ABSTRACT

According to the Law of the Republic of Indonesia No. 13 of 1998 on Elderly Welfare, the definition of elderly is anyone over the age of 60 (sixty). In recent years, Indonesia has seen an aging population, with the median age of the population increasing across the country. With the phenomenon of lowering mortality and population aging, Indonesia's demographic structure has begun to move from being dominated by a young population to being dominated by an elderly population. The aged population faces a reduction in psychosocial and physiological functions as they age, putting them vulnerable to health problems. The deterioration in psychological and physiological functioning that occurs in the aged can have an impact on the elderly's activities, both light and heavy. Walkers can assist the elderly who have reduced physiological functions such as movement and muscle strength. Even if a walker is the best answer for assisting the elderly in their activities, there are still some challenges to using one. Such as the weight and size of the walker, its instability, and the difficulty in utilizing it. The elderly's apprehension about using these gadgets is one of the barriers to their use of walking aids. This is consistent with study published in the journal "Use of Walking Aids" by Modo and Wati. This is consistent with research published in the article "Use of Walking Aid as a Risk Factor for Feelings of Fear of Falling in the Elderly in Depok City" by Modo and Wati. In line with the research on the elderly conducted in Depok City, the authors also related the condition of the elderly in the working area of the UPT Puskesmas Batipuh II Tanah Datar Regency by conducting initial interviews with the elderly who use walkers. The author conducted preliminary interviews with older people who use walkers, specifically to learn about their feelings of dread of falling when using walkers. According to the findings of the preliminary interviews, it was discovered that many older persons are still fearful of falling when using these walkers. Based on these challenges, the authors express concerns about improving the design of walking aids for the elderly based on the needs and desires of users, as well as assisting in reducing anxiety among the elderly who use them.

An suitable approach is required to address this issue in order to build the design of an elderly walker. The Quality Function Deployment (QFD) approach is the best one to utilize when creating an elderly walker since it puts the user's wants and preferences first. Before implementing the QFD approach, data was gathered through observation, interviews, and the distribution of questionnaires. To gather data that supports this research, literature studies and field studies are also required.

The proposed product is designed in the form of a walker for the elderly. With the final specifications of the walker, it has dimensions of product length 44-54 cm, product width 43 cm, and product height 78-96 cm. This elderly walker has several additional features in the form of writing and reading features, lighting features, seats and wheels that can be removed, storage features, pressure damping features using a spring at the bottom of the walker. These features are obtained from the results of interviews, observations, to concept generation and concept selection. The design of the proposed product is designed using the Autodeks Inventor 2022 software.

After obtaining the results of the design according to the needs and desires of the users, the research obtained feedback or feedback from the results of interviews with stakeholders in the form of users and health workers regarding the results of the designs for elderly walkers (walkers). Some positive feedback was obtained and also some feedback aimed at further developing the results of the design of the elderly walker.