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Ambient Intelligence for Long-term diabetes Care (AmILCare). A project for health pedagogy. Qualitative analysis of patients' expectations and attitudes.

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Treatment of type 2 diabetes (T2D) can benefit from Ambient Intelligence (AI) solutions that develop settings useful to improve lifestyles and therapeutic adherence.

The Amilcare (Ambient Intelligence for Long-term diabetes Care) project aims to develop algorithms capable of reading through the mass of clinical, anamnestic and social data, extracting information and knowledge that allow innovative uses to help people live with with a chronic disease such as T2D and health operators to manage that disease.

In the first phase of the project - total expected duration 3 years - we aimed at probing the meaning attributed to technology (TEC) and self-care by people with non-insulin treated T2D and their willingness to participate in an AI solution design.

A group of 34 people with T2D (age 68.5 ± 8.3 ; duration of illness 16.4 ± 5.9 ; HbA1c $7.2 \pm 0.8\%$) regularly attending a diabetes clinic were interviewed by a team composed by a pedagogist, medical doctors and information engineers. The project was described to all the people recruited, who were then asked for their informed consent and administered a structured interview lasting about 60 minutes. The interview was adapted from the text developed by Wang S et al. (Health Care, 2019) to analyze the usability of technology in adults. This ethnological approach allowed us to explore the socio-cultural dimension of the respondents. The interviews were transcribed and analyzed in the following dimensions: a) analytical (analysis of speech and relationships between terms); b) illustrative (objective, systematic and quantitative description of the concepts); c) return (analysis of social knowledge), reporting the words of the interviewees. Socio-demographic and clinical-metabolic variables were collected in all patients and a quality of life questionnaire specific for T2D (DQoL/Mod) and one for self-esteem levels were administered, as well.

The persons interviewed showed interest in the AI project and TEC was found to take on a positive connotation to them, if deemed useful for future generations. Patients wish to participate in the design of AI aids, provided they are non-intrusive and easy-to-use. At home, patients prefer to control blood pressure and seek dialogue with their doctor as personal fulfillment and safety of care. The concepts of time and memory become indispensable elements for self-care and awareness of the inevitability of existence. The interviews identified time, memory, personal security and social support as pillars when building a project to care for people with T2D.

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