Co-designing conversational agents with older people for enhanced home care

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Priority needs
Ageing is accompanied by an increased risk of loss of autonomy [1,2], and ageing people want to stay at home [3].

Loss of autonomy is associated with an increased risk of domestic accidents.

A solution: conversational agents
A conversational agent (CA), often referred to as a chatbot, is a type of artificial intelligence software that can simulate a conversation (or a chat) with a user in natural language through messaging applications, websites, mobile apps, or through the telephone.

Advantages: help limit domestic risks and are recognized as acceptable for seniors [4].
Disadvantages: However, few technologies correspond to older individuals real needs [5], and ethical issues [6] must be considered.
It is essential to prioritize placing the user at the center of the design process.

Co-design methods
One potential solution lies in adopting co-design methods specifically tailored for older individuals.

Participatory design is based on close collaboration among end-users, designers, developers, and other stakeholders throughout the design process. This ensures that the system is easy to use, efficient, and adapted to users’ needs [7].

A review of AC co-design methods
In this context, we carried out a literature review using the PRISMA method [8] to assess existing data on co-design in relation to older people and CA.

Results: 19 projects identified.

Focus on Method Effectiveness
Measuring the effectiveness of AC co-design was limited by:
✓ The absence of criteria for defining effectiveness,
✓ The lack of measures to evaluate the effects of co-design on CA beyond usability measures,
✓ The lack of objective measures in the reviewed studies,
✓ The limited number of CA prototypes created by the authors,
✓ A lack of description of co-design workshops was noted

Our Recommendations
To enhance the quality, transparency, and reproducibility of AC co-design studies for the older peoples, we propose the following:
✓ Include a diversity of participants to represent the variability within the older peoples,
✓ Evaluate co-design approaches using uniform evaluation criteria,
✓ Establish a theoretically sound frame of reference to standardize practices

What about the future?
Create and test a method for co-designing CA for the older peoples. This involves:
✓ Integrating a wide diversity of older peoples individuals,
✓ Identifying indicators associated or not with the effectiveness of the co-design method,
✓ Identifying factors that contribute to the effectiveness, acceptability, and usability of CAs.

References

Bibliography