

## **FITNESS AND AGING SOCIAL ASPECT**

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## **AGING SOCIOLOGICAL ASPECTS**

The aging process that culminates with the old age continues being one of the humanity's concerns since the beginning of the civilization. The century XX marked the importance of the study of the old age definitively, due to countless researches and multidiscipline studies on the aging process. The increase of the number and senior all over the world it exercised passive pressure on the development of the GERONTOLOGY and GERIATRICS.

Although the including vision of the attention to the senior's health and of the researches on the old age are really important so that she can build a knowledge multiple facets has as objective common to construction of a science driven to the aging process, she cannot minimize the importance of scientific works of each area that composes the Gerontology. Researches of biophysiological character established that with moving forward of the years, they are going happening structural and functional alterations that although they vary of an individual the other, they are found in all the seniors and they are own of the aging process. The aging process can be a denominated natural phenomenon of primary aging or due to pathological processes that are common in the ages more assaults of the life, nicknamed of secondary aging.

Starting from 1980 it woke up the interest for the study of the related problems the old age owed the social needs associated to the population aging and to the longevity, as for instance, the support to familiar that take care of dependent seniors, the costs of the health and providence systems, the need of formation human resources, the need of occupational offers for middle age people and senior.

The development policy that dominates the industrialized society and urbanized always had more interest in the maternal-infantile attendance and driven the youths. The investment in a child has more return potential from 50 to 60 years of productive life, while doctor-social cares addressed to the maintenance of a healthy life of a senior can not be faced as investment. They are actually a duty of the society to those that gave so much of itself for the future generations. The increase of the number of seniors brought consequences for society and for the individuals that compose this age group. It becomes necessary to look for the determinant of the conditions of health and of the senior's life and to know the multiple facets that involve the old age and the aging process. We should have a global vision of the aging as process and of the seniors as human being, where aspects environmental, psychological, social, cultural and economical are important.

The modern society is today before a contradictory situation: on a side, it is confronted with the growth of the senior's population and, of other, it is omitted before the old age or adopts attitudes prejudice against the senior person, delaying the implementation of actions that seek to lessen the heavy bale of the ones that like this entered in the third age. He does not understand each other that omission, when it known that the concern with the old age is as old as for the origin of the civilization.

The seniors for they have reduced her work physiology capacity, to which can associate to more chronic diseases, doesn't have as facing an unequal competition, creating his marginalization. Cultural values silted up through the years qualified the youth's potential extremely to the detriment of the age ripens and of the old age, which ended for being interpreted as a mixed of unproductiveness and decadence.

Even if the hostile paper of the contemporary society is admitted to the seniors, it is not possible to ignore that these also have a ponder portion of responsibility for that situation. Let us take the case of the adaptation difficulty of the old to the middle in that he/she lives, generating

conflicts particularly with younger generations. Under penalty of committing injustice, one cannot affirm that the rejection is unilateral, in other words, of the society or, more specifically, of the youths in relation to those. He associates to that the rejection of the senior to his own aging. The values that orientate the life of the newest generations and the behavior assumed before the oldest generations that insist on bringing for the present cultural values of the past, trying to impose them to the others. The excessive valorization of younger age groups and the rejection of the seniors at the new times turn arduous the integration of these in the society, mainly if we take in consideration the precarious socioeconomic conditions that live the Brazilian population.

Another aspect of the old age in Brazil was the fast migratory process of the field for urban areas, that it carts serious social problems for the seniors and for the whole population. The increase of the woman's life expectancy is more significant than the one of the man, what be attributed to biological factors and exhibition difference to the factors of mortality risk. The economical aspect has been taking to a growing participation of the woman in the workforce, in order to contribute financially in the domestic budget. The consequence is the absence, in the family, of somebody that takes care of the senior in case of disease and/or physical incapacity. Due to the woman's larger life span in relation to the man, they exposed for longer periods to chronic and degenerative diseases, to the widowhood and the solitude. To belong the female sex determines exercise of social papers that connect the women to the world of the relationships and of the interdependence. Not only in the old age as in the other ages, largest connectivity positively related with satisfaction and with social resources and interpersonal that work as protecting mechanisms. The senior women have a larger participation than the men do in all of the activities related to the politics of health to the senior. Population growth senior's rhythm in Brazil is proportionally much more intense than in the countries of the First World, with a picture dramatic, due the socioeconomic conditions of the Brazilian population, where the economic resources are scarce for health politics destined to the seniors.

The human aging is associated with several psychological and behavioral alterations, including the concentration difficulty, progressive cognitive loss and disturbances of the cycle sleep vigil. Those alterations frequently are associated with the depression that possesses a high comorbidity with several chronic and degenerative disease of the aging: cardiovascular diseases, Parkinson's disease, Alzheimer, cancer and rheumatoid arthritis.

The aging involves a series of alterations that affect the integrity of several tissues in a qualitative and quantitative way. The immune system is not an exception and the immunological alterations observed in the aging called of immunosenescence.

The old age is a biosocial phenomenon that does not exist singularly and nor in way as evident as she enunciate. The old age does not exist, a plurality of images socially built and referred at a certain time of the cycle of the life.

The heterogeneity characterizes the aging as the completely social phenomenon. The seniors differ according to the social class the one that belong, according to sex and the gender relationships that establish, their ethnic characteristics and even according to their different groups of age, while senior, in the current longevity society, in that to reach a hundred years if it turns more and more common.

Of that variety in the way of being old and of the context that determines them or opportunity speak the social sciences, mainly the anthropology. As well as they also analyze common elements that propitiate the classification or recognition as old and that are contradictory, largely gathered by a prejudice vision, turned natural, or for defense attitudes of the other generations in the fight for the social prevalence. Senior referred always or analyzed in their actions, above all for his condition of old, before for the sex condition or gender, profession or even social class that define the young adults.

In the modern society, the old age is much more associated to the decadence than to the spread wisdom and experience. Moreover, not just the wear and tear physical decadence, but

also the ugliness, disease and dependence. In a society, that privileges the youth and bounded to the beauty, the old body sends before of the old age, losses and proximity of the death.

In reaction to that, the own ones old they try to avoid the old age classification, seeking unknown. It is just not falling back upon the traditional mechanisms of correction of the nature: to paint hair, plastic surgeries, etc..., as following every one social pharmacopoeia: fashion, interests and attitudes, to maintain young. Until denial, age is common fact among the women.

The senior is to be integral of the society; however, his social integration constitutes one of the main concerns, so much for him same, as for the other specialists of the Gerontology. A concept exists no very defined on the old age, because the people have difficulty in characterizing that apprenticeship of the life. Most of the people affirms that old it is that that does not participate, it is that does not accompany them announce transmitted by the means of communication; it is not going to shows from any nature, it lost the self-esteem and the work capacity.

In the society, that we lived a lot of value given to the professional acting and the status of him current. When the individual is born assumes the status of the family that places him in the social way. The other status acquired in elapsing of the life. To each one it correspond a social paper carried out and whose acting happens an adult or smaller prestige. For the acting of professional papers, a formal and systematic learning exists, under orientation of schools, universities and specialization courses. Learned and assumed a profession, the individual acts it participates until the moment in that his retirement arrives. Is it now, what part will play? In a wide sense, if it is prepared to be an active element in the job market, but it is not learned how to live after having given that social security contribution, after a professional acting valued socially. He starts to be part of a group out in the usual ways of participation, generating conflicts, personal problems, family and social.

Another problem that faces the senior is the prejudices in relation to the old age, so much on the part of him own, as on the part of the people of the other age groups. The most common are: the rejection of the old age as it had left an incurable disease; the impediment of execution of certain activities, everything as false justification, presented many times to the old in an affectionate way, the fact of already to have worked a lot, now he should rest. Those are some of the pressures gelding plenty do with that the senior reinforces his impression of being unable and the no acceptance of the opinions of the oldest with the argument that the times are other, therefore the accumulated experience doesn't serve.

It is sly the way for which the adult tyrannizes the old that he is in her dependence. He does not dare giving him openly orders, because he doesn't owe him obedience: it avoids attack him of front, it maneuvers him. He alleges to be acting in his interest and bill with the complicity of the whole family. He consumes the grandfather's resistance, involving him with attentions that paralyze him. He treats him with ironic and benevolence, he goes to him as if it was short of intelligence, arriving secretly to the point of changing peeps accomplices, besides cruel words once in a while uttered. When they fail the cunning and the persuasion, he doesn't hesitate in appealing to you had lied or you force them of giving in a drastic way, you convince him to enter provisionally for an asylum and there they abandon him, comfortable solution for the relatives that present a proof of great concern to the senior. The aged, as well as the individual of any age, he should always have relationships with groups of interest diversified. An established age do not exist for that the people stop participating in the life of the social group the one that belong, except for norms imposed by the effective culture. On behalf of the love and with very deliberate excuse of that that loves the old ones, he knows what is better for them, we also practiced other so many inhumanities: you leave them without control about their own actions and removing them the privacy, what reduces the aged to a pitiful condition of marginalization, because it impedes his participation in the social way. Such behavior recognized easily: the parents start to be the children's children.

## SENIOR HEALTH ASPECTS

In the course of the aging, the organism confronted with a series of morphologic and functional modifications under the responsibility of the several organs and woven. Such modifications characterized by a general tendency to the atrophy and for a decrease of the functional efficiency of the organs. The aging is a physiologic stage of the life in which many aspects considered: genetic, molecular, neurological, endocrine, spiritual and ecological. The aging involves the organism as a completely. Their consequences act overall body, on the mental operation and in the relationships of the organism with his social and physical ambient. The aging produces changes that request a constant elaboration and acceptance for the individual. The appearance is one of the most evident alterations. In the skin, it dries stains, gray-headed hair and alterations of the sensibility of the skin appear. An immature person with lines narcissus personality it can face those common transformations as a tragedy and to live anxiety and depression.

All can accompany our selves the physical changes that happen with passing of the years. Scientific studies show that there is no part of the body in that such alterations do not happen and these considered as diseases. The aging reduces their systems capacity gradually of individual's readaptation. When stimulated, they delay more time to return to the rest physiology. In the middle of that everything, is important to observe that the characteristics of the internal middle, that are essential for the cellular function, they do not change significantly with the aging. To distinguish the normal pathological aging requests an appropriate clinical propaedeutic. It is fact that numerous diseases happen with such frequency and they are intimately associated to the advanced age that is not only difficult to distinguish them of the effects of the aging, but many, as integral part of the process of aging consider these. The relationships with the environment are significant for a good acting of the mental functions. In the seniors, they are of great psychological importance the organs of the senses, the locomotion capacity and the muscular force. The alteration of the vision has very serious consequences for the senior's self-esteem. In the work, he will need more brightness, he/she will have difficulties pair to read. He will be more subject to falls or shocks, among them of run over in the traffic. That corporal image has psychic representation and the whole attack that it suffers represents threat, it can be traumatic, depending on the affectionate importance of the reached element, needing a repairing through the elaboration of a holistic plan of recovery and appropriate physical activity their needs.

Freud allows to understand each other the psychological process of the aging starting from the idea that the ego is fundamentally corporal and that in the individual's development the differentiation between the body and all of the external objects is the base on which settles the distinction between the ego and the no-ego, it is done necessary to understand the relationship among ego and the changes of the body on the influence of the transformations of our environment and their consequences on the same. Any alteration of the physiologic aspects serve from base to the knowledge of the body and their relationships with the environment can cause disturbances of the behavior and of the personality. The group of structures of the personality, the existences, the relationships with the external world, the body and his/her image constitute what called self. It is the individual's conception on her place in the world and among the people. Carl Roger considers the organism as total individual. That organism is at any moment an organized system in which the alteration of a part produces changes in the whole system. The self would be a differentiated part of the phenomenology field and it would consist of a group of conscious perceptions and of inherent values to the person. Those concepts mark what one should have in mind when it is studied the aged psychological aspect. All the changes of the body, from skin alterations, decrease muscular force, decline vital capacity and sensorial alterations processed in the individual's self. In the same way the external losses of the status, of dear beings, life dreams, and money ambient aggressions go by that process. A structured self, a real notion of him will allow a healthy old age. The problems or aggressions will exist, but the individual will have capacity resources to elaborate them and you win them. A fragmented

self, with artificial and false bases, will not get to integrate the incentives and it will determine the eruption of the anxiety and bad relationship with the other ones.

## **PHYSICAL ACTIVITY BENEFITS FOR SENIOR**

In Old Greece, the Romans and Chinese always included in their treatments of health the physical activity. In Germany in the century, XVIII the Kinesiology the Obstetrics incorporated with the name of MEDICAL GYMNASTICS to improve the conditions of the childbirth. During millennia, a part of the human beings glimpsed the physical activity as a harmful factor to the health. Starting from the first studies on physiology of the exercise in the first half of the century XX, we began to have elements of the best quality of life and health of those people that practiced physical activity regularly. At the present time the most constructive consensus than the science can give to the human being, in the sense of developing their potentialities fully, it consists in practice physical activity regularly. Even with some physiologic and metabolic restriction does not exist to smallest doubt than the physical exercise plays prominence part in the maintenance of an old age with health. Understanding health situation of well-being physical, mental, social and spiritual. The physical exercise enlarges the breathing competence of the organism in all their stages, increasing the lung efficiency, entrusted of bringing the oxygen for the interior of the organism. He increases the volume and the quality of the blood. An exercised muscle possesses more mitochondria for volume unit than a sedentary muscle twice. The exercise also possesses notable influence on the human being's mental and social health. A good physical practice leaves the calmest and less petulant individual, due to the liberation of endorphins. Exercise in a regular way improves the senior's quality of life and help the recovery of the health in several pathologies. In the people after the fifty years of the age increases the incapacity and the dependence, due chronic diseases, including the sequels of the strokes (AVC), the fractures, the rheumatic diseases and the cardiovascular diseases (DCV). Due to the increase of the life expectancy, have progressive increase of the functional limitations with restrictions in the instrumental activities of the daily life, being of fundamental importance the adoption of preventive measures that can delay the beginning of the restrictions of the activities of the daily life. The implantation of programs of exercises and of other prevention strategies and it gets better functional it can minimize or to prevent the incapacity. The introduction of appropriate programs of promotion to the health, of prevention, so much primary as secondary, besides detection of chronic diseases, it would be enough to avoid and to treat countless offence conditions to the health, capable to cause incapacity and dependence. In those already attacked the programs of secondary prevention and of rehabilitation they become fundamental, providing those individuals the possibility of social reintegration and labored. Countless publications detach the significant gets better of the quality of life in the individuals submitted to the rehabilitation programs and independent physical activity of the age group. In the senior the degree of the individual's independence, initial physical fitness, coordination and cognition, should be evaluated what allows programming and execution of the exercises in more appropriate intensity, not underestimating or overestimating the senior's capacity and maintaining the balance of the relationship benefits/security. Most of the population no practice regularly physical activity and that fact becomes still more evident with the aging. Although we divided the exercises as the intensity, for age groups, the senior has a smaller percentage as the intensity of the effort increases. It accepted that the maximum capacity to accomplish a work decreases with the age due to the smallest consumption of oxygen to accomplishment of a dynamic exercise. The aerobic capacity gets better with practices regularly physical activity. The blood pressure in the seniors tends to be higher in rest and in the effort. The physical activity correctly guided, so much in healthy seniors as cardio paths, improves the lipid metabolism and of the carbohydrates, it induces the increase of the levels of lipoproteins of high density (HDL), has beneficial effect on the distribution of the fatty fabric, insulin sensibility improves, being important in the reduction of the cardiovascular risk.

The objective of the physical activity and of the rehabilitation in the senior is to improve to the maximum the functional capacity. Those objectives reached through programs that seek to increase the aerobic capacity, muscular forces and flexibility. That age group needs a discerning clinical evaluation regarding other pathologies that can interfere directly with the modality and the intensity of the exercise. The senior should be submitted to a medical evaluation, that it goes by anamnesis and clinical exam, not stopping including in this analysis factors of cardiovascular risk, cognition, independence, previous physical fitness, visual sharpness, audition and emotional state. The ergometer test should be accomplished of routine in all the seniors before they begin the physical activity, should be preceded of an electrocardiogram in rest. The objective of the ergometer test is to evaluate the safety of the program instituted, as well as to aid the prescription of the exercises. In the seniors, the muscular and skeletal condition should be analyzed with details, due to consequent restrictions of pathologies osteoarticulares. The ergometer test analyzes the aerobic capacity, the swinging between the workload and the heart frequency, besides stratifying each individual's risk.

For seniors with cardiovascular problems the implantation and maintenance of a program of physical activity for cardiovascular rehabilitation should observe appropriate norms, considering frequency, duration, intensity and supervision. The exercises should have a frequency from three to five times a week, with duration of 30 minutes, obeying the established intensity for the ergometer test. The patients with clinical history of cardiovascular disease should begin the rehabilitation program with medical supervision, maintained until that the patient learns how to know their limits. The physical activity should precede by a heating phase, including prolongation, mobility to articulate and walk, indispensable mainly for the most susceptible seniors to the lesions articulate and muscular. The end of the session should proceed by prolongation exercises and for gradual turn to the calm. The physical activity can take to lesions osteoarticulares more frequently in the senior patients, especially in the women, should be avoided the exercises of high impact. In those individuals, the physical activity should begin progressively, allowing gradual adaptation to the muscular effort and the impact to articulate.

Criteria for accomplishment of the physical exercise:

1. To accomplish physical exercise only when there is physical well-being
2. To use clothes and appropriate shoes
3. To avoid the tobacco and use of sedatives
4. Feeding up to two hours before
5. To respect the personal limits and to inform any clinical symptoms
6. To adjust the exercises to room temperature
7. To begin the slow activity and gradually to allow the adaptation
8. To reduce the rhythm in more intense activities
9. To ingest water during and after the exercises.

The care that should be taken is that the intensity of the exercise has direct relationship with each cardiorespiratory individual's aptitude, independently of the age, as in the case of an exercise with intensity of 6 MET, that can be very intense for a sedentary senior and with overweight and very light for a senior of the same age that the previous runs every day. The indication of the walk represents a practical solution for senior sedentary, staying the criterion of the control of FC before and immediately after. It is advisable the association of resistance exercises and of flexibility with duration of 15 minutes, generating better physical conditioning. In the seniors, the exercises with small weights collaborate to improve the muscular tonus and to preserve the bone mass, while the prolongation exercises are important to improve the flexibility. The physical activity accomplished appropriately brings countless benefits to the senior, as the tissue perfusion, increase of  $VO_2^{m\acute{a}x}$ , vasodilatation outlying, better activity of the heart and reduction of the expense of oxygen for the myocardium. The development and the maintenance of the aerobic resistance, flexibility to articulate and muscular force is especially important in the seniors, contributing to the adhesion to the rehabilitation program.

The against-resistance exercises (ECR), when guided in an appropriate way, for qualified professionals, it represents a safe and beneficial modality of exercises. The patients' relationship can be included in that program raised by an evaluation of the cardiopathy type of presented, control of the same in the moment, general state, physical capacity and presence of other illnesses. A series of studies demonstrated low prevalence of symptoms during ECR, as well as of disturbances of the mobility of the ventricular wall, ischemia signs or serious arrhythmias. The risk of osteoarticular lesions is also low.

The prescription of ECR in the seniors should be accomplished in an individual way, taking into account if he practiced or no exercises in a regular way, as well as the modality of the exercise, for evaluation of the main involved components: aerobics, isometric and isotonic, aptitude degree, ventricular function, psychological profile and cognitive level.

In the sedentary individuals, ECR should precede aerobic exercises by two to four weeks, as well as of activities that stimulate the coordination, so that ECR can be accomplished in a more efficient way and with smaller risk. They should be oriented on the importance of the same ones, the appropriate form of you develop them and how to quantify the effort for the subjective perception (Borg scale). ECR should provide pleasure, which not always it happens in the sedentary senior individuals or with some restriction degree. For that reason, they should be stimulated in two series of five or six intercalated repetitions with other types of exercises (walk, abdominal, etc...). That division of the series can bring benefits, reducing the monotony, the muscular fatigue and the tension on the muscle.

Pathological conditions of contraindication for the against-resistance exercises (ECR), according to NYHA (New Heart Association):

1. Angina of unstable chest
2. Serious or symptomatic valvular disease (stenotic or regurgitant)
3. Signs of heart inadequacy, especially in the patients in functional class IV of NYHA
4. Difficult arrhythmias to the therapeutics
5. Blood pressure in rest: systolic > 160mmHg and diastolic > 100mmHg
6. Several diseases appear during the physical activity: articular and muscular disease.

Some clinical and social aspects should be considered when exercises are prescribed for senior individuals. Many times the seniors come undernourished due to dental prostheses badly adapted, for they live alone or for an inadequate alimentary diet, requesting changes in the program of physical activity. The largest prevalence of the muscular and skeletal pathologies causes compromising of the balance, besides several mental states, from depression to pictures of dementias, it can take the rehabilitation program to the failure. The use of medicines, especially the ones that act on the nervous system, can have great influence in the physical acting.

The heterogeneity of the aging, determining different individual characteristics in the seniors, forces to a wide evaluation as for the physiologic and biological reservations that do not correspond to the age. The expectation as for the largest adverse effects in the same or superior patients of age to 60 years does not proceed, being the same for all of the age groups, since respect the contraindications and considered the individual limitations. The rehabilitation plans for seniors when instituted considering the individual limitations present unquestionable benefits and they show to be this an important road in the direction of better life conditions for the seniors.

The exercise type that more benefits provide to the seniors' health is the isotonic exercise, to the base of rhythmic movements: walk, race, swimming and cyclist. They are the calls aerobic exercises that increase the muscular endurance. The program of physical activity offered should adapt to the senior's physiopathologic conditions and find good acceptance for the same. To maintain an attached senior to a physical activity to regulate it is necessary that it satisfies their expectations and that it provides him pleasure. For the active seniors from the youth, the exercise type that they were already practicing is possibly the most suitable. For the sedentary seniors the great prescription is the walk. To walk belongs the best among all to the

physical exercises to the human being's disposition. Although it does not allow the earnings in aerobic excellence that she can reach more exercises that are vigorous, the walk possesses the immense available advantage of her to adjust with easiness to each case. As for the weekly frequency of the physical activity, three times a week it would be the ideal. Activity lighter physics, as the walk, it can be accomplished daily. For the senior that this inserted in activity labored a walk program and gymnastics labored in the working days and a more intense aerobic activity in the weekends is enough for a good physical performance. A regular program of moderate exercise is a very appropriate recommendation for most of the senior citizens. According to his genetics, with appropriate nutritional orientation and physical activity the senior can live a long life with great quality of life. The measure that the people increase their levels of physical conditioning, they move forward towards a better quality of life with full accomplishment personal, social, psychic, spiritual and labored, surpassing the stress and the depression. The life activates represents economy, reducing futures medical expenses, decreasing responsibilities to the family and the society. The regularly physical activity serves as a strategy of equal positive health the senior, an amusement amid the lifestyle disturbed that the human beings take in the technological world of the present time, where the home, the family and the personal values are in an inferior plan.

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