

Involvement Challenges of Applying Co-Design Methods in Mental Health Care for Older People

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Abstract. Mental health care for older persons is a common issue in developed countries. Although most elderly are aware of multiple technologies that support mental health, mere understanding does not motivate them to use them. In the last 20 years, a widespread approach has been to provide a mental health care strategy, especially for the elderly by developing a co-design mental wellness method for them. Such a co-design method is related to collaborating with multiple tasks and various co-work stages with both older people and stakeholders. However, existing literature lacks sufficient research on the impact of co-designed technologies on health and well-being, particularly in terms of implementation challenges, engagement strategies, and social adaptation. In this critical literature review, this essay will introduce the current co-design implementation on mental healthcare of older people. Then it explores the barriers to engaging with the relative stakeholders participating in co-design projects. Finally, according to the current mental wellness tool, this essay will discuss its potential effects on psychological enrichment for older people. The conclusion is that the codesign field nowadays has produced several tools and design methods for older people's mental health in the second year of their lives that facilitate their deep engagement. This co-design approach continues to iterate to be more balanced and attentive to older people's voices in the design field.

Keywords: Co-design; Engagement; mental health wellness; elderly group; design equity.

1. Introduction

Scholars have a common point that the aging population has become the new challenges and demands to the contemporary society in both developed countries and developing countries [1]. The aging of the population is a more concerning problem, with their physical well-being and mental health concerns gradually alarming to the public. Although many older people will be living healthy, independent lives, research indicates that up to 25 percent of older people have mental health needs at any one time [1]. Furthermore, aging issues have forced the elderly group to experience social isolation because of reduced social relationships, such as the death of a friend or relative [2]. Aside from emotional depression, there are also several conditions arising from cognitive deterioration and organic brain lesions that can trigger mental instability in older people. Examples include Alzheimer's disease as well as hallucinations and aggression [3].

In particular, mental wellness services have gradually introduced innovative interventions over the last decades. Design and design methodologies are taking control of the advanced iteration of mental health care services [4]. Co-design, as a rational design tool enters the field of mental care and is targeting long-term conditions and mental health needs [5]. Older people are progressively using mental wellness technology consistently with their skills and technological literacy [6]. Some of the research groups have involved the co-design approach to the mental health care service to intensely engage with elderly groups. Despite current research evaluating the impact of co-design is also popular in the process of therapy of the stakeholder side, the evidence is still under detective with actual attention to incorporating the elderly [7,8].

This review aimed to assess the impact of co-designed interventions on the mental health of the elderly and understand the experience of co-design. This review will describe the current implementation of co-design in older adults' mental health care and explore the barriers to the participation of relevant stakeholders involved in co-design projects. In addition, this research will discuss the potential impact of current co-design mental health tools on the psychological enrichment

of older adults. Through this comprehensive analysis, the review aims to contribute to the improvement of older adults' mental health care by providing insights into the effectiveness of co-design interventions and the challenges faced in their implementation.

2. Literature Review

2.1. Structures and Principles

Co-design is a methodology for service development and design that values all voices [9,10]. This approach can bring tangible benefits and increase the legitimacy of working with service users, by recognizing that there are advantages to the participation of other stakeholders who hold knowledge and authority [9]. In recent years, modern health care has considered the importance of user experience in making the human-centered design concept into the therapy process [4,11]. Consequently, targeting the signs of mental needs from a therapeutic perspective and supporting mental health interventions through enhanced resources, stakeholder networks, and available technology creates an optimistic model of mental health care for the future of older adult health. To envision an open agenda, co-design researchers started multiple workshops to generate ideas that connect to the elderly's daily activities [2]. According to the human-centered design value, co-design can be demarcated as 'an approach to designing with people rather than for people' [12]. Hence, the benefits of co-design are evident when targeting the design of mental health services for older people as a vulnerable group [9,12]. It can help reduce health inequality by presenting the discourse of the elderly in the co-design field. By leading the user testing step, the straight comments from the elderly develop the service into a satisfactory formula. The needs and preferences of older people are at the center of the design process at codesign for a solution more relevant and user-friendly for this population.

However, while many types of research highlight the advantages of using co-design technology, there is a common discussion on the barriers to deeply engaging with stakeholders and the target groups [4,13]. Furthermore, co-design as a terminology includes various approaches and a high degree of iteration is causing barriers for older people to acknowledge this therapy approach [8,14]. Cognitive or physical limitations may create barriers to active participation in co-design activities, leading to unequal participation among group members [14]. So, the issue of standardizing the codesign approach for the elder group also needs to be evaluated and converted into common knowledge.

2.2. Wider Attempts to Increase Mutual Learning

As for the common sense of conquering the barriers and challenges during the engaging process of the co-design project, many researchers raised a concern about the evaluation of the relationship involving trust-building [6,7,13]. To ensure that more innovative and effective solutions are produced as a result of the project, co-design participants need to engage their target users, namely the older adult population, as deeply as possible [9]. Including pre-observation, user journey maps, empathy maps, and even user testing, older people need to be involved at every step of the co-design process. Their identity as both user groups and designers is very important. Therefore, the level of their deep trust and good communication with the participants needs to be observed and evaluated by the co-design researcher to determine if each step of the co-design process has reached the target level of completion [5,8].

Existing codesign projects have demonstrated that design teams are not consistent in their use of design terminology [8]. This can lead to misleading teams and stakeholders when collaborating on a design. For instance, the terms "together design strategies" and "equity design savvy" are similar but have different meanings in different design contexts, and the resulting design inferences are likely to be different [10,11,14]. The interpretation of such ambiguous terminology during communication and academic meetings between design teams can create communication costs, making it difficult for the researcher to judge the success of the codesign process [7]. As a result, ambiguous terminology can

also increase learning difficulties when sharing knowledge when collaborating on design projects with mental health professionals with knowledge of mental health.

While co-design can facilitate the identification of user needs and shared innovation processes in service systems and networks, a significant barrier is a pre-existing hierarchy that hinders collaborative efforts in the direction of users [8,13]. Especially, when fewer people are recruited to a research team, this results in less support for the views of the lay community, and their views are easily channeled by professional authority figures [9]. A smaller target group is also likely to have less self-confidence in making suggestions, a greater tendency to remain silent, and increased stress in the face of authority figures due to under-representation. Such a situation would add a great deal of guilt to the design of a codesign study, and the resulting inferences would not be professionally accurate [9,14].

2.3. The Role of Mental Health Tools in Involvement

In this aspect of targeting the mental health of older adults, multiple types of techniques and methods are needed to ensure increased trust among older adults. Interactive animal robots as a widely used mental therapy tool have built an emotional bridge between older people and therapists. The fluffy and well-rounded appearance is virtuous enough to overthrow the defenses [15]. Since the robotic animal has been designed to be hugged or touched with them, it was grasped as an easily accepted long-term therapy media [12,16]. The simple interactions of the robot only required natural physical activities from the elderly is shortened the study period. animal-shaped robot is not currently present in the co-design process, but only as a final output of the design. Even so, older adults became more confident as they learned about them and knew how to use their features [15]. This can be a start in their gradual acceptance of new design techniques and can be used as a helper in the co-design process as they learn about the content and techniques of their research.

However, despite the success involved in the start process, A noteworthy issue identified in many studies was the lack of involvement of older people in the final stages of the development process [9,11]. Many papers used a lot of high technology as a tool for designing research to help older people's mental health care, such as apps, VRAR, AI, etc. [17,18]. However, none of them mentioned how to enhance the participation of older people in design outputs at the end process. In these uses of tech' as a vehicle for design outputs, gamifying mental health care is a very important direction [19]. In the paper on gamified mental health care, it is mentioned that in the user testing step, researchers often ask the elderly group to take several tests to improve the fun and adaptability of gamification. Although older people's suggestions become the main target for modification in final production, designers still have authority over older people's suggestions in the design iteration step [8,9]. Therefore, there are many tools available to increase user group participation in codesign, but it is important to reduce the influence of authority on the direction of the final design.

3. Discussion

There is a need to increase the power of the user to decide on the final output to ensure the value of human-centered design. A major challenge in codesign is the subjective nature of engagement. This is because the level of participation may vary depending on the individual perspectives, cultural norms, and environmental factors of older people. Objectively, there are improvements that designers can make to enhance mutual learning and increase opportunities for equal dialogue. transformational leadership is a flexible and versatile system of rotating design leaders [9]. This system has been proposed by frontline designers who believe that rotating the role of leader between professionals and non-professionals can be effective in reducing biased judgments due to design authority [9]. Transformational leadership allows older people to increase their self-confidence and sense of responsibility, and thus become more involved in the collaborative design process. In the process of transitioning from the role of user to that of leader, older people are encouraged to be more proactive in bonding with researchers and stakeholders for their well-being. In the process of increased

communication, the thinking of older adults is transformed to promote active learning and trust building.

Learning from experience how to engage in deeper involvement with older people is an important competency for codesign researchers. The term of the experience-based co-design method used in elderly mental health care focuses on a narrow scope that might not change a lot in the design product [20]. In a minor range of design directions, the experience of past co-design projects can be reused in comparable situations while engaging with the elderly. That brings a downscaling to the knowledge sharing and study scope which reduces the burden for participation. By creating a relaxed and familiar design context, the elderly can still reflect positively on the co-design requirement. With numerous experience and deep-rooted stakeholders, designers and mental health experts work in a continuous co-design process around the priorities identified in the previous phase [20].

4. Conclusion

Older people may have different backgrounds, preferences, and abilities, making it difficult to establish universal criteria to assess their level of participation in co-design activities. This does not prevent them from becoming potential developers of codesign as an aging society becomes a normal routine. In the future, co-design will not only develop design methodologies for mental health care that are tailored to the specific needs of older people but will also acquire a large enough sample of older people to increase their participation. Under consideration of learning from previous research, this essay begins by assessing the impact of a co-designed intervention on the mental health of older people and discusses the experience of co-design. By discussing barriers to participation and potential impacts on involvement, this essay addresses that tailoring interventions to different needs will be critical to improving mental health care for older adults. Finally, it provides valuable insights for future research and practice, highlighting the importance of co-design experiences in promoting the well-being of older people.

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