Original article

The level of functional dependency and independency among the elderly people of old care homes in Bangladesh

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Summary:

The level of functional dependency of elderly is increasing day by day. The old care homes have been markedly increased in recent years in Bangladesh. The purpose of the study was to identify the level of functional dependency and independency among activities of daily living for the elderly people of old care homes in Bangladesh. A cross sectional study was conducted with a structured and close ended interviewer administered questionnaire to collect information from 144 elderly people of five old care homes through convenient sampling technique. The results showed that, 38 participants were fully functional (score 6), 56 participants had score 4 and they had moderate impairment, 40 participants score was 2 or less which indicated severe functional impairment and 10 participants were totally dependent (score 0). The study also revealed that 58% of the elderly people in the age group 60-65 years were independent and 70% of the elderly people belonging to age group >70 were totally dependent. However, it has been evident that percentage of independency decreases with the increase of age. It was also found that respondents' at the age of 65 years and above were functionally dependent. This study also recommends for occupational therapy service in old care home.

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Introduction

Ageing is one of the emerging problems in Bangladesh. Every year 80,000 new elderly people added, which represents approximately 7.3 million people. Billah[1] stated that Bangladesh with a rank of 67 out of 84 remains among the countries with the highest indexes in the world. Some 6.5 percent people of our total population are old. In 1999 there were 593 million elderly people in the world and by the year 2025 the total number will reach 1200 million. Currently, older people account for 7% of the country's population. In the context of Bangladesh, people aged 60 years or above are considered as elderly people.[2] Bangladesh has a long cultural and religious tradition of looking after the elderly people but have many factors for breaking down the traditional extended family and community care system including factors of rapid socioeconomic and demographic transitions, mass poverty, changing social and religious values and influence of western culture. Most of the elderly people in Bangladesh are suffering from basic human problems, such as, poor financial support, senile diseases and absence of proper health and medicine facilities, exclusion and negligence, deprivation and socioeconomic insecurity.[3]

The elderly people are becoming isolated from their children for breaking down the extended families because of having mistaken presumption that elderly people are physically inactive and unable to participate effectively in economic activities. With the purpose the elderly people especially the poor older adults face social, health and economic insecurity. At the same time, they live alone and face the problems on their own.[4] The elderly people progressively loose of their functional ability, the Activities of Daily Living (ADL) which are the basic tasks of everyday life including eating, bathing, dressing, toileting and transferring. They become dependent on their family members or mechanical devices.[5] Bangladesh is a developing country and modern technology is much not available here. As a result Bangladeshi elderly people face much difficulty to maintain functional independence than developed countries.[6]

The old-age dependency ratio would be almost triple between 2000 and 2050. As a result, the ageing population is becoming of a grave concern. In this instance elderly people are depending on care homes. Family members also prefer to send the elderly people to the old care homes.[7] There are a few care homes for giving services to the senior citizens in Bangladesh. The investigators visited 3 old care homes in Bangladesh and observed their functional level. Researchers observed that they are facing challenges to maintain functional activities. They sometimes unhappy and face various challenges at care homes as well as losing their functional status. It is an essential issue to find out the level of functional dependency in the perspective of Bangladeshi context.

This functional status gradually decreases as age increases. There is an association between aging and higher risks of functional dependency. The decline in functional status may also be associated with a number of multidimensional factors. If these factors are detected early, functional dependency may decreases National long-term care survey reported that there were 3.0 million elderly with impairments in one or more ADLs and 1.5 million elderly needs personal care.[9] According to Canadian Association of Occupational Therapists (CAOT),[10] an occupational therapist determines the problems or dysfunctions of individuals in performance areas as self-care, productivity and leisure activities". If occupational therapist will involve with the elderly people of old care homes after finishing this study, they can develop and maintain skills of ADL by using adaptive equipment with the support of occupational therapists. Occupational therapists will support independent functioning and reduce maladaptive behaviors that interfere with ADLs.[11] Occupational therapists may improve their skills by working old care homes. Moreover there are a small number of related studies and resources available for geriatric population in a Bangladeshi context. S0 this study was designed to detect problems in performing ADL, to identify the level of self-care activities like bathing, dressing, toileting, transferring, continence, feeding as well as to assess functional status as a measurement of the client's ability to perform ADL independently according to their age group.

Materials and methods

This cross sectional study was conducted in five old homes (Boyeshko Punorbashan Kendro, Monipur, Gazipur; Sabrina Old Care Home, Banani, Dhaka; Arunima Old Age Home, Shyamoli, Dhaka; Bangladesh Association for the Aged, Agargaon, Dhaka and Manikganj Old Rehabilitation Center, Manikganj) from March 2013 to April 2014. Convenient sampling method was used to select 144 elderly people as sample for the study. After convenient sampling, the investigator used quota sampling for selecting 50% men and 50% women to collect data. Face-to-face interviews with structured questionnaire of KATZ index independence of activities of daily living scale, interviews were conducted in a silent place to maintain privacy and ethics. Prior to interviewing, participants read and signed a consent form, whereby a brief description of the study was included. The investigators used KATZ index independence of activities of daily living scale. It is the most appropriate instrument to assess functional status as a measurement of the client's ability to perform ADL independently. It was developed since 48 years back. It consists of the index ranks adequacy in performance in 6 functions including bathing, dressing, toileting, transferring, continence and feeding. Data were tabulated manually and presented in the result section.

Results

The result showed that the age of major numbers of respondents (48%) were in between 65 to 70 years while 60 to 64 years people were only 16%. Among them 52% were service holders and 27% were housewives. In case of educational status of the respondents, it was found that 34% received secondary, 29% received higher secondary educational status and only 3.5% respondents were under primary level. Among the studied population 38% were widows and 33% were widowers. Most of the participants lived in nuclear family (60%), 22% lived in joint family and only 18% lived in single family (Table 1). Functional status category of the respondents indicated that 38 participant's score was 6 which indicated full function, 56 participant's score was 4 which indicated moderate impairment, 40 participants had severe functional impairment (score 2 or less) and 10 participants had their score 0 (Table 2). Regarding the functional level according to the age group, 50% (65-70 years) respondents had moderate impairment where (whereas) only 20% were totally dependent in this age group. On the other hand, 58% of the respondents from 60-64 years age group were independent, while 25% had severe impairment (Table 3).

Table 1: Socio-demographic characteristics of the respondents (n=144)

Characteristics	Number	Percentage
Age (years)		
60-64	22	16
65-70	69	48
>70	53	36
Occupation		
Housewife	39	27
Service holder	75	52
Day labor	10	07
Businessman	15	10
Others	05	04
Educational status		
Illiterate	19	13
>Primary	05	03
Primary	11	08
Secondary	49	34
Higher secondary	41	29
Graduation	19	13
Living area		
Rural	30	21
Semi-rural	33	23
Urban	81	56
Marital status		
Married	02	01
Unmarried	19	13
Widow	54	38
Widower	48	33
Divorced	20	14
Separated	01	01
Family type		
Single	26	18
Nuclear	87	60
Joint family	31	22

Table 2: Functional status category by ADL, scores according to gender (n=144)

Gender	Full function (Score-6) n (%)	Moderate impairment (Score-4) n (%)	Severe impairment (Score-2 or less) n (%)	Very dependent (Score-0) n (%)	Total
Male	20 (53)	32 (57)	13 (32)	07 (70)	72
Female	18 (47)	24 (43)	27 (68)	03 (30)	72

Table 3: Age group wise functional level of the respondants (n=144)

Age group	Independent n (%)	Moderate impairment n (%)	Severe impairment n (%)	Totally dependent n (%)
60-64	22 (58)	12 (21)	10 (25)	01 (10)
65-70	16 (42)	28 (50)	12 (30)	02 (20)
>70	0 (00)	16 (29)	18 (45)	07 (70)
Total	**38**	**56**	**40**	**10**

The association between gender and level of functional status was found as highly significant (χ^2= 1.573, df = 12, p=0.000) (Table 4).

Table 4: Relationship between gender and level of functional status (n=144)

Gender	Level of functional status				Total	χ^2	P
	Dependent	Moderate Impairment	Severe Impairment	Independent			
Male	07	32	13	20	72	1.573	0.000
Female	03	24	27	18	72		

The results of the study showed that most common old a diseases were hypertension (44%) followed by diabetes mellitus (36%), orthopedic diseases (25.0%) and heart disease (8%). Out of 36 respondents suffering from orthopedic diseases, 07 participants were suffering from spondylitis, 11 from rheumatoid arthritis, 05 from osteoporosis and osteomyelitis, O9 from back-pain and 04 from frozen shoulder (Table 5).

Table 5: Old age diseases (n=144)

Diseases	Number	Percentage
Hypertension	64	44
Heart diseases	12	08
Diabetes mellitus	52	36
Orthopedic diseases		25
Spondylitis	07	
Rheumatoid arthritis	11	
Osteoporosis, osteomyelitis	05	
Back-pain	09	
Frozen shoulder	04	

It is evident that out of 144 respondents, 29 (20%) respondents used painkillers, 97 (67%) were using antidepressant and 47 (33%) respondents used antibiotic (Figure 1). This figure indicated multiple answer response by the respondents.

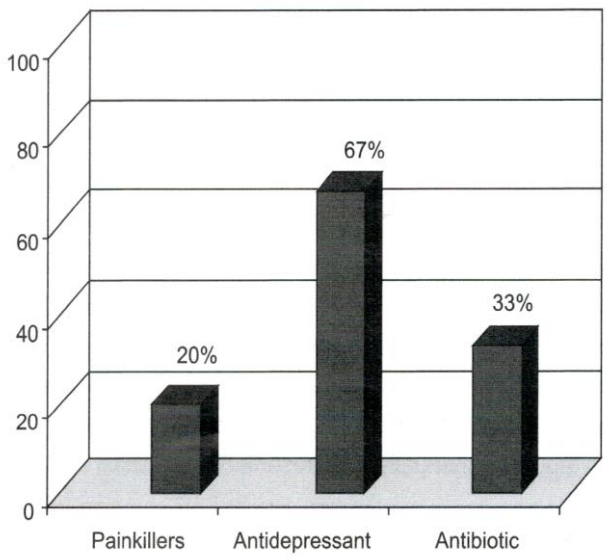

Figure 1: Use of medication (n=144)

The respondents indicated about financial support from family that out of 144 respondent's 63 (44%) participants get financial support from family and 8 and 81 (56%) respondents get no financial support from their family (Figure 2).

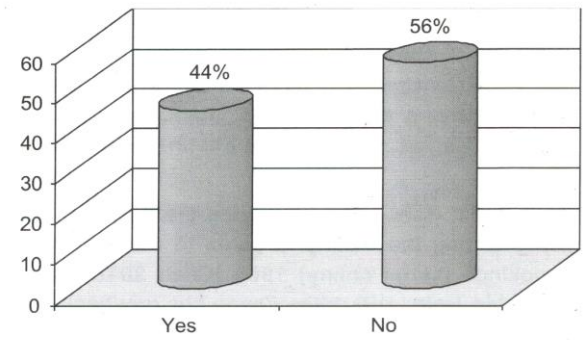

Figure 2: Having financial support from family (n=144)

The study found the association between support from family and level of functional status as highly significant was found as highly significant ($p < 0.05$).

Discussion

It was found that age was one of the demographic characteristics that accounted for much of the variance in the level of dependency and independency on ADL. Ages were grouped into 3 categories that found in this study such as 60-65 were 22 (16%), 65-70 were 69 (36%) and >70 were 53 (48%). According to study in the European journal, it was found that elderly who had 65-70 years were high in percentage in the old care homes. Over-age is an important factor that decrease the functional ability.[12]

In this study, it was showed that service holders were high in percentage in old care homes. The participants who were service holders, they informed that due to physical limitation they were not engaged in employment and faced difficulty in involving themselves in economic activities after retirement. Literature supported that this situation makes an elder dependent upon others.[13] On the other hand, people who are engaged in other profession like farmers and day laborers have negative attitude towards old care home. So they did not enter into the old care home.

According to Wei-Pang & Gang-Hua,[13] education as one major indicators of socioeconomic status that has been demonstrated having substantial impacts on individuals' physical and mental health. In this study it was found that 13% were illiterate, 03% were more than primary level, 08% were in primary level, 34% were secondary level, 29% were higher secondary level and 13% were up to graduation. Education is viewed as a necessary and important issue for job, social status and chances of getting facilities in Bangladesh. But the job market for secondary level education is not satisfactory. After completing secondary those are unable to continue the study, need to struggle for establishing the family. As a result they earn a little and at the later stage other family members neglected them for their little earning. As they didn't earn much, they do not hope a rich life in their later stage. So they enter into old care homes. On the other hand, people who are illiterate and under primary did not know about old care home and how to be admitted there. Therefore, the percentage of these groups was very low in old care homes.

Among all participants, 21% inmates came from rural area, 23% from semi-rural and 56% were from urban area. Rahman[7] stated that, due to urbanization join family is decreasing day by day. Reduction of the family size is the most significant reason for decreasing the support of the elderly people. Decline in the ability and willingness of the families to support the elderly are responsible issues to this.[5] Economic support of the senior citizens is also decreasing. Due to lack of family support and economic support, dependency among ADL is increasing day by day. It was found in the study that 01% was married, unmarried were 13%, 38% were widows, 33% were widowers, 14% were divorced and 01% were separated. It was also found that proportion of widows and widowers were high who lived in old care homes. Bangladeshi elderly females are more vulnerable in socioeconomic condition as a result they face miserable situation in the future.

Rahman[7] discussed that greater longevity and widowhood are responsible for female functional dependency. So compared to the male counterpart it was found that female were more dependent on ADL. Among all participants, 18% came from single family, 60% from nuclear family and 22% came from joint family. From this study, it was understood that elderly people who came from nuclear family were more in old care home. Rahman[7] stated that, due to urbanization, joint families were breaking down and nuclear family was rising up. In the nuclear family elderly people are neglected due to lack of supportive family members. As a result, elderly people are become dependent on ADL and become mentally depressed.

It was evident from this study that most common old age diseases were hypertension (44%), heart disease (08%), diabetes (36%) and orthopedic diseases (25%). Out of 36 respondents who were suffering from orthopedic diseases, 07 participants were suffering from spondylitis, 11 were suffering from rheumatoid arthritis, and 05 were osteoporosis and osteomyelitis, 09 respondents were suffering from back-pain and 04 were suffering from frozen shoulder. It was showed that elderly people who were suffering from hypertension, diabetes and orthopedic disease were high in old care home. These hypertension, heart disease, diabetes, orthopedic diseases, spondylitis, rheumatoid arthritis, osteoporosis, osteomyelitis, back-pain and frozen shoulder

conditions were the causes of the gradual loss of their functional status. As there is no occupational therapy service they do not get proper treatment. This situation makes the elderly people physically weak.

Among 144 participants, 20% participant used pain killers, 67% were using antidepressants and 33% respondents used antibiotics. Antidepressants have many negative effects on older people. Most of the researches on the adverse health effects of antidepressants were conducted on older patients. In addition to cognitive decline, stroke and death, antidepressant use in older people are associated with an increased risk of falling and bone fracture. Older people taking SSRIs are also at an increased risk of developing hyponatremia (low sodium in the blood plasma). This condition is characterized by nausea, headache, lethargy, muscle cramps and disorientation. In severe cases, hyponatremia can cause seizures, coma, respiratory arrest and death.[13]

Financial support is an important factor for old age dependence and independence. According to WHO[14] the impact of an economic crisis may be particularly acute for older people, mostly for those who are physically vulnerable, living in poverty and dependent on private pensions. Among 144 respondents, 44% got financial support from their family and 56% did not get financial support from their family. The results showed that most of the elderly did not get any financial support from their families. It made the elderly physically weak and mentally depressed.

According to KATZ ADL scale, 38 participants were fully functional, their score was 6, 56 participants had score 4 and they had moderate impairment, 40 participant's score was 2 or less which indicated severe functional impairment and 10 participants were totally dependent, their score was 0. It was found that 58% of the elderly people belong to age group 60-65 were independent and 70% of the elderly people were belong to age group more than 70 were totally dependent.

Conclusion

Elderly people live on past accomplishments and begin to finish off his life course. From the perspective of Bangladesh, old age is currently a big social issue. In new millennium, older people find themselves rejected by family and community once they are unable to earn an income and cannot arrange the most basic requirements.

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