

# Current Health Problems and Health Related Behaviour of Nepalese Rural Senior Citizens: A Community Cross-Sectional Study

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## ABSTRACT

**Introduction/objective:** An accelerated aging population is a global challenge. Both physiological and psychological problems may develop due to aging's physiological process. The chronic non-communicable diseases are common among Nepalese senior people with the occurrence of multi-morbidity. Elderly health related behaviour is an important asset for promotion and maintenance of their health. The study's objective was to identify current health problems and health related behaviour of the senior citizens in selected rural communities.

**Methods:** A descriptive cross-sectional study was conducted among 120 Nepalese elderly aged 60 to 75 years in rural communities of Nuwakot district in 2021 using validated semi-structured questionnaire. By obtaining an informed consent, the data was collected using interview technique after multi-stage cluster random sampling. The data was analyzed descriptively by using 20.0 version of IBM SPSS.

**Results:** The socio-demographic findings showed that common age group of the senior was 60-64 years (45.8%), majority were female (59.1%), Brahmin ethnicity (48.3%) and illiterate (59.1%). Their commonest health problems were gastritis (45.0%), arthritis (34.1%), chronic pain/backache (31.6%), sleep problems (25.0%), asthma and hypertension (24.1%). Health related behaviour also seemed alarming i.e. no regular physical exercise (87.5%), inadequate daily water intake (2-4 glass by 48.3%), food (two times by 51.6%), no regular health check-up (92.5%), health screening test (95.8%), used self-medication without prescription by 51.6% and substance taking behaviour by 56.6% of the older people.

**Conclusion:** Senior citizens have multiple health problems, more physical than mental. They have poor and risky health related behaviour such as inadequate intake and careless in health check up and use of medicine and harmful substances. Hence, regular assessment and careful structured interventions are immediate need of the seniors.

**Keywords:** Current health problems, Health related behaviour, Senior citizens, Rural community

## INTRODUCTION

World's aging population is accelerating and becoming a global challenge. Globally, the number of older people is predicted to

be double by the year 2050, crossing two billion (2.1 billion) from 461 million in 2004, comprising up 22% of the total population.<sup>1,2</sup>

The senior population in Nepal is also growing gradually as shown by the census of 2021, accounting for 10.2% of the entire Nepalese population, raising from 8.13% in 2011. The similar situation can be observed in the district specific scenario of the Nuwakot (9.8%) including rural municipalities.<sup>3</sup>

The physiological process of ageing itself cause compromise body function, decrease adaptive response to stress, raising the risks of age related physiological as well as psychological disorders.<sup>4</sup> The senior citizens aged 60 years and older experiences a variety of body systems related problems, both acute and chronic as well as non-communicable and communicable diseases, affecting their well-being and life's quality. The most common chronic non-communicable diseases (CNCD) of Nepalese seniors are cardiovascular disease, osteoarthritis, diabetes and chronic obstructive pulmonary disease (COPD). And multi-morbidity is noticed on one in every seven seniors, leaving them in constant health care demand.<sup>5,6</sup>

The elderly behaviour related to their health affect in adjustment with ageing, promotion of health and reduce the effects of morbidity. So, elderly behaviour is taken as health assets such as increasing social interaction in home and community, living active lifestyle, involving in leisure time activities, eating healthy food, using only prescribed medicine and practicing meditation regularly.<sup>4,7</sup>

The decade for Healthy Ageing (2020-2030), established by the UN General Assembly, also focus on elderly research study to collect the latest data from the nook and corner of the country and the world so that meticulous planning and implementation of the program can be done in elderly friendly environment to ensure long and healthy life.<sup>1</sup>

The common elderly studies are institution based (hospitals and old age homes) and urban setting. Few studies are available representing rural areas. Little is known about minute health related behaviour of the

rural seniors. Therefore, the objective of this study was to identify current health problems and health related behaviour of the senior citizens in selected rural communities of Nuwakot district, Nepal.

## **MATERIALS & METHODS**

A field based descriptive cross-sectional study was conducted among 120 Nepalese elderly in rural communities of Nuwakot district using validated (content and language) semi-structured questionnaire. The data was collected by face-to-face interview after multi-stage cluster random sampling. The older adults aged 60 to 75 years, who were living in their home and that community for at least six months were included in the study.

Both sections of the tool; socio-demographic characteristics and clinical proforma were validated before using and Nepalese version of the tool was used. The clinical proforma consist of current health problems, anthropometric measurements and blood pressure including health related behaviour like food/fasting habit, regular screening, health check-up and exercise habits, leisure time activities and substance taking as well as sleep habit.

Setting:

Being a landlocked country surrounded by the China in North side and the India in remaining three sides (East, West and South), Nepal, a federal republic country consists of seven provinces. The Bagmati province having the capital of Nepal, was selected by a lottery method at first. There are thirteen districts in this province. And the mountaneous district Nuwakot was also selected by lottery method. Nuwakot has two municipalities and ten rural municipalities. Out of ten, two rural municipalities were chosen i.e. Kakani and Tadi rural municipalities. Again one ward number from each two rural municipalities were selected randomly under research expert's guidance. The rural municipality was established in 2017 AD in Nepal as a replacement of Village Development

Committee (VDC), which is governed by rural council.

Nuwakot district has 2,63,391 total population with 51.0% female. Concerning rural municipality wise total population, Tadi has 15,933 with 60.9% literacy rate and the Kakani has 24,504 with 69.3% literacy rate. The older population aged 60-74 years, comprises 10.3% of the total population in Tadi (W.N. 3) and 8.03% in Kakani (W.N. 2).<sup>3</sup>

An informed consent of the seniors was obtained and their voluntary participation was assured prior data collection. The data collection was started with the help of female community health volunteer (FCHV) to identify elderly house. The first house of senior was selected randomly then other consecutively based on the proximity of

houses. Mostly one senior citizen was included from one house in the study to involve more houses of the community. The data was collected in the month of December 2021 AD.

### STATISTICAL ANALYSIS

The collected data was coded, organized, categorized and entered, then analyzed it descriptively (frequency, percentage, mean and standard deviation) by using 20.0 version of IBM SPSS.

### RESULT

The result of this study mentions the description of socio-demographic variables of the rural senior citizens, their current health problems and health related behaviour.

**Table No. 1a: Socio-demographic characteristics of the rural senior citizens. n=120**

Socio-demographic Characteristics	Category	Frequency (n)	Percentage (%)
Age Group (in years)	60-64	55	45.8
	65-69	24	20.0
	70-75	41	34.1
	Mean±SD	65.70±5.21	
Gender	Female	71	59.1
	Male	49	40.8
Ethnicity	Brahmin	58	48.3
	Chhetri	12	10.0
	Janajati/Indigenous	42	35.0
	Dalit	8	6.6
Educational Status	Illiterate	71	59.1
	Literate	33	27.5
	Primary	7	5.8
	Secondary	8	6.6
	Higher secondary	1	0.8
Marital Status	Unmarried	2	1.6
	Married	81	67.5
	Widow/Widower	32	26.6
	Divorced/Separated	5	4.1

This study showed the mean age of the senior citizen 65.70 with a standard deviation of 5.2 years. Majority of them were in the age group of 60-64 years (45.8%). More than half of the participants were female (59.1%), 48.3% were identified

as Brahmin ethnicity and 67.5% were married. Regarding their level of education, majority of the senior citizens (59.1%) were illiterate while only one had completed higher education.

**Table No. 1b: Socio-demographic characteristics of the rural senior citizens. n=120**

Socio-demographic Characteristics	Category	Frequency (n)	Percentage (%)
Religion	Hindu	109	90.8
	Buddhist	7	5.8
	Christian	4	3.3
Mother Tongue	Nepali	90	75.0
	Tamang	9	7.5
	Newari	21	17.5
Types of Family	Nuclear	25	20.8
	Joint	86	71.6
	Extended	9	7.5
Number of Children (n=118)	No Child	6	5.0
	1-2 Children	22	18.6
	3-4 Children	42	35.5
	5-6 Children	27	22.8
	More than six Children	21	17.7

Most of the participants (90.8%) were identified as Hindu. Majority (75.0%) were identified Nepali as their mother tongue and 71.6% were living in a joint family.

Approximately, one fifth of the senior citizens (17.7%) had delivered more than six children.

**Table No. 1c: Socio-demographic characteristics of the rural senior citizens. n=120**

Socio-demographic Characteristics	Category	Frequency (n)	Percentage (%)
Current Employment Status	Service	2	1.6
	Agriculture	52	43.3
	Household chores	59	49.1
	Business	4	3.3
	Retired	2	1.6
	Others	1	0.8
Management of Personal Expenditure	Service/ earning	44	36.6
	Personal saving	4	3.3
	Social security fund	48	40.0
	Pension	3	2.5
	Family's support	21	17.5
Current Living Status	Single	9	7.5
	Only with spouse	22	18.3
	With family	86	71.6
	With relatives	3	2.5
Types of House	Kaccha	47	39.1
	Pakka	73	60.8
Drinking Water	Municipal corporation	9	7.5
	Natural resources	111	92.5
Means of Transportation	Public	117	97.5
	Private	3	2.5

According to table 1c, approximately half of the senior citizens (49.1%) were engaged in household chores. Majority of them (40.0%) managed their expenses by social security fund provided by the Government whereas nearly one third (36.6%) still managed by earnings. Majority of the senior citizens

(71.6%) were staying with their families and in *pakka* type of house (60.8%). Most of them (92.5%) got their drinking water from the natural resources and their main mode of mobility was public vehicle (97.5%). All the senior citizens (100.0%) utilized private restrooms.

**Table No. 2: Current health problems of the rural senior citizens. n=120**

Current Health Problems #	Frequency (n)	Percentage (%)
Gastritis	54	45.0
Arthritis	41	34.1
Chronic pain/ Backache	38	31.6
Sleep Problem	30	25.0
Asthma	29	24.1
Hypertension	29	24.1
Malnutrition	20	16.6
Diabetes	7	5.8
Heart Disease	4	3.3
Gynaecological Problem (n=71)	3	2.5
Other Problems	45	37.5

# Multiple responses

Regarding current health problems, approximately half of the senior citizens (45.0%) reported gastritis followed by arthritis (34.1%) and backache or chronic pain (31.6%). An equal number of participants (24.1%) had reported the asthma and hypertension problem whereas 37.5% of them had other issues such as digestion, thyroid and urinary related

problems, sore/injuries, eye problems, hydrocele, vitiligo, varicose veins, filariasis including mental and sexual issues. Among total senior women (71), 2.5% reported gynaecological problems like itching/vaginal discharge and uterine prolapse. In average, each senior citizen was affected by 2.5 health problems currently.

**Table No. 3a: Health related behaviour of the rural senior citizens. n=120**

Behaviour	Category	Frequency (n)	Percentage (%)
Average water intake habit	2-4 glass/day	58	48.3
	5-8 glass/day	54	45.0
	9-14 glass/day	8	6.6
Food intake habit	Two times/day	62	51.6
	Three times/day	50	41.6
	Four times/day	8	6.6
Fasting habit	Yes	48	40.0
	No	72	60.0
Sleeping habit	4-6 hour/day	42	35.0
	7-8 hour/day	70	58.3
	9-10 hour/day	8	6.6
Regular physical exercise	Yes	15	12.5
	No	105	87.5

Daily habit related to intake, sleep and exercise of the senior citizens is a key factor for the prevention of disease and maintenance of their health. About half of the participants (48.3%) drank only 2-4 glasses of water each day whereas only 6.6% reported an average water intake of 9-14 glasses. Similarly, more than half of the participants (51.6%) had food habit of two times eating each day and only 6.6% had eaten four times daily. Concerning kind of food, majority were non-vegetarian and

following normal diet. Sixty percent of the senior citizens had no fasting habit. Regarding their sleeping habit, more than half (58.3%) had 7-8 hours of sleeping at night whereas more than one third of the participants (35.0%) had only 4-6 hours of night sleeping. Less than half of the participants had also habit of napping, the duration ranging from 30 minutes to two hours. When exercise is concerned, most senior citizens (87.5%) had no habit of regular physical exercise.

**Table No. 3b: Health related behaviour of the rural senior citizens. n=120**

Behaviour	Category	Frequency (n)	Percentage (%)
Regular health check-up	Yes	9	7.5
	No	111	92.5
Any health screening test	Yes	5	4.1
	No	115	95.8
Self-medication without prescription	Yes	58	48.3
	No	62	51.6
Sexually active behaviour at present	Yes	60	50.0
	No	60	50.0
Leisure time activities	Yes	111	92.5
	No	9	7.5
Substance taking behaviour	Yes	68	56.6
	No	52	43.3

Table 3b demonstrates health practices and habit related behaviour. Most of the senior citizens (92.5%) did not have a habit of regular health check-up whereas only 7.5% did. Similarly, most of them (95.8%) reported having no health screening test. Nearly half of the senior citizens (48.3%) had a habit of self-medication without prescription and had experiences adverse drug reaction by 0.8% participants. Concerning elderly sexual activity, fifty percent were sexually active with an experience of changing pattern in sexual activity (6.3%). Regarding leisure time activities, most of the senior citizens (92.5%) had a habit of engaging in leisure activities such as watching T.V./mobile, talking with friends and making light's thread for religious purpose. Focusing on substance, more than half (56.6%) of the senior citizens reported their substance taking behaviour. The most often used substance were Bidi/ Cigarettes (2-20 times/day) than nicotine (2-6 times/day), followed by an alcohol (1-3 glasses daily) including two native substances (Jaad and tamakhu).

## DISCUSSION

This study identified current health problems and health related behaviour of the senior citizens living in two villages of the two rural municipalities. The status of elderly current health problem is one of the important indicator of their health and well-being which shows the priority need of

preventive as well as promotive health program.

The study showed that majority of the participants (45.8%) were in the age group 60-64 years, which is very closely similar with various studies. Balakrishnan s et al. in 2022, reported that majority (45.4%) were in the age group 60-69 years. A Nepalese study by Poudel M et al. in 2022, also found 41.1% from the age group 60-69 years. And Thapa NR and Rai MK (2022) also documented that the majority (44.6%) in age group 60-69 years, from a rural community study.<sup>8,9,10</sup>

Female gender constituted more (59.1%) than male in this study which is consistent with the gender finding (63.0%) as documented in a study by Chen ML et al. (2018). Contrast to this finding, Poudel M et al. In 2022 had reported approximately equal number of both gender (50.9% male and 49.1% female).<sup>11,9</sup>

Education status of the senior citizen is responsible factor for their health-related behaviour and knowledge. In this study, 59.1% senior citizens were illiterate. Various studies had documented the consistent findings; Poudel M et al. Reported 67.7% could not read and write and Paudel BB in 2019 documented older illiterate 67.6%.<sup>9,12</sup>

Based on the objective, the present rural community study found gastritis (45.0%), arthritis (34.1%), chronic back pain (31.6%), sleep problems (25.0%), malnutrition (16.6%), asthma and hypertension (24.1%) respectively, as



common current health problems of the senior citizens.

A community study from eastern Nepal by Poudel M et al. documented the similar findings that hypertension (34.0%), diabetes (14.3%), cardiovascular disease (10.8%) and COPD/Asthma (9.8%) as common morbidity of elderly. Further 30.9% had single morbidity and 17.4% had multi-morbidity.<sup>9</sup>

The consistent finding also reported by various studies. Thapa NR and Rai MK (2022) also revealed gastritis (27.4%), hypertension (26.9%), arthritis (23.5%) and asthma (18.4%) as common chronic health problems.<sup>10</sup> Balakrishnan et al. (2022) mentioned that 31.4% had hypertension as a chronic condition.<sup>8</sup> Tamang MK et al. (2019) revealed similar finding on malnutrition (24.8%) from a nutritional study in Nepal and in rural India (29.4%) by Lahiris et al. in 2015.<sup>13, 14</sup>

Alike the finding of present study about chronic back pain, Bishwajit G et al. in 2017 documented that majority of older people (69.5%) have chronic back pain in Nepalese context.<sup>15</sup> And M Hamdan MA et al. in 2017 showed that 62.2% had back pain and 71.5% had arms, legs or joints pain in Jordan context. The cultural and geographical condition might have influenced together with bigger sample size for this contrast findings.<sup>16</sup>

Health problems are predisposed by the health-related behaviour. Present study reported that 40.0% had fasting habit, usually from the religious point of view. Similar finding was documented in an online survey among elderly (aged 65 years and above) by Gramont B et al. (2022) where 51.7% had experience of fasting from health point of view.<sup>17</sup>

Sleep as a basic human need, has a significant role on general health and its' outcome. This study explored that 58.3% senior citizens had habit of 7-8 hours night sleeping with napping habit among less than half of the participants. An Israeli adults population based study by Ashris S et al. (2024) reported the median night sleep

duration 7.5 hours among 1519 participants and 72.0% had habit of napping.<sup>18</sup>

In this study, nearly half of the senior citizens (48.3%) reported habit of self-medication without prescription during their health problems/illness. The contrast finding was documented by Carmona Torres JM et al. (2018) from a Spanish community cross-sectional study among 26,277 older adults, 10.7% people had reported self-medication.<sup>19</sup>

Concerning leisure time activities of the senior citizens, this study found the habit of engaging in leisure time activities among 92.5% people such as watching T.V./mobile, talking with friends, making cotton thread for lighting. This finding is supported by a Chinese study by Fong JH et al. 2022, common leisure activities were watching T.V. (90.5%), doing housework (85.0%) and participating in social activities (23.5%).<sup>20</sup> Similarly, a comparative study in south rural India by Usha VK et al. in 2016, also reported watching T.V. and listening music (71.1%), sleeping (40.5%), reading (32.2%) and playing with grand children (22.8%) were the most common leisure time activities.<sup>21</sup>

Every substance as defined by World Health Organization, had adverse effect on health and illness. The present study found that more than half (56.6%) of the senior citizens had habit of substance use (smoking, nicotine and alcohol) currently which is consistent with the result of a Chinese study in rural area where 36.1% had smoking habit currently and 35.1% had current alcohol drinking habit.<sup>22</sup> In line with this, a community cross-sectional study in Nepal by Poudel M et al. (2022) also documented that 36.8% were current tobacco user and 35.5% were alcohol drinker currently.<sup>9</sup> A rural Indian cross-sectional research by Muhammad T et al. (2021) also reported tobacco smoking habit (16.5%), use of smokeless tobacco (23.7% and alcohol drinking habit (7.9%) of older people.<sup>23</sup> A community study in rural municipality, Nepal by Thapa NR and Rai MK (2022) also revealed the current use of tobacco (35.6%)

and alcohol (21.3%) use by the elderly. The finding was closely similar as the study setting was rural community.<sup>10</sup>

## CONCLUSION

The senior citizens living at home in the rural community have multiple current health problems; more physical health problems than mental such as gastritis, arthritis, chronic backache, asthma, hypertension, malnutrition and sleep problems.

Their health-related behaviour is also poor like inadequate daily water and food intake, no regular habit of physical exercise, health check-up and screening test. Both smoking and alcohol related substances taking habits are common among rural senior citizens which might increase the morbidity status.

Current health problems of the senior citizens may interfere their healthy aging, ultimately increasing family's burden for aged care. Regular assessment of elderly health problems and their knowledge and behaviour related to health, might help to identify and improve health status of older people by developing and intervening need-based and cost-effective community health program. Hence, structured health interventions are recommended to improve health and health related behaviour of the rural senior citizens.

## Declaration by Authors

**Ethical Approval:** Approval received from Swami Rama Himalayan University and Nepal Health Research Council, Kathmandu.

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