Stress and coping strategies among elderly living in old age home of devghatdham and in community of Bharatpur metropolitan city

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Abstract

Background: Ageing involves bio-psycho-social alterations contributing to stress in the elderly population. Stress produces negative effect on physical and mental health which overall affects the quality of life. Proper coping is needed to adapt and manage the stress.

Objective: This study aimed to identify and compare the level of stress and coping strategies among elderly people between old age home and community.

Research method: A descriptive-comparative cross-sectional study design was applied. Purposive sampling technique was used to select 200 elderly people from old-age homes and community (i.e., 100 from each group). Data was collected using structured interview schedule questionnaire. Analysis was done using descriptive and inferential statistics with SPSS version 20.

Results: Findings showed that mean stress score was more over similar in both of the groups (i.e., 17.51 in old-age home and 18.01 in community). In fact, majority of the elderly had moderate to severe stress in both groups. Religious coping was mostly used by elderly to cope with stress in both groups. There was a significant negative correlation of stress with emotion as well as problem focused coping strategies.

Conclusion: The findings concluded that stress is a major health concern which seems to be more pronounced in geriatric population irrespective of place of residence and effective coping strategies can help the elderly manage the stress. Therefore, efforts should be made to prevent the known stressors and provide specialized care so that they remain active members of our society.

Keywords: community, coping strategies, elderly people, old-age home, stress

Introduction

Aging is a gradual, natural and inevitable process where a person undergoes several changes over time at a molecular level. This in turn reflects as changes including physical appearance, mental status and psychosocial behavior [1, 2]. These several changes from ageing process disturb the bio-psychosocial equilibrium, thus contributing to stress in elderly population [3]. Common stressful events of old age include normal aging changes that impair physical function, activities, and appearance; disabilities from chronic illness; social and environmental losses related to loss of income, decreased ability to perform previous roles, loneliness and the deaths of significant others [4]. However, coping patterns and the ability to adapt to stress are also developed over the course of a lifetime and remain consistent later in life. Coping strategies are the changes people make to their behaviors, thoughts or emotions in response to the stressors they encounter [5].

The World Health Organization regards stress as the most challenging health problem of the 21st century [6]. Stressful situations produce emotional reactions ranging from exhilaration to anxiety, anger, discouragement, depression and cognitive impairments as well as may have a direct and negative effect on physical health such as peptic ulcer disease, hypertension, and coronary heart disease and weakened immune system making an individual susceptible to infectious diseases, allergies, cancers and rheumatoid arthritis [7-9].

The Senior Citizens Act 2063, Nepal defines the senior citizens as "people who are 60 years of age or above" [10]. The global average life expectancy at birth was 71.4 years in 2015. The people aged 60 years or older will rise from 12% to 22% of the total global population between 2015 and 2050 [11]. The population of elderly people aged 60 years and above increased from 6.5% (1.5 million) in 2001 to 8.1% (2.1 million) in 2011 [12]. Nepal is now facing a range of serious issues due to the shifting nature of the demographics that make up Nepalese society, with ageing emerging as a key priority and area of concern. The rapid urbanization, depleting socio-cultural value system, nucleation of family, diversification in occupation, changes in women's role to working women, poverty etc., has brought breakdown in the framework of family support and social isolation [13, 14]. Therefore, now many elderlies opt for old age home to complete the last phase of their lives although traditionally, elderly who do not have children to care take shelter in old age home [15].

Mathew, George and Paniyadi in a comparative study done in India found that institutionalized elderly had more stress and less quality of life compared to non-institutionalized ones [16]. Sapkota & Pandey (2012) identified 60% of elderly people had

moderate to severe level of stress in a study done in community of Dharan, Nepal [17]. Rao *et al*, (2014) concluded stressful life events increases psychological distress and it is associated with poor quality of life [18]. Sridevi & Swathi (2014) revealed there was negative relationship between stress and coping and proper coping can help the elderly to manage the stress [19].

Elderly people are suffering with many physical, social, emotional and psychological problems which enhance the stress level. The above findings showed that stress is a precursor of many diseases which affects overall quality of life. However, limited documented studies about the stress and coping strategies among elderly people in context of Nepal were found. It is essential to have some baseline data about the elderly population in an effort to improve the quality of life of the elderly and to make them a part of productive citizens. So, the present study aimed to identify and compare the stress and coping strategies among elderly living in old-age homes and in the community.

Materials and Methods

Research design, setting and population

The cross-sectional descriptive comparative study design was carried out among 200 elderly people of age 60 years or above living in old-age homes of Devghatdham and its adjacent community of Bharatpur-1, Chitwan. As old-age homes are usually located in holy and religious places in Nepal, Devghatdham was purposively selected.

Sampling procedure, sample size and inclusion criteria

Non probability purposive sampling method was used to select elderly staying in old age homes and the respective community household. The sample size was determined using the formula below, $n = z^2 pq / e^2$ [20]. Using the prevalence of elderly having severe stress i.e.,0.09 (Sapkota & Pandey, 2012). The expected sample was 87. However, assuming a non-response rate of 15% in elderly, sample size of the study was 100. In both settings, same number of sample size was taken i.e., 100 in each group. Altogether, the final sample size was 200. Elderly people who were 60 years of age or above staying in the old age homes and respective community household for at least past six months preceding the study; who gave consent to participate in the study; who were not critically ill and could communicate at the time of data collection were included in the study.

Research instrumentation

Structured interview questionnaire was used to assess stress and coping strategies among the elderly. The research instrument consisted of three parts: Part I**:** Question related to Socio demographic variables; Part II**:** Questions related to Perceived Stress Scale (PSS-10) and Part III**:** Questions related to coping strategies based on Brief COPE.

The first part of the instrument was constructed by the investigator on the basis of reviewed literature which contains questions on socio demographic characteristics. The second part include the questionnaire related to Perceived stress scale (PSS-10) which is a standard tool adopted to assess the stress level developed by Cohen *et al* [21]. This scale contains 10 items. Among the 10 items, 6 items were negatively worded. For PSS-10 Scoring, each item was rated on a 5-point rating scale under the options “never (0), almost never (1), sometimes (2), fairly often (3) and often (4)”. In this study, to assess the level of stress, the score was classified as low stress (1-13), moderate stress (14-26) and high stress (27-40). The third part include the questionnaire related to coping strategies based on Brief COPE developed by Carver which is an abbreviated version of the COPE inventory [22]. It was adopted and modified on the basis of extensive literature review, consultation with peers, subject experts and research advisor. The Brief Cope consists of 14 scales of two items each with 28 questionnaires items. Modified scale also comprised of 14 scales under three major domains but with only 14 questionnaires items. Each item of scale had 4 rating option from 1-not doing at all to 4-doing this a lot [23].

The instrument was first developed in English language. Then, it was translated to Nepali language for data collection. Again, it was translated back to English to ensure that the meaning was retained. The validity of the instrument was established on the basis of extensive literature review, consultation with research advisor and subject matter experts and peers. Pretesting of the instrument was done in the similar setting in 10% (20) of total sample for maintaining its clarity, sequencing and feasibility during administration. Eight elderlies were from Dhumbarahi Lions Old Age Care Home and other 12 were from the community of Dhumbarahi.

Ethical considerations

Ethical approval was obtained from Institutional Review Board (IRB) of Tribjuwan University, Institute of Medicine, Maharajgung. Administrative permission was obtained from all four registered old age homes i.e., Devghat Area Development Committee Bridhhashram, Devghat NRN Bridhhashram, Rotary Karunalaya Bridhhashram and Sri Galeshor Ashram Trust, and from Bharatpur sub metropolitan office for data collection. Respondents were explained about the purpose of the study and they were assured of their voluntary participation and confidentiality of the obtained information prior to data collection. Verbal consent was taken who agreed to participate in the study.

Data Collection procedure

Data were collected through face-to-face interview technique by using structured interview schedule in Nepali version. In community of Bharatpur-1, Chitwan, household of elderly people of age 60 years or above were approached while in old age homes of Devghatdham, room of each old age home where elderly was staying was approached.

Statistical Analysis

Data were coded, entered and analyzed using the Statistical Package for Social Science (SPSS) version 20. Descriptive statistics and inferential statistics such as chi-square test, odds-ratio, independent t-test and Spearman's correlation coefficient was used according to the nature of data.

Results

The study results shows that 45% in old-age home were from age group 70 to 79 years whereas in the community same percentage (45%) were from age group 60 to 69 years. Based on marital status, 67% in old age home were widow/widower while 63% of the elderly in the community had living spouse. Higher proportion (83%) of the elderly had physical illness in old age home as compared to 59% in the community.

Hypertension was the most common type of physical illness followed by musculoskeletal problems in both groups. Significance difference was found in age, marital status and presence of physical illness while comparing elderly of old age home and community with $p < .05$ (Table 1). Slightly less than half of elderly (44%) stayed in old age home because there were no care takers at home and same percentages (44%) were never visited by family member or relatives in old age home (Table 2).

Regarding the level of stress, majority of the elderly (i.e., 68% in old age home and 75 % in community) had moderate level of stress. Moreover, all the elderly had experienced stress within the last month (Table 3). Regarding the coping strategies used by elderly to stress, the mean scores were higher at emotion focused domain in both groups. Specifically, religious coping was the most used one. But when comparing, it was more used in old age home (mean 3.76 ±.65) than in the community (mean 3.36±.98) and was also highly significant (p= .001). Likewise, problem focused coping strategies were more used by elderly living in the community (mean 2.48±.63) than in old age home (mean 2.29±.69) which was also statistically significant (p=.041) (Table 4).

Analyzing the relationship between stress and coping strategies, we found significant negative interrelationship between stress and problem focused coping strategies (r=-.368, p value < .01) as well as between stress and emotion focused coping strategies (r=-.281, p value < .01). The data shows that active coping had highest impact on decreasing the stress level (r=-.390, p value < .01). Similarly, when using religion (r=-.211, p value < .01), emotional support (r=-.183, p value < .01), planning (r=-.205, p value < .01), instrumental support (r=-.190, p value < .01) and self-distraction. (r=-.169, p value < .01), as a tool for coping, the stress level had decreased significantly. However, behavioral disengagement shown to have increased the stress level significantly (r=.246, p value < .01) (Table 5).

Regarding the factors associated with stress level, educational status of elderly in the community was significantly associated. In fact, illiterate elderly had 3.85 times more likely of having high stress than literate elderly. Whereas, there was significant association between stress level and reason for staying in old age home with p value <0.05. Those elderly who stayed in old age home because of not having care taker at home were 3.03 times more likely of having high stress than those elderly staying because of other reasons (Table 6).

Table 1: Demographic characteristics of elderly in old-age home and community

Demographic Characteristics	Old age home (n=100) Frequency	Community (n=100) Frequency	*P*-value
Age group (in years)			
60-69	22	45	.002*
70-79	45	29	
Above 80	33	26	
Mean age ± (S.D) years	76 ± 8	72 ± 10	
Range	107-61	108-61	
Sex of the respondent			
Male	43	50	.321
Female	57	50	
Marital status			
Married: with living spouse	29	63	.001*
Unmarried	4	5	
Married: widow/widower	67	32	
Type of family			
Nuclear	49	37	.087
Joint/extended	51	63	
Previous occupation			
Agriculture	64	59	.549
Homemaker	16	15	
Business	4	9	
Service/job	11	9	
Other[a]	5	8	
Educational status			
Illiterate	50	50	1
Literate	50	50	
History of physical illness			
No	17	41	.001*
Yes	83	59	
Types of physical illness	n=83	n=59	
HTN	25 (30.1%)	14 (23.7%)	
Musculoskeletal problems[b]	23 (27.7%)	13 (22%)	
COPD	20 (34.1%)	10 (17%)	
Gastritis	16 (19.3%)	11 (18.6%)	
DM	14 (16.9%)	3 (5.1%)	
Other[c]	13 (15.7%)	12 (20.3%)	

Note: Using Chi-square test*: Significant (P<0.05); [a]: Wage worker, Skilled workers and social workers; [b]: Arthritis and backache; C.O.P.D: Chronic obstructive pulmonary disease; [c]: Cataract, Hemiparesis, Hypothyroidism, Uterine prolapse, Cervical cancer, Hemorrhoid, Prostatomegaly and Renal stone

Table 2: Demographic characteristics of elderly living in old-age home (n=100)

Demographic Characteristics	Frequency
Reason for staying in old age home	
No care taker at home	44
Religious purpose	22
Own interest	17
Family dispute	17
Duration of stay in old age home	
6 months- 5 years	45
(5-10) years	22
(10-15) years	15
Above 15 years	18
Median duration of stay in years (Q1, Q3): 5 (2,11.75)	-
Frequency of visits by family member/relatives (in year)	
Never visit	44
(1-2) visits	20

(3-4) visits	20
More than 5 visits	16

Table 3: Level of Stress among Elderly of Old-age home and Community

Level of stress	Old age home (n=100)	Community (n=100)
Mild stress	26%	20%
Moderate stress	68%	75%
Severe stress	6%	5%
Mean ± (SD)	17.51 ± (5.89)	18.01 ± (5.44)
t-value (p-value)	.62 (.534)	

Table 4: Difference in Coping strategies used among Elderly of Old age home and Community

Coping items	Old age home (n=100)		Community (n=100)		t value	*p* value
	Mean	SD	Mean	SD		
Emotion focused	2.68	.32	2.60	0.38	1.47	.144
Religion	3.76	.65	3.36	.98	4.24	.001*
Acceptance	3.15	.88	3.33	.70	1.6	.111
Positive reframing	2.63	.84	2.86	.80	1.98	.049*
Use of emotional support	2.49	1.12	2.28	.83	1.50	.134
Humor	1.38	.65	1.31	.53	.83	.403
Problem focused	2.29	.69	2.48	.63	2.05	.041*
Use of instrumental support	2.43	1.16	2.52	.96	.60	.550
Active coping	2.24	.94	2.44	.87	1.56	.121
Planning	2.19	.93	2.48	.85	2.3	.022*
Dysfunctional	1.91	.40	1.94	.37	.49	.624
Self-blame	2.64	1.13	2.79	1.05	.97	.332
Self-distraction	2.40	1.07	2.31	1.01	.61	.542
Behavioral disengagement	2.03	.99	1.78	.98	1.79	.074
Venting	1.67	.85	1.82	.83	.6	.210
Denial	1.53	.74	1.33	.55	2.15	.032*
Substance use	1.20	.53	1.60	.98	3.57	.001*

*; Significant (*P*<0.05)

Table 5: Relationship between Stress and Coping strategies of the Elderly (n=200)

Coping Items	Stress score
Emotion focused	-.263*
Religion	-.189*
Use of emotional support	-.166*
Positive reframing	-.100
Acceptance	-.096
Humor	.084
Problem focused	-.371*
Active coping	-.400*
Planning	-.217*
Use of instrumental support	-.192*
Dysfunctional	.054
Behavioral disengagement	.260*
Self-distraction	-.159*
Denial	.127
Substance use	.021
Venting	.068
Self-blame	.104

*Correlation is significant at the .05 level.

Table 6: Association between Stress level with Selected Demographic Characteristics of Elderly

Place of residence	Characteristics	Stress level		Odd ratios	95% Confidence interval	*p*-value
		Low stress	High stress			
Age group (in years)						
old age home (n=100)	Upto 70	6	16	1.08	(.37-3.16)	.878
	Above 70#	20	58			
community (n=100)	Upto 70	11	34	1.65	(.62-4.43)	.315
	Above 70#	9	46			
Sex						
old age home (n=100)	Female	15	32	1.04	(.42-2.56)	.934
	Male#	11	42			
community (n=100)	Female	11	39	.78	(.29-2.08)	.617

	Male#	9	41			
Educational status						
old age home (n=100)	Literate	14	36	1.23	(.50-3.03)	.648
	Illiterate#	12	38			
community (n=100)	Literate	15	35	3.85	(1.28-11.11)	.012*
	Illiterate#	5	45			
Type of family						
old age home (n=100)	Nuclear	14	35	1.30	(.53-3.18)	.566
	Joint/extended#	12	39			
community (n=100)	Nuclear	5	31	.68	(.24-1.95)	.471
	Joint/extended#	15	49			
Presence of physical illness						
old age home (n=100)	Yes	22	61	0.85	(0.29-2.90)	.799
	No#	4	13			
community (n=100)	Yes	12	47	0.95	(0.35-2.58)	.919
	No#	8	33			
Duration of stay in old age home.						
old age home (n=100)	Upto 10 years	6	11	1.72	(0.56-5.24)	.338
	Above 10 years#	20	63			
Reason for staying in old age home						
old age home (n=100)	No care taker at home	6	35	3.03	(1.07-8.33)	.031*
	Others#	20	39			

Chi square test *: Significant (P<0.05); #: Reference.

Discussion

Regarding socio-demographic characteristics of the elderly, among 100 elderlies in old age home, most of the elderly (45%) were from age group 70 to 79 years with mean age of 76±8 years. Whereas, in the community most of the elderly (45%) were from age group 60 to 69 years with mean age of 76±10 years. The two groups differed with respect to age. In this study, female elderly outnumbered males (females 57% vs., - Males 47%) in old age home while male and female were equal in the community. This finding concurs with the current trend of feminization of older adults [24]. Nepal is predominantly a patriarchal society and usually females are economically dependent and are often neglected by their family [24]. This factor may also have contributed to higher number of women in old age homes.

There was significance difference in the marital statuses among the two groups, i.e., 67% in old age home as compared to 32 % in community were widow/widower. This finding is in consistent with the study conducted by Singh *et al*. (2013) who found that the incidence of widowed/unmarried was higher in institutional setting [13]. Elderly might seek for old age home after being lonely at home where cohorts with more or less similar feelings and life experiences accompany them. Also, this study shows that that there were significant differences in terms of age, marital status and presence of illnesses when comparing the two groups of study population. This is not completely unexpected as this probably reflects that people tend to stay at old age home once they are older with multiple illnesses and especially when they are alone e.g., after being a widow/widower and when there is no one to take care of them at home. With lack of good support at home and community, often they choose to leave home to find a sanctuary or compelled to go to an old age home.

Regarding the differences in level of stress, the current study shows that mean stress score of the elderly was nearly similar in old age home (17.51± 5.89) and community (18.01 ± 5.44). Elderly in the community experienced slightly higher stress than the elderly living in old age home but there was no significant difference between mean scores of stresses between elderly living in old age home and in the community despite of significance difference when comparing the two groups of study population in terms of age, marital status and presence of physical illness. This differs with the study conducted by various researchers in different part of India which revealed that institutionalized elderly had high stress than non-institutionalized [16, 18]. The changing family circumstances, attitude of the family members to take up the additional burden of elderly people with declining functional levels, and lack of the people with whom they can share their thoughts and emotions could be the probable reasons for the increased stress among elderly in community of Nepal.

Regarding the coping strategies used, the current study presents that the elderly mostly used emotion focused domain of coping strategies in both groups. Among, emotion focused domain, religious coping was most used coping strategy by elderly in both groups. This finding is consonances with the different studies by various researcher in different countries which showed that in both groups mean scores were higher in the area of religious coping [16, 25]. Similarly, the study conducted by Isaac in 2016 found that majority (69.2%) of the aged people used religious gatherings as the most important coping strategies in dealing with life stressors [26]. This is also supported by Vittorrio & Vianna, (2012) who observed the elderly presented more significant religious behaviors and attitudes, as a support in the resolution of their problems, and to prevent potential stressors in their daily lives in the long-term care facilities [27]. Moreover, this study shows religious coping was more used in old age home (mean 3.76 ±0.65) than in the community (mean 3.26±0.98) which was also highly significant (p< 0.001). The present study was conducted in old age home located in religious place of Nepal which may contribute to more use of religious coping by elderly of old age home. In present study, problem focused coping strategies were more used by elderly living in community (2.48±.63) than in old age home (2.29±.69) which was also statistically significant (p=0.041). Among problem focused, elderly mostly used instrumental support to cope with stress in both groups which is parallel to findings of Mathew *et al*. (2009) done in India [16]. The present study shows the significant association between educational status with level of stress (p< .01) in community.

Illiterate elderly had 3.85 times more likely of having high stress than literate elderly. Similarly, in old age home also, the proportion of elderly with high level of stress was higher among illiterate, although the association was not significant. The findings are consistent with the findings of Sapkota and Pandey (2012) who revealed that there was an association between educational status and stress level. They further demonstrated that 65.3% of illiterate elderly had moderate to severe stress as compared to 40% in literate elderly [17]. Similarly, in the study by Mani *et al*. (2016), a higher proportion of elderly with lower educational status had higher stress scores [28]. These findings suggest that education might play an important role in improving the ability to cope with stressor in life. Besides educational status, the current study finds significant association between stress level and reason for staying in old age home but no association was found between stress levels with respect to age, sex, family type, past occupation presence of physical illness and frequency of visit by family members/relatives. Similar to these findings, study by Sapkota and Pandey (2012) also found no significant association of stress with sex past occupation and family type but revealed association of stress with respect to age [17]. This discrepancy might be due to difference in category of age and nature of study as the latter study was only done in the community.

Regarding the relationship between stress and coping strategies of elderly, the current study shows a highly significant negative correlation between stress and emotion focused coping strategies as well as between stress and problem focused coping strategies. This finding is supported by similar study done by various researchers which revealed that there is a negative correlation between stress and coping [16, 19, 29]. They further revealed proper coping can help the elderly to manage the stress. This present study finds that the behavioral disengagement is shown to have increased the stress level significantly. However, when using religious coping, the stress level had decreased significantly. One similar study revealed a positive effect of religious coping in buffering the deleterious effect of stress on an individual's life[30]. Besides religious coping, the current study also revealed stress level significantly decreases by using active coping, emotional support, planning, instrumental support and self-distraction.

Conclusion

The current study aims to compare the stress and coping strategies among elderly living in old age home and in the community. The mean stress score was more over similar in both groups. In fact, a majority of the elderly had moderate to severe stress in both groups. Emotion focused coping strategies; specifically, the religious coping strategy was mostly used by elderly to cope with stress in both of the groups. Moreover, it was significantly used more by elderly of old age home while problem focused coping strategies were significantly used more by elderly of community to cope with the stress. Similarly, illiterate elderly in community were more likely to have higher level of stress than the literate. Also, those elderly who reside in old age home because of no care takers at home were more likely to have higher level of stress than those who resides with other reasons. In Emotion focused coping strategies; specifically, the religious coping strategy was mostly used by elderly to cope with stress in both of the groups. Stress level was significantly decreased with the use of emotion focused coping as well as problem focused coping strategies. Thus, it can be concluded that stress is a major health concern which seems to be more pronounced in geriatric population irrespective of place of residence (old age home or community). However, effective coping strategies can help the elderly manage the stress. Therefore, efforts should be made to prevent the known stressors, provide specialized care and educate about effective coping strategies in order to ameliorate the deleterious effects of the stresses especially among the elderly, who are an integral part of our society.

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References

1. Dhanya N, Jaya S, George M. Assessment of the stress experienced by the senior citizens in Ernakulam district of Kerala. International Journal of Current Research, 2011. Retrieved from http://www.journalcra.com11.
2. Walker BR, Colledge NR, Ralston SH, Penman I. Davidson's Priniciples & Practices of Medicine (22nd ed.). Elsevier: Churchill Livingstone, 2014.
3. Talarico JNDS, Caramelli P, Nitrini R, Chaves EC. Stress symptoms and coping strategies in healthy elderly subjects. Revista da Escola de Enfermagem da USP, 2009; 43(4):803-809.
4. Hinkle JL, Cheever KH. Brunner & Suddarth's Textbook of Medical-Surgical Nursing (12 ed.). New Delhi: Wolters Kluwer (India) Pvt. Ltd, 2010.
5. Carr D, Umberson D. The Social Psychology of Stress, Health, and Coping. Handbooks of Sociology and Social Research, 2013, 465-487. doi:10.1007/978-94-007-6772-0_16
6. Stress: The Health Epidemic of the 21st Century. SciTech Connect, 2016. [Last accessed on 2022, May 27]. Available from: http://scitechconnect.elsevier.com/stress-health-epidemic-21st-century/
7. Cohen S, Janicki-Deverts D, Miller GE. Psychological Stress and Disease. JAMA, 2007; 298(14):1685. doi:10.1001/jama.298.14.1685
8. Nolen-Hoeksema S, Barbara L, Fredrickson GR, Wagenaar WA. Atkinson & Hilgard's Introduction to Psychology (15th ed.). U.K.: Wadsworth Cengage Learning, 2009. Retrieved from https://drive.google.com/file/d/0B9xYJ0qM9H4MTEV2djhTaGJOMVE/view?usp=sharing
9. Salleh MR. Life event, stress and illness. The Malaysian Journal of Medical Sciences, 2008, 15(4). Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/22589633
10. Senior Citizens Act, 2063. Retrieved from http://www.lawcommission.gov.np
11. World Health Organization. Life Expectancy. Global Health Observatory (GHO) data, 2015. Retrieved from

http://www.who.int/gho/mortality_burden_disease/life_tables/situation_trends/en/

12. Central Bureau of Statistics. Population Monograph of Nepal. Kathmandu: Central Bureau of Statistics. Retrieved from, 2014. http://cbs.gov.np/sectoral_statistics/population/population monographnepa_2014
13. Singh R, Singh B, Lall BS, Jain V. Psychosocial Problems: An Issue among the Elderly in Kathmandu, Nepal. International Journal of Health Sciences and Research, 2013, 3(6). Retrieved fromhttp://www.scopemed.org/index.php?mno=42132
14. Yadav RK. Ageing Population in Nepal: Challenges and Management. Academic Voices: A Multidisciplinary Journal, 2012, 2(1). doi:10.3126/av.v2i1.8287
15. Chalise HN. Depression among elderly living in Briddashram (old age home). Advances in Aging Research, 2014; 03(01):6-11. doi:10.4236/aar.2014.31002
16. Mathew MA, George LS, Paniyadi N. Comparative Study on Stress, Coping Strategies and Quality of Life of Institutionalized and Non-institutionalized Elderly in Kottayam District, Kerala. Indian Journal of Gerontology, 2009, 23(1). Retrieved from http://connection.ebscohost.com/c/articles/47713014/comparative-study-stress-coping-strategies-quality-life-institutionalized-noninstitutionalized-elderly-kottayam-district-kerala
17. Sapkota A, Pandey S. Stress level among the geriatric population of urban area in eastern Nepal. Nepal Medical College Journal, 2012. Retrieved from http://nmcth.edu/images/gallery/Original%20Articles/LdbclA%20Sapkota.pdf
18. Rao SS, Chennamsetty SK, Rao SK. A comparative study of psychiatric morbidity, quality of life (QOL), coping skills among elderly living in old age homes(OAH) and in the community. International Journal of Health Sciences & Research, 2014, 4(8). Retrieved from http://www.ejmanager.com/mnstemps/107/107-1408342998.pdf
19. Sridevi G, Swathi P. Death anxiety, death depression suicidal ideation & geriatric depression among institutionalised & non institutionalized elderly. International Journal of scientific & research publication, 2014. Retrieved fromhttp://www.ijsrp.org/research-paper-1014/ijsrp-p3461.pdf
20. Cochran WG. Sampling Techniques. 3rd ed. New York: John Wiley & Sons, 1977. Available from: https://hwbdocuments.env.nm.gov/Los%20Alamos%20National%20Labs/General/14447.pdf
21. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. Journal of Health and Social Behavior, 1983; 24:385-396. doi:10.2307/2136404
22. Carver CS. You want to measure coping but your protocol's too long: Consider the Brief COPE. International Journal of Behavioral Medicine, 1997; 4:92-100. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/16250744
23. Carver CS, Scheier MF, Weintraub JK. Assessing coping strategies: A theoretically based approach. Journal of Personality and Social Psychology, 1989; 56:267-283. Retrieved from http://www.psy.miami.edu/faculty/ccarver/documents/p89COPE.pdf.
24. Khanal S, Gautam KM. Prevalence and Management of Health Conditions in Older People's Homes: A Case Study in Kathmandu. Nepal Geriatric Centre, Kathmandu, 2011. Retrieved from http://www.britishgerontology.org/DB/gr-editions-2/generations-review/prevalence-and-management-of-health-conditions-in-.html
25. Singh R, Mahato S. Coping strategies adopted by the institutionalised and non-institutionalised elderly in Kathmandu: A omaprative correlational study, Nepal. International Journal of Research & Development of Health, 2014, 2. Retrieved from www.ijrdh.com/files/3%20-%20coping%20strategies%20-%20public%20health.pdf
26. Isaac AA. The Quality of Life, Health and Coping Strategies among the Aged: A Case of Selected Aged in Osu. International Journal of Social Science and Humanities Research, 2016, 4(1). Retrieved from http://www.researchpublish.com/journal/IJSSHR/Issue-1-January-2016-March-2016/15.
27. Vitorino LM, Vianna LA. Religious/spiritual coping in institutionalized elderly. Acta Paulista de Enfermagem, 2012, 25. doi:10.1590/S0103-21002012000800021.
28. Mani G, Udayakumar S, Annamalai K, Ramasamy DJ. Perceived levels of Stress and its correlates among residents of old age home in Kanchipuram District, Tamil Nadu. Medical Journal of Dr. D.Y.Patil University, 2016. doi:10.4103/0975-2870.144860.
29. Thakker DV, Singal G, Deviputra S. A Comparative Study of Coping Strategies of Stress by Senior Citizens Residing At Old Age Homes and Living with Family Members. International Journal of Scientific Research, 2013, 2(4). doi:10.15373/22778179/apr2013/100.
30. Bjorck J, Thurman J. Negative life events, patterns of positive and negative religious coping, and psychological functioning. Journal for the Scientific Study of Religion, 2007; 46:159-167. doi: 10.1111/j.1468-5906.2007.00348.x.