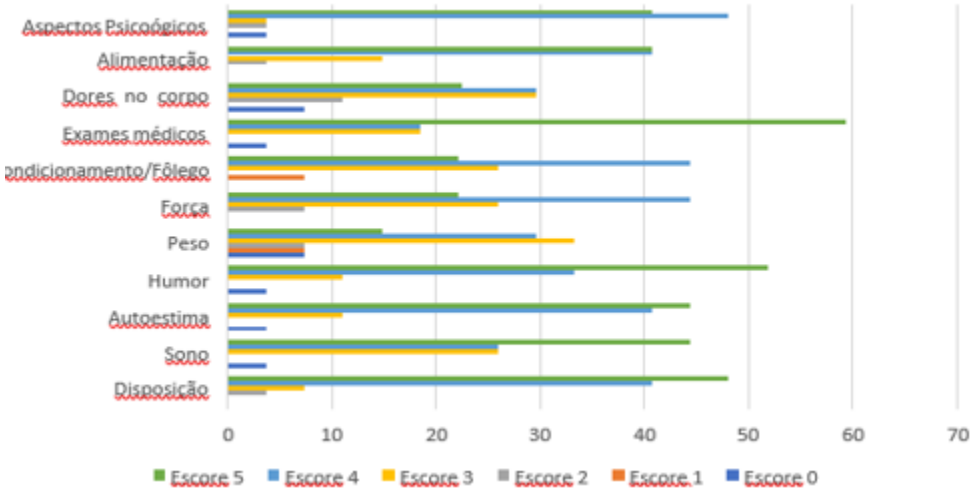
In the item Disposition, the results were as follows: 48.1% indicated score 5 (great improvement in this aspect) followed by 40.7% in score 4, 7.4% in score 3 and 3.7% in score 2.

In the item Sleep, the results were as follows: 44.4% indicated score 5, 25.9% score 4, 25.9% score 3 and 3.7% score 0.

In item Self-esteem, the results were: 44.4% in score 5, 40.7% score 4, 11.1% score 3 and 3.7% score 0.

The item Humor had the following results: 51.9 % score 5, 33.3 % score 4, 11.1% score 3 and 3.7% score 0.

The item Weight presented the results: 14.8% score 5, 29.6% score 4, 33.3% score 3, 7.4% escire 2, 7.4% score 1 and 7.4% score 0.



ANSWER	NUMBER OF PEOPLE
SELF-CARE	1
WELFARE	1
DISPOSITION	1
ESSENTIAL	3
FUNDAMENTAL	2
NECESSARY	3
OBLIGATORY	2
MEDICINE	1
HEALTH	5
SOVREVIVÊNCIA	2
LIFE	6

Table 1: *Exercise for me is?*

ANSWER	NUMBER OF PEOPLE
AUTONOMY	4
WELFARE	3
HOPE	1
ESSENTIAL	3
HAPPINESS	1
HARMONY	1
IMMEASURABLE	1
PARAMOUNT	2
HEALTH	4
EVERYTHING	2
LIFE	2

Table 2: Quality of life for me, is it?

ANSWER	NUMBER OF PEOPLE
AGREE	3
COURAGE	1
WELFARE	2
ENERGY	3
ESSENTIAL	1
STRENGTH	3
FREEDOM	1
VERY IMPORTANT	2
PARAMOUNT	3
RESPECT MY LIMITS	1
HEALTH	1
STAY ACTIVE	1
EVERYTHING	5
WILL TO LIVE	1

Table 3: Willingness for me is?

ANSWER	NUMBER OF PEOPLE
LOVE	1
BLESSING	1
RENEWED HOPE	2
MERO TREATMENT	1
NEW CHANCE	3
PRESENT	2
RENAISSANCE	6
OVERCOMING	1
LIFE	14

Table 4: Transplant for me, is it?

ANSWER	NUMBER OF PEOPLE
LOVE	2
LOVE OF OTHERS	1
SELF-LOVE	3
ATTENTION	1
DELICACY	1
DISCIPLINE	2
ESSENTIAL	5
DO IT ALL RIGHT	1
IMPORTANTISSİMO	2
OBLIGATION	2
PARAMOUNT	1
RESPECT FOR LIFE	2
HEALTH	2
FOLLOW TREATMENT	1
LIVE	1

Table 5: Careful for me, is it?

ANSWER	NUMBER OF PEOPLE
COMMON SENSE	1
LOOKING	1
ESSENTIAL	1
BE AT PEACE	5
FIRMNESS	1
FOCUS	1
STRENGTH	2
FUNDAMENTAL	2
GRATITUDE	2
INCOMPARABLE	2
THRESHOLD BETWEEN LACK AND EXAGGERATION	1
MEASURING THE CONSEQUENCES	1
NECESSARY	2
OBJECTIVE	1
ORGANIZATION	1
HEALTHY	3
TUNING	1
LIFE	2

Table 6: Balance for me is?

Discussion

Physical exercise should be recommended as part of the treatment of the transplanted and inserted in their daily routine to offer the expected benefits. The idea is to practice exercise frequently causing it to become a habit.

Exercise, after overcoming the initial period, is a usually pleasant activity that brings numerous benefits to the practitioner, ranging from the improvement of lipid profile to the improvement of self-esteem [1].

There are physical and psychological factors that intervene in people's quality of life and that, depending on their competent management, will provide favorable conditions for better performance and productivity [2].

Physical inactivity and a sedentary lifestyle may be related to risk factors for the development or worsening of certain medical conditions, such as coronary heart disease or other cardiovascular and metabolic changes [3].

In recent decades, physical inactivity has contributed to the increase in sedentary lifestyle and its harms associated with the health and well-being of the individual.

All this is the consequence of a new standard of living of modern society. These changes in habits resulted in an environment conducive to physical inactivity and together with excessive and erroneous feeding to an incorrect lifestyle. In this case, the practice of regular physical activity and its health benefits is seen as an important ally against the unwanted consequences for health.

In this sense, several studies on the theme are carried out in the search to know and inform modern society about the evil of physical inactivity [4].

From the 1970s on, the first studies described in the literature began, having as a model aerobic exercise and its repercussions on mood and anxiety. However, there is still a lack of studies related to factors such as duration, intensity and type of exercise, especially talking about transplant recipients.

In addition, most of the studies previously conducted used heterogeneous groups, with scarce resources and equipment, making us question the methodological procedures employed and available at the time of these studies.

Therefore, new research has been developed in an attempt to relate psychobiological aspects with physical exercise, thus resulting in an improvement in quality of life and presenting greater clarification about the influence of physical exercise on human behavior [5].

Sleep And Exercise

Many transplant recipients due to the uncertainty of new life develop anxiety and, with it, sleep-related problems (insomnia, agitation). There are many doubts about post-tx life that generate anguish such as resumption of work, social life, prejudices, acceptance of the new body, etc.

A restorative sleep is of fundamental importance for quality of life and even for weight maintenance andand mbora the effectiveness of physical exercise on sleep has been demonstrated and accepted by the American Sleep Disorders Association, as a non- pharmacological intervention for sleep improvement, few health professionals have recommended and prescribed physical exercise for this purpose [6].

A certain epidemiological survey conducted in the city of São Paulo showed that between 27.1 and 28.9% of physically active people and 72.9 and 71.1% among sedentary people complained of insomnia and excessive sleepiness, respectively [7].

There are 3 hypotheses for exercise to improve sleep quality:

The first thermoregulatory hypothesis states that the increase in body temperature, as a consequence of physical exercise, would facilitate the triggering of the onset of sleep [8].

The second energy conservation describes that the increase in energy expenditure promoted by exercise during wakefulness would increase the need for sleep in order to achieve a positive energy balance, restoring an adequate condition for a new wakefulness cycle.

The third hypothesis, restorative or compensatory, states that the high catabolic activity, during wakefulness, reduces energy reserves, increasing the need for sleep, favoring anabolic activity [9].

Thus, it is verified that physical exercise and good quality sleep are fundamental for the good quality of life and for the physical and mental recovery of the human being.

Mood Disorders and Exercise

Even in individuals diagnosed clinically as depressive, physical exercise has been shown to be effective in reducing symptoms associated with depression [10].

Understanding the appropriate intensity and duration of exercise, to observe the effects on anxious and depressive symptoms, is fundamental to reveal how physical exercise can act in reducing these symptoms, because although there is consensus that this practice reduces mood disorders, there is no consensus on how this occurs.

Regarding anxiety, numerous theories have been proposed to explain its genesis: behavioral cognitive theories, psychodynamics, sociogenetics and neurobiologicals. The only thing that can be said is that the effect of physical exercise on anxiety is multifactorial.

O'Connor et almentions that a series of experiments were determined by the scores of the Anxiety Trait State Inventory (STAI) before and after vigorous exercise. When 15 adult men ran for 15 minutes, anxiety subsided below baseline immediately after the race and remained diminished for 20 minutes. Six men with neurotic anxiety and six normal patients were tested before and during the complete test on an exercise treadmill until exhaustion, and the results showed a reduction in anxiety scores [11].

The effectiveness of physical exercise associated with depressive symptoms has also been reported in relation to depressive states caused by other diseases. Coyle and Santiago conducted a study in which the main objective was to evaluate the effect of exercise on the fitness and psychological health of disabled individuals. The volunteers were submitted to aerobic exercise for 12 weeks. The results showed that aerobic exercise improves fitness and decreases depressive symptoms in this sample. This reduction may be the result of physiological and/or behavioral mechanisms associated with aerobic exercise [14].

A study conducted by Lopes observed the effects of eight weeks of aerobic exercise on serotonin levels and depression in women between 50 and 72 years of age suggesting that this relationship between physical exercise and fat mobilization improves participants in mood states [15].

The benefits of physical exercise reflect increased levels of quality of life in populations suffering from mood disorders. However, both aerobic and anaerobic exercise should privilege the relationship in the temporal increase of the performance of physical exercise and not in the increase in workload (volume x intensity ratio).

Quality Of Life

Most people relate the quality of life to "feeling good". and is influenced by factors such as health, work and the environment.

The concept of quality of life is very broad and is directly associated with self-esteem and well-being of the person l and involves many aspects, such as socioeconomic status, emotional state, social interaction, intellectual activity, self-care, family support, health status, cultural, ethical and religious values, lifestyle, satisfaction with employment and/or daily activities and the environment in which one lives.

For the WHO, the definition of quality of life is "the perception that an individual has about his position in life, and trata of a definition that contemplates the influence of physical and psychological health, autonomy, social relationships, personal beliefs. Thus, we can affirm that quality of life is defined as the "satisfaction of the individual with regard to his daily life" [12].

We should not confuse quality of life with standard of living. Many people end up confusing material goods with quality of life.

To be in good mental health is to be in balance with your inner world and with the world around you, are to be at peace with yourself and with others [13].

This study is justified by the proposed purpose of maintaining the health of the transplanted, through the frequent practice of physical exercises, which enable, among other benefits, weight loss, muscle mass gain, prevention of osteoporosis, diabetes, hypertension, etc., making it stable and having fewer complications. This represents an economy in hospital admissions and medications and the maintenance of a quality of physical and mental life for the patient, who is productive again and returns to his/her working life.

Conclusion

After evaluating the results of the present research, it was possible to conclude that the project "If Mexe TX" provided significant improvement in most of the issues raised, reflecting a better quality of life for transplant recipients and making them feel encouraged to return to their activities of daily living, work and leisure, being productive citizens and contributors to society. Patients who exercise maintain their health and re-intern less, meaning savings for hospitals and for themselves, to the extent that they do not need medications to treat possible pathologies that can be prevented by exercising, such as diabetes, osteoporosis, insomnia, among others.

For these reasons, it is necessary to understand the benefits of physical exercises for this audience and the referral by the team that accompanies them to a program of oriented physical activities.

Thanks Thanks to Patricia Fonseca and Inês Costa who helped carry out the study.

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