

Chapter 13

A Study of Detecting Individual to Mental Health of Fear of Falling (FOF) in Indian Cities

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ABSTRACT

The relationship between fear of falling (FOF) and fall-related injuries in elderly is becoming quite prominent and its factors have not been explored. FOF is a person's anxiety towards mobilizing, with a perception that a fall will occur. Approximately 25% to 55% of community-living elderly are afraid of falling. The context of this problem is generalized in terms of FOF and has no sufficient data available for washroom spaces. Physical, medical, and psychological performances of 175 people in the age gap of 65 - 75 years were considered, over three cities i.e., Mumbai, Pune, and Kota. Past fall histories, medical histories, GAUG tests and responses to various washroom activities were recorded to establish the FES table. On the basis of these evaluations the factors causing FOF were determined, and a city comparison was made. This chapter provides an overview of FOF and a foundation on which to base decisions about the design of preventive interventions.

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1. INTRODUCTION

According to the National Library of Medicine (NLM), the prevalence of domestic accidents was 12.7%. Out of them all, falls (54.4%) were the most common type of domestic accident. In Indian houses, people tend to spend more time in washrooms than in any other segment of the space. The most vulnerable age group to these types of accidents is 65 and older. Various definitions of fear of falling have evolved over the years (Ward, 2012). FOF was described as an “ongoing concern about falling” that significantly limits engagement in daily activities. Some authors referred to fear of falling as a person’s loss of balance in his or her activities. While other authors defined fear of falling as having low confidence in avoiding falls (low fall-related efficacy) and being fearful of falling, Based on previous experiments, fear of falling exists in individuals who have encountered falls and is more prominent in them. Maturing or functional decay might be considered one of the essential drivers of falls because of the physiological changes that lead to fear of falling. Such physiological changes result in diminished muscle strength, reformist bone misfortune, a decrease in invulnerability against infections, a decline in digestion and organ capacity, and the decay of reflexes and senses (Da Silva Coqueiro, et al., 2009).

After thorough research, we finalized a problem statement centered on how the fear of falling is a factor affecting a major percentage of washroom injuries. On the basis of this observed research gap, we go forward to determine the exact factors causing this FOF in the early elderly class. Fear of falling can be triggered not only by psychological and physiological factors in an individual but also by physical environmental factors (Lee, et al., 2018). These environmental factors may include slippery flooring, improper walls, a lack of support handles, cluttering spaces with objects, loose parts, and level differences. The data received in the interviews was used to analyze the different segments of the problem area. The team approached product ideation by minimizing, replacing, or eliminating the objects causing danger to users. The data collected from the analysis and primary and secondary research was the most vital part of this phase as it determined what factors were to be targeted from a vast array. The team finalized three tangible product ideations; the CMF (color, material, and finish) of all three products were based on availability, standards, and regulations of material usage in India. Most of the materials used in the products are highly recyclable, ensuring minimal damage to nature when used on a small or large scale.

2. BACKGROUND OF CURRENT RESEARCH

Elderly people have always been conscious of falling, making it difficult to mobilize without any worries. The elders explained how the fall factor revolves more around the washroom area and how they have to be cautious and slow while using it. Some of them have prepared simple tasks to drain out the soapy water, making it easier for them to stand and work. People are quite aware of the level difference and objects in the bathroom, which gives them confidence that they won’t crash into objects and slip. Doing activities like brushing and dressing up doesn’t bother them much, as these tasks barely take any time and people prefer changing outside rather than inside the washroom. Slippers are being used by a few of them to give them the grip they need to walk on the slippery tiles, in spite of the fact that they are wet. Falls may increase the already-present medical issues (Teixeira, et al., 2019).

The mindset of the person gets affected by the number of falls already experienced, which increases the chances of more falls in the future. People with a previous fall history or medical conditions have a higher psychological fear of falling. Most of them prefer bigger, uncluttered washroom spaces, as it

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