EMA_FRAILTY

Ecological monitoring for the assessment of frailty in older people

ABSTRACT

The EMA_FRAILTY project is motivatedby the need to address critical healthcare challenges faced by the ageing population, particularly the condition known as frailty. Frailty significantly impacts the quality of life and independence of older adults, making them more vulnerable to health issues. Current healthcare systems often struggle to detect and manage frailty early, leading to a reactive approach rather than proactive care.

With the ageing global population, there is an urgent need for innovative solutions that can detect and manage frailty early. Frailty affects a significant portion of older adults, yet it is often not addressed until severe health issues arise. The project aims to introduce a proactive, personalised, and preventive approach to healthcare for older adults, reducing the burden on healthcare services and enhancing their quality of life.

The primary goal of EMA_FRAILTY is to develop and implement an advanced Ambient Assisted Living (AAL) system integrated with Ecological Momentary Assessment (EMA) techniques. This system will continuously monitor the daily activities and health of older adults in their natural environments. By using advanced sensor technologies and real-time data analysis through machine learning algorithms, the system aims to detect early signs of frailty, allowing for timely interventions.

EMA_FRAILTY is set to make significant contributions to the research community by advancing the understanding of frailty as a dynamic process. The project will integrate continuous monitoring data to refine theoretical models of frailty, encompassing physiological, cognitive, and social factors. This comprehensive approach will provide a rich dataset for further research, fostering innovation in gerontology, digital health, and preventive care.

For society, the implementation of the EMA_FRAILTY system promises to improve the quality of life for older adults by enabling them to live independently and safely in their homes for longer periods. The early detection and management of frailty can reduce the incidence of severe health episodes, hospital admissions, and long-term care needs, ultimately leading to significant healthcare cost savings. Furthermore, the project will engage various stakeholders, including healthcare providers, caregivers, and policymakers, to ensure that the system is user-friendly, ethically sound, and scalable across different healthcare settings.

In conclusion, EMA_FRAILTY aims to transform health and care practices for the ageing population by leveraging advanced technologies for early frailty detection and management. By aligning with global health objectives and fostering interdisciplinary collaboration, the project seeks to set new standards in aged care, improve health outcomes, and create sustainable, person-centred healthcare solutions.

KEYWORDS

- Frailty
- Older people
- AAL systems
- Real-time monitoring
- Smart interventions
- Ageing population

DURATION

36 months

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