**SHORT ARTICLE**

# Assessment of Activities of Daily Living (ADL) in elderly population

**Preeti Usha[1], Surekha Kishore[2], Mahendra Singh[3], Pradeep Aggrawal[4], Bhavna Jain[5], Kanchan Gawande[6]**

[1]Junior Resident (Academic), Department of Community and Family Medicine, All India Institute of Medical Sciences, Rishikesh; [2]Prof. and Head of Department, Department of Community and Family Medicine, All India Institute of Medical Sciences, Rishikesh; [3]Assistant Professor, Department of Community and Family Medicine, All India Institute of Medical Sciences, Rishikesh; [4]Associate Professor, Department of Community and Family Medicine, All India Institute of Medical Sciences, Rishikesh; [5]Senior Resident, Department of Community and Family Medicine, All India Institute of Medical Sciences, Rishikesh; [6]Senior Resident, Department of Community and Family Medicine, All India Institute of Medical Sciences, Rishikesh

## Corresponding Author

Dr Preeti Usha, Junior Resident (Academic), Department of Community and Family Medicine, All India Institute of Medical Sciences, Rishikesh
E Mail ID: dr.preetiusha2012@gmail.com

## Citation

## Article Cycle

## Abstract

**Introduction:** Most of the developing country facing growing number of elderly population because of decrease in fertility and increase in longevity. Elderly age (≥ 60 years) is a period in which people are prone to chronic diseases and their functional independency is probably restricted by physical and mental disabilities. **Aim & Objectives**: To find out the prevalence of physical dependency among elderly in Uttarakhand, India. **Material & Methods:** Activities of daily living (ADL) comprise the basic actions that involve caring for self and body, including personal care, eating and mobility. **Results:** In the present study population of 400, 112 (28%) study population were found to be physically dependent for their daily activities and out of them 63.39 % had moderate to severe dependency. **Conclusion:** High level of physical dependency in this study population need urgent attention towards good quality home care and geriatric health care services in India at primary, secondary and tertiary level.

## Keywords

Activities of daily living (ADL); Physical dependency; Elderly

## Introduction

The Indian elderly population is second largest in the world and accounts for about 8.2 % (census 2011) of total population and expected to reach 11.1% in 2025.(1) Uttarakhand, a hilly state of North India is witnessing a progressive increase in proportion of aged people from 7.7% in 2001 to 8.9% in 2011.(2)Due to increase in the proportion of older population, there is increase in prevalence of non-communicable diseases and other chronic illness as well as communicable diseases. Being one of the vulnerable and high-risk group in view of health status in society, there are many challenges while considering the health care of elderly such as future economic growth, financial integrity of healthcare and pension systems, and the well-being of the elderly.(3)With increasing age, there will be generalized deterioration of bodily structure and functions along with body organ damage that leads to reduction of physiological functions and dependency.

## Aims & Objectives

To estimate the prevalence of various grade of dependency in elderly population and suggest the measures to be taken for care of this population.

## Material & Methods

The study was conducted in randomly selected Rural and Urban areas of Dehradun district, Uttarakhand between November 2017 to November 2019. Data were collected in Predesigned, pre tested & semi structured questionnaire. All elderly person of the age of ≥60 years were included in the study and sample size of 400 were calculated considering morbidity of 64.8%(4), absolute precision of 10% and expected dropout of 10%. Equal number of participants (200 each) were studied in

randomly selected both urban and rural areas. Activities of daily living (ADL) assessment in all the patients were done using "The Barthel Index for Activities of daily living" and a Barthel score (0-100) was calculated for all the patients and translated in to functionally independent (100), mild (95), moderate (65-90), severe (25-60) and total dependent (0-20) groups.(5)

## Results

Out of 400 elderly people, 183 (45.75%) were males and 217 (54.25%) were females. Mean age was 68.15 years (SD ± 10.13 and variance 102.71) and 24 % of elderly were aged more than70 years. With advancing age (>70 years) more elderly were residing in rural than urban areas 34.5% vs. 13.5% respectively. After assessment of ADL, 72.00% of elderly participants were fully independent and 28 % were dependent on others for their daily activities (Table 1). In dependent elderly (112), 63.39% of patients had moderate to severe dependency and 2.68% (3) of patients were fully dependent on others (Score 0-20)(Table 2).Fully independent elderly people were more in urban areas as compared to rural areas ,57.64% vs. 42.36% respectively.

## Discussion

The number of older people in the developing countries who are not able to look after themselves is estimated to increase fourfold by the year 2050. (6) In our study more than ¼ th of elderly were dependent on others for their daily activities. Out of dependent elderly around 2/3rd had moderate to severe dependency and 1/3rd were fully dependent on others for their daily activities. In a study done by Gupta S et al (7) of 265 participants, who assess the ADL using Barthel index among elderly of rural areas of district Jhansi, overall prevalence of physical disability was 23.4%, comparable to present study. In a another study by Abbasian M et al(8) in which 216 older people were evaluated for dependency by Katz index in Maku, 16.6 % of subjects were found fully to partially dependent (10.6% of subject were dependent, 6% needed help or were partially dependent) which is lower than present study of 28%. Mean age of the patients in this study was comparable to present study, 70.09 vs 68.15 years respectively. Study by Keshari P et al (9) of 616 elderly subject, 25.2% and 4.4% of the subjects had moderate and severe dependency on the basis of Barthel Index score which is higher than present study (12.75%) for moderate and almost same (5%) for severe dependency. Dependency is increasing with increasing age in present study which is also highlighted by Sekhon H et al in a study of 2240 elderly subject. (10)

Clinicians should consider modifiable risk factors that may reverse ADL decline or enhance current functioning, including depression, pain, exercise, and other health behaviors. Smoking and alcohol intake increased risk of any ADL impairment regardless of cognitive functioning so should be avoided by elderly. (11)

## Conclusion

Study revealed high level of physical dependency in elderly which necessitate a robust health care system, good home care facilities and a focused government scheme for geriatric population.

## Recommendation

Strengthening of geriatric health care services, improving delivery of services among difficult to reach area and mitigation of deficiency in existing health care is must to combat this situation. Efforts should be made to make services available, affordable, and accessible.

## Relevance of the study

This study will be useful for policymakers/clinicians to plan the special clinics for elderly people based on their felt needs.

Major population of elderly people are out of work force hence work, recreation, assistance and gatherings can be planned according to level of physical dependency.

## Authors Contribution

All authors have contributed equally.

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## Tables

### TABLE 1 STUDY POPULATION ACCORDING TO PERFORMANCE OF ACTIVITIES OF DAILY LIVING (ADL)

| Sl. No. | Physical Dependency* | Sex | | | | Total | |
|---|---|---|---|---|---|---|---|
| | | Male | | Female | | | |
| | | No. | % | No. | % | No. | % |
| 1 | Independent | 137 (47.57%) | 74.86 | 151 (52.43%) | 69.59 | 288 (100%) | 72.00 |
| 2 | Dependent | 46 (41.07%) | 25.14 | 66 (58.93%) | 30.41 | 112 (100%) | 28.00 |
| 3 | Total | 183 (45.75%) | 100 | 217 (54.25%) | 100 | 400 (100%) | 100 |

### TABLE 2 STUDY POPULATION ACCORDING TO PERFORMANCE OF ACTIVITIES OF DAILY LIVING (ADL) AS PER PLACE OF RESIDENCE

| Sl. No. | Physical Dependency Level * | Area | | | | Total | |
|---|---|---|---|---|---|---|---|
| | | Urban | | Rural | | | |
| | | No. | % | No. | % | No. | % |
| 1 | Fully Independent (100) | 166 (57.64%) | 83.00 | 122 (42.36%) | 61.00 | 288 (100%) | 72.00 |
| 2 | Slight Dependency (95) | 11 (28.95%) | 5.50 | 27 (71.05%) | 13.50 | 38 (100%) | 9.50 |
| 3 | Moderate Dependency (65-90) | 16 (31.37%) | 8.00 | 35 (68.73%) | 17.50 | 51 (100%) | 12.75 |
| 4 | Severe Dependency (25-60) | 5 (25.00%) | 2.50 | 15 (75.00%) | 7.50 | 20 (100%) | 5.00 |
| 5 | Total Dependency (0-20) | 2 (66.67%) | 1.00 | 1 (33.33%) | 0.50 | 3 (100%) | 0.75 |
| 6 | Total | 200 (50.00%) | 100 | 200 (50.00%) | 100 | 400 (100%) | 100 |