Importance of movement for elderly people in a psychomotor reality

Importancia del movimiento para las personas mayores en una realidad psicomotora

Importância do movimento para os idosos em uma realidade psicomotora

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Abstract
Aging can cause various changes at the physical, motor and cognitive levels. These deficits will, in the long run, cause a loss of autonomy and functionality of the individual. We intend to emphasize the importance of psychomotor practice, through its various aspects and possibilities of action that will bring benefits to the elderly. Thus, for the gains of psychomotor intervention to be demonstrated, explained and understood, it is expected that there will be a greater adherence and probably a greater recognition and investment in the area.

Objective: To understand the gains that people 65 years and older can have with psychomotor intervention.

Methods: A systematic literature review was performed through the EBSCO host (MEDLINE with Full Text, CINAHL with Full Text) and Google Scholar. As inclusion criteria, articles focused on psychomotor intervention that clarified the gains of this intervention in the quality of life of the elderly were given priority.

Results: Psychomotor intervention has numerous benefits in the elderly population, whether physical, motor or cognitive. This intervention provides a better quality of life, helps in the prevention of diseases, enabling the elderly to interact socially and live different experiences.

Conclusion: Psychomotor intervention is a very significant resource that should be used in the intervention with elderly people.

Keywords: aging; elderly; psychomotor intervention; gerontomotricity; cognitive functions; motor functions; quality of life

Resumo
O envelhecimento pode causar diversas alterações nos níveis físico, motor e cognitivo. Esses déficits irão, a longo prazo, causar uma perda de autonomia e funcionalidade do indivíduo. Pretendemos enfatizar a importância da prática psicomotora, por meio de seus diversos aspectos e possibilidades de atuação que trarão benefícios aos idosos. Assim, para que os ganhos da intervenção psicomotora sejam demonstrados, explicados e compreendidos, espera-se que haja uma maior adesão e provavelmente um maior reconhecimento e investimento na área.

Objetivo: compreender os ganhos que pessoas com 65 anos ou mais podem ter com a intervenção psicomotora.
Métodos: Foi realizada uma revisão sistemática da literatura por meio do host EBSCO (MEDLINE com Texto Completo, CINAHL com Texto Completo) e Google Scholar. Como critérios de inclusão, foram priorizados artigos com enfoque na intervenção psicomotora que esclarecessem os ganhos dessa intervenção na qualidade de vida dos idosos.

Resultados: A intervenção psicomotora traz inúmeros benefícios na população idosa, sejam eles físicos, motores ou cognitivos. Essa intervenção proporciona uma melhor qualidade de vida, auxilia na prevenção de doenças, possibilitando ao idoso a convivência social e a vivência de diferentes experiências.

Conclusão: A intervenção psicomotora é um recurso muito significativo que deve ser utilizado na intervenção com pessoas idosas.

Palavras-chave: envelhecimento; idosos; intervenção psicomotora; gerontomotricidade; Funções cognitivas; funções motoras; qualidade de vida

1) Introduction

In 2018, Portugal had 2,228,750 people over 65 years, in 1971 this population was 836,058 (1), with a clear growth, expected to triple by 2050 (2). Socio-economic development has led to an increase in the elderly population due to a steady reduction in fertility rates and an increase in average life expectancy (3). This increase results from the improvement of the health system in the country, which consequently faces new challenges in terms of health care for elderly people (4).

Aging brings about countless changes in the lifestyle of each individual, sometimes disabling, which result in maladaptation and inability to respond to these changes, causing a decrease in the quality of life of the elderly (3,5,6). Quality of life is defined as the individual's perception of life, taking into account the cultural context and its principles, as well as goals, expectations and ideas, being influenced by physical and psychological health and degree of dependence, social relationships, personal beliefs and relationships with the environment.

This population is fragile, being more vulnerable to adverse health states and consequently to greater dependency (7). We have seen an increase in the development of chronic diseases and a decrease in functional capacity, which implies both the structures and functions of the body and the limitations of activity and participation (8). All these factors have as consequence and at the same time are a consequence, of a less active, more sedentary lifestyle (9,10). Valuing care and interventions in this population not only contributes to improving the quality of life of the elderly but also that of their caregivers, many of them also being elderly (11). Thus, it becomes essential to intervene in self-care, since it allows to maintain the health and well-being of the elderly person (12,13).

Most of the disabilities to which the elderly are subject can be prevented, postponed or treated (9), through therapies and practices, namely psychomotoric. This seeks to promote not only the motor area, but also cognitive and emotional (at the level of executive functions and emotions).
For the intervention to be effective it is necessary to take into account that the effects of activities, which combine both the motor and cognitive aspects, contribute to a greater success of the interventions (10), and each elderly person should have an intervention specifically tailored to their needs.

The interest in this research comes from the knowledge that many times elderly people lose abilities, not only due to the inevitable action of time, but because it is not carried out with them a work of prevention and maintenance of motor skills, cognitive and affective/emotional (14). In fact, there are more and more cases of elderly people who lose function because they are not stimulated to act (9). Thus, an intervention focused on these areas could prevent the consequences of a sedentary lifestyle, delaying or even eliminating dependence.

Inactivity increases the possibility of developing depressions or other disorders (14) and psychomotor rehabilitation work can have a positive impact on this aspect, since the intervention gives primacy to the touch, as a mediator, and this "shapes the release of neurotransmitters, resulting in an increase in serotonin and dopamine and a decrease in the concentration of substance P, which can help relieve pain and depression"(15). Through psychomotor intervention it is possible to promote an activation of body structures and body consciousness which will allow the elderly to recognize their body limits as well as the new abilities resulting from the aging process (6) which will lead to an increase in the notion of their functional capabilities and thus a better and more adequate performance in daily activities.

Another important factor for this review is the fact that psychomotor skills is a comprehensive field, usually more associated with intervention with children, but it can have benefits in all age groups, especially the elderly, and it is in our interest and responsibility to warn of this fact. Gerontopsychomotrycty is the psychomotor practice for elderly people, "which allows us to attenuate the inevitable changes of aging, assuming itself as a method of re-education of psychomotor, cognitive and emotional disorders" (16). It uses techniques of sensory stimulation, relaxation, therapeutic touch, artistic and emotional expression that not only promote motricity and cognition but also help to build and discover this 'new' identity that at this stage is formed/transformed (6).

It is important to mention that the main objectives of psychomotor rehabilitation, in this context, are the promotion of body consciousness, self-knowledge, since the "decrease in the amount of motor experiences will negatively influence self-esteem and body consciousness" (17), of functional capabilities and, consequently, of performance in daily activities. As future psychomotorists, we understand that it is necessary to intervene, through prevention or psychomotor reeducation.
Faced with this scenario, it seems to us pertinent and necessary to carry out a systematic review of the literature, as we consider it to be of enormous importance to understand that gains and benefits can have people of 65 years or more, with psychomotor rehabilitation. As soon as the gains from psychomotor intervention are evidenced and understood, it is expected that there will be greater adherence and probably greater recognition and investment in the area. In this sense the objectives of this systematic review of the literature will be to highlight the importance of this practice, through its various aspects and possibilities of action, bringing benefits to the elderly and consequently to the population in general.

1.1) Concepts

The definition of ‘older persons’ is not consensual and there is no standard United Nations numerical criterion. For statistical purposes, older people are usually referred to specific age groups and the currently agreed cutoff point for reference to this population is over 60 years, depending on cultural and individual factors (18,19).

The elderly person is subject to decreased gnosopracic abilities, the ability to react to emotional, physical, and attentional processes. The elderly person may express psychomotor slowness, loss of strength, increased reaction time, gait problems; fall phobia, communication difficulties, abulia, emotional regulation problems, anguish, or devaluation of body image (6).

When talking about psychomotricity and elderly people we need to specify the concept of Gerontopsychomotricity. This concept involves the biological, psychological, sociocultural and corporal dimension, being in this last point the base of the psychomotricist's work (16). Another author points out four characteristics that delimit Gerontopsychomotricity as a therapeutic practice of body mediation: the variety of pathologies that can benefit from the intervention of the psychomotricist; the specific objective being to improve the aged body, helping the elderly person to acquire new perceptions and representations of their real and imaginary body; the specificity of the psychomotricist-friendly relationship in which the therapeutic relationship is fundamental and, realizing that behind a physical problem may be a problem of psychological origin (6).

2) Methodology

As a starting point for the present literature review, the following question was formulated in PICO format: What are the gains, in relation to people 65 years and older, from psychomotor intervention?
The electronic databases used were EBSCO (MEDLINE with Full TEXT, CINAHL with Full Text), where the descriptors were searched in the following order: [(elderly*)] AND [(psychomotor*)] AND [(intervention)]. The descriptors were searched in full text (March/2020), retrospectively until 2009, resulting in a total of 21 articles; the Google Scholar search engine was also used where articles with the keywords [psychomotor intervention, elderly] were searched between 2005 and 2020.

As inclusion criteria, articles focused on psychomotor intervention, using quantitative and/or qualitative methodology that clarified the gains of this intervention in the quality of life of the elderly were given priority.

Regarding the participants, both elderly people with and without pathologies were included, as far as the intervention is concerned; interventions in both motor and cognitive areas were also included; articles demonstrating the results of non-specific psychomotricity interventions were also included.

The exclusion criteria include all articles with no correlation with the object of study and with a date prior to 2009, since although the literature recommends the insertion of the most current evidence, which corresponds to the last five years, the production of texts in this area is scarce.

3) Results

Table 1 presents the results of the revision performed, in a systematized manner.

<table>
<thead>
<tr>
<th>Author / Level of Evidence</th>
<th>Objectives</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Author:</strong> Rubira et al. (2014) (20)</td>
<td>Evaluate the effect of psychomotor intervention on the balance of the elderly.</td>
<td>After the psychomotor intervention, the elderly demonstrated improvements in surface area (cm²) and average load (gr/cm²), as well as a decrease in oscillations, contributing to the improvement of postural control. In addition, there were improvements in the average oscillatory speed (mm/s), anteroposterior oscillation (mm/s) and the oscillation area of the center of pressure;</td>
</tr>
<tr>
<td>Author:</td>
<td>Canon, &amp; Couto (2014) (21)</td>
<td></td>
</tr>
<tr>
<td>Methodology:</td>
<td>experimental study</td>
<td></td>
</tr>
<tr>
<td>Level of evidence:</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Participants:</td>
<td>Six elderly hospitalized with diagnosis of chronic diseases</td>
<td></td>
</tr>
<tr>
<td>Description:</td>
<td>Describe a protocol of action in elderly hospitalized with diagnosis of chronic diseases, addressing sensory, cognitive, psychomotor and functional aspects, thus analyzing whether this protocol maximizes the independence in the activity of feeding.</td>
<td></td>
</tr>
</tbody>
</table>

| Author: | Ferrer, Collado, & Ávila-Castells, (2013) (22) |
| Methodology: | experimental study |
| Level of evidence: | 5 |
| Participants: | 64 patients with Alzheimer's (from 64 to 87 years) |
| Description: | Assess the effect of a psychomotor re-education program (PSEG) on cognitive and functional parameters in Alzheimer's patients. |

| Description: | Initially all patients suffered functional loss, but after the intervention, a significant increase in functional capacity was observed, and consequently in feeding, with a greater performance in activities of daily life. Thus, the total score of the motor part increased when compared to the beginning of hospitalization. However, it decreased in relation to the period before the internment. |

<p>| Description: | The application of the program has led to significant improvements in the quality of life and motor skills of Alzheimer's patients. However, cognitive abilities have suffered a decline with the progression of the disease. In the mild and moderate states of the disease, this program improves the motor quality and quality of life, allowing the realization of the basic activities of daily life in these phases. Thus, functional capacity improves in the mild phase and remains stable in the moderate phase, but in the severe phase no improvements were identified in the variables observed. |</p>
<table>
<thead>
<tr>
<th>Author: Hagovská, &amp; Olekszyová (2016). (23)</th>
<th>Methodology: experimental study</th>
<th>Level of evidence: 5</th>
<th>Participants: 80 elderly with cognitive impairment</th>
<th>Examine the relationship between balance control, cognitive functions, gait speed and the execution of daily life activities.</th>
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</table>

The cognitive-motor training performed during 10 weeks compared to the motor-only intervention allowed to establish significant relationships between balance control, cognitive functions, gait speed and the execution of daily life activities. Motor-only interventions demonstrated a less significant effect on these relationships. Cognitive interventions should be an important part in motor interventions in the treatment of balance disorders.

<table>
<thead>
<tr>
<th>Author: Pereira, et al. (2018). (24)</th>
<th>Methodology: Experimental study, application of a multi-modal exercise program for ten weeks</th>
<th>Level of evidence: 5</th>
<th>Participants: 17 institutionalized idols</th>
<th>To examine the reliability and effect of a psychomotor intervention - a multi-modal exercise program that promotes cognitive and motor stimulation simultaneously - on the executive functions (capacity for planning and selective attention) and physical functions of the residents of a nursing home.</th>
</tr>
</thead>
</table>

In this study, improvements in planning ability (25-32%), selective attention (19-67%), as well as physical function (aerobic resistance, lower limb strength, agility, balance, gait and mobility (19-41%)) were observed. Psychomotor intervention also contributed to combat the sedentary lifestyle typical of home residents, reducing the risk of falls, making them more physically independent and, consequently, increasing the quality of life of this population.
<table>
<thead>
<tr>
<th>Author: Peralta, Gascón, Latorre (2017). (25)</th>
<th>How psychomotor intervention can help prevent or slow cognitive decline.</th>
<th>This study demonstrates that psychomotor intervention contributes to slow the progression of cognitive decline in institutionalized elderly. Thus, the number of weekly hours of psychomotor intervention is related to the maintenance or even increase of cognitive abilities, which in turn can be related to the increase of physical capacity to perform activities of daily life. The results are according to recent studies that demonstrate the importance of cognitive training. However, they are only based on the meem and the Barthel Index, so other scales and assessments should be considered for inclusion in future studies.</th>
</tr>
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<tbody>
<tr>
<td>Methodology: experimental study</td>
<td>Level of evidence: 5</td>
<td>Participants: 94 Elderly people, both genders, over 60 years of age, living in two long-term care institutions, divided into three clusters, one group without psychomotor therapy, the other with two hours a week of psychomotor therapy and the last with ten hours a week.</td>
</tr>
<tr>
<td>Describe the experiences of health education activities performed with the elderly, having as difficulties active aging and self-care.</td>
<td>In this study, some activities were carried out that allowed the elderly to perceive how they acquire knowledge and how they use it to improve their self-care. Physical activity and eating assume an extremely important role in the perception of self-care, contributing to a change in lifestyle, and consequently to the prevention of</td>
<td></td>
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</tbody>
</table>
Participants: 25 elderly women, aged between 60 and 83 years old

numbers diseases, including cardiovascular diseases and type II diabetes. In addition, memory activities were essential for the elderly to remain more active and perform cognitive activities. Thus, physical and cognitive activities were very important for independence, as well as for a more active participation.

Author: Rebelatto et al. (2006). (27)
Methodology: experimental study
Level of evidence: 5
Participants: 32 female individuals, aged between 60 and 80 years, not institutionalized.

Examine the influence of an extended exercise program (two years) on muscle strength and body flexibility of elderly women.

Both in relation to muscle strength and flexibility the data point to the absence of significant differences. The program contributed to the maintenance of the manual grip strength in the period of two years and, in relation to the corporal flexibility, the data indicate the necessity of reprogramming the exercises destined to the development of such capacity.

4) Discussion

In one of the studies, the psychomotor intervention demonstrated a decrease in oscillations, resulting in an improvement in postural control. There was also an increase in the balance, as a result of the improvement in the average oscillatory speed (mm/s), anteroposterior oscillation (mm/s) and the oscillation area of the pressure center, contributing to the increase in the gait speed (20). The same was the case in another study, where significant improvements were observed in both balance control and driving speed (23).

Following the same approach, another study revealed, after the psychomotor intervention, improvements from the point of view of physical function, namely in terms of aerobic resistance, limb strength, balance, agility and also gait and mobility (24), which contribute to the reduction of the risk of fall and, subsequently, to the increase of the quality of life of the
individual (22). It also reinforces the idea that psychomotor intervention contributes to reduce not only the risk of falls but also physical dependence, contributing to an increase in the quality of life and a decrease in sedentariness (24).

On the other hand, regarding Rebelatto, Orejuela, & Portillo, (2006), the program of regular and long-term physical activity, even though it was not idealized for the development of muscle strength, contributed to the maintenance of bilateral grip strength in the hands of elderly women. Regarding body flexibility data, the absence of statistical significance indicates the need for reprogramming exercises aimed at gaining flexibility (27).

According to Pereira et al. (2017), after the psychomotor intervention, improvements in planning capacity and selective attention were observed. In addition, the intervention also promoted simultaneous cognitive and motor stimulation, since improvements were observed in the executive and physical functions of residents of a nursing home (24). In the same perspective, Hagovská and Olekszyová (2016) have established significant relationships between balance control, executive functions, gait speed and the execution of daily life activities in a cognitive-motor intervention (23). Thus, both studies combined that in a motor-only intervention these relationships demonstrated a less significant effect, compared to a cognitive and motor intervention. Therefore, cognitive interventions should be an important part in motor interventions in the treatment of balance disorders (23).

In the article by Ferrer, Collado & Ávila-Castells (2013) improvements in motor and functional capacities and consequently in the quality of life are mentioned after a guide for psychomotor re-education has been implemented with the purpose of rehabilitating motor, cognitive, affective and social functions through physical exercise, cognitive re-education and psychomotor stimulation. This intervention allowed the maintenance of the activities of daily life, thus contributing to the increase of the quality of life of this population. It is considered that these results, occurred due to the character of experiential and intentional expression of the physical, psychological, social and emotional capacities of the psychomotor intervention (22).

As for the improvement in autonomy in feeding activities, Canon and Couto (2014), after intervention with elderly people diagnosed with different disorders, verified that it is necessary to promote autonomy and decrease dependence on third parties, especially in feeding tasks, which by the way, consume a lot of time in the caregivers' routine (21). The body is the origin of cognitive and affective acquisitions and therefore, through these experiences, psychomotricity contributes to the normalization of the individual's general behavior, improving the body's awareness. In this way, through functional training and the movement of the body in relation, the elderly understand their capacities of action and possibilities of acting with the other, with objects and with themselves, thus not only seeing
an improvement in nutrition, but also in movement. They also emphasize the importance of
transmitting practical and adequate information to the elderly, contributing to their quality of
life. Through a program based on healthy eating, after the implementation of an intervention
plan, there was a greater concern, on the part of the elderly population, regarding food (25).
In one of the studies, the results indicated that psychomotor intervention, at an appropriate
dosage, can significantly prevent the decrease or even increase cognitive abilities, as is the
case with two-hour therapies per week, which can improve long-term memory, self-
confidence and mood, verbal fluency and attention (25). However, these results demonstrate
that a greater number of hours per week of intervention can significantly improve cognitive
skills. Defending also the increase of cognitive abilities, other authors, after one year of
memory activities, found an increase in reading frequency, an increase in home outings and
also an increase in cognitive activities (26). The same authors also argue that after activities,
namely physical activities, there was an increase in the perception of self-care, promoting an
improvement in the lifestyle of the elderly (26).

Thus, it is notorious that psychomotor intervention has numerous benefits with respect to
the elderly population, whether in the physical or cognitive domains. Therefore, it is essential
that this type of intervention is increasingly used by this population, providing them with a
better quality of life, as well as disease prevention, enabling them to interact socially and live
different experiences.

In table 2 the result indicators extracted from this review can be checked.

Table 2. Performance Indicators

<table>
<thead>
<tr>
<th>Variables</th>
<th>Indicators</th>
</tr>
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<tbody>
<tr>
<td>Functional status</td>
<td>Increased average gait speed; (20) (23)</td>
</tr>
<tr>
<td>and physical capacity</td>
<td>Improvement of gait dynamics; (20)</td>
</tr>
<tr>
<td></td>
<td>Improvements in balance; (20) (23) (24)</td>
</tr>
<tr>
<td></td>
<td>Improvements in aerobic resistance, (24)</td>
</tr>
<tr>
<td></td>
<td>Improvements in lower limb strength, (24)</td>
</tr>
<tr>
<td></td>
<td>Improvements in agility; (24)</td>
</tr>
<tr>
<td></td>
<td>Improvements in mobility; (24)</td>
</tr>
<tr>
<td></td>
<td>Decreased risk of falling (22)</td>
</tr>
<tr>
<td>Nutrition</td>
<td>Improvement in healthy eating; (26)</td>
</tr>
<tr>
<td>Cognitive function</td>
<td>Improvement in cognitive skills; (23) (25) (24)</td>
</tr>
<tr>
<td>Functional state</td>
<td>Improvement in functional capacity; (22)</td>
</tr>
<tr>
<td></td>
<td>Improvement of the quality of life; (22) (26)</td>
</tr>
<tr>
<td></td>
<td>Improvement of instrumental activities of daily living; (21) (23) (26)</td>
</tr>
</tbody>
</table>
5) Conclusion

For the elderly to remain active, movement is fundamental, so psychomotor intervention is very important at this stage, contributing not only to the improvement of movement but also to the autonomy of the elderly. The psychomotor intervention, in these ages, must be done not only in elderly people with pathologies and/or limitations, but also in elderly people without any kind of limitation, acting as a form of prevention, contributing to an active aging of the population and an improvement of the quality of life.

Moreover, the psychomotor intervention encompasses benefits not only at the motor level, but also at the psychological and affective level, and the greater the number of interventions, the greater the results. At the motor level, the psychomotor intervention reveals improvements in postural control, balance, increased gait speed, aerobic resistance, agility, limb strength and mobility, thus contributing to the reduction of the risk of falling. On the other hand, at a cognitive level, it reveals improvements in planning, long-term memory, self-confidence, mood and verbal fluency.

The psychomotor intervention aims at an improvement in the capacities of the elderly, and through this review of the literature, we can show that this improvement occurs both at the physical and cognitive levels, allowing them to perform well in the execution of the activities of daily life, which contribute to their independence and also to their active participation in society.

6) Implications for professional practice

Based on the above, our clinical practice can be applied in different cases with different objectives, promoting well-being and taking into account the individual characteristics of each elderly person. Thus, this practice can be integrated in any phase of aging as well as in most diagnoses, working with the elderly and maintaining their skills and abilities, in order to prevent the loss of them.

There is an enormous need for new studies, since it is of enormous importance to highlight the numerous benefits of this practice, as well as the different interventions in various clinical cases.
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