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### **RESEARCH ARTICLE**

#### **PHYSICAL ACTIVITY EFFECTS IN OLDER PEOPLE AT RISK WITH FRAGILITY SYNDROME.**

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#### **Abstract**

The great challenge of public health referred to this age group is to promote the maintenance of functionality, as defined by the World Health Organization (WHO, 1999), in the document "Aspects of public health in the older people and in the population," "the best way to measure health in the old age is in terms of function. That is why promoting physical activity, physical exercise and preventing sedentary lifestyle are key to maintaining health in the older people, as a fundamental component of a healthy lifestyle. Rodríguez (2011) defines frailty as "a clinical syndrome related to aging and characterized by unstable homeostasis and the consequent low physiological reserves in various organs and systems that increase the risk of decreased or loss of functionality."

**Objective:** To determine the effects of physical activity in elderly people at risk of Fragile Syndrome.

**Method:** The research has a correlational design with quantitative approach, type of quasi-experimental study subjects. 10 adult people who presented the Risk of Fragility Syndrome. Instrument. Baber Questionnaire, Lawton and Brody Scale, Questionnaire for Quick Detection of Impediments to Exercise and the Health Questionnaire:

**Results:** During the month of March, April and May the program of physical activity was carried out with the elderly people who obtained the result with Risk of Fragility Syndrome. The following results are presented during the first (before the physical activity program) and the second evaluation (after the physical activity program).

**Conclusions:** of the 10 persons that fulfilled the inclusion requirements for the realization of the Physical Activity. Where the majority were people of feminine sex, has being related to the population data of our country that evidences the greater life expectancy is in the feminine sex. In this research, the syndrome of frailty is related to the pluripathology that presents the elderly. Physical activity provides many benefits to our body as preventing or delaying dysfunctional

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### **Introduction:-**

To mention that the world is aging is a current issue, it is known that it is a natural and inevitable process, influenced by the decrease in birth rates as well as by technological advances related to medicine, which has allowed an increase in life expectancy, There is a conviction of the importance of quality in this aspect to maintain the autonomy of the older age, who are the main reason for the present investigation. Aging "It is a physiological process that begins at conception and causes characteristic changes of the species throughout the life cycle. In recent years these changes produce a limitation of the adaptability of the organism in relation to its environment. The rhythms to which these changes occur in the various organs of the same individual or in different individuals are not equal" (WHO, 2016).

There are several definitions of aging: Biner and Bourliere (2004) define aging as "the series of morphological, psychological, biochemical and functional changes that appear as a consequence of the action of the passing of time on living beings".

The great challenge of public health referred to this age group is to promote the maintenance of functionality, as defined by the World Health Organization (WHO, 1999), in the document "Aspects of public health in the elderly and in the population, "the best way to measure health in the elderly is in terms of function. That is why promoting physical activity, physical exercise and preventing sedentary lifestyle are key to maintaining health in the elderly, as a fundamental component of a healthy lifestyle

One of the great problems facing the world today is to achieve healthy aging. Unless societies know how to adapt, the demographic transition will have a huge impact on the economy, health, social development and welfare systems. Consequently, it is necessary to increase knowledge about the promotion of good health throughout life, in order to promote healthy and active aging (WHO, 2016).

In Campeche for the year 2030, it is estimated that it will have a total population of 1 million 098 thousand 636 inhabitants, of which, 148 thousand 667 will correspond to the group of 60 and over, that is, about 14 out of every 100 people will be among these ages (COESPO, 2016).

As the population ages, health problems among the elderly challenge the health and social security systems, so that there is an increasing prevalence of Fragile Syndrome. Its timely diagnosis is extremely important to avoid complications.

The term fragility appears in the 1980s, and since its inception has been a difficult concept to define, even today. Campbell and Buchner (1997) considered that the fragility was born of a decline in the reserves of multiple systems, which places the individual at risk of disability or death at the least stress.

Rodríguez (2011) defines frailty as "a clinical syndrome related to aging and characterized by unstable homeostasis and the consequent low physiological reserves in various organs and systems that increase the risk of decreased or loss of functionality."

For Guillen (2010), "Fragility is an intermediate stage between independence and the state of pre-death; while the failure to progress is considered the most extreme stage, associated with a low recovery and a harbinger of death".

### **Fragility Syndrome.**

Fragility is a clinical syndrome that represents a continuum between healthy seniors and those who are extremely vulnerable at high risk of dying and with low chances of recovery. Numerous attempts have been made in the last decade to find out which criteria best identify these fragile patients. One of the main researchers of the topic, Linda Fried, published the results of the follow-up of 5, 317 elderly people between 65 and 101 years, followed by 4 and 7 years, part of the study of the Cardiovascular Health Study cohort, in whom she defined frailty according to the presence of at least three of five criteria (Heads, E. 2015).

According to Lluís and Llibre (2004), frailty and disability have in common that their prevalence increases in advanced ages and that they confer a risk of dependence and death, but they differ in three aspects:

1. Disability can arise from the dysfunction of one or several physiological systems, while fragility is always presented by the dysfunction of multiple systems.
2. The disability can remain stable for years, while frailty always progresses over time.
3. Fragility can occur in a significant number of older adults who are not disabled

According to Rodríguez, R., Lazcano, G., Medina, H. (2011) defines frailty as a clinical syndrome related to aging and characterized by unstable homeostasis and the consequent low physiological reserves in various organs and systems that increase the risk of loss or loss of functionality. It is accompanied by fluctuating disability and marked vulnerability before its intrinsic and extrinsic stressful events that lead to dependency, institutionalization and even death. The triggers of frailty, the elderly at risk develops the syndrome of frailty (a state that fluctuates between stability, which does not always represent being healthy, and in the disease) when it is added to pre-existing conditions (intrinsic and extrinsic) a new acute or intrinsic process of the environment (Rodríguez, R., Lazcano, G., Medina, H. (2011).

Among the consequences of the frailty syndrome, the presence of the frailty syndrome is followed by a series of affectations or consequences that cause a greater deterioration of the general condition, including decrease or loss of functionality, dependence, instability, gait disorders, falls, secondary injuries, disease fractures, hospitalization, institutionalization and death (Villasis, A. 2014).

#### **Syndromes and care in the Geriatric patient.**

The fragility and the failure to progress represent a continuum of the same clinical syndrome, where fragility is an intermediate stage between independence and the state of pre-death; while the failure to progress is considered the most extreme stage, associated with a low recovery and presage of death. Fragility is also described as a secondary condition to a constellation of situations, rather than a clinically defined entity, so it does not yet have a precise scientific meaning; in addition to the lack of consensus in the definition, some characteristics such as extreme age (85 years), disability and the presence of multiple comorbidities and / or geriatric syndromes are used as synonyms for frailty (Guillen, F; Pérez, J; Petidier, R. 2010).

**Causes and effects of sedentary life.** The physical sedentary lifestyle is the lack of moderate to intense physical activity such as that which takes place in sport, which usually puts the human organism in a vulnerable situation, especially cardiac diseases. Physical sedentary life occurs more frequently in modern urban life, in highly technical societies where everything is designed to avoid great physical efforts, in the upper classes and in intellectual circles where people are more engaged in intellectual activities. Parallel to physical sedentary life comes the problem of obesity, which is a worrisome problem in industrialized countries (Montaña, 2010).

#### **Physical activity.**

According to the WHO (2012) physical activity is considered "any body movement produced by the skeletal muscles that requires energy expenditure".

It has been observed that physical inactivity is the fourth risk factor in terms of global mortality (6% of deaths recorded worldwide). In addition, physical inactivity is estimated to be the main cause of approximately 21% -25% of breast and colon cancers, 27% of cases of diabetes and approximately 30% of the burden of ischemic heart disease.

An adequate level of regular physical activity in adults: reduces the risk of hypertension, coronary heart disease, stroke, diabetes, breast and colon cancer, depression and falls; improves bone and functional health, and is a key determinant of energy expenditure, and is therefore fundamental for caloric balance and weight control.

Physical activity includes exercise, but also other activities that involve body movement and are performed as part of the moments of play, work, active forms of transport, domestic tasks and recreational activities.

#### **Physical inactivity: a global public health problem.**

At least 60% of the world population does not perform the physical activity necessary to obtain health benefits. This is partly due to the insufficient participation in physical activity during leisure time and to an increase in sedentary

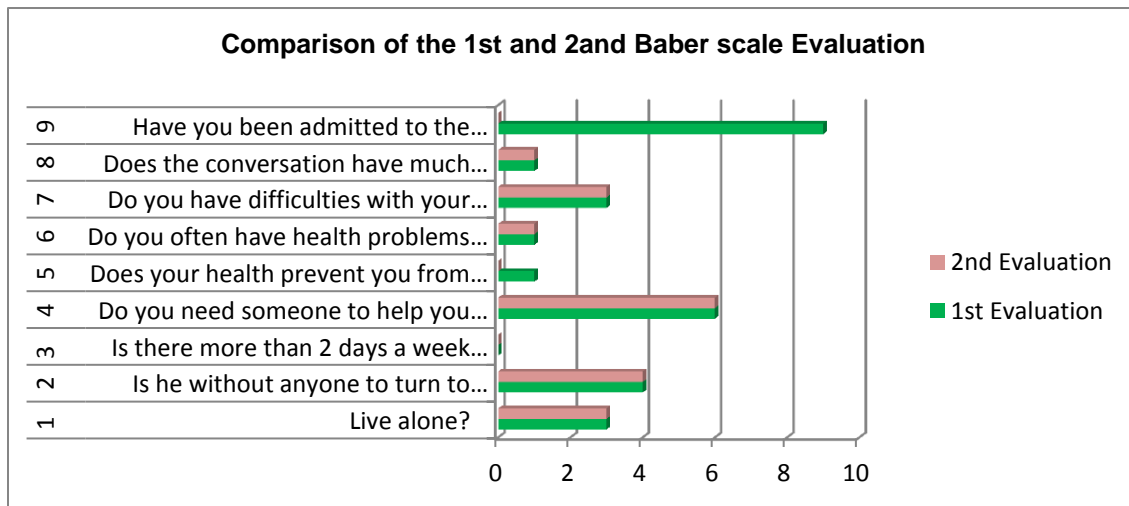
behavior during work and domestic activities. The increased use of "passive" means of transport has also reduced physical activity. The levels of physical inactivity are high in practically all developed and developing countries. In developed countries, more than half of adults have insufficient activity. In the large fast-growing cities of the developing world, inactivity is an even greater problem. Urbanization has created several environmental factors that discourage physical activity: overpopulation, increased poverty, increased crime, high traffic density, poor air quality, lack of parks, sidewalks and sports and recreational facilities (WHO, 2012).

**Method:-**

According to Hernández et al., (2014) this research with a quantitative approach with a correlation type. This type of studies aims to know the relationship or degree of association that exists between frailty and physical activity, is quasi-experimental because it measures the effect of the independent variable on the dependent variable, the measurement is valid and reliable. The population was older than 55 to 75 years old, who attended the Nursing and Gerontology module of the Rehabilitation and Special Education Center of Campeche. The instruments used the Baber questionnaire, scale of Lawton and Brody. The Microsoft Excel program was used in the data analysis.

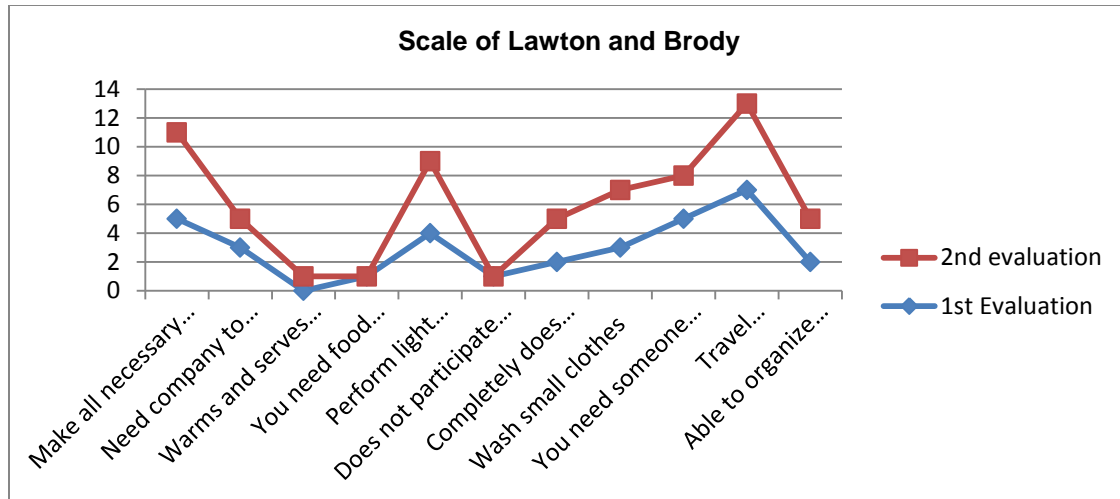
**Results:-**

During the month of March, April and May the program of physical activity was carried out with the elderly people who obtained the result with Risk of Fragility Syndrome.



**Graph 1:-**Comparison of the 1st and 2nd evaluation of the Baber questionnaire

In this graph, we note that in the first evaluation 90% were admitted to the hospital in the last year and in the second evaluation no patient was admitted, another data of the first evaluation 10% of patients mentioned that they have health problems that prevent him from going out on the street and in the second 0% of patients. The other six items remained at the same percent there was no alteration.



**Graph 2:-**Comparison of the 1st and 2nd evaluation Scale of Lawton and Brody

This graph represents the results that had the most impact after three months of physical activity with older adults who presented the Risk of Fragility Syndrome. We observed that there was an increase of 10% of the adults who made all the necessary purchases independently and a 10% reduction of those who needed company to make any purchase. In the preparation of the meal in the second evaluation there was an increase where the older adult heated and served the food and a decrease of 10% where he needed to prepare and serve the food, in domestic tasks there was an increase of 10% in washing small clothes, others complements the washing of clothes and others perform light domestic tasks and 20% decreased of the elderly who needed others to take care of the washing as well as 10% did not perform any domestic tasks. In the means of transport there was a 10% decrease so that older adults travel independently on public transport or drive their car and an increase where they are able to organize their own transport by taxi, but do not use public transport.

In the remaining items such as the ability to use a telephone, responsibility for their medication and the ability to use their money; they maintained the same percentage of the first evaluation, the patients are globally oriented in time and space, with no memory problems to remember or forget data and important dates.

### Conclusions:-

Of the 10 that fulfilled the inclusion requirements for the realization of the Physical Activity. Where the majority were people of feminine sex, being related to the population data of our country that evidences the greater life expectancy is in the feminine sex. In this research, the syndrome of frailty is related to the pluripathology that presents the elderly. Physical activity provides many benefits to our body as preventing or delaying dysfunctional diseases such as dependence and Fragility Syndrome, improves our physical, mental and intellectual capacity. The syndrome of fragility, identified as a state of homeostasis, associated with aging, is characterized by a decrease in the physiological reserve that leads to greater vulnerability to presenting adverse events that result in morbidity and mortality in the elderly; therefore, the identification of fragility constitutes the fundamental pillar of geriatrics and gerontology; in this research, we worked with a population of 20 elderly people where 10 met the inclusion requirements for the realization of physical activity. Where the majority were people of feminine sex, being related to the population data of our country that evidences the greater life expectancy is in the feminine sex. Physical activity provides many benefits to our body as preventing or delaying dysfunctional diseases such as dependence and Fragility Syndrome, improves our physical, mental and intellectual capacity.

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