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EDITORIAL

Elderly and Balance Rehabilitation: Current Dynamics and Future Possibilities for Pakistan

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The proportion of elderly population is on the rise worldwide. In 2019, it was reported that 6% of the country's population was elderly and this figure is expected to become triple of the current state by 2050.(1) This shows that an increasing trend of elderly is being observed worldwide and this trend is no different in Pakistan. Such high proportion of chronically ill and frail tend to put increased demand and pressure on health care system.(2)

Pakistan being a low-middle income country with limited high-end health care facilities, it is no hidden fact that elderly are one of the most-neglected population. This neglect results in increased isolation or social restriction, decreased cognitive function and overall decline in health.(3) This has been further aggravated by current crisis of COVID 19 pandemic & lockdowns worldwide.

Such age-related decline also affects the balance and postural stability system of elderly persons resulting in increased risk of fall, which in itself restricts activity and causes secondary deconditioning.(4) Over the past few years, a considerable amount of research has been conducted to explore the possible causes of falls and to determine the relationship and integration of motor or sensory systems for balance control and develop some strategies or techniques for the prevention of falls in elderly. Literature reveals a high fall risk among elderly population of Pakistan (5), resulting in hospitalization, severe limb trauma in 66% of cases and death in 1.3% cases.(6) Additionally, a positive history of fall itself contributes to possibility of falls in future.(7) Considering this impaired balance and fall risk has always been a major concern for elderly and health professionals; hence, emphasis has always been laid on early and appropriate fall risk screening including self-reported measures like activity specific balance confidence & fall efficacy scale etc. or performance based measures like berg balance scale, functional reach test and timed up and go test etc. Similarly, early fall prevention strategies(8), including ergonomic modification, appropriate assistive devices and evidence based balance training regimes including flexibility training, strength training and wobble board training etc. have been used.(9)

Unfortunately, the traditional balance assessment and training method have certain limitations. Most balance intervention lack active participation of individual, hence limited challenge to cognitive aspects of balance in addition to decreased adherence to such programs. Similarly, conventional balance assessment and fall risk screening tools lack ability to identify mechanism of dysfunction and other biomechanical parameters such as ground reaction forces, individual bodily movements etc.(10) Such limitations can now be curbed by integrating latest technology into balance rehabilitation. In previous decades, numerous high-tech balance assessment and training systems such as, postural stability systems, computerized posturography systems, force plate based balance systems, virtual reality and exergaming based balance system, incorporating multiple parameters of balance targeting the multisensory motor-cognitive, integrative and complex nature of balance have been introduced.

Utilization of such systems in our environment can provide health care professionals with tools to drastically improve balance rehabilitation approaches and can, in long term, result in improving the quality of life in elderly, reducing health economic burden by lowing fall incidence due to early and accurate fall screening and intervention. Considering the start of new decade, it is high time to incorporate such dynamic practices into mainstream rehabilitation and health for a drastic shift from conventional practices and develop comprehensive balance care programs for elderly population of our country. Such change will only be possible if government and private sector actively participate to develop policies to provide a holistic and comprehensive balance care and fall screening facilities to vulnerable yet important section of our society.(11)

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