

# Educational Strategy for Caregivers: Key in the Community Rehabilitation of Elderly Patients with Hemiplegia

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## Abstract

In this study the petrochemical wastes via plasma arc technology by converting the wastes into combustible gases. The wastes are completely decomposed into simple molecules in a near vacuum environment. The wastes were converted to hydrogen, and from petrochemical wastes a recycled energy was produced in the form of renewable fuel free from toxic chemicals.

**Key words:** plasma pyrolysis; petrochemical waste; hydrogen production

## Introduction

Achieving the rehabilitation of elderly individuals in their community setting aims to improve their quality of life and independence. This involves physical, cognitive, and social interventions tailored to their community environment. The goal is to enhance their functional abilities, promote social participation, and prevent complications associated with aging.

Several studies have explored rehabilitation for this population group, [1-3], and they agree that the essential aspects of rehabilitation for these individuals include maintaining joint mobility, improving muscle strength, promoting independence in daily activities, and ensuring individualized, simple, and hopeful treatment. With aging, it is very common for situations to arise that reduce the independence of elderly individuals, such as hemiplegia, making it urgent to address the training of caregivers for elderly patients with this condition.

Hemiplegia is a sequela of a stroke, a disabling condition with high prevalence in Cuba due to accelerated population aging (22,3 %). [4] At the "Rafael Echezarreta Mulkay" Polyclinic in the municipality of San José de las Lajas, Mayabeque province, the authors of this article conducted research between 2023 and 2024, which revealed the low level of knowledge among caregivers of elderly individuals with hemiplegia regarding proper management (72 %). This situation limited the functional recovery of these elderly patients, increasing complications such as pressure ulcers and emotional overload.

Analyzing the article by Garzón et al., [5], we largely agree with its findings. The research conducted at the aforementioned polyclinic demonstrated that

caregivers without adequate training experience deterioration in both their physical and psychological health.

The study conducted by the authors of this letter was qualitative-descriptive, with a sample of 50 caregivers, 86 % of whom were women aged 49 – 58 with a secondary technical education level. They lacked training in safe mobilization, complication prevention, or emotional support, which was identified as educational gaps. These results were expected, considering that only three of these caregivers had prior training related to health profiles. This led to consequences such as reported stress, musculoskeletal injuries, and job abandonment among caregivers. Additionally, some patients exhibited slow recovery and avoidable hospitalizations.

Given this evidence, the researchers designed an educational strategy, validated by 23 experts (physicians, physiatrists, rehabilitation specialists), which included modules on basic care (mobilization, hygiene), complication prevention (ulcers, thrombosis), emotional management, and caregiver self-care. The methodology involved theoretical-practical workshops (8 sessions of 2 hours each), simulations, a digital platform, and systematic follow-up to evaluate participant progress.

Considering that the management of these elderly individuals with hemiplegia in the community requires educational actions with a holistic and evidence-based approach, these researchers deem it appropriate to design a manual aimed at providing information to caregivers responsible for these patients. Structured education for caregivers is a pillar of effective community rehabilitation. Implementing this strategy in Primary Health Care would improve patient autonomy and quality of life, enhance caregiver

resilience, and reduce their physical and emotional burden. Such a manual could be included in gerontological programs, leveraging existing health networks and accessible technologies.

### Conflicts of Interest:

The authors declare no conflicts of interest.

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