

## Functional Disability on Instrumental/Activities of Daily Livings among Rural Older People in Nepal

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### Abstract



**Background:** Functional disability among older people is a growing concern for research for the quality of life of older people these days. The purpose of this paper is to present the situation of functional disability among Nepali older people living in a rural area.

**Methods:** This is a cross-sectional study carried out in a rural area of Nepal. The total sample size for this study was 150 older persons 65 years and older. Functional disability on older people was assessed using internationally widely used instruments Activities of Daily Livings (ADLs) and Instrumental Activities of Daily Livings (IADLs).

**Results:** Mean age of the care recipients (elderly) was 78.46 ( $\pm 7.78$ ) years. This study found a functional limitation on at least one ADL and IADL was 30% and 52%, respectively. Among the six items of ADLs highest problem was in incontinence (24%), followed by bathing (16%), use of toilet (14%), transfer within the home (10%), dressing and undressing (10%), and feeding (8%). Among IADLs highest dependency was in taking medicine (46%) followed by traveling (44%), shopping (40%), housekeeping (38%), and food preparation (34%).

**Conclusion:** This study shows the functional limitations of Nepalese older persons living in the countryside are very high. ADLs and IADLs difficulties often correspond to the exact need for help, supervision, and hands-on care of an older person. The government should focus on some intervention programs for the wellbeing of older adults.

**Keywords:** Elderly, Functional limitations, Activities of Daily Livings (ADLs), Instrumental Activities of Daily Livings (IADLs), Rural elderly, Elderly of Nepal.

Access this article Online		Article Info.	
Quick Response (QR) Code	How to cite this article in Vancouver Style?		
	Chalise HN, Khanal B. Functional Disability on Instrumental/Activities of Daily Livings Among Rural Older People in Nepal: Functional limitations among rural older people of Nepal. Journal of Karnali Academy of Health Sciences. 2020; 3(3)		
	Received: 11 September 2020	Accepted: 8 December 2020	Published Online: 9 December 2020
	Source of Support: Self		Conflict of Interest: None
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## BACKGROUND

Globally, the proportion of older people is growing faster than children and working age group of population. By 2050, the number of older adults 60 years and above is expected to grow to 2 billion.<sup>1</sup> Rapid population aging is a global phenomenon, regardless of a nation's level of development. Aging is the result of both longer life expectancy and declining fertility rates.<sup>2</sup> Factors that contributed to people living longer are advances in education, a revolution in technology, development in medicine, food distribution, and public health.<sup>3</sup> On the other hand, increasing age results decline in health and functional status, physical and cognitive capacities, number of chronic diseases and disability.<sup>4</sup>

There are approximately 1 billion people who experience disability worldwide.<sup>5</sup> Over 250 million people experience disabilities to a moderate or significant degree. A study shows 45% of older people 60 years and over have difficulty performing everyday activities.<sup>6</sup> Disability in older persons is generally defined as a difficulty in performing activities necessary for independent living, such as ADLs and IADLs.<sup>4,7</sup> At least one ADL disability varies between 11 to 44%, and at least one IADL disability varies between 8 to 40% among European older people and is dependent on age and gender.<sup>8,9</sup>

Functional activity of daily living is an index used to measure functional capacity of older persons.<sup>4,10</sup> This index is divided into basic or personal ADL and instrumental ADL (IADL). The abilities necessary for basic functioning is measured through ADL and IADL includes functions necessary for living in a community.

Studies show ADL and IADL disabilities increase with age<sup>4</sup> and women have been found to exhibit a higher risk of developing disabilities than men.<sup>11,12</sup> On the other hand, regardless of more functional disabilities women seem to live longer than men.<sup>2</sup> Functional disability and functional decline predict morbidity and mortality,<sup>13</sup> as well as nursing home admission and poor outcomes after hospital discharge.<sup>14</sup>

For independent living, older adults need to be able to manage ADLs and IADLs without the assistance of another person. ADLs and IADLs difficulties often correspond to the exact need for help, supervision, and hands-on care of an older person. Increased limitations in functional activities and dependence on other people especially ADLs lead to worse quality of life for older people and also increases the social cost of care and health. So, it is important to carry out the research in this field and to understand situations and factors associated with functional limitations in older people. Very few studies carried out in Nepal shows the functional disability in ADLs and IDLS is quite high among Nepalese elderly compared to other population.<sup>4,12</sup> This study tries to explore the situations of functional disabilities of older persons residing in rural area of Nepal.

## MATERIALS AND METHODOLOGY:

This is a cross sectional study carried out in 2011 in Khanalthok of Kavrepalanchok district, Nepal. Khanalthok is a hilly area and is about 45 KM east from Kathmandu. Details about the methodology are explained in another paper.<sup>15</sup> Total sample size for this was 150 older adults 65 years and older. Face-to-face method of interview was used to collect the

data. This study was approved from the research committee of Asian College of Advance Studies, Satdobato, Lalitpur. Further verbal consent from authority of concerned village was also obtained. Informed consent from all the participants was obtained for this study.

Functional disability in ADLs and IADLs of older adults was measured using widely used scale developed by Katz and Lawton respectively.<sup>16,17</sup> Six item ADL scale included bathing, dressing, toileting, transferring, continence and eating.<sup>16</sup> Similarly a five-item IADL scale included travelling by public transport, shopping for groceries, preparing meals, doing light housework and taking medicine.<sup>17</sup> In this study, ADL/IADL disability was defined as the older persons 'needs some help/unable to do at all' in at least one of the activities in the respective scale.<sup>4</sup> Internal consistency reliability of the ADL scale was 0.71 and the IADL scale was 0.69. The data was analyzed using SPSS 17 software. Descriptive

and inferential statistics such as mean standard deviation was used in this descriptive study.

## RESULTS

Mean age of the participant's older persons was 78.46 ( $\pm 7.78$ ) years with age range from 65 years to 94 years. Fifty-eight percent were male participants. Table 1 shows the situation of functional disabilities of older persons on different components of ADLs and IADLs. Among the six items of ADLs highest problem was found in continence (24%), followed by bathing (16%), use of toilet (14%), transfer within home (10%), dressing and undressing (10%) and feeding (8%). Similarly IADLs situation shows that highest number of elderly were partially or fully dependent on taking medicine (46%) followed by travelling (44%), shopping (40%), housekeeping (38%), and food preparation (34%). A functional limitation on at least one ADLs was 30% and at least one IADLs was 52%.

Table 1: Functional limitations on ADLs and IADLs of older adults, countryside, Nepal, N=150.

Functional Limitations	Number	Percentage
Activities of Daily Livings (ADLs)		
Feeding	12	8.0
Dressing	15	10.0
Bathing	30	16.0
Transfer within home	15	10.0
Continence	36	24.0
Toilet	21	14.0
Instrumental Activities of Daily Livings (IADLs)		
Travelling	66	44.0
Food preparation	51	34.0
Housekeeping	57	38.0
Shopping	60	40.0
Responsibility for own medicine	69	46.0
At least one ADLs	30.0%	
At least one IADLs	52.0%	

## DISCUSSION

Global life expectancy and the proportion of older people in society are significantly increasing in recent years. In Nepal older populations are increasing rapidly<sup>18,19</sup> and shows the tendency that it will further increase in the coming days as well.<sup>20</sup> Studies show older persons have a low immune system and vulnerable to different types of diseases.<sup>21</sup> In the Nepali culture, children are considered insurance for old age and norms of filial responsibility is the important factor behind the intergenerational relationships.<sup>22</sup> This is the first study carried out in rural Nepal that assesses the functional limitations of the elderly using internationally valid instruments. This study shows a high prevalence of ADL and IADL limitations among the older people inhabitants of rural areas of Nepal. The proportion of older people who reported functional disability on at least one ADL was 30% and with difficulty on at least one IADL was 52%. This functional limit is quite higher than previous studies of Nepal,<sup>4,8</sup> and India,<sup>23,24</sup> and many other studies.<sup>8,25</sup> A studies carried out in West Bengal India shows functional difficulty with at least one ADLs and IADLs was 32.4% and 59.3% respectively.<sup>26</sup> A study from Spain found 34.6% dependent on at least one ADLs and 53.5% for IADLs,<sup>27</sup> which is similar to the present study.

Higher functional disability in this study may be due to the higher age of older persons. The mean age of the participants was 78.46 ( $\pm 7.78$ ) years. A study carried in the US population of shows at least one ADL limitation was 19.2%, and at least one IADL limitation was 15.1%.<sup>28</sup> The high functional limitations among Nepalese older adults is quite difficult to compare with the other studies due to

differences in population samples and measurement technique in the number of functional limitations items, content of items, scoring methods and analysis as well.<sup>4,12</sup>

Among the six items of ADLs, this study found the highest problem in Continence (24%), followed by Bathing (16%), Use of the toilet (14%), transfer within the home (10%), dressing (10%) and feeding (8%). Contrary to its findings one India study shows most dependent ADLs item was Transfer within the home (32.5%) followed by Dressing (22.4%), Continence (19.1%), Feeding (16.7%), Bathing (9.3%), and were toileting (8.9%) (25). Similarly, this study found among IADLs limitations most dependent item was taking medicine (46%) followed by traveling (44%), shopping (40%), housekeeping (38%), traveling (44%), and food preparation (34%). According to an Indian study, IADLs items limitations were Food preparation (39%), Housekeeping /shopping (42.7%), Medication (35%), Transportation (48%).<sup>26</sup>

The study of the functional limitation of older people helps to know the health and quality of life of adults who are vulnerable to dependency and institutionalization<sup>12</sup> which disproportionately affects health care needs. Further studies of the situation, prevalence, causes, and effects of functional disability in older adults are therefore important for proper public health policy formulation and planning.

## CONCLUSION

This study shows a high prevalence of functional limitations (ADLs and IADLs) among the older people inhabitants of rural areas of Nepal. Maintaining good functional capacity is a crucial component of successful aging. More

in-depth research in a larger sample size is required to know the real situation of

functional limitations among Nepalese older people.

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