

Existing Nutritional Behavior and its Effects on Healthy Lifestyle among the Elderly Buddhists in Kathmandu

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Abstract

This article is conducted to analyze the nutritional behavior of elderly Buddhists and its effects on healthy lifestyle. Many studies show that most of the elderly people are not getting nutrient food due to their economic as well as health problems. This article is based on analytical research design with few research hypotheses. The elderly Buddhist within the Kathmandu Valley were studied as the population of the study and 640 elderly Buddhists including of 320 male and 320 female elders from different clusters were sampled conveniently. The data collected through structure interview for this research article. The SPSS version 20, ANOVA for F-Test, regression analysis and research hypothesis testing and the T-Test with accepted level of statistical significance set at P value < 0.05 were applied for inferential analysis. It is concluded that the female, 60-69 aged group, literate group, joint family system and service and business occupation based Buddhist elders were practicing healthy life style. The statistical test for research hypothesis concludes that the knowledge and awareness on nutrient food elements, regular use of fresh and hygienic food behavior, regular use of fresh fruits and vegetables have a significant impact on healthy life style. Similarly, the frequency and quantity of nutritious food elements, regular use of meat and poultry and use of liquid nutrient food items do not have a significant impact on the healthy lifestyle of elderly Buddhists.

Keywords: Nutritional behavior, elderly Buddhists, healthy lifestyle, food hygiene, knowledge

Background of the Study

Health is a state of complete physical, mental and social wellbeing not merely in the absence of disease or infirmity (WHO). Health is vital factor for the fulfillment of human needs and healthy life styles. Health is valuable property of human beings. It is one of the fundamental rights of every person. Health is the most important part for healthy life style among human being (Andersen 136). The sufficient food, clothes, shelter, education, health services, good environment, love and affection should be given to live healthy (Meneguci 65). "Health is wealth" Fresh and healthy food is more important for the body and sound mind (WHO). Human beings without good health cannot even imagine of their prosperous life (Devkota 1999). A healthy person is always cheerful and even a poor man having good health can improve living standard (Wagle).

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Nutrition is the basic component of healthy life style (Drewnowski 77). Without nutrition human body cannot develop properly (Arfoouli 47). Good nutrition means "maintaining a nutritional status that enables us to grow well and enjoy good health" (Andersen 136). Nutrition is the scientific term of food and it deals with food value, food processing, its digestion, absorption and metabolism in the body (Bowman 521). The word nutrient or "food factor" is used for specific dietary constituent such as proteins, carbohydrates, fats, vitamins and minerals along with water and roughage (Black 663). According to *Oxford Advanced Learners Dictionary* the word nutrition refers to the process by which living things receive the food necessary for them to grow and be healthy.

Food and nutrition are foundation for good health and also essential for life growth and development of human body (Andersen 133). Food and nutrition are the basic biological needs which is directly related to health, better the nutrition better the health and poorer the nutrition poorer the health (Muhammad 184). The word nutrient or "food factor" is used for specific dietary constituents such as proteins, vitamins and minerals (Carbone 17). According to *Oxford Advanced Learners Dictionary* food the things that people or animal eat, such as convenience food, fast food, health food, junk food, sea food, soul food, whole food etc. Dietetics is the practical application of principles of nutrition; it includes the planning of meals for the well and the sick (Bowman 521 and Arfaoui, 2956).

Behavior refers to the action rather than ideas, a way of doing something that is the usual or expected way in a particular organization or situation. (Oxford Advanced Learners Dictionary, 2006). Nutritional behavior is the practical application of the principles of nutrition; it includes the planning of meals for the well and the sick (Seoane 101; Winter 116). Nutritional behavior is a reflection of the general socio-economic status and wellbeing of the country (Leela 75; Ku 1354). Nutritional behavior is basically concerned with how food is produced, processed, handled, shared and eaten (Gille 641). Nutritious foods behavior is essential for all ages but their need is higher during old ages for healthy life style (De Jong 1456). Poor nutritional behavior is the major obstacle on development of the health status of the people (Drewnowski 77). The main reasons of poor nutritional behavior is unsafe food handling practice, unbalanced distribution of food, illiteracy and lack of health education (Begchi). The nutritional behavior is determined by economic condition, feeding practices, social norms and values, health education, culture etc. (Adamski 753).

Ageing is considered as the change of physique, physical and mental appearances (Oxford Advanced Learner's Dictionary, 2006). Aging starts with conception to till death is a process of growing older regardless of chronological age (Subedi).

Ageing is a natural human phenomenon not confined to any specific society but globally (UN 27). Ageing is the last stage of all developmental stage and biological causes as well as 'retirement phase' and free stage from responsibility (Hurlock). In the elderly period, body cannot resist outer infections therefore elderly peoples are facing various health problems (Kawaguchi; UN). The elders are suffered by various communicable and non-communicable diseases such as Asthma, Arthritis, Cough, Hypertension, Mental disorder, Eye and Ear defect etc. (Maharjan).

Elderly health is the valuable property of humans, so it is also one of the fundamental rights of elderly people (Kawaguchi; WHO). Every elders have also right to be a healthy in his/her life, so he/she has needed a sufficient food, clothes, shelter, health services, entertainment, love and affection (Maharjan; Kouvari 21). The nutritional behavior of elders reflects the level and pace of household, community and national development (Black 658). Poor nutrition is a direct result of insufficient food intake or repeated infections disease or combination of both (Gille 641). It can result in an increased risk of illness and death can also result in an elderly people (Robert 1441).

Buddhism is better way to develop intellectual, moral and spiritual perfection (Indaviriyo). The Noble Eightfold path helps to begin happiness, peace, freedom and healthy life style. The Noble Eightfold path emphasized human efforts as right action, right speech, right food, right livelihood, right mindfulness etc. are directly related with healthy life style (Nhat). Buddha taught monks, nuns and other people about physical fitness and health. There are so many problems faced due to obesity and other sedentary lifestyle. In this context, Buddha recognized the benefits of regular exercise, moderate eating and walking meditation in Cankama Sutta (Ratnakul 163). Monks, there are these five benefits of walking up & down or walking meditation. These are long journeys, fit for striving, little disease, proper digestion and walking ulkp & down is long-lasting Buddha illustrated the benefits of mindful eating and exercise in the Donapaka Sutta (Harvey).

Research Gap

Nepal is a country of various castes, ethnic and religious groups. Each group has their own cultural system (Khanal). The cultural system of the people determines the food and nutritional behavior and health care system (Adhikari). Buddhism is one of the popular religious groups in Nepal. Buddhists have their own culture of eating, food habits and nutritional practices to children, youth and elders for healthy lifestyle (Ratnakul 162). Why only few studies are conducted in terms of community based Buddhism and its nutritional behavior? In Nepal, people are affected mainly by the poor nutritional behavior due to the less knowledge and awareness on daily food intake (Bhattarai). Is it the same problem in Buddhist community and Buddhist elders? Community and cultural attitude towards food and nutritional practice also

affect the nutritional status of people (MOHP). Is it the same in Buddhist elders? All the people in the world are, therefore, trying their best to make their food balanced, proper and hygienic so that they can be healthy (Aryal). Are the Buddhist elders practicing the same? The elderly health is also influenced by nutritional behaviors. The above studies clearly present that less knowledge and practice on healthy and hygienic food, directly impacts on healthy lifestyle of elderly people. So this research was conducted to show the relationship between elderly Buddhists and their nutritional behavior for healthy lifestyle.

Objective of the Study

This article describes the nutritional behavior among the elderly Buddhists in Kathmandu Valley and its effects on healthy lifestyles. The main objective of this study was to analyze the nutritional behavior of elderly Buddhists linked with the independent variables (knowledge and awareness on nutrient elements, frequency and quantity of nutrient foods, fresh and hygienic food behavior, meat and poultry food items, liquid nutritious food, fresh fruits and vegetables in daily intake) and the dependent variable (healthy lifestyle).

Research Hypothesis of the Study

The main hypothesis of the study is that the proper nutritional behavior has its effect on the healthier lifestyle of the people. To assist the main hypothesis, the following research hypotheses were constructed to cover the research gap, questions and objective.

1. **H1:** Knowledge and awareness on nutrient elements have significant impacts on healthy lifestyle.
2. **H2:** Frequency and quantity of nutritious food elements have significant impacts on healthy lifestyle.
3. **H3:** Fresh and hygienic food behaviors have significant impacts on healthy life style.
4. **H4:** Regular uses of meat and poultry items have significant impacts on healthy life style.
5. **H5:** Liquid nutrient food items have significant effect on healthy lifestyle for the elders.
6. **H6:** Fresh fruits and vegetables have significant effects on healthy lifestyle for the elderly Buddhists.

Methods and Procedures

The study was based on analytical research design with quantitative nature. It was conducted to analyze the existing nutritional behavior and its effects among the

elderly Buddhist population in the Kathmandu Valley. All the elderly Buddhist of Kathmandu Valley were studied as the population of the study. In this research, 640 elderly Buddhists population including of 320 male and 320 female elders from different clusters were applied by using convenient as well as purposive sampling method. Structure interview schedule and observation checklist were used as a main tool for data collection. The researcher itself collected the data for this study. The nutritional behavior related data were obtained by interview schedule and the practices related data were obtained by personal observation. Respondent's consent was taken during the data collection. After collection the data, they were edited, tabulated and analyzed properly to find the conclusion. The Statistical Package for Social Science (SPSS) version 20 was applied for data analysis. In this study, frequencies and percentage were used to analyze the knowledge and practice on nutritional behavior and ANOVA for F-Test, regression analysis and research hypothesis testing were used to analyze the effects of nutritional behavior on healthy life style among the elderly Buddhists. The T-Test with accepted level of statistical significance set at P value < 0.05 was applied for inferential analysis. Similarly, to analyze the effects association of independent variables (knowledge and awareness on nutrient elements, frequency and quantity of nutrient foods, fresh and hygienic food behavior, meat and poultry food items, liquid nutritious food, fresh fruits and vegetables in daily intake) and the dependent variable (healthy life style).

Results and Discussion

In this section, the collected quantitative data by structured interview were analyzed to find out the result. Similarly, the health related few independent variable and healthy life style related dependent variable based on research hypothesis were tested to find conclusion.

Socio-Demographic Variables and Healthy Life Style of the Buddhist Elders

In this topic, elderly Buddhist's sex, age, castes, literacy, family structure and occupational status variables were analyzed to show the relationship with health status.

Table: 1- Bivariate Analysis of Socio-demographic Variables and Health Status.

Variables	Status	Healthy		Unhealthy		Total (n=640)		x ² Test	p-value
		No.	Percent	No.	Percent	No.	Percent		
Sex	Male	119	37.2	201	62.8	320	50.0	1.962	0.094
	Female	168	52.5	152	47.5	320	50.0		
Age	60-69	213	50.5	49.5	51.9	422	65.9	0.954	0.158
	70-79	65	37.8	107	62.2	172	26.9		
	80 +	9	19.7	37	80.4	46	7.2		
Castes	Newar	158	47.7	173	52.3	331	51.7	2.885	0.034*
	Tamang	67	38.3	108	61.7	175	27.3		
	Gurung	30	41.7	42	58.3	72	11.3		
	Magar	24	51.1	23	48.9	47	7.4		
	Others	8	53.3	7	46.7	15	2.3		
Literacy	Literate	206	47.4	229	52.6	435	67.9	0.796	0.104
	Illiterate	81	39.5	124	60.5	205	32.1		
Family types	Joint	104	72.2	40	27.8	144	22.5	3.114	0.025*
	Nuclear	183	36.9	313	63.1	496	77.5		
Occupation	Farming	53	60.9	34	39.1	87	25.4	2.827	0.036*
	Service	37	75.5	12	24.5	49	14.3		
	Business	142	76.8	43	23.2	185	54.1		
	Others	8	38.1	13	61.9	21	6.1		

*Significant $p < 0.05$

The above table indicates that 37.2 percent male and 52.5 percent female Buddhist elders were healthy and 62.8 percent male and 47.5 percent female were unhealthy during the period of study. So, there was significant association with sex and healthy life style ($p=0,094$ compare with $p < 0.05$). Total 51.9 percent elders from 60-69 age

group, 62.2 percent from 70-79 age group and 80.4 percent from 80 and above age group elders were unhealthy during the study. There was significant association with the age group and healthy life style ($p=0.158$ compare with $p<0.05$). By castes, 47.7 percent Newar, 38.3 percent Tamang, 41.7 percent Gurung, 51.1 percent Magar and 53.3 percent other castes were healthy. The data indicates that there was insignificant association between castes and healthy life styles ($p=0.034$ compare with $p<0.05$). The literate were healthy rather than illiterate. So, there was significant association ($p=0.104$ compare with $p<0.05$). The elders with joint family were healthy rather than nuclear family system. The data indicates that there was insignificant association ($p=0.025$ compare with $p<0.05$). The Buddhist elders from farming, service and business occupation were healthy. So, there was insignificant association with occupation and healthy life style ($p=0.036$ compare with $p<0.05$).

Analysis of Variance (ANOVA) for Multiple Regression Analysis

In quantitative analysis, the regression technique is applied to observe at how different independent and dependent variables are associated and how the value of the dependent variable changes when any one of the independent variable is changed. Similarly, the analysis of variance (ANOVA) is applied to measure the level of significance by multiple regression analysis. It is applied to calculate the accurate P value and F-test.

Table: 2-Analysis of Variance (ANOVA)

Model	Sum of Square	DF	Mean square	F-test	P-value
Regression	56.976	6	12.1694		
Residual	29.942	381	0.091537	129.07932	0.002*
Total	91.143	392			

*Significant $P<0.05$

The above data emphasizes the significant of the study. The calculated p-value is 0,002 and it indicates the probability of the regression model forecasting incorrectly. As a finding, the regression model's confidence level is higher than 95% so, it varies the results. If p-value stands 0.000, than the model is significant and the alternative hypothesis is accepted.

Regression Analysis of Coefficient for Research Hypothesis Testing

The regression analysis coefficient is applied for research hypothesis testing for independent variables such as; knowledge and awareness of nutrient elements, frequency and quantity of nutritious food, fresh and hygienic food behavior, use of

meat items liquid nutrient food and fresh fruits and vegetables.

Table: 3-Hypothesis Testing

Independent Variables	B	Standard Error	β	T-test	P-value
Knowledge and awareness	0.713	0.062	0.523	1.921	0.014
Frequency and quantity	0.041	0.055	0.064	0.586	0.525*
Fresh and hygienic food	0.425	0.082	0.648	3.424	0.002
Use of meat and poultry	0.036	0.089	0.055	0.352	0.616*
Liquid nutrient food	0.037	0.071	0.049	0.753	0.518*
Fresh fruits and vegetables	0,314	0.083	0.175	2.754	0.003

*Significant $P < 0.05$

The above table indicates that a significance score of less than 0.05 presents a significant correlation between the independent and dependent variables. The significance level for knowledge and awareness for nutrient food is 0.014, or less than 0.05. So, it indicates that there is a strong relationship between knowledge and awareness on nutrient food and healthy life style among the elderly Buddhists. Similarly, fresh and hygienic food and fresh fruit and vegetables all have significance levels less than 0.05. However, the frequency and quantity of nutritious food, regular use of meat and poultry items and liquid nutrient food all have a insignificant score greater than 0.05. It indicates that there is not a close correlation between these independent variable and healthy life style as a dependent variable for elderly Buddhists.

Result of Hypothesis Testing

The study has some specific hypotheses to test for result. The inferential statistics analysis was applied to test the hypothesis as true in nature. The inferential statistical techniques present clearly whether observed differences between the independent and dependent variables are real or the result of change. The following research hypotheses for existing nutritional behavior and healthy life style among the elderly Buddhists were constructed and tested accordingly.

H1: Knowledge and awareness on nutrient elements have significant impacts on healthy life style.

The regression analysis of knowledge and awareness on nutrient elements has influenced significantly on elderly Buddhists' healthy life style ($\beta = 0.523$, $t = 6.215$; $P = 0.014 < 0.05$). So, **H1** is accepted and it can be concluded that knowledge and

awareness have a significant impact on elderly Buddhists healthy life style.

H2: Frequency and quantity of nutritious food elements affects significantly on healthy life style.

According to the regression analysis data of frequency and quantity of food element has a substantial impacts on healthy life style of elderly Buddhists ($\beta = 0.064$, $t = 0.586$; $P = 0.525 > 0.05$). So, **H2** is rejected and it concludes that frequency and quantity of nutritious food elements have no significant impact on the healthy life style of elderly Buddhists.

H3: Fresh and hygienic food behavior regularly have significant impacts on healthy life style.

Above regression analysis of fresh and hygienic food behavior has significant impacts on the healthy life style of elderly Buddhists ($\beta = 0.648$, $t = 3.424$; $P = 0.002 < 0.05$). So, **H3** is accepted and it is concluded that use of regular fresh and hygienic food behavior has a significant impact on healthy life style of elderly Buddhists.

H4: Regular uses of meat and poultry items have significant impacts on healthy life style.

The regression analysis of regular uses of meat and poultry items impacts significantly on healthy life style of elderly Buddhists ($\beta = 0.055$, $t = 0.352$; $P = 0.616 > 0.05$). The data indicates that **H4** is rejected and it can be concluded that regular use of meat and poultry items have not impact significantly on the healthy life style of elderly Buddhists.

H5: Liquid nutrient food items significantly effect on healthy life style for the elderly Buddhists.

Above regression analysis presents the liquid nutrient food items effect significantly on healthy life style of elderly Buddhists ($\beta = 0.049$, $t = 0.753$; $P = 0.518 > 0.05$). So, **H5** is rejected, it means use of liquid nutrient food items cannot effects significantly on the healthy life style of elderly Buddhists.

H6: Fresh fruits and vegetables affect significantly on healthy life style for the elderly Buddhists.

The regression analysis of use of fresh fruits and vegetables affect significantly on the healthy life style of elderly Buddhists ($\beta = 0.175$, $t = 3.754$; $P = 0.003 < 0.05$). Therefore, **H6** is accepted and it is concluded that regular use of fresh fruits and vegetables have a significant impact on healthy life style of elderly Buddhists.

Discussion

To fulfill the objective of this study, the nutritional behavior and healthy life style of the elderly Buddhists based on research hypothesis and analyzed by inferential statistical techniques which is similar to the study conducted by Devkota (1999). As discussion on socio-economic and demographic status of the elderly Buddhists, female elders were passing healthy life style rather than male elders which is similar to overall health situation of elders which is similar to the study of Black (2020). The elders with highly aged group were facing less healthy life style; this data is similar to the study of Aryal (2017). Similarly, the most of the elders from service and business occupations are passing healthy life style rather than other occupational group and this finding is similar to the study of Gille (2016). The **H1** is based on the knowledge and awareness on nutrient elements and its effect on healthy life style are accepted it means knowledge and aware ness play significant role in nutritional behavior and healthy life style among the elderly Buddhists which is similar to the findings of Kawaguchi (2000). The **H2** with frequency and quantity of nutritious food elements and its effects on healthy life style is rejected which is consistent with Brodner (1992). The **H3** presents that regular use of fresh and hygienic food behavior have significant impacts on healthy life style is accepted and this concept is similar to the research findings of Drewnowski (2001). The **H4** is based on the regular use of meat and poultry items have significant impacts on healthy life style of the elderly Buddhists is rejected it means meat items are not always good for health which is similar to the research conducted by Kouvari (2016). The **H5** is related to use of liquid nutrient food items and its effects on healthy life style is rejected and this study is consistent with Muhammad (2017). The last **H6** is based on the use of fresh fruits and vegetables affect significantly on healthy life style for elderly Buddhists is accepted. It means fresh fruits and vegetables are necessary to body, brain and health for all ages, this finding is similarly to the study conducted by Nicklett (2013).

Conclusion

The above result and discussion concludes that the female, 60-69 aged group, literate group, joint family system and service and business occupation based Buddhist elders are passing healthy life style. The statistical test for research hypothesis concludes that the knowledge and awareness on nutrient food elements, regular use of fresh and hygienic food behavior, regular use of fresh fruits and vegetables effects significantly on healthy life style. Similarly, the frequency and quantity of nutritious food elements, regular use of meat and poultry and use of liquid nutrient food items do not effect significantly on healthy life style of elderly Buddhists.

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