

## PHYSIOTHERAPY TREATMENT IN INSTITUTIONALIZED ELDERLY

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### ABSTRACT

Improving the quality of life should be a priority in the intervention with older people. Thus, as a general goal for our work the differences in a sample of 34 institutionalized elderly, who were separated into two groups were analyzed. Only the control group showed how important the aspect of safety and improved; noting that the psychological well-being influenced markedly in their physical well being.

**KEYWORDS:** Institutionalized elderly Quality of life

### INTRODUCTION

We are facing a global process of aging of the world population, with progressive increase in life expectancy, coupled with reduced birth rates, together causing an alteration of the population pyramids and therefore a clear social and economic influence.

This effect is especially relevant in the Spanish society, because life expectancy is around 80 years, occupying the top positions worldwide. This situation challenges the ability of society to regenerate and makes it necessary to propose a future challenge to society for greater longevity with better health and increased quality of life of the population, achieving lower healthcare and social costs (Foundation General CSIC, 2010).

### Diagnosis of the current situation.

The aging societies today are affecting the entire world's population, and has become one of the challenges of governments for decades. Groups of people over 65 years has become an important sector in all countries, with higher incidence in more developed countries. According to the study submitted by the Secretary of State for Social Services "Older people in Spain 2008", our country ranks fourth as the country with the highest percentage of this population, with a projected growth that put us in second place (behind Japan), with greater aging over the next 30 years.

The increase of the population that had been observed in the Spanish society over the past 20 years, reflects a significant qualitative change in the age structure of our country. The study of the Secretary of State for Social Services (quoted

above), shows that the group of elderly represents 16.7% of the total population. Within this group, the octogenarians are people who have grown, being increased in the last 5 years (2003-2007) to 21% from 4.9% of the population aged 65 or older.

Future progress estimates that in 2060 the percentage of octogenarian population will reach 13.1% of the total population and 44.0% of the Spanish population.

### Aging and Physical Activity.

Aging is a process of constant change that takes place throughout the life of living beings. Older people are products of their social, economic, educational and political as well as their biogenetic psychological conditioning, so people have to be educated to achieve an active lifestyle and healthy habits in our century.

This aging process physically leads to a decrease in the levels of functional ability and, consequently, a decrease in physical abilities (strength, balance, reaction time ...), which is compounded with reduced of practice physical activity in elderly, which in turn produces an increase in difficulty performing everyday tasks. The loss of functional capacity in most cases is the result of a lack of motivation to move, together to adoption of a sedentary lifestyle.

This decrease in the ability to execute movements is progressive. The basic processes that allow the vital development deteriorate and become increasingly precarious. In most cases this is accelerated as a result of depressive states in which individuals tend to fall, causing them to lose interest in moving.

According to the CSD (2009), reports from the World Health Organization (WHO 1997) and the Association of General Surgeons of the United States (U.S. Surgeon General, 1996) have confirmed that regular physical activity is associated with improvements in quality of life in older people. Through physical activity, this sector of the population derives significant physiological, psychological and socio-cultural benefits. Exercise taken regularly limits the changes that occur as a result of age, and can maintain an independent lifestyle, overcoming problems in activities of daily living. It was even asserted that small functional improvements can have a great importance in improving the quality of life.

## Institutionalized Elders.

Arbinaga (2003) says "it's a reality rapid growth in life expectancy of people, especially in developed countries". Thus, it is estimated that by 2025 the number of over 60s will increase by 50% (in Spain 45%); and up to this year, this population in rich European countries constitutes 27% of the population, being 25.6% in Spain.

Treatment programs in the institutionalized elderly.

### 1. Physiotherapy technique. Kabat Method

Gouveia (2012) says that "human movement is the result of the integration of somatosensory information, and central controls of muscle actions".

The proprioceptive neuromuscular facilitation (PNF), also known as diagonal Kabat uses tactile information from superficial and deep origins, such as joint position or stretching of tendons and muscles, in order to excite the nervous system that will run the muscular system.

### 2. Physiotherapy Technique: Massage Therapy.

(Urbina et al., 2010) define massage therapy as the combination of massage movements and maneuvers, and manual techniques performed smoothly and methodically to achieve a hygienic and preventive purposes, and / or therapeutic outcomes.

## MATERIALS AND METHODS

### Study Design

The study design was a single-blinded quasi-experimental investigation. Only the physiotherapist was aware of which patients received physiotherapy treatment. The evaluator did not know who is part of one group or the other.

### Study Population

Study was performed on 34 institutionalized patients.

#### 1. Highlight of the steps performed in assessment of patients for the study:

- Perform a first cognitive, affective and functional assessment of all subjects.
- Perform an assessment of gait and balance, recorded to observe subsequently if they have improved.
- The authors used a medical record, which indicated the amount of drugs that each resident takes. It is intended to obtain data from this register to determine the neurological involvement of the user as the number of neuroleptic drugs they take.

#### 2. Procedure

The 34 subjects were divided into two groups, a control group not receiving intervention and an experimental group receiving a treatment of two weekly sessions of 10 minutes

each. The first session of the week included a proprioceptive neuromuscular facilitation technique (Kabat) and the second session is a technique of Massotherapy, alternating between the back and legs.

Treatments were carried out for six months. Assessment of functional capacity, gait and balance were recorded for each patient in the week prior to the application of treatments (pre-test). Other assessments (posttest) will be made to each participant in the week at the conclusion of the study.

Functional Tests:

- TEST BARTHEL (Mahoney and Barthel 1965)
- TEST KATZ (I.K) (Katz, S. 1958)

Cognitive testing

- TEST MEC LOBO (Wolf et al, 1979)
- TEST PFEIFFER (SPMSQ) (Pfeiffer 1975)

Affective Textual

- TEST HAMILTON (ANXIETY) (E. DEPRESSIVE) (Hamilton 1959)
- TEST YESAVAGE (LOW) (Yesavage et al, 1983)

Walk Test and Balance

- TINETTI SCALE (Tinetti, Mary Elizabeth MD 1998)

DRUG test, depending on the type of drug, it is classified with a higher or lower rate of neurological involvement, so that a higher score on this scale, the subject has greater involvement.

## RESULTS

According to the results of the **COGNITIVE** test:

- In the experimental group it was observed that patients who had severe cognitive impairment improved by 5.5% and people without cognitive impairment had remained the same.
- In the CONTROL GROUP results of cognitive test shown in Post\_Test Pfeiffer indicate that patients who had severe cognitive impairment worsened by 6.3%, while those with moderate impairment remained the same.

According to the results of the **FUNCTIONAL** test:

- The final conclusion was obtained in Post\_Test which decreased by 10% the population belonged to a total dependency and rose by 1% the number of independent people. Was observed in Several patients with total dependence a slight improvement.
- These results are superior to those found in studies to older people, probably because of the condition of the underlying disease (Bayona et al 2012).

The results of the **EMOTIONAL TEST** :

- The experimental group showed that moderate depression had declined by almost 30%, while 9 out of 10 did not show depression.
- The CONTROL GROUP showed that although the number of users remained without depression, the number of people with severe depression increased by 25%.

According to the results of **RUN TEST AND BALANCE TEST**:

- In the experimental group results obtained showed that a third of the population fell under the high risk of falls group, while half of the population presented with a low risk.
- The CONTROL GROUP showed an increase in the high risk of falls by 6.2%.

## DISCUSSION

In view of the results, relevant data are seen in terms of change of the subject. It must always be remembered that the patients are presenting with dementia, which is a degenerative condition, so in many cases keeping the initial condition at 6 months can be considered a positive achievement. In the experimental group, improvement was observed in the MEC, in Pfeiffer, the Barthel in Hamilton, the Yesavage and Tinetti, where taking drugs is maintained. In any case the difference is significant, when compared to the Control Panel.

## CONCLUSIONS

In view of the above results, it can be concluded that the techniques of physiotherapy improve the walking and balance of users (indicated by Scale Tinetti), their affectiion( indicated by the Scale of Hamilton) and their functionality (Yesavage scale).

The intervention did not lead to worsening of the users condition, except in taking medication.

Declining physical abilities that can commonly occur with age, can be prevented and even reversed through appropriate care in the levels of condition and treatments tailored physiotherapy.

The benefits of regular physical therapy helped to achieve a healthier more lifestyle and a more independent living for elderly.

It is concluded in this study that physical therapy tailored to the elderly produces an improvement in health to the elderly institutionalized.

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**ELDERS ARE MOTIVATED WITH CHILDREN, NO NEED FOR WORDS**



**Patient Aged 91 years**



**Patient 68 years old with 7 years of Alzheimer, stimulation with a child of 9 years**



**Patient 68 years old with 7 years of Alzheimer, stimulation with a child of 9 years**



**Patient 68 years old with 7 years of Alzheimer, stimulation with a child of 6 years**



**Patient 81 Years with Senile Dementia playing with a child of 9 years**



**Patient 106 years, without assistance of the physiotherapist, walking in parallels.**

#### **RELEVANT LINKS OF EVA SANTAMARIA PEREZ**

<https://www.google.es/#q=eva+santamaria+fisioterapeuta+>

1. University of Burgos (Spain)

<http://www.ubu.es/es/gabineteprensa/ubu-medios/dossier-prensa/001-bienvenida-sonrio>

2. We are on facebook

<https://es-es.facebook.com/diariodeburgos/posts/10151938709048168>

3. We left in the Newspaper of Burgos (Spain) November 5, 2013  
<http://www.diariodeburgos.es/noticia/Z742EEE5E-017E-014C-0305EB07C44C3C0B/20131105/bienvenida/sonrio>
4. Axish Physiotherapy Salamanca (Spain)  
<https://www.facebook.com/Axish.fisioterapia.salamanca>
5. Short Film on Alzheimer's "Pandora's Box".  
<http://www.youtube.com/watch?v=nl8esBt6oMg>
6. Collaboration in the Short Film on Alzheimer's "Intact" performed by the son of the old woman with alzheimer  
<http://www.youtube.com/watch?v=PmEzS0ddQM>
7. Last link to July 15, 2013: Doctoral Thesis "Study on the Impact of Institutionalized Elderly"  
<http://www.changemakers.com/es/user/301860/entries>
8. European Year for Active Ageing and Intergenerational Solidarity, by "Generations United in the Unit for a Europe more Comprehensive" 2013.  
<http://generationsatschool.eu/es/activity/generaciones-unidas-en-la-dependencia-por-una-europa-mas-comprensiva>
9. Magazine Cover of Physiotherapy, Physiotherapists of Castile and Leon (Spain) in March, 2013.  
<https://www.google.es/#q=revista+de+fisioterapia+de+castilla+y+leon+eva+santamaria>  
[http://www.cpfyl.com/descargas/revista/fisioterapia\\_16.pdf](http://www.cpfyl.com/descargas/revista/fisioterapia_16.pdf)
10. We left in the Newspaper of Burgos (Spain) February 16, 2013.  
<http://www.diariodeburgos.es/noticia/ZC64EF897-AFD1-F66E-4C668DA07634075D/20130216//fisioterapia/previene/revierte/inmovilidad/ancianos>
11. We spread our work on page IMSERSO (Spain) in January of 2013 with a Power Point  
[http://www.envejecimientoactivo2012.es/imserso\\_01/envejecimiento\\_activo\\_2012/actualidad/anno2013/enero/index.htm](http://www.envejecimientoactivo2012.es/imserso_01/envejecimiento_activo_2012/actualidad/anno2013/enero/index.htm)
12. FIRST PRIZE GERONTOLOGY to Communication: Treatment of older persons with physical therapy, Eva Santamaría Pérez (11 - 24 -2012). [PPT] (This is best seen in the following link):  
<https://www.dropbox.com/s/h58fgrza4gydums/Incidencia%20de%20Fisioterapia%20en%20Personas%20Mayores%20Institucionalizadass.ppt>  
<https://www.dropbox.com/s/h58fgrza4gydums/Incidencia%20de%20Fisioterapia%20en%20Personas%20Mayores%20Institucionalizadass.ppt>