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Association Between Literacy Status and Well-being of Elderly People Living in Old Care Homes in Kathmandu

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ABSTRACT

Ageing induces multidimensional changes in an individual's well-being, demanding extensive care. In Nepal, shifting structure from a joint to a nuclear family, reduced fertility and increasing outmigration pose challenges in elderly care. This study examines the impact of literacy status on the physical and mental well-being of elderly people residing in old care homes. The data was collected from sixty purposively selected participants aged 60 and above using standardized tools (GDS-15 and EQ-5D-5L). The analysis of data was performed using SPSS version 20. Results reveal a significant association between literacy and well-being. The literate group reported better general health and lower levels of depression compared to the illiterate group. These findings underscore the importance of literacy in enhancing the overall well-being of elderly individuals.

Keywords: Elderly care, literacy status, well-being, old care home

Introduction

Aging is a process marked by an increase in the size of the older population within a total population. Population aging is a result of extension of human longevity, coupled with a decline in fertility rates. In the aging process, there is a shift in the population age distribution from younger to older age groups (UN, 2019). Many countries are grappling with the challenges posed by accelerated population ageing and a lack of institutional support to cater to the needs of older individuals. In developing nations, the responsibility for caring for elderly parents typically falls on adult children, but the migration of these children is a common occurrence (Adhikari et al., 2011). As of 2020, the global population aged 60 years and above exceeds 1 billion people, constituting 13.5% of the world's total population of 7.8 billion. This figure is 2.5 times higher than the count in 1980 (382 million) and is projected to reach nearly 2.1 billion by 2050. In 2020, two-thirds of older people resided in middle-income countries. By 2030, approximately 1 in 6 individuals will be aged 60 years or older, increasing to 1 in 5 by 2050. Alarmingly, at least 14% of the global elderly people, totaling over 142 million people, currently struggle to fulfill their basic daily needs (WHO, 2021).

Nepal is experiencing a similar trend of population ageing, mirroring the global shift towards an older demographic. The Senior Citizens Act in Nepal officially designates individuals aged sixty and above as elderly or senior citizens (Senior Citizens Act, 2006). Data from the 2021 census reveals that there were 2.97 million senior citizens in Nepal, comprising 10.21% of the overall population. This indicates a substantial rise compared to the figures reported in the 2001 census (NSO, 2021). This trend of increasing the geriatric population might be at a heightened risk of increased marginalization due to factors such as migration, urbanization, and globalization (Bhat & Dhruvarajan, 2001). In Nepal, the elderly population faces prevalent health problems, including physical health issues (69%), depressive illnesses (53%), feelings of loneliness (18%), and mistreatment by family members (12%) (Gupta et al., 2016; Khatri & Nepal, 2006). However, the support mechanism for addressing the health and social needs of older adults in Nepal has been limited by resource constraints (Bisht et al., 2012).

The growing elderly population and the rise in physical impairments among older individuals have led to an increased demand for extensive nursing and support, placing a significant burden on family resources. While family members may be willing to care for their elderly relatives, it often becomes physically challenging and

requires specialized skills for continuous care and supervision. According to Singh et al. (2021), approximately 80% of older people in Nepal live with family members, while a significant proportion (18%) reside either with their spouses or alone. Subedi (2022) further emphasizes the gradual decline in the quality of life for the elderly in Nepal when they start living alone in old age. Consequently, establishing old age homes has become increasingly relevant in Nepal as a means to address the needs and challenges associated with this age effectively. Old age homes are often seen as a last resort for senior citizens when the traditional joint family system is absent. In the absence of family support, older parents find themselves compelled to seek refuge in these establishments. Old age homes provide a safe and secure environment for elderly individuals who have no other options or lack familial assistance (Campbell-Enns et al., 2020; Liebig, 2013; Oldman & Quilgars,1999; Townsend, 2023; Wu et al., 2022).

The family structure in Nepal is shifting from joint to nuclear due to factors such as declining fertility rates, rural-to-urban migration, smaller family sizes in urban areas among the middle and upper classes, and the emigration of offspring seeking a better quality of life and personal freedom. This change presents challenges in caring for ageing parents, and instances of family abuse have contributed to older individuals choosing long-term accommodation in old age homes and institutions (Chalise & Paudel, 2020; Davies & Knapp, 2024; Dhungana et al., 2004). Consequently, there has been a significant increase in the number of old care homes, both governmental and non-governmental, in Nepal (Republica Nepal, 2018). The rise in the elderly population in care homes has prompted research to explore their well-being, specifically focusing on its relationship with literacy status. This study aimed at investigating the effects of literacy status on the physical and mental well-being of older individuals in old age homes.

Methodology

This cross-sectional descriptive study used an interview schedule with self-reported physical health questions, standardized EQ-5D-5L questions, and the GDS-15 to assess the well-being of elderly individuals in Kathmandu's old care homes. The self-reported physical health questions aimed to capture elderly individuals' overall perception of their current health, changes compared to the previous year, and presence of chronic diseases. Similarly, the EQ-5D-5L standardized tools assessed physical and mental health across five dimensions: bodily mobility, self-care, usual activities, pain/discomfort, and anxiety/depression. Each dimension has five levels ranging from no problems to extreme problems. Another standardized tool, the short version of

the Geriatric Depression Scale (GDS-15), comprising 15 questions related to mental well-being, was used to assess depression among elderly individuals in care homes.

Purposive sampling was utilized to select individuals aged 60 years and above based on their hearing ability and willingness to participate. Out of the eight care homes (one governmental and seven non-governmental) from the Kathmandu valley, two private/ non-government-run care homes were selected through simple random sampling along with one government-run care home. All eligible individuals were approached for voluntary interviews. Among them, 23 were from private (1 out of 6) or non-government (22 out of 36) care homes, and 37 were from government-run care homes, out of a total of 187 residents who voluntarily participated in the study from old care home at the time of data collection (March, 2023).

The research aim was communicated to participants, and verbal consent was obtained before interviews began. Participants were informed that their participation was voluntary and that they could withdraw at any time. This ensured voluntary participation and informed consent, upholding research ethics. Data were entered into SPSS 20, and a chi-square test was conducted to assess the association between literacy status and physical and mental well-being indicators.

Results

This section reports the general background characteristics of elderly people living in old care homes, including their literacy status. Furthermore, it presents the relationship between the literacy status of elderly people and their physical and mental well-being.

Characteristics of Elderly Living in Old Care Homes by Literacy Status

Of the 60 surveyed elderly individuals in the care home, 62 per cent were female, and 38 per cent were male. More than half of the respondents were below 75 years old, with approximately 18 per cent aged 85 years and above. Table 1 shows that the median age of the elderly participants was 73 years, indicating that half of them were aged 73 years or above.

Table 1. *Socio-demographic Characteristics of Respondents by Literacy Status*

Socio-Demographic Characteristics	Literacy Status					
	Illiterate		Literate		Total	
	Number	Percent	Number	Percent	Number	Percent
Age group (Md=73 years)						
Less than 75 years	19	55.9	15	44.1	34	100.0
75–84 years	12	80.0	3	20.0	15	100.0
85 years and above	9	81.8	2	18.2	11	100.0
Caste/ethnicity						
Brahmin/Chhetri	25	73.5	9	26.5	34	100.0
Dalit	6	100.0	0	0.0	6	100.0
Janajati	9	45.0	11	55.0	20	100.0
Sex						
Male	12	52.2	11	47.8	23	100.0
Female	28	75.7	9	24.3	37	100.0
Past Occupation						
Agriculture	19	86.4	3	13.6	22	100.0
Non-agriculture	21	55.3	17	44.7	38	100.0
Marital status						
Unmarried	5	35.7	9	64.3	14	100.0
Married	35	76.1	11	23.9	46	100.0
Status of offspring						
Yes	19	67.9	9	32.1	28	100.0
No	16	88.9	2	11.1	18	100.0
Former family types						
Nuclear	6	100.0	0	0.0	6	100.0
Joint	15	57.7	11	42.3	26	100.0
Alone	19	67.9	9	32.1	28	100.0
Having Communication with family member						
Yes	15	65.2	8	34.8	23	100.0
No	25	67.6	12	32.4	37	100.0
Duration of stay in care home						
Less than 1 year	12	66.7	6	33.3	18	100.0
1–4 years	13	61.9	8	38.1	21	100.0
5 years and above	15	71.4	6	28.6	21	100.0
Received old age allowance						
Yes	21	72.4	8	27.6	29	100.0
No	19	61.3	12	38.7	31	100.0
Types of care home						
Government Run	22	59.5	15	40.5	37	100.0
Non-Governmental	18	78.3	5	21.7	23	100.0
Total	40	66.7	20	33.3	60	100.0

More than half of the respondents were affiliated with the Brahmin/Chhetri caste/ethnic group, were illiterate, engaged in non-agricultural occupations, married, had children, lived alone before entering the care home, and belonged to a family size of 4–6 members. Additionally, the majority reported having no communication with family members, not receiving visits, having a duration of stay in the care home of 5 years and above, and not receiving old age allowance.

The literacy status of elderly individuals in the care home was considerably low, with 33 percent reported that they were literate, whilst 67 per cent elders were illiterate. Among the illiterate group, the majority were in the higher age group (75 years and above: > 80%), identified as Dalit (100%), female (76%), engaged in agricultural occupations (86%), married (76%), and without having children (89%). Similarly, these illiterate respondents were more likely to belong to nuclear families (100%), have limited communication with family members (68%), have a longer duration of stay in the care home (71%), receive old age allowance (72%), and reside in a non-governmental care home (78.3%) compared to their counterparts.

Indicators of Well-Being and Literacy Status of the Elderly People Living in Old Care Homes

Respondents were asked to assess their overall health condition, with half of them indicating it was not good. The study examined the association between the perception of overall health and the literacy status of respondents to understand the impact of literacy on self-perceived health. Results revealed a significant positive association, with a higher percentage of literate respondents (70%) perceiving their overall health as good compared to illiterate respondents (40%), as indicated by a statistically significant Chi-square test ($p = 0.028$).

Similarly, approximately 43 per cent of respondents reported their health condition was poor, 30 per cent as the same, and 27 per cent as good compared to the previous year. Those reporting good health compared to last year were predominantly literate, while those reporting poor health were predominantly illiterate.

Table 2. *Indicators of Well-being of the Elderly People Living in a Care Home by their Literacy Status*

Indicators of Well-being	Literacy Status					
	Illiterate		Literate		Total	
	Number	Percent	Number	Percent	Number	Percent
Perceived health condition*						
Good	16	40.0	14	70.0	30	50.0
Poor	24	60.0	6	30.0	30	50.0
Health compared to previous year						
Good	10	25.0	6	30.0	16	26.7
Same	12	30.0	6	30.0	18	30.0
Bad	18	45.0	8	40.0	26	43.3
Duration of suffering from chronic disease						
Less than 5 years	19	47.5	9	45.0	28	46.7
5 years& more	21	52.5	11	55.0	32	53.3
Intake of medicine						
Yes	27	67.5	14	70.0	41	68.3
No	13	32.5	6	30.0	19	31.7
Apatite condition						
Good	28	70.0	14	70.0	42	70.0
Poor	12	30.0	6	30.0	18	30.0
Sleeping condition						
Good	18	45.0	14	70.0	32	53.3
Poor	22	55.0	6	30.0	28	46.7
Duration of sleep						
Less than 5 hours	16	40.0	6	30.0	22	36.7
5 hours & more	24	60.0	14	70.0	38	63.3
Urinary/Bowel(U/B) problems						
Yes	21	52.5	8	40.0	29	48.3
No	19	47.5	12	60.0	31	51.7
U/B induced problems in daily life						
Yes	9	50.0	0	0.0	9	31.0
No	9	50.0	11	100.0	20	69.0
Hearing problems*						
Yes	34	85.0	12	60.0	46	76.6
No	6	15.0	8	40.0	14	73.4
Vision problems**						
Yes	34	85.0	9	45.0	43	71.6
No	6	15.0	11	55.0	17	28.4
Status of mobility						
No Problem	3	7.5	3	15.0	6	10.0
Problem	37	92.5	17	85.0	54	90.0
Status of self-care activities*						
No Problem	6	15.0	9	45.0	15	25.0
Problem	34	85.0	11	55.0	45	75.0
Status of usual activities***						
No Problem	6	15.0	12	60.0	18	30.0
Problem	34	85.0	8	40.0	42	70.0
Pain (whole body) and discomfort						
Moderate pain and discomfort	25	62.5	17	85.0	42	70.0
Severe pain and discomfort	15	37.5	3	15.0	18	30.0
Status of anxiety/ depression						
Not anxious or depressed	0	0.0	3	15.0	3	5.0
Slight/mild anxious or depressed	6	15.0	3	15.0	9	15.0
Moderate anxious or depressed	13	32.5	14	70.0	27	45.0
Severely anxious or depressed	15	37.5	0	0.0	15	25.0
Extreme anxious or depressed	6	15.0	0	0.0	6	10.0
Total	40	100.00	20	100.00	60	100.00

Note. ***Significant in Chi-Square test at $p<0.001$, = **=$p<0.01$ and *=$p<0.05$ Na= Chi-Square test was not performed due to few numbers (<5) in cell.

All elderly individuals residing in the care home reported experiencing some form of chronic diseases. Over half of the respondents (53%) reported enduring chronic diseases for five years or longer, while the remaining 47 percent reported duration of less than 5 years, with a median duration of 5 years. A slightly higher percentage of literate individuals were associated with a longer duration of suffering from chronic diseases compared to illiterate individuals. Among those with chronic diseases, approximately 68 percent reported taking medication, while the remaining 32 percent did not. A relatively higher proportion of literate individuals were taking medication compared to illiterate individuals for their chronic diseases. Respondents were also queried about the duration of their sleeping hours, revealing that 37 percent slept for less than 5 hours per night, while 63 percent slept for 5 hours or more.

Elderly individuals were surveyed on their appetite, revealing that around 70 percent reported having a good appetite, while 30 percent reported a poor appetite. No significant differences were observed between literate and illiterate individuals regarding their appetite. Regarding sleeping status, the average duration was 5 hours per night, with a majority of those reporting good sleeping status being literate (70%) compared to illiterate (45%). Among those sleeping 5 hours or more, a higher proportion of literate individuals (70%) was observed compared to illiterate individuals (60%). About half (48%) of respondents reported urinary or bowel problems, with the majority of those facing such problems being illiterate (52.5%) compared to literate (40%). Among those experiencing difficulties in daily life due to urinary/bowel problems, all were associated with illiterate respondents (31%).

Approximately four-fifths (77%) of the respondents reported experiencing hearing problems, with the majority (85%) associated with illiteracy compared to literacy (60%). The study identified a positive and statistically significant association between a higher level of illiteracy and hearing problems, confirmed by a Chi-square test ($p=0.031$). Similarly, 72% stated having vision problems, with the majority (85%) associated with illiteracy compared to literacy (45%). The study revealed a strong and statistically significant association between illiteracy and vision problems, as evidenced by a Chi-square test ($p=0.001$). The assessment of mobility among respondents revealed that around 10 percent reported no problems, while 90 percent faced issues in walking. Of those reporting walking problems, 90 percent were associated with illiteracy, compared to 85 percent among the literate.

In terms of self-care, 25 percent reported no problems, and 75 percent reported issues in personal hygiene and care. Among those reporting self-care problems, 85 percent

were associated with illiteracy, while 55 percent were literate. The study found a statistically significant positive association between illiteracy and self-care problems ($p = 0.011$). Regarding usual activities, 30 percent reported no problems, while 70 percent reported issues. Among those reporting problems in usual activities, 85 percent were associated with illiteracy, compared to 40 percent among the literate. The study found a highly significant positive association between higher illiteracy and problems in carrying out usual activities ($p = 0.000$). All respondents reported experiencing pain and discomfort, with about 70 percent reporting moderate pain and discomfort, and 30 percent reporting severe pain and discomfort. Those reporting severe pain and discomfort were associated with illiteracy (37.5%) to a higher extent compared to literate individuals (15%). Concerning anxiety or depression, 95 percent of respondents reported experiencing some form of anxiety or depression, and among those, 35 percent reported being severely/extremely anxious or depressed. Those not reporting anxiety or depression were associated with literacy, while those reporting severe/extreme anxiety or depression were associated with illiteracy.

Discussion

Well-being is a multidimensional concept encompassing physical, mental, social, environmental, spiritual, and material wellness. In this study, the wellbeing of elderly individuals in care homes was measured based on physical and mental health. Physical health is assessed using interview schedule consisting a self-reported physical health question and EQ-5D-5L questions, while mental health is measured through standardized questions (EQ-5D-5L and GDS-15). The study aims to explore the relationship between literacy status and the wellbeing of elderly people in old care homes.

The average age of elderly residents in care homes was found to be 73 years, which aligns with previous studies (Chalise, 2014; Eskimez et al., 2019). This age was slightly lower than other findings (Shah et al., 2021; Shrestha et al., 2020). Additionally, the study observed a majority of female respondents (62%), belonging to the Brahmin/ Chhetri caste (57%), being illiterate (67%), and married (77%), consistent with previous studies (Shah et al., 2021; Shrestha et al., 2020). The majority of elderly individuals in care homes (61%) were found to have children, slightly lower than the findings in another study (Shrestha et al., 2019). The literacy rate in this study was 33 percent, which is relatively higher than that of a similar study by Chalise (2014), which reported 18 percent literacy among elderly care home residents.

The study found that approximately half of the respondents perceived their overall health condition as good, aligning with Eskimez et al. (2019) at 51 percent but higher than Mishra and Chalise (2019) at 31 percent. All older people (100%) were reported to be suffering from chronic diseases, with an average duration of 7 years. This prevalence was consistent with Chalise et al. (2014) at 94 percent and Mishra and Chalise (2019) at 90 percent, but notably higher than Eskimez et al. (2018) at 74 percent. All respondents (100%) reported having at least one chronic disease, which was relatively higher than Chalise (2014), where the prevalence of chronic diseases was 93 percent.

Regarding medication, approximately 68 percent of elderly individuals used medication regularly for their chronic diseases, lower than Eskimez et al. (2019), who reported 80 percent. The study also revealed an average sleep duration of 5.2 hours, with 47 percent reporting insomnia. This prevalence of insomnia was higher than that of Mishra and Chalise (2019), who reported 31 percent. Higher levels of insomnia may have implications for the physical and mental health of both the general population and, specifically, elderly individuals.

The study by Korfage et al. (2008) concluded that urinary and bowel dysfunctions are not considered a part of the "normal" aging process, emphasizing the importance of smooth urinary and bowel function for physical fitness. However, this study found that nearly half of the elderly individuals (48%) experienced urinary/bowel problems. While the deterioration of hearing and vision in older age is common, this study revealed that a relatively higher percentage (77%) of elderly individuals had hearing problems, compared to Mishra & Chalise's (2019) study at 49 percent. Similarly, 72 percent reported having vision problems, consistent with Mishra and Chalise's (2019) study at 73 percent.

The study identified a higher prevalence of mobility problems (90%) among the survey respondents. Additionally, about 75 percent of elderly individuals reported problems in self-care activities, and approximately 30 percent reported severe pain and discomfort in their bodies. The study indicated that 95 percent of respondents experienced symptoms of anxiety or depression, with 25 percent reporting severe symptoms and 10 percent reporting extreme symptoms. These rates were significantly higher than Mali et al.'s (2021) findings at 53 percent and Chalise's (2014) at 58 percent. In this study, various well-being indicators were employed to assess the well-being of elderly individuals in an old care home based on their literacy status. The findings revealed a significant role of literacy status in the well-being of the elderly. A higher proportion of

literate respondents reported good overall health conditions, perceived improvement in health compared to the previous year, and regular medication usage compared to illiterate respondents. Similarly, a higher proportion of literate individuals reported good sleep, longer sleep duration, lower urinary/bowel problems, no difficulties in daily life due to urinary/bowel problems, and lower hearing and vision problems compared to illiterate respondents.

Furthermore, the study identified lower levels of mobility issues, self-care activity problems, usual activity problems, severe pain and discomfort, and no severe anxiety or depression among literate respondents compared to illiterate individuals. Among different well-being indicators, certain aspects, such as self-perceived overall health condition, hearing problems, vision problems, self-care activity status, and usual activity status, were found to be statistically significant in the Chi-square test when considering the literacy status of older people.

Conclusion and Implications

The study found that there is a strong association between literacy among the older people and their physical and mental well-being. Illiterate elderly individuals exhibited poorer physical well-being, including overall health perception, medication adherence, appetite, sleep duration, daily functioning with urinary/bowel issues, pain levels, hearing and vision, as well as self-care and regular activities, compared to their literate counterparts. This indicates that the older adults with literacy are likely to be healthier than those who are illiterate. Additionally, higher levels of anxiety or depression were more prevalent among illiterate elderly individuals compared to those who were literate. The study highlights the urgency of psycho-social counseling and health awareness initiatives, mainly focusing on illiterate individuals residing in old care homes.

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