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Factors Affecting the Working Status of Older Adults in Dhurkot Rural Municipality, Gulmi District, Nepal

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ABSTRACT

This study looked at the variables affecting the employment status of senior citizens in Nepal's Gulmi District's Dhurkot Rural Municipality. The effects of sociodemographic factors were examined using binary logistic regression in a cross-sectional survey of senior citizens. The findings showed a substantial relationship between age and labor involvement. There was no significant difference in the likelihood of being employed between the age groups of 65 and 69 (OR = 4.95; 95% CI: 1.19–20.47) and 75 and older (OR = 4.12; 95% CI: 1.19–14.28) as compared to the reference group (60–64 years). Occupation did not show any statistically significant association, as household work (OR = 0.74), tilling and sewing (OR = 1.27), and other occupations (OR = 0.71) were comparable to agriculture. These findings suggest that elderly individuals, particularly in the 65–69 and 75+ age groups, continue working largely out of necessity, highlighting the persistence of agricultural dependency and the limited role of occupational diversification. The study underscores the importance of strengthening social protection systems and developing non-agricultural livelihood opportunities to reduce the economic vulnerability of older populations in rural Nepal.

Keywords: Working Status, older adults, social characteristics, Gulmi

INTRODUCTION

Aging is a universal and inevitable process characterized by gradual physical, psychological, and social changes (World Health Organization [WHO], 2021). Having improved in healthcare and living standards, the proportion of older adults is steadily increasing worldwide. According to the United Nations (2020), the global population aged 65 years and above is projected to double by 2050, raising important concerns about their economic participation and social well-being. In many developing countries, including Nepal, older adults continue to play a vital role in sustaining household economies despite declining health and functional capacity (Subedi & Sah, 2019).

In the Nepalese context, traditional family structures are undergoing rapid transformation due to migration, urbanization, and changing socio-cultural norms. These shifts often limit the availability of family support systems for the elderly, thereby influencing their decision to remain in or withdraw from the workforce (Ministry of Women, Children and Senior Citizens [MoWCSC], 2022). Factors

such as age, health status, education, income, and access to social security significantly affect whether elderly individuals continue working or retire (Acharya, 2018).

Understanding these factors is particularly crucial in rural settings where agriculture and informal labor dominate the economy. Dhurkot Rural Municipality in Gulmi District provides a representative setting to examine these dynamics, as elderly individuals often rely on work not only for financial sustenance but also for maintaining dignity, autonomy, and social engagement. This study therefore seeks to analyze the socio-demographic and economic determinants influencing the working status of older adults in Dhurkot, contributing to policy discussions on aging, welfare, and sustainable livelihoods in Nepal.

METHODS

Data Source

Using a descriptive and analytical research design, the study looks at the factors that affect older adult's employment status in Dhurkot Rural Municipality. A field survey was conducted between September 15 and December 20, 2020, in order to gather primary data. Furthermore, secondary data was collected from reliable sources and a variety of published and unpublished resources.

Sampling

Three of the seven wards that make up the Dhurkot Rural Municipality, namely Jaisithok (Ward 4), Bastu (Ward 5), and Rajasthal (Ward 6), were specifically chosen for the study. Using Yamane's formula, $n = N / (1 + Ne^2)$, where n is the sample size, N is the population size, and e is the margin of error, a sample of 280 responders was selected from the 930 eligible population in these wards. There was a 5% margin of error. Then, using a sampling interval of three (930/280 = 3.32), systematic sampling was used. A random starting point was chosen, after which every third eligible respondent was included following the systematic procedure. Data were collected using a structured interview schedule administered during household surveys.

Data analysis and Interpretation

The field questionnaires were gathered in a methodical manner and carefully reviewed for accuracy and completeness. After that, computer software was used to meticulously edit, code, and process the data. The data was analyzed and interpreted using descriptive statistical methods, including frequency distributions, means, and percentages. SPSS (version 21.0), Microsoft Word, and Microsoft Excel were used to help with the analysis.

Regression Models

Both the bi-variate and multivariate analyses were conducted using the SPSS software. The study produced logistic regression analysis, chi-square test, and cross tabulation with the aid of SPSS software to examine the overall impact on the health and caregiving practices of the elderly.

A suitable method for examining the dichotomous dependent variables is logistic regression. The study presents odds ratios as parameters from the logistic regression equation:

Log $\frac{p}{1\ P}$ =A + Σ(B_k, X_k), Where P is the probability of exposure to the risk behaviors, the ratio $\frac{p}{1 - P}$ is the odds for exposure, X_k represents the explanatory variables, and A is the constant term. The antilogarithms of these coefficients (Bk) have been covered in the text to make the results easier to understand. The amount by which odds are doubled for every unit change in the explanatory variables can be understood as the modified coefficients. To determine the link between different health status and related caring practices variables, one regression equation is fitted and examined, as shown below. Only variables that show a significant correlation with the chi-square test are chosen for regression analysis.

Other factors are more likely to confuse the effect of independent variables on dependent variables. Analyzing the net relationship or impact of the chosen autonomous variables on each of the dependent variables is crucial. Such questions cannot be answered by bi-variate analysis; hence, a multivariate method has been employed.

The multivariate analytic tool in this study is logistic regression analysis. As all the dependent variables were measured in binary scale (yes or no) and most of the independent variables are categorical variables, logistic regression analysis is the best method to analyze the data (Anwar, et al, 2005). Furthermore, logistic regression does not require normally distributed variables or assume that the relationship between each independent and dependent variable is linear. The logit transformation of θ, or the probability of an event, is its logit link function. The odds of a result are determined by the ratio of the probability of it occurring and not occurring, which is θ/1-θ. Logistic regression calculates the log odds for a specific outcome (Gaur and Gaur, 2008).

Logistic regression equation is:

$$\text{logit}[\theta(x)] = \log [\theta (x)/1-\theta(x))] = \alpha + \beta_1 x_1 + \beta_2 x_2 + \ldots\ldots + \beta_n x_n$$

Where logit[θ(x)] = logit of dependent variable;

α = constant of the equation; and

β = coefficient of the predictor (independent) variables

x_1, x_2 and x_n = predictor (independent) variables

The odds ratios (ORs), which are a much simpler metric to interpret, are used to illustrate the results of the logistic regression study. The reference category is taken into consideration while calculating odds ratios. For instance: If a category's OR is 2, it means that the likelihood of that specific event occurring in that category is twice as high as it is in the reference category.

Dependent and Independent Variables used for Logistic Regression Model

Dependent Variable: Factors affecting the working status: The study measured the working status of the elderly people by asking the question "Are you still working? in the survey.

Independent Variables: Age and Occupation

RESULTS

Background characteristics:

"Factors affecting the working status" is the dependent variable, whereas age, sex, marital status, occupation, religion, and education are the independent variables.

Table 1: Percentage Distribution of Factors Affecting the Working Status by Background Characteristics, 2020

Background characteristics	Number	Percent
Age		
60-64	36	13.0
65-69	29	10.4
70-74	83	29.6
75 and above	132	47.0
Sex		
Male	123	44.0
Female	157	56.0
Marital status		
Married	180	64.0
Unmarried	1	0.4
Widow/Widower	98	35.0
Divorce	1	0.4
Occupation		
Own agriculture	213	76.0
Agriculture labour	44	16.0
Small business	1	0.4
Job holder	5	1.8
Non-agriculture work	3	1.1
Foreign employment	12	4.3
Religion		
Hindu	280	100.0
Caste/Ethnicity		
Hill Brahmin	107	38.0
Hill Chhetri	47	16.8
Hill Janajati	3	1.1
Hill Dalit	120	42.9
Other	3	1.1
Education		
Illiterate	246	88.0
Literate	34	12.0

Source: Field Survey, 2020

Nearly half of the elderly respondents engaged in work were aged 75 years and above (47.0%), followed by those aged 70–74 years (29.6%). Only about one-fifth belonged to the younger elderly groups of 60–64 years (13.0%) and 65–69 years (10.4%). This indicates that a substantial proportion of older individuals remain economically active even in advanced age. Similar findings have been reported in rural Nepal, where financial necessity compels the elderly to continue working despite declining health (Subedi & Sah, 2019).

Considering sex, 56.0% of working elderly were female and 44.0% were male. This suggests that women are more likely to continue work in later life, primarily due to their involvement in subsistence farming and household-based labor. Previous studies shows that Nepalese women, especially in rural areas, bear a disproportionate burden of unpaid and agricultural work well into old age (Gurung & Adhikari, 2020).

In terms of marital status, 64.0% of respondents were married, while 35.0% were widowed. Only a negligible proportion were unmarried or divorced (0.4% each). The relatively high participation of widowed elderly in work highlights the absence of adequate social security and reliance on personal labor for survival, consistent with evidence that widowhood often increases economic vulnerability among older adults in South Asia (Palmer, 2019).

Occupation-wise, the majority (76.0%) were engaged in their own agricultural work, followed by agricultural labor (16.0%). Very few respondents were involved in small business (0.4%), non-agriculture work (1.1%), or job holding (1.8%), while 4.3% reported foreign employment. This demonstrates the dominance of agriculture as the primary source of livelihood for the elderly, in line with Nepal's rural economy where land-based subsistence farming remains the backbone of survival in later life (Shrestha, 2017).

All respondents reported being Hindu (100%), reflecting the religious homogeneity of the study area. Regarding caste/ethnicity, Hill Dalits (42.9%) and Hill Brahmins (38.0%) comprised the largest groups, followed by Hill Chhetris (16.8%). Only 1.1% each belonged to Hill Janajati and other castes. The over representation of Dalits among working elderly suggests greater economic compulsion within historically marginalized groups, consistent with studies showing persistent caste-based inequalities in rural Nepal (Khanal, 2021).

Educational attainment was found to be very low, with 88.0% of elderly respondents being illiterate and only 12.0% literate. Low literacy rates limit access to diversified or skilled employment, thereby restricting elderly individuals to manual and agricultural labor. This finding aligns with the broader national context, where low educational levels among older generations are a barrier to occupational mobility (CBS, 2014).

Bivariate Analysis

"Factors affecting the working status" and association with the background variables are described here. Those variables which are significant at .001, .001 and .003 level described in the following table.

Table 2: Percentage Distribution of Factors Affecting the Working Status by Different Background Characteristics, 2020.

Background characteristics	Working Status			
	Satisfactory (%)	Number	Not satisfactory (%)	Number
Occupation*				
Own agriculture	89.2	190	10.8	23
Agriculture labour	52.3	23	47.7	21
Small business	100.0	1	0	0
Job holder	40.2	2	60.0	3
Non-agriculture work	66.7	2	33.3	1
Foreign employment	58.3	7	41.7	5
Others	100.0	2	0	0
Age*				
60-64	91.7	33	8.3	3
65-69	69.0	20	31.0	9
70-74	94.0	78	6.0	5
75 and above	72.7	96	27.3	36
Sex				
Male	43.2	98	47.2	25
Female	56.8	129	52.8	28
Marital Status				
Married	64.8	147	62.3	33
Unmarried	0.4	1	0	0
Widow/Widower	34.4	78	37.7	20
Divorce	0.4	1	0	0
Religion				
Hindu	100.0	227	100.0	53
Caste/Ethnicity				
Hill Brahmin	37.0	84	43.4	23
Hill Chhetri	18.9	43	7.5	4
Hill Janajati	1.3	3	0	0
Hill Dalit	41.4	94	49.1	26
Other	1.3	3	0	0
Education				
Illiterate	89.4	203	81.1	43
Literate	10.6	24	18.9	10

* = Significant at 0.01, ** = Significant at 0.05, and *** = Significant at 0.10

Source: Field Survey, 2020

Table 2 shows that own agriculture (89.2%) and small business/others (100%) highest proportion of satisfactory working status, suggesting self-employment and land ownership are strong enablers of work in old age. Agricultural labor (52.3%) and foreign employment returnees (58.3%) have lower satisfaction, indicating economic insecurity and physical demands affect continued work. Jobholders (40.2%) had relatively low satisfactory engagement, possibly due to retirement age restrictions and formal job cut-offs.

Work satisfaction is highest among 70–74 years (94.0%)**,** suggesting this group remains more active and engaged. Ages 65–69 (69.0%) and 75+ (72.7%) show lower satisfactory levels, with the 75+ group likely limited by health and physical capacity. Surprisingly, 60–64 years (91.7%) still show strong work satisfaction, close to the 70–74 group. Males (43.2%) and females (56.8%) both show engagement, but females (52.8% not satisfactory) appear to have higher dissatisfaction compared to males (47.2%). Gender roles, workload balance, and socio-cultural barriers may explain this.

Married elderly people (64.8%) have higher satisfactory work engagement, possibly due to family support and shared responsibilities. Widow/widowers (34.4%) are far less likely to have satisfactory work, indicating vulnerability after loss of a spouse. Very few unmarried or divorced respondents limit interpretation. All respondents were Hindu (100.0%)**,** so religion did not emerge as a differentiating factor.

Hill Dalits (41.4%) and Hill Brahmins (37.0%) represent the largest groups working, but Dalits (49.1% not satisfactory) face higher dissatisfaction compared to Brahmins (43.4%). Hill Chhetris (18.9%) and Janajatis/others were few, limiting generalization but showing some engagement. The caste dimension may reflect occupational traditions, landholding patterns, and economic inequality

Illiterates (89.4%) dominate the working elderly, but their work is largely necessity-driven (subsistence farming, labor). Literate (10.6%**)** represent a small fraction but show relatively higher dissatisfaction (18.9%), perhaps due to mismatched expectations or inability to access suitable work in old age.

Model: Factors Affecting the Working Status

In this model age and occupation are taken as independent variables for logistic regression analysis on “Factors Affecting the Working Status”.

Table 3: Logistic Regression on "Factors Affecting the Working Status", 2020

Explanatory Variable	Odds ratio	95% CI	
		Lower	Upper
Age			
60-64	1		
65-69	**4.95	1.19	20.47
70-74	0.7	0.15	3.12
75+	**4.12	1.19	14.28
Occupation			
Agriculture	1		
Household work	0.74	0.3	1.82
Tilling and sewing	1.27	0.59	2.73
Other	0.71	0.25	2

* = Significant at 0.01, ** = Significant at 0.05, and *** = Significant at 0.10

Source: Field Survey, 2020

Logistic Regression Results

To determine the variables affecting the working status of senior citizens in Dhurkot Rural Municipality, a binary logistic regression analysis was conducted. The odds ratios (OR) and 95% CI for the explanatory variables, such as age and occupation, are shown in Table 3.

The odds of being employed were 4.95 times higher for those 65–69 years old (OR = 4.95; 95% CI: 1.19–20.47) and 4.12 times higher for those 75 years and beyond (OR = 4.12; 95% CI: 1.19–14.28), using the 60–64 age group as the reference group. There was statistical significance in both correlations. However, there was no discernible difference in the 70–74 age range (OR = 0.70; 95% CI: 0.15–3.12).

These results point to a non-linear link between work involvement and age. Older cohorts, especially those 65–69 and 75+, seem to continue working, perhaps as a result of financial necessity and the absence of sufficient social protection systems, whereas younger elderly people may still rely on family or other sources of support. Similar trends have been reported in other rural Nepalese settings where advanced age does not necessarily reduce economic activity (Subedi & Sah, 2019).

Agriculture was used as the reference category for occupation. Compared to agriculture, those engaged in household work (OR = 0.74; 95% CI: 0.30–1.82), tilling and sewing (OR = 1.27; 95% CI: 0.59–2.73), and other occupations (OR = 0.71; 95% CI: 0.25–2.00) showed no statistically significant association with working status.

This suggests that agriculture remains the dominant sector sustaining elderly work participation, consistent with Nepal's reliance on subsistence farming. Elderly individuals engaged in non-agricultural occupations did not demonstrate significant differences in work participation, highlighting limited diversification in rural employment opportunities (Shrestha, 2017).

DISCUSSION

This study explored factors influencing the working status of elderly individuals in Dhurkot Rural Municipality, Gulmi District, Nepal. The findings indicate that age plays a critical role in work participation among older adults. Specifically, individuals aged 65–69 and 75 years and above were significantly more likely to be engaged in work compared to the 60–64 age group. This pattern aligns with previous research suggesting that older adults in rural Nepal often continue working beyond retirement age due to economic necessity and the lack of comprehensive social security systems (Subedi & Sah, 2019; Ministry of Women, Children and Senior Citizens, 2022).

Interestingly, the 70–74 age group did not show a significant difference in work participation, which may reflect transitional periods in which some individuals reduce physical labor due to declining health or familial support. Occupational type did not significantly influence engagement, as household work, tilling, and other occupations had comparable odds to agriculture. This finding underscores the continued reliance on agriculture as the primary source of livelihood and the limited diversification of work opportunities for the elderly in rural settings (Acharya, 2018).

The persistence of work among the elderly, particularly in the 65–69 and 75+ age groups, suggests that economic necessity rather than choice drives labor participation. These results underline the need for policy measures, such as the extension of social security programs and the encouragement of non-agricultural livelihood alternatives, and highlight the vulnerability of older individuals in rural Nepal. In line with international guidelines for aging populations in low-resource environments, strengthening these systems could reduce economic reliance and improve the wellbeing of senior citizens (United Nations, 2017).

This study's limitations include the cross-sectional design, which limits the capacity to draw conclusions about causality, and the wards' purposeful selection, which might constrain how broadly the results can be applied. A more thorough knowledge of the factors influencing older labor participation in rural Nepal may be possible with future studies that use longitudinal designs and larger, more varied populations.

CONCLUSION

The analysis demonstrated that age is a significant determinant of elderly work participation in Dhurkot Rural Municipality, with higher odds of engagement observed among individuals aged 65–69 and 75 years and above. This indicates that advanced age does not necessarily lead to withdrawal from economic activity; instead, elderly people continue working out of financial necessity and limited social protection. Conversely, occupation was not significantly associated with working status, reflecting the dominance of agriculture and the lack of

diversification in rural employment opportunities. These findings highlight the structural dependence of elderly livelihoods on subsistence farming and the urgent need for targeted interventions, such as expanding social security coverage, promoting skill development, and diversifying rural employment options. Strengthening such measures would not only reduce economic vulnerability but also promote healthier and more dignified ageing in Nepal.

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