

CHAPTER V

DISCUSSION

This chapter presents the discussion of qualitative and quantitative findings of the study in comparison with other studies from the reviewed literature. The outcome of this study is discussed and presented in relation to the socio-demographic variables and objectives of the study. The effectiveness of the comprehensive nursing interventions was investigated among 120 senior citizens living in rural community of Nuwakot district of Nepal. It also deals with the strength and limitation of the study.

The discussion is presented under the following sub-headings:

- Socio-demographic characteristic of the senior citizens.
- Exploration on well-being and quality of life of senior citizens.
- Effectiveness of comprehensive nursing interventions on well-being of the senior citizens.
- Effectiveness of comprehensive nursing interventions on quality of life of the senior citizens.
- Correlation between well-being and quality of life of the senior citizens.
- Association between well-being and selected socio-demographic characteristics of the senior citizens.
- Association between quality of life and selected socio-demographic characteristics of the senior citizens.

5.1 Socio-demographic characteristic of the senior citizens

The mean age of the senior citizens was 65.70 and 66.80 in the interventional and control group respectively. The majority were in the age group 60-64 years; 46.7% in the interventional and 45.0% in the control group. This findings are consistent with a Nepalese study by Balakrishnan S et al. (2022), reported that majority (45.4%) were in age group 60-69 years.¹¹¹ The finding of mean age is consistent with various studies; Taherian Z et al. (2022), reported the mean age 65.5 years interventional and 66.7 years in the control group¹¹² and a Chinese study by Lai DW et al. in 2022, showed the mean age 60.05 years in experimental and 59.79 years in the control group.¹¹³

This finding is in contrast with a study in USA by Chen ML et al. (2018), demonstrated the mean age 74.20 in interventional and 75.30 in the control group.¹¹⁴ Similarly, the mean age was 81.8 in experimental and 82.3 in the control group in a study in Netherlands (Janse B et al., 2014).¹¹⁵ This may be due to the selection criteria of the sample (75 + years of age). The contrast finding of mean age was also reported in a study conducted in Netherlands (Van Boekel LC et al., 2021), i.e. 76.43 years, reason by inclusion criteria of the participants (65 years).¹¹⁶

Regarding gender of the senior citizens, majority were female in both groups; 60.0% in the interventional and 58.3% in the control group. This finding is consistent with the various studies conducted in Netherlands. Janse B et al. (2014) reported 70% female in experimental and 60% in the control group¹¹⁵, Taherian Z et al. (2022) reported

57.9 % in interventional and 53.7% in the control group.¹¹² Chen ML et al. (2018) documented female 63.0% in total; 69.0% in interventional and 40.0% in the control group¹¹⁴ And Coulton S et al. (2015) stated 80.9% in interventional and 87.1% in the control group.¹¹⁷

The consistent finding was also found in a study in Indonesia (Pramesona BA et al., 2018), reported the higher female gender, 41.7% in interventional and 35.0% in the control group.¹¹⁸ A finding from a systematic review is also consistent with this study (Pierson K et al., 2022), reported higher female disproportionately.¹¹⁹

Contrast to this finding, a study done in Netherlands (2021) found higher male (57.1%) comparing to female (42.9%)¹¹⁶ whereas the almost equal participation of both gender was documented by Balakrishnan et al.(2022) in a community study.¹¹¹

With regard to ethnicity, the majority were Brahmin; 66.7% in the interventional and Janajati 68.3% in the control group in this study. The result is consistent with a Nepalese study by Thapa DK (2021), reported major ethnicity were Brahmin/Chhetri 56.1% and Janajati 22.8%.¹⁰⁹

In this study, majority of the senior citizens were illiterate; 78.3% in interventional and 40.0% in the control group. Various studies found the consistent findings; Paudel BB in 2019 documented 67.6% were illiterate,¹²⁰ Balakrishnan S et al. in 2022 showed the consistent finding, reported 68.4% had no formal schooling¹¹¹ and Joshi MR et al. in 2018 reported that 75.9% were illiterate.⁶¹ Contrast to this finding, Lai DW et al., 2022, showed that the respondents had secondary and below educational level among 40.9% in experimental and 35.7% in the control group.¹¹³ Thapa DK, 2021 also reported that 52.5% of the respondents can read and write.¹⁰⁹

Majority of the senior citizens were married, 68.3 in interventional and 66.7% in the control group in the present study. The finding is consistent with a study in Iran (Taherian Z et al., 2022), reported mostly married respondents, 91.4% in interventional and 78.0% in the control group¹¹²; in China (2022), reported higher married respondents, 59.1% in experimental and 57.1% in the control group.¹¹³ Consistent with this finding, Balakrishnan S et al., 2022, reported 75.8%¹¹¹ and Karmakar N et al., 2018, reported 86.9% of the married respondents.¹²¹ On the contrary, 61.0% of the senior citizens were widowed; 63.0% in experimental and 58.3% in the control group in the study conducted in Netherlands (Looman WM et al., 2016).¹²² The reason for this may be the chances of becoming widow might be increased with increased age of the senior citizens.

This study found that majority of the senior citizens were Hindu by religion, 93.3% in interventional and 88.3% in the control group. Supporting this finding, Karmakar N et al. (2018), reported that 81.5%¹²¹ and Gupta A et al. (2014), reported that 80.9% were Hindu in the study.¹²³

In this study, majority of the senior citizens belonged to joint family, 65.0% in control and 78.3% in the interventional group. This finding is consistent with a study done in rural India by Karmakar N et al. in 2018, reported 77.6%¹²¹ and Ghimire S et al. in 2018, reported 70.6% belong to the joint family.¹²⁴

According to the present study, majority of the senior citizens (48.3%) had 3-4 children in control group and 30% had 5-6 children in the interventional group. Similar result was found in quasi-experimental study using mix approach in long term care facilities, in Taiwan by Chen SC et al. (2020), 55% of older people had more

than four children.¹²⁵ And 36.8% of elderly had 4-5 children found in a field survey in Parbat district of Nepal (Paudel BB. 2019).¹²⁰

The present study found the household chores as main current employment of the senior citizens, 41.7% in interventional and 56.7% in the control group. This is consistent with the finding of Karmakar N et al., 2018, reported majority (42.1%) were home maker.¹²¹ Similarly, Risal A et al. in 2020, reported 64.2% homemaker as their occupation in a community based study in Nepal.¹²⁶

In the present study, 40.0% in control group and 33.3% in the interventional group of the senior citizens had managed their personal expenditure by self-earning. Similar to this finding, a Nepalese study by Risal A et al., 2020, revealed that 63.1% had done self-management of their expenditure.¹²⁶

Currently, majority of the senior citizens were living with their family; 75.0% in interventional and 68.3% in the control group. This is similar to the finding of cross-sectional study by Joshi MR et al. (2018), showed that 88.9% and Singh SN et al. (2021) revealed that 81.3% were living with family members.^{61, 127}

This finding is contrast with the study in Netherlands by Janse B et al. (2014) which reported that majority were living with their partner, 37.0% in experimental and 42.0% in the control group.¹¹⁵ This differences might be due to different study settings with socio-cultural differences like European and South Asian context. Alike the finding of this study, majority were living with their spouses and 15.8% lived alone as resulted by Taherian Z et al. (2022) in Iran.¹¹²

This study of rural community found current health problems of senior citizens as

gastritis (45%), arthritis (34.16%), chronic back pain (31.66%), sleep problems (25%), asthma (24.16%), hypertension (24.16%), diabetes (5.83%), heart disease (3.33%) and malnutrition (16.66%).

Balakrishnan et al. (2022) has documented similar findings that hypertension, diabetes and heart disease as single chronic condition of older people (31.6%), (13.5%) and (5.3%) respectively. Two chronic diseases had present in 16.1 % among 847 older adults respondents from Eastern part of Nepal. ¹¹¹A Nepalese cross-sectional nutritional study in Province one by Tamang MK et al. (2019) revealed that 24.8% had malnutrition among older people³⁹ and Lahiri S. et al. (2015) reported 29.4% malnutrition in rural India.⁴⁰

Alike this findings, a Nepalese study on community dwelling senior citizens by Chalise HN et al. (2019) revealed that three-quarters of the older participants (76.5%) had physical health problems, both physical disability (14.6%) and mental health problems (52.6%) as reported by self.³¹ and 69.5% Nepalese older people had prevalence of chronic back pain (Bishwajit G et al. 2017).⁵⁰ Similarly, contrast result was also documented from a cross-sectional explorative study in Jordan by M Hamdan MA et al (2017) among 1058 older people. Older people had physical pain such as in arms, legs or joints (71.5%) and back pain (62.2%), more than half (56.9%) had bothered by troubled sleeping. 30.6% had problem during sexual intercourse. 51.9% had never bothered by stomach pain. The reason for this differences might be geographical (South West Asia) and cultural condition including bigger sample size.¹²⁸ According to population based study among 2195 participants in 2020, more than one third (40.36%) of older people in rural China had hypertension, 19.17% had chronic heart disease and 8.56% had diabetes.¹²⁹

Regarding health related behavior, present study showed that about half of the senior citizens (50% in control and 46.7% in interventional group) had habit of self-medication without prescription. The contrast finding was revealed by a cross-sectional survey (Carmona- Torres JM et al. 2018) of 26,277 older Spanish community residents, self-medication was found in 10.7% people.⁵⁶

When leisure time activities in this study is concerned, most of the senior citizens (96.7% in control and 88.3% in interventional group) had a habit of engaging in leisure time activities such as watching T.V. and talking with friends (54.1%). A Chinese study (Fong JH et al. 2022) supported the finding of this study, the solitary leisure activities were watching T.V. (90.5%), doing housework (85.0%) and participating in social activities (23.5%).¹³⁰ A comparative study in South India among 830 rural older people (Usha VK et al. 2016) reported that the most common leisure time activities were watching T.V. and listening music (71.1%), followed by sleeping (40.5%), reading (32.2%) and playing with grandchildren (22.8%).¹³¹

Majority of the senior citizens had substance use habit currently, 63.3% in interventional and 50% in the control group of this study. Similar result was documented in rural Chinese study where 36.12% (793) had current smoking habit and 35.12% (771) had current alcohol drinking habit.¹²⁹ Muhammad T et al. (2021) from a cross-sectional research in India also revealed that 16.5% used smoked tobacco and 23.7% used smokeless tobacco and 7.9% drank alcohol by rural older people.⁵⁵

5.2 Exploration on well-being and quality of life of senior citizens

In the present study, the expressed experience related to factors of well-being are physical health and social problems, family and social relationship and financial issue, changing culture of sharing and exchanging and spiritual belief. The food habit, sleep habit and personal behaviour like smoking and drinking also affect on well-being and QOL of senior citizens. Their expectation also should be met as ventilated, like positive and caring role from care giver, and supportive role from the health organization and the government.

When awareness of senior citizens is concerned, the FGD also reported some awareness on the facilities provided by the Government but less utilization of health services. A similar result on utilization of health services was provided by a qualitative study in Ontario (Lafortune C et al.,2015) which stated that the frustrating obstacles like poor system integration and limited access to community based services.¹³² Similarly, a cross-sectional study among 201 Nepalese older adults (Karmacharya I et al., 2022) also showed that only 8% of the respondents used free essential health services and 22.4% did not visit health service centre despite having a problem.¹³³ Acharya S et al. (2019), also stated that 30% of respondents did not utilize health services despite having a problem.¹³⁴

Alike this finding, Agyemang-Duah W et al. 2019, mentioned some barriers for the utilization of services among elderly. The poor transport system as physical barrier, high charges as economic barrier, non-comprehensive nature of health insurance and communication including attitude related problem as social problems.¹³⁵ The reason for this difference might be a different setting and context of the studies. In another

qualitative study by Kelly G et al. 2019, low economy and poor doctor-patient relationship were expressed as an experience for poor utilization of services.¹³⁶

Regarding management of elderly problems in this study, the conclusion was self-motivation, becoming busy and active, social and religious interaction. This finding is consistent with a qualitative study among community-dwelling (Dattilo J et al. 2017), reported a use of leisure engagement and adaptation to aging to meet the changing needs as self-determination.¹³⁷

A qualitative study's output by Dongre AR et al. (2012), also supports and stated that the contributing factors for better QOL of senior people are involvement in social and spiritual activity, decision making and making life active. The government services like health care and welfare schemes also contribute for QOL. And hindering factors of QOL are conflict in family environment, financial and home security and gender bias which develop negative feelings.¹³⁸

The result of Focused Group Discussion among elderly Chinese people by Leung KK et al. in 2004 is corroborated with this study findings. The FGD mentioned that the family ties, interaction between person and environment, social functioning and economic status are important component of QOL.¹³⁹

The finding is also similar with a result of Focused Group Discussion among 72 community-dwelling older adults (Reichstadt J et al., 2007). They mentioned that the physical health and wellness are common requisite for successful aging. Further, the FGD emphasized for the living arrangement, social and financial support, positive attitude and engagement. Greater emphasis was given on the psychological factors.¹⁴⁰

5.3 Effectiveness of comprehensive nursing interventions on well-being of the senior citizens

The output of this study revealed that 60.0% of the senior citizens had poor well-being at baseline assessment which was improved and 96.4% had good well-being after one and three months and then hundred percent had good well-being after six months of the intervention. A quasi-experimental study by Wu HY et al. 2023, also found similar result showing significant improvement on well-being after five and nine weeks of the intervention.¹⁴¹

The present study also revealed that the mean scores of well-being as per domain. The mean and median scores of physical domain was gradually increased from the baseline (59.87 ± 3.43) to after one month (60.68 ± 2.34), after three months (60.46 ± 3.96), and after six months of intervention (61.57 ± 2.38) in the interventional group which was highly statistically significant as tested by analysis of repeated measures (Friedman test). The finding is coherent with a systematic review by Pitkala et al. (2013), highlighted that there was improvements on functional limitations and mobility among physical exercise group in many randomized controlled trial.¹⁴² Similarly, a community based interventional study by Harada K et al. in 2021, has highlighted a significant effect of intervention on instrumental activity of daily living scores.¹⁴³

An interventional study on impact of remote physical exercise among Canadian community dwelling older people by Buckinx F et al. in 2023 revealed similar findings that physical activities and basic mobility abilities were improved after twelve weeks exercise intervention program.¹⁴⁴ And by Kutsuna T et al. in 2019, found

improvement on motor function among community older people by health promotion program provided for short period.¹⁴⁵

Similarly, the psychological well-being of the senior citizens in this study was highly improved in the interventional group. The mean scores of psychological well-being was highly increased from the baseline (89.78 ± 8.03) to after one month (103.00 ± 6.15), after three months (101.80 ± 5.82) and after six months of the intervention (102.04 ± 5.53) in the interventional group.

Similar result was found in the community based research done by Harada K et al. in 2021, there was significant effect of neighbor social network intervention of mental well-being of older people as measured by Ikigai-9 (standardized path coefficient = 0.15).¹⁴³ And an Iranian study in 2018 (Safari S et al.) reported that there was increment in the score of psychological well-being in experimental group after intervention than in the control group.¹⁴⁶

Concerning the social well-being of the senior citizens in this study, there was noticeably increased mean score from the baseline (61.02 ± 4.06) to after one month (68.86 ± 7.45), after three months (67.41 ± 3.78) and after six months of intervention (66.87 ± 3.64) in the interventional group which was highly significant statistically as tested by analysis of repeated measures. The finding of this study is supported by a Japanese RCT study (Saito T et al., 2012) among older migrants people, reported a positive effect of a program on informal social support, loneliness and Life Satisfaction Index A. The study further concluded the importance of tailor made intervention based on specific needs of the older people.¹⁴⁷ Similar finding was highlighted in a randomized pilot trial by Baez M et al., in 2017. There was decrease

in loneliness of older people in the interventional group after eight weeks training program of online exercise, whereas a contrast finding, the social well-being was not different between two groups.¹⁴⁸

On spiritual well-being of the senior citizens, this study found that there was also highly increment in the mean scores from the baseline (62.12±4.55) to after one month (69.48±3.88), after three months (69.11±3.90), and after six months of intervention(68.44±3.47) in the interventional group, showing statistically significant difference ($p<0.001$). In line with this finding, a quasi-experimental study done by Eiham H et al. (2015) revealed that the mean score of spiritual well-being in interventional group was significantly increased after the intervention ($p<0.001$).¹⁴⁹

A qualitative finding of the Swedish study by Von Berens A et al. (2018) also supports that the effectiveness of a health promoting intervention because of its psychological and physical benefits as well as social support factors.¹⁵⁰

5.4 Effectiveness of comprehensive nursing interventions on quality of life of the senior citizens

This study revealed that the quality of life of the senior citizens in the interventional group was improved from baseline (50% poor QOL) to after one month (1.8% poor QOL) and cent percent had good QOL after three and six months of the interventions. Similar to this finding, Rayaroth P (2015), documented the improvement on quality of life after structured intervention (breathing exercises, muscle relaxation, guided imagery, audio music of Raag, group interaction and recreation). More than half (52.89%) of the senior citizens had low level of QOL before intervention as the level

was categorized <33 (total scores) which was improved and only 12.50% had low QOL after the intervention. And 62.18% had high level of QOL (>67 total scores).⁸⁶ Another study by Prakash Jha SP et al. (2020), has documented poor QOL among 100% of the elderly in the selected old age homes in India before intervention.¹⁵¹ In a Nepalese cross-sectional study among rural elderly (Joshi MR et al. in 2018), 19.0% had reported their QOL as poor, 35.1% reported as good and 45.9% reported as neutral.⁶¹ Similar to this finding, a population based cross-sectional Nepalese study (Risal A et al. in 2020) among 439 senior citizens of rural and urban communities revealed that the mean QOL score 25.7 ± 4.2 , and 49.2% of the senior citizens reported their QOL as good.¹²⁶

When observing the domain wise quality of life, the mean scores of the physical domain of QOL was increased persistently from baseline (21.65 ± 3.72), to after one month (26.64 ± 2.56), three months (27.36 ± 2.92) and six months (27.76 ± 2.35) of intervention in the interventional group, showing significant differences at $p<0.001$ level of significance. In line with this finding, Rayaroth P (2015) documented increase in physical domain of QOL from pre-intervention (mean 35.45) to post-intervention (mean 59.58).⁸⁶

The mean score of the psychological domain of QOL of the senior citizens in the interventional group was also increased constantly from 18.12 ± 2.64 at baseline, 22.38 ± 2.02 in one month, 22.71 ± 1.53 in three months and 22.78 ± 1.57 in six months after the interventions, demonstrating highly significant at $p<0.001$ level of significance. Rayaroth P (2015) revealed similar finding that the psychological domain of QOL of the senior citizens was increased from pre-test mean (29.23) to post-test mean (63.05).⁸⁶

Similarly, the mean score of the social relationship domain of QOL in interventional group of the senior citizens was increased remarkably from 8.62 ± 1.39 at baseline, 9.88 ± 1.26 in one month, 10.29 ± 1.14 in three months and 10.58 ± 1.00 in six months after intervention which was highly significant at $p<0.001$ level of significance. Rayaroth P (2015) also showed similar result that there was significant improvement on social relationship domain of QOL from pre-test (mean 23.85) to post-test (mean 66.6).⁸⁶

The post-test mean score of the environmental domain of QOL of the senior citizens in the interventional group was also increased from baseline 22.68 ± 2.86 , to one month 27.57 ± 2.19 , three months 29.23 ± 1.52 and six months 21.72 ± 1.17 after the intervention which showed statistical significant difference at $p<0.001$. Similar result was found in a study by Rayaroth P (2015), the post-test mean score (69.65) was increased from the pre-test mean (24.46).⁸⁶ A systematic review of 115 papers and 15 studies by Skevington SM et al. in 2018 has documented that there was small changes in the score of environmental domain of QOL with significant effect size.¹⁵²

This study demonstrated significant difference between baseline and different post-tests mean scores in overall quality of life at $p<0.001$ level of significance. The mean scores was increased from the baseline (76.63 ± 9.16) to immediate after one month (93.29 ± 6.74), again increased after three months (96.84 ± 5.47) and after six months of intervention (98.26 ± 4.76) in the interventional group of senior citizens.

This outcome is similar to the finding of a study among 312 older people in old age homes, Kerala, India (Rayaroth P, 2015) where the mean post test scores (92.29 ± 3.80) of QOL was increased significantly than mean pre-test scores (54.53 ± 4.25) after

structured nursing interventions.⁸⁶Prakash Jha SP et al. (2020) in a Indian study also revealed similar result where the mean of quality of life was 59.10 ± 4.12 in pre-test, 98.57 ± 5.62 in post-test one and 96.97 ± 8.18 in post-test two among group of progressive muscle relaxation provided 30 minutes once daily.¹⁵¹

The finding is also coherent with other various studies. Hosseini et al. (2022), reported that there was significant mean differences between before and after intervention of diaphragmatic breathing in experimental group (QOL $p=0.004$)¹⁹, according to Shahriari M et al. (2017), higher mean score of functional domain of QOL significantly noticed ($p<0.001$) immediately after combined intervention of diaphragmatic breathing, guided imagery and progressive muscle relaxation, and after six weeks of intervention in experimental group. The mean score of overall domain of QOL was significantly more in study group compared to control.⁷¹

The outcome of this study is supported by a Japanese study on community dwelling older people (Sewo Sampaio P & Ito E, 2013). There was positive relation between intervention and quality of life as measured by both 'WHOQOL-BREF' and 'WHOQOL-OLD'. The highest influence of physical activity, art activity and reading and writing on 'WHOQOL-BREF' was found in the study.¹⁵³Taherian Z et al. (2022) also revealed that the QOL of senior citizens was improved after a community intervention program of 12 weeks.¹¹²

The finding related to improvement on QOL is supported by a RCT showing significant improvement in quality of life after a nurse led behavioural intervention program of 12 weeks among Filipino patients who were in the intervention group (Cajanding, 2016).¹⁵⁴

A systematic review of interventional study by Owen R et al. (2022) also supports the outcome of this study. The activity related intervention assigning a functional role was observed more effective in improving well-being and QOL outcome.¹⁵⁵ Similarly, the outcome on quality of life was found as an effect of mental health interventions among older people in South Asia by Mazumder H et al. (2023) from a scoping review of 19 eligible articles.¹⁵⁶ There was significant improvement on overall QOL in interventional group ($p < 0.001$) of older people, but it was declined in the control group. The improvement was mainly seen on physical and psychological domain of QOL, however, no change found on social relationship and the environmental domains.^{156, 157} Sanchette P et al. (2017) documented that meditation brought improvement on all domain of QOL and stress level.¹⁵⁸ An Iranian study in 2018 has documented that there was positive effect on QOL of experimental group than the control. The mean score was also increased especially in psychological, social and environmental domain of QOL in the experimental group.¹⁴⁶

Alike this finding, a randomized controlled trial of music intervention by Lee et al., 2010, in Hong Kong revealed no significant difference on sub scale of QOL score between two groups.⁹² The reason for this different result might be nature of intervention such as only music intervention and comprehensive intervention including exercises, activity, music, game and health education.

5.5 Correlation between well-being and quality of life of the senior citizens

This study found moderate positive correlation between well-being and quality of life of the senior citizens ($r = 0.64$ and $p < 0.001$) at baseline assessment. This output was

consistent with a Hungarian cross-sectional study (Retsagi E et al., 2020), revealed significant correlation between physical activity (measured by global physical activity questionnaire) and QOL (WHOQOL-BREF) of aging adults ($p < 0.001$).¹⁵⁹ The physical activity has been observed as physical domain of well-being in the present study. Consistent with this study finding, a comparative study by Akosile et al. 2021, reported significant positive correlation between physical activity and QOL ($r = 0.427$ & $p < 0.001$).¹⁶⁰

An American study by Baernholdt M et al. (2012) also found association between ADL function and all three dimensions of QOL. And there was linkage between ADL and social functioning.⁶⁶ Similarly, Fusco O et al. (2012) in a community study found both significantly associated and unassociated results between physical function and QOL measures in an un-adjusted and fully adjusted models.¹⁶¹

Contrast to this finding, Uddin MA et al. (2017) from a community study among 280 older people, reported negative association between ADL (Moderate functional dependence group) and QOL ($r = -0.19$ & $p < .01$).¹⁶² Another cross-sectional study in South Africa and Uganda by Yaya S et al. (2020) also showed the significant negative effect of ADL difficulty on QOL as reported by self.¹⁶³

On the relationship of psychological well-being and QOL, a study by Kanwal H & Mustafa N (2016) has stated consistent result i.e. positive correlation between psychological well-being and QOL.¹⁶⁴ A descriptive correlational study (Pourabdol S et al., 2015) showed that there is a significant positive relationship between psychological well-being and quality of life ($p < 0.01$). All components of SF-36 was related significantly with the psychological well-being except autonomy

component.¹⁶⁵

On the social domain of well-being, a consistent relationship was revealed in a study by Unsar S et al. (2016), there was positive correlation between social support score with its' sub-groups like family, friends, special friends and QOL.¹⁶⁶ Similarly, a moderate positive correlation ($r=0.470$) was found between perceived social support and quality of life of older people aged 65 years and above in Turkey as stated by Sahin DS et al.(2019) from a community study.¹⁶⁷

Consistent to this result, a correlational study done in Turkey among heart failure patients and care givers (Gok Metin Z et al., 2020) showed that there was relationship between spiritual well-being and QOL; when the scores of QOL increased, the scores of spiritual well-being also increased ($p<0.05$).¹⁶⁸ Similarly, Ali J et al., in 2015, in an analytical study found a positive correlation ($p 0.008$) between spiritual well-being and QOL (SF-36) of older people residing in senior house, in Iran¹⁶⁹ and Seraji M et al. (2016), in a correlational study, stated positive correlation between spiritual well-being and QOL ($p= 0.04$, $r =0.42$) and religious well-being ($p=0.043$, $r=0.41$).¹⁷⁰

A cross-sectional study by Seema et al. in 2022 among 200 older aged participants in India have documented that the subjective well-being and religiosity are significantly correlated with all aspects of quality of life. The study has concluded an important role of religiosity and subjective well-being on QOL of older people.¹⁷¹

5.6 Association between well-being and selected socio-demographic characteristics of the senior citizens

This study revealed that there is no significant association between well-being and

socio-demographic variables ($p=0.05$) of the senior citizens.

Contrast to this output, Dorji et al. (2019) and Nyklicek I et al. (2008) showed the relationship between educational status and well-being.^{172, 173}

In this study, age, gender and marital status were not associated with overall well-being. Similar result found by Nyklicek I et al. (2008), stated that age and gender were not associated with well-being (psychological).¹⁷³

Alike this finding, Pourebrahim T et al. in 2019, had observed an association between age and psychological well-being of older people, where people with increased age had decreased psychological well-being.¹⁷⁴ Contrast finding was also found in a study by Momtaz YA et al. in 2011, where age, sex and marital status were associated with the psychological well-being.¹⁷⁵ In contrast to this study, Dorji et al. (2019) further found in a Bhutanese study among older people that well-being and marital status are related to each other, stating married have higher well-being (psychological) mean score. And employment status was also correlated with well-being status.¹⁷²

Sanuade OA et al. (2014) documented that the age, level of education, financial assistance from children and current working status are associated with level of psychological well-being. The psychological well-being is decreased with the increasing age, low level education like no or primary education, currently not working condition and not receiving financial assistance from their children.¹⁷⁶ This is not supported by the finding of our study, showing no significant relation between those two.

Loneliness is linked to the psychological well-being of older people. It was observed in a study by Sunwoo L (2020), among Czech elderly which showed that age and marital status has significant relation with loneliness, where young older, widowed and divorced have higher loneliness. However, there was no gender difference in relation to the loneliness.¹⁷⁷ This outcome is contrast to the finding of this study.

A contrast finding was also observed on association between well-being (spiritual) and socio-demographic characteristics in various studies. A cross-sectional study by Sadrollahi A et al. (2015), has reported significant association between spiritual well-being and socio-demographic variables like gender ($p=0.001$), marital status ($p=0.02$), and number of children ($p=0.001$). So, the spiritual well-being was higher among male, married, having less child and employed seniors.⁵³ Khalili Z et al. (2016) from an Iranian cross-sectional study also reported that there was significant association between spiritual well-being and gender ($p= 0.001$) and marital status ($p= 0.026$).¹⁷⁸

5.7 Association between quality of life and selected socio-demographic characteristics of the senior citizens

The study revealed that there is significant association between quality of life and marital status ($p=0.022$) of the senior citizens. Married senior citizens had good QOL compare to other marital status. However, there was no association with other socio-demographic characteristics like age, gender, education, types of family, number of children, living status and employment status.

Unsar S et al. (2016) in Turkish study found a similar result on association between

marital status and quality of life of the senior citizens. Married people had better QOL.¹⁶⁶ But contrast output showed by Joshi MR et al. (2018) that there was negative relation between marital status and QOL.⁶¹

Alike the finding of present study, Datta et al. (2015) showed that there was significant association between QOL and respondents' age and gender. The age was significantly related with all domains of QOL like physical ($p= 0.029$), psychological ($p= <0.001$), social ($p= 0.080$) and environmental ($p= <0.001$). The QOL was lower among increased age people. Gender was also significantly associated with all domains of QOL at $p <0.001$. Male had higher QOL score than female.¹⁷⁹ A rural Chinese study by Huang H et al. (2018) also revealed the contrast output, stated that older age was negatively associated with QOL scores.¹⁸⁰ Joshi MR et al. (2018) also documented contrast result from the present study. There was negative correlation of age, gender, and living arrangement with QOL of senior citizens residing in rural community of Nepal whereas found positive correlation between educational status and QOL.⁶¹

Contrast to the finding of present study, other various studies (Quadri SS et al. in 2013 & Lokare et al. in 2011) found association between gender and QOL, showed a significant better QOL in male elderly.^{181, 182} Unsar S et al. (2016) in Turkey found that gender was significantly associated with quality of life of older people, where male respondents had better QOL.¹⁶⁶ The contrast result was also documented by Habibi A et al. 2012, a significant correlation of QOL and gender, educational and health status was found at $p <0.05$.¹⁸³ Nyklicek I et al. (2008), has documented that older age was associated with physical, environmental domain including overall QOL. However, gender and education were not associated with QOL.¹⁷³ And Lee KH

et al. in 2020, from a population based study with national representative sample in five low and middle income countries, reported association between gender and QOL, male had better QOL than female .¹⁸⁴

Contrast to the finding of this study, a Nepalese community study among 130 respondents in Baglung district (by Rana IS et al. in 2019) revealed the significant association between QOL and age ($p=0.004$), and current living status ($p=0.023$).¹⁸⁵

Opposite of this finding, a study by Rayaroth P (2015) reported the association between previous occupations, social support with overall QOL. Social support was also associated with social relationship and environmental domain of QOL. Age was associated with only environmental domain of QOL. Religion was associated with only social relationship domain of QOL.⁸⁶

Strengths of the study

- This is supposed to be the first study conducted in Nepal, focusing on senior citizen as its participants with a high acceptance rate and delivering a multicomponent intervention (activities, interactions, exercises, music, game and health education) for one and half month in their community.
- The study also finds its strength in including all the domains of well-being (physical, psychological, social and spiritual) and quality of life (physical, psychological, social relationship and environmental) studied collectively.
- The qualitative study (FGD) was a low cost approach to explore the thoughts of the senior citizens on their needs giving us an overview of their non- verbal expression and also helped us to establish a connection with the

participants, becoming the basis for the development of the CNIs.

- The provision of intervention for six weeks in the rural community as a quasi- experimental study provided an opportunity for delivering nursing service in primary or local level.
- Being a cluster randomization study in two different rural municipalities, the study had the inherit advantage of avoiding the risk of contamination in the study.
- The intervention developed for the senior citizen is a one of its kind and can be followed effectively at their home and convenience after the completion of the study.

Limitations of the Study

1. The study is limited to two rural municipalities of the Nuwakot district of Nepal and has a small sample size thus affecting its generalizability.
2. Though there was randomization of the cluster, it could not done on participants in the study.
3. Partial data were collected by self-reporting scales, so the responses would possibly have chances of recall bias in repeated measurement.
4. The control group could not be provided comprehensive nursing interventions till study period due to the nature of the study. At the end of the study, it was provided in groups.
5. There was a loss of participants till post-test and follow up, which might affect the results of the study.

6. Under the development of CNI, for validation of CNI, the Delphi technique was not used to validate it by subject matter experts.

Therefore, the conclusion and recommendations are to be considered in light of above limitation.

Summary: This discussion chapter included the comparison of the output of present study for similarities and differences with the result of previously conducted research studies. The discussion was done thoroughly on socio-demographic variables, current health problems, health related behavior, generated theme of qualitative data, effectiveness of intervention on well-being and quality of life, relationship between well-being and QOL, and association of well-being and QOL with socio-demographic variables.