

Telemedicine and quality of life in D-Sys-Com research

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Abstract

This poster presents the final data of the D-Sys-Com project. Starting from the data that emerged from the study conducted as part of an Innolabs call for tenders in the area of Putignano (BA), the research investigates the critical elements emerging from the experimentation of telemedicine and remote assistance tools and models. The purpose of this document is to present the results deriving from the analysis of the questionnaires administered to a sample of non self-sufficient or partially self-sufficient patients in the context of the Data System Platform for Smart Communities research, Smart Social domain, in order to define the experience of final users in relation to the technology being tested. The idea behind this survey tool is to investigate several characteristics concerning some end users so that a real Participatory Design process can be created and that can effectively contribute to a better definition of systems and tools, regardless of the technologies used.

Activity Description / Materials and Method (with charts, photo, etc)

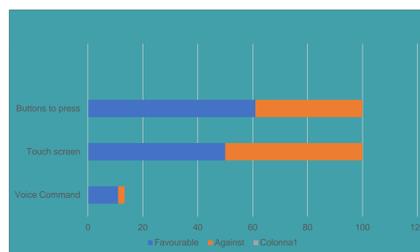
The study is focused about the elements of resistance to the introduction of telemedicine on an organizational, cultural and relational level by operators and users and the consideration linked to need to integrate the relational care with the clinical treatment. The need to administer an exploratory questionnaire is functional to the creation and potential improvement of technical products in relation to an enlarged base user target. It is clear the need to include, during the design and testing phase, both the User Center Design Methodology and what is reported in the ISO 13407 Standard, adopting the design and experimentation approach of a system that has, as main objective, its usability.

The analysis has been drawn up after the administration of the questionnaire survey tool to a sample of split up 18 patients. The tool is based on a set of questions, structured according to the multiple choice method, split up into the following topics:

- demographic characteristics;
- experience;
- perception;
- expectations;
- traits

Half of the subjects being analyzed is 83 years old (up to a declared maximum age of 100), while among the youngest ones, the minimum age is 71 years old. Age was not considered crucial as a criterion for sample selection.

On the contrary has been considered a priority the psycho-physical conditions (other-morbidity) of the person involved and the availability of the main caregiver.



Suggestions in order to ensure usable and effective systems



Expectations about the general improvement in the quality of life as consequence of the use of technologies

Special Need	Activity
Physical and psychological well-being	vital-signs monitoring Memory support reduction of anxiety and stress
Support for mobility	Control of body movements Fall Tracking Warning to Family and Caregiver
Environmental and personal Safety	Warning of critical events
Technologies for socialization and social inclusion	Support for new friendships
Technologies for clinical support	Reservation about medical visits

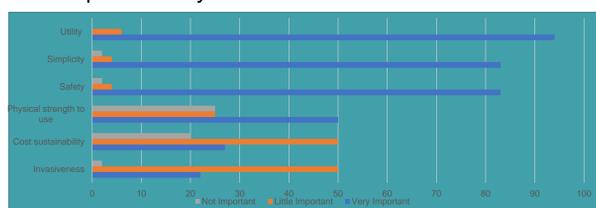
The technologies, if focused to the real needs and calibrated on the characteristics of the end users, can become exceptional tools for improving the quality of life of people and, according to how they are designed, implemented and applied, they can act as facilitators or obstacles / barriers in the implementation of the usual activities, placing itself in the gap indicated by the WHO ICF between capacity and performance. The lack of an inclusive architecture of medical sensors and technologies, related to the field of telemedicine, not only establishes a predictor of disability but it helps also to create it, as suggested by the ICF: "it is the environment within which the person lives which in turn determines and concretizes the disability" (Bickenbach, 2008).

The table summarizes the range of needs that technologies are expected to meet

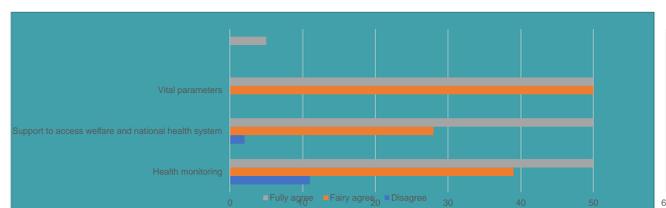
Findings / Impact

The use of Universal requires the implementation of an innovative design approach, intended to create inclusive contexts and *for all solutions*, meant not only for people in disadvantaged conditions or with special educational needs.

- D-Sys-Com must support the needs of physical and psychological well-being, followed by the need to guarantee environmental and personal safety, the need for mobility and walking, followed by the need to guarantee and support social inclusion and finally clinical support and access welfare by implementing functions, services and applications capable of satisfying related needs;
- The technologies, subject to experimentation and testing within D-Sys-Com, must be designed respecting the criteria of utility, simplicity, safety, followed by the identification of minimally invasive devices that do not require great physical effort for their use. The importance linked to cost sustainability and respect for the user's privacy follows;
- Solutions, that can be managed by the user through a simple remote control with buttons to press, are preferable;
- Given the poor user experience of technological devices by the sample, it is suggested the adoption of highly intuitive solutions that do not require modification of the user's behaviour in his specific daily context.



The variable "effectiveness" with respect to response to user expectations



Efficacy perception

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