

## Diagnosis to action

# Programa Vida Ativa: esporte e lazer promoção da saúde e qualidade de vida do idoso, em Petrolina-PE e Juazeiro-BA

Active Living Program: sports and leisure in health promotion and quality of life of seniors in Petrolina and Juazeiro, Brazil

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## Abstract

The Active Living Program, linked to the Physical Education course of the Universidade Federal do Vale do São Francisco (UNIVASF), aims to increase the physical and mental health levels of seniors in the cities of Petrolina Pernambuco (PE) and Juazeiro, Bahia (BA), Brazil, through regular physical exercise. Created in January 2015, with the support of MEC-PROEXT / 2015-2016, it provides free treatment to 165 elderly patients (aged 60-86 years), divided into 10 groups. Activities take place twice a week for 50 minutes in the following categories: Pilates, calisthenics, swimming, water aerobics, weight training and tennis. Before physical exercise, the elderly participate in 50 minutes of interdisciplinary activities, as follows: health lectures, psychosocial dynamics, art expression workshops and digital inclusion. The team consists of 45 Physical Education, Management, Visual Arts, Nursing, Pharmacy, Medicine, Psychology and Computer Science students, advised by 15 undergraduate professors. This program has been improving both the quality of life of seniors, and qualifying students in health at this university.

## Keywords

Physical Activity; Health Promotion; Elderly Care.

## Resumo

O Programa Vida Ativa está vinculado ao curso de Educação Física da Universidade Federal do Vale do São Francisco/UNIVASF, tem como objetivo ampliar os níveis de saúde física e mental de cidadãos idosos das cidades de Petrolina-PE e Juazeiro-BA por meio da prática regular de exercícios físicos. Criado em janeiro de 2015, com apoio do MEC-PROEXT/2015-2016, ele atende, gratuitamente, 165 idosos (60 a 86 anos), divididos em 10 grupos. As atividades acontecem duas vezes por semana, durante 50 minutos nas modalidades: Pilates, Ginástica, Natação, Hidroginástica, Musculação e Tênis. Antes da prática do exercício físico, os idosos participam de 50 minutos de atividades interdisciplinares: palestras de saúde, dinâmicas psicossociais, oficinas de arte-expressão e inclusão digital. Sua equipe é formada por 45 alunos dos cursos de Educação Física, Administração, Artes Visuais, Enfermagem, Farmácia, Medicina, Psicologia e Ciências da Computação, orientados por 15 docentes de graduação. Este programa vem ampliando tanto os níveis da qualidade de vida da população idosa, como qualificando a formação discente na área da saúde nesta universidade.

## Palavras-chave

Atividade física; Promoção da saúde; Cuidado ao idoso.

## Introduction

According to the the Brazilian Institute of Geography and Statistics (IBGE)<sup>1</sup>, 32 million Brazilians will be 60 years of age or older in 2025. As such, there is a need to create means that extend life expectancy, thereby guaranteeing physical, functional, cognitive and social autonomy to the elderly. This means that strategies in the area of human aging should not focus merely on prolonging life, given that benefits will

only be concrete if the additional years are marked by quality of life<sup>2</sup>.

Aging is not a disorder, but rather a stage of life involving a number of changes to the human body, many irreversible. Thus, it is considered a multifactorial process. Transformations affect the metabolism, immunity, organic structure, biochemical stability, functionality, emotions, cognitive capacity and communication. Accordingly, work in the field of aging research lacks knowledge on diversity and competence to provide services, a situation that has improved with the creation of interdisciplinary teams<sup>3</sup>.

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With respect to the elderly population, physical exercise (PE) has been used successfully to delay or reduce the aging process<sup>4</sup>. In addition to being effective, it is low cost and well accepted by this group. Regular PE allows seniors to increase and/or maintain their levels of physical and functional ability, enhance their cognition and memory, reduce the incidence of falls and favor the establishment of friendships<sup>5,6</sup>.

In the municipalities surrounding the study sites of Petrolina, Pernambuco (PE) state, and Juazeiro, Bahia (BA) state, the elderly population in 2010 was 331,951 and 218,324 inhabitants, respectively<sup>1</sup>. In Petrolina, 2.2% are aged 60 years or older and in Juazeiro 7.9%. These data demonstrate that the local population is composed primarily of young people. Thus, the elderly population faces difficulties in engaging in PE, since specific options for this age group are restricted, which hinders healthy aging in the region<sup>7</sup>. With the aim of expanding and diversifying the possibilities for local seniors to engage in PE, the Physical Education course of Universidade Federal do Vale do São Francisco (UNIVASF) created in January 2015, with the support of MEC-PROEXT/2015-2016, the “Active Living Program (PVA): sport and leisure to promote health and quality of life of seniors in the cities of Petrolina, PE and Juazeiro, BA”. The PVA seeks to improve physical and mental health levels of elderly individuals in these two cities through regular physical exercise and a set of interdisciplinary activities. The program also invests in the qualification and diversification of academic training, as well as producing scientific knowledge at UNIVASF.

The present study aims to describe the PVA, its target population, community services offered, the team, methodological procedures, as well as the results obtained in the fields of teaching, research and extension.

### History and objectives of the active living program

PVA activities began in March 2012 with the creation of the “Pilates and the Elderly” extension project. Until then, the team had been composed of a Physical Education scholarship student who taught Pilates classes to two groups, totaling 35 students aged between 60 and 80 years. In 2013, in partnership with the UNIVASF Psychology course and MEC-PROEXT, the activities were increased to three groups for a total of 60 seniors. On this occasion, considering the multifactorial nature of the human aging process, an interdisciplinary team was formed with Psychology and Medicine professors, in addition to three scholarship holders from the respective areas of knowledge. Thus, physical exercise (PE) was combined with lectures on health and psychosocial dynamics<sup>8</sup>.

In 2014, due to the growing demand for services and a waiting list of 120 seniors, the project coordinators sought resources to broaden services and diversify activities. Thus, in 2015, with financing from the MEC-PROEXT/2015-2016, PVA activities initiated. Its primary objective is to improve physical and mental health levels in the local elderly community through physical exercise; among the specific objectives are the following:

- Offer a regular program directed toward physical exercise for the elderly population of Petrolina and Juazeiro;
- Empower the local elderly community in an informal setting, regarding the aspects of human aging;
- Create an environment specific to the elderly community that encourages the exchange of experiences and the strengthening of social bonds;

- Train Physical Education students and those from other areas for future work with the elderly;
- Encourage the creation of interdisciplinary study groups to construct and broaden knowledge of human aging, as well as scientific production;
- Develop the principles of citizenship with the help of the scholarship holders and PVA volunteers;
- Seek partnerships with public and private entities, as well as dialogue with the different undergraduate courses at UNIVASF in order to develop actions in the areas of teaching, research and extension, with a focus on the needs of the elderly population;
- Through the Universidade Aberta da Terceira Idade/UNATI-UNIVASF, offer lectures and minicourses that teach the principles of Active Aging.

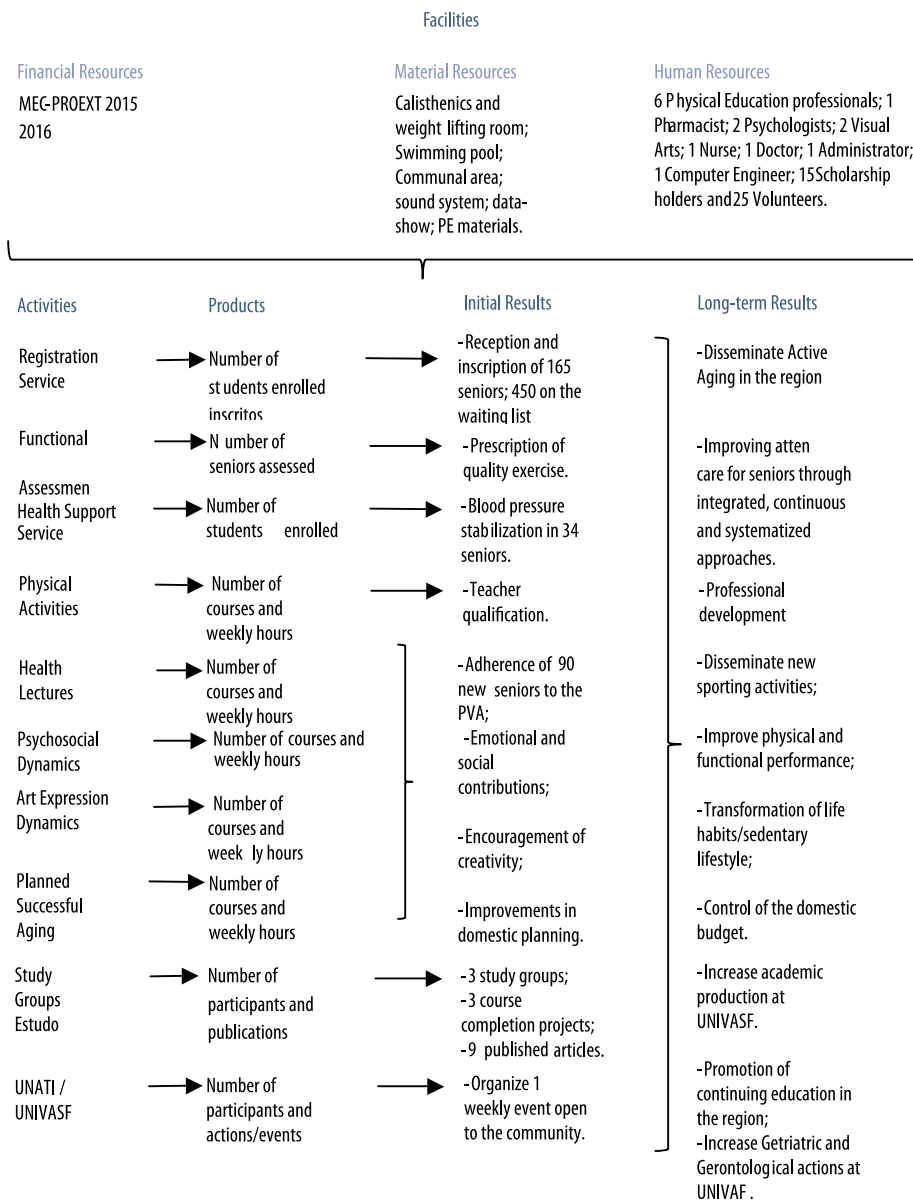
### Structure of the active living program

The PVA is subordinate to the UNIVASF Associate Dean for Extension, and in partnership with the Department of Sport in Petrolina and Juazeiro. Activities are coordinated by a Physical Education professor. The team consists of 14 UNIVASF professors, 15 scholarship holders and 25 volunteers, affiliated with the following undergraduate courses: Physical Education (11 students), Visual Arts (1 student), Administration (1 student), Nursing (5 students), Pharmacy (2 students), Psychology (12 students), Medicine (7 students) and Computer Sciences (1 student). Activities are conducted in five areas: i) Sport and Leisure; ii) Health; iii) Psychosocial; iv) Art-Expression and Computation; and v) Planned and successful aging.

A total of 165 individuals from the local community, with mean age of  $67.5 \pm 6.0$  years took part in the program. The members are primarily women (98%), with monthly income between 1-2 minimum monthly wages (between USD 220.00 and 230.00) (67.5%), and predominant schooling level of incomplete primary school (30.4%). The PVA has 10 physical activity groups, divided into Pilates (70 students), weight training (13 students), calisthenics (15 students), tennis (10 students), water aerobics (45 students) and swimming (12 students). The elderly engage in the activities twice a week for 50 minutes. Before the PE activities, each group undergoes 50 minutes of interdisciplinary educational activities. The services are offered from Monday to Friday, in morning and afternoon sessions. In general, 20 hours are made available for PE and a further 20 for health lectures, psychosocial dynamics, art and expression workshops and digital inclusion.

Initially, the PVA activities were advertised on local media. However, the elderly soon took it upon themselves to divulge the activities in the neighborhoods of Petrolina and Juazeiro. This introduced the program to the residents of poor neighborhoods that suffer from a lack of infrastructure to engage in physical activities. In 2015, the student retention rate was 96%, indicating a balance between the interests of the community and the options offered by the program, demonstrating the quality of the services. Given that the PVA has a waiting list of 460 seniors, since January 2016 five new students have been contacted every week. The enrollment process is as follows: the applicant is given a blank doctor's note from the PVA then schedules an appointment with a medical professional who indicates on the document whether the senior has any health issues to be monitored during PE. Next, the senior telephones the secretary of the program to schedule two procedures: i) a health interview involving completing a questionnaire containing sociodemographic information and epidemiologic profile; and ii) physical and functional evaluation such as Body Mass Index (BMI), Functional Reach Test

(FRT), Body Equilibrium Test (BET)<sup>9</sup>, Berg Balance Scale<sup>10</sup> and the Timed UP & GO<sup>11</sup>. The seniors were then assigned to one of the groups/sport modalities of their choice, according to availability. Figure 1 shows the logic model created by the PVA teams.



**FIGURE 1** – Logic model of the Active Living Program, Petrolina, PE/Juazeiro, BA, 2015.

### Development of activities

before engaging in PE, the seniors participated in interdisciplinary activities. The issues addressed are structured according to modules, common to all the teams, and restructured every two months. Each team adopts its own methodology to transmit contents; something crucial to the effectiveness of the teaching-learning process. As such, the Nursing, Medical and Administration teams favor lectures and round tables, the Visual Arts and Computation (digital inclusion) group hold workshops, while the Pharmacy and Psychology groups prefer the dynamics technique.

The procedures for planning and activity assessment occur weekly, under the guidance of the coordinating professors in the different areas. In August 2015, after

eight months of activities, the interdisciplinary teams felt the need to change the contents. Thus, at the twice-monthly meetings, common issues were discussed and introduced to the seniors. These meetings have also made it possible for team members to exchange their experiences, improving professional and interpersonal skills.

At the end of interdisciplinary activities the scholarship holders and volunteers took the seniors' blood pressure (BP). This procedure is important because 56.1% of the elderly suffered from systemic hypertension. Accordingly, the health teams decided to monitor the variation in BP of each senior, which was recorded on file cards and then in individual notebooks. This initiative led to the creation of a health monitoring service. Thus, cases of uncontrolled hypertension are monitored by systematized conversations, and in extreme cases, seniors are referred to a medical professional. This service is provided by students of Nursing, Pharmacy, Medicine and Psychology, under the guidance of their respective coordinators. The health information is sent to the Physical Education team once a week, since the work is performed on an integrated basis. After BP is checked, the seniors are sent to the physical activity venues.

Another procedure performed is the twice-yearly assessment of the physical and functional capacity of the elderly by the Physical Education team. The results are presented and discussed with the elderly at lectures in order to inform them about their performance. Thus, assessment data are transformed into a vehicle for information and health prevention, that is, teaching content. The association between PE and interdisciplinary activities considerably improved the knowledge of seniors regarding health issues, and in turn, transformed their life habits. Considering that 51% of PVA participants reported attention problems and 36.9% depression, taking part in psychosocial dynamics, art and expression workshops and digital inclusion have led to significant gains in the short-term ability to retain information.

### Relationship between teaching, research and extension

The PVA coordinators assess administrative questions on a daily basis along with the Administration course team. Certain issues are discussed after the twice-monthly meetings with all members of the teams, serving as a learning experience and skill enhancement for the students. These meetings also led to the creation of study and research groups by Physical Education, Medicine and Psychology teams, all focusing on human aging.

The PVA stimulated the exchange of information with undergraduate professors. For example, in the Physical Education course there is a dialogue with the following disciplines: Calisthenics, Dance, Artistic Gymnastics, Sport Pedagogy, Martial Arts, Weight Training, Swimming, Water Aerobics, Tennis, Mandatory Internship and Course Completion Project (CCP). In the Visual Arts course, interaction occurs between the disciplines of Teaching in Non-formal Spaces and the CCP, and between Psychology and Development processes II. The dissemination of PVA activities at the university resulted in increased interest from Physical Education students in the Mandatory Internship at the PVA. With respect to scientific production, the program encouraged the development of CCPs in Physical Education, Visual Arts and Psychology courses. In 2015, the team approved four Scientific Initiation projects via Decree PIBIC-PIVIC/UNIVASF, two with financing.

Another important outcome of the PVA was the creation of the Open University for the Elderly (UNATI). The mission of UNATI is to encourage activities in the areas of extension, teaching and research, with a focus on human aging in the region. In 2015, activities were denominated "UNATIvivência" (UNATIexperience"),



which included weekly 3-hour interdisciplinary lectures, open to the elderly community. These activities involve the PVA team and invited guests: from the areas of health care, law and the environment. The events are attended by an average of 15-20 participants, with a peculiarity: the seniors themselves were in charge of disseminating the activities. Thus, each participant brought a friend or neighbor to the university. Given that the PVA receives 160 seniors per week and has a waiting list of 460 others (March 2016), and considering the activities at UNATI, it can be affirmed that the Universidade Federal do Vale do São Francisco has low-cost measures with significant potential in offering health care and continuing education to elderly citizens. Concomitantly, the actions of this extension program have been informing and motivating students, professors and technicians at UNIVASF to become aware and engage in resolving local social needs.

## Final considerations

The association between physical exercise and interdisciplinary educational measures developed by the PVA has broadened health care and prevention for a group of seniors residing in Petrolina, PE and Juazeiro, BA. Based on the reports of the elderly and the results obtained in physical evaluations, as well as day-to-day observations, it can be concluded that the program has achieved significant results in the local community in a short time. This means that its services have contributed directly so that a portion of the local population can age with vitality, which in turn will reduce frailty in this group.

Furthermore, the interdisciplinary experience gained by the academics on the team enhanced their professional and social skills, that is, the PVA has empowered both the elderly and the students at UNIVASF. Another important result is the dissemination of knowledge in the area of human aging through teaching, extension and research. With respect to adherence of the elderly to PVA activities, attendance is high, the dropout rate low and demand is rising. Among the primary challenges observed are the implementation and consolidation of integrated work among the different fields of knowledge, and student qualification.

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