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EDITORIAL NOTE ...

Janapriya Journal of Interdisciplinary studies is an annual, reviewed journal concerened with all aspects of social and natural sciences, educational research and other branches of research; and it is published by Janapriya Research and Consultancy Center (JRCC). The journal offers in-depth analysis of interdisciplinary aspects of research findings in various fields at local and global context as well, It aims to motivate each of the faculties of Janapriya Multiple Campus to write research articles.

The present volume has attempted to include original research articles from multidisciplinary areas of studies. The authenticity of the thoughts and views expressed in these articles solely lies to the authors. We are very much grateful for the contributors for research articles. We are also indebted to all the critics who have helped us to review the articles published herein. Finally, we are also thankful to the campus chief of JMC for his continuous support in publishing the journal.

Editorial team
Janapriya Journal of Interdisciplinary Studies
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Contents

Research Article

Factors Associated with Farmers' Perception towards Climate Change in Pokhara

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Abstract

Climate change is one of the major concerns among the researchers in twenty first century. This study aims to analyze the factors associated with farmers' perception towards climate change in Pokhara. For this purpose, two wards of Pokhara i.e. ward no. 30and ward no. 33 were selected purposively. Out of 3982 households in these wards, 216 households are proportionately distributed in these wards. Information was collected by using structured questionnairethrough interview techniques with household head or a household member having age 40 years and over and residing in that locality since last 10 years. A systematic sampling technique was carried out to select the samples. Chi-squared test was applied to find the factors associated with farmers' perception towards climate change. All the respondents were aware about the climate change and received information about climate change from radio, television, newspaper, peer groups. Majority of the respondents claim that climate change has been occurred in temperature, annual summer hotness, decrease in average annual rainfall, no change in average annual draught incidents, no change in flood incidents, no change in water availability to irrigate and increase in average number of pest and plant disease attack. It is found that there is significant association between farmer's perception level towards climate change with agriculture skill of the respondents, caste/ethnicity, major occupation and sex. Hence agriculture skill, sex, caste/ethnicity and occupations of the respondents are the major factors associated with farmers' perception towards climate change.

Keywords: *Agriculture, climate change, farmer, perception.*

Introduction

Climate change refers to a change in the state of the climate that can be identified (e.g. using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer (IPCC, 2007). A heavy reliance on tourism and agriculture makes Nepal's economy very sensitive to climate variability (CBS, 2011). Agriculture is the main source of food, income and employment for the majority (65.7%) of the population of Nepal (CBS, 2014). About 33 percent of its GDP and more than 50 percent of its export depend on agriculture. Poorest population are involved in agriculture (Satyal, 2010). Agronomic research indicates that higher temperatures associated with climatic change will be very harmful to the production of many crop and livestock groups (Gitay et al., 2001 and Easterling et al., 2007). The average temperature of Nepal is increasing at the rate of approximately 0.06 degrees Celsius per year (Malla, 2008). Increased level of CO2 and temperature have negative impact on nutrient components of the crops (CBS, 2016). It is obvious that people in drought and flood-affected communities have evolved their own adaptation strategies to protect their families, assets and secure food security (Agrawal, McSweeney, & Perrin, 2008; Odjugo, 2010). Moreover, previous studies by various scholars, including Maddison (2006), Ishaya and Abaje (2008), Paavola (2008), Mutekwa (2009) and Lema and Majule (2009) have reported farmer observations of climate change and existing adaptation strategies for managing climate risks, for example, proper timing of agricultural operations and use of different crop varieties. Perception is recognized to be the precondition for adaptation to climate change and variability. It is one among the factors that can influence farmer's decision whether to adapt or not to climate change and variability as they determine decisions of the farmers in management of agricultural activities. Several studies on climate change had revealed that most farmers now perceived the occurrences of CC & V (Maddison, 2006; Gbetibouo, 2009;Kashaigili et al., 2014). In countries like Senegal, China, Ghana, Nepal, Bangladesh, Nigeria, United States of America, farmers have been mentioned to perceive and even adapt to changes in the climate (Mertz et al., 2009; Byg&Salick, 2009; Fosu-Mensah et al., 2010; Maharjan et al., 2011; Haque et al., 2011; Salau, 2012; Arbuckle et al., 2013). Socioeconomic and environmental factors have been demonstrated in various studies to influence farmers' perception and adaptation to changes in the climate (Deressa et al., 2011), those include education, household size, livestock ownership, agro-ecological zone, farm size and access to credit among others.

The impact of climate change (CC) on water resources is likely to affect agricultural systems and food security. This is especially critical in a least developed country (LDC) like Nepal where a high percentage of the population is dependent on agriculture for its livelihoods. While this information on farmers' perceptions on climate change and variability has been more evident, there have not been done sufficiently such type of study in the particular area of mid hill part of Nepal. In overall climate change trend Kaskihas identified as very high risk (0.580-1.00) (NAPA, 2010). Therefore, this study aims to fill the gap for exploring the perception of people towards climate change and factors associated with perception in Pokhara valley, Nepal.

Data and Methods

This study aims to explore the perception of people on climate change and associated factors, both exploratory and analytical type of research design was applied for this study. Quantitative data with primary source was used for this study. A multistage Sampling technique was adopted for choosing the study units. In overall, climate change trend of Kaski have been identified as very high risk (0.580-1.00) (NAPA, 2010). So, at first mid hill part of western Nepal i.e.Kaski District is selected purposively. At second stage, as ward no. 33 of Pokhara Metropolitan City(which was previously rural VDC) which is still rural setting of Kaski and ward no. 30 which is semi-urban setting are selected purposively. From 3982 households of these wards, 216 households (at 6.5 percent margin of error and 5 percent level of significance) are proportionately distributed in wards 30 and 33 as 82 and 134 respectively. At final stage, 216 respondents(household head or household member having age 40 years and over and residing in that locality since last 10 years)were considered as the ultimate respondents for interview and were selected by using systematic sampling techniques. The quantitative data was collected by using structured questionnaire. Pre-test was carried out in the similar settings of these wards among 22 respondents before finalizing the questionnaire.Verbal informed consent was obtained from the participants. Purpose of data collection was explained to the respondents before interviewing. Privacy and confidentiality of all respondents are maintained regarding their information.

For this study, farmers' perception towards climate change is considered as dependent variable and age of household head, gender of household head, education of household head, major occupation, caste/ethnicity,agricultural skill and farming experiences are taken as independent variables. Chi-squared test was applied for finding the associated factors with the level of farmer's perception towards climate change.

Results and Discussion

Based on the information collected from 216 responds, we have the following results and discussions:

Awareness and Means of Information about Climate Change

All the respondents are aware about the climate change and received information about climate change from radio,television, newspaper, peer groups and others. More than ninety percent of the respondents received information about climate change from radio followed by peer groups (88.4%), radio (67.1%), newspaper (59.7%) and others (18.5%). It looks that television and peer groups are the major means for delivering the information regarding climate change.

Table 1

Means of Information about Climate Change

Means of Information	Responses	Percent
Radio	145	67.1
TV	199	92.1
Newspaper	129	59.7
Peer Groups	191	88.4
Others	40	18.5

Source: Field Survey, 2018

Perception towards Climate Change

It is found that all the respondents noticed or perceived climate change during the last ten years.

Annual Average Temperature

Regarding the perception towards annual average temperature, almost all the respondents responded that there is increase in the annual average temperature. This result is same with the study of Udin et al. (2017). Very few respondents view was decrease (1.4%) and no change (0.5%). This result is similar to the study of Ndamani and Watanabe (2015) regarding Farmers' perceptions about adaptation practices to climate change and barriers to adaptation: A micro-level study in Ghana.

Table 2

Annual Average Temperature

Annual average temperature	Frequency	Percent
Increase	212	98.1
Decrease	3	1.4
No Change	1	.5
Total	216	100.0

Source: Field Survey, 2018

Annual average Summer Hotness

Regarding the perception towards annual summer hotness, almost all the respondents responded that there is increase in the annual average summer hotness. Very few respondents' view was decrease (2.8%) and no change (0.5%).

Table 3

Annual Average Summer Hotness

Annual average summer hotness	Frequency	Percent
Increase	209	96.8
Decrease	6	2.8
No Change	1	.5
Total	216	100.0

Source: Field Survey, 2018

Annual Average Rainfall

Regarding the perception towards annual average rainfall, more than two fifth of the respondents (45.4%) responded that there is decrease in the annual average rainfall. More than two third of the respondents (36.6%) responded as no change followed by an increase (14.8%) and don'tknow (3.2%) respectively. Here the majority of the respondents perceived a decrease in rainfall which is similar to the study of Ndamani and Watanabe (2015), Udin et al. (2017) regarding Farmers' perceptions about adaptation practices to climate change and barriers to adaptation: A micro-level study in Ghana.

Table 4

Annual Average Rainfall

Annual average rainfall	Frequency	Percent
Increase	32	14.8
Decrease	98	45.4
No Change	79	36.6
Don't Know	7	3.2
Total	216	100.0

Source: Field Survey, 2018

Annual Average Draught Incidents and Flood Incidents

Regarding the perception towards annual draught incidents, more than two fifth of the respondents (45.8%) responded that they perceived no change in the average draught incidents. More than one fourth of the respondents (28.7%) responded as an increase in the annual draught incidents followed by decrease (20.8%) and don’t know (4.6%) respectively. Further more than half of the respondents (52.3%) responded that they perceived no change in average flood incidents. More than one fourth (27.3%) perceived as decrease followed by don’t know (11.1%) and increase (8.3%) respectively.

Table 5

Annual Average Draught Incidents and Flood Incidents

Annual average draught incidents	Frequency	Percent
Increaser	62	28.7
Decrease	45	20.8
No Change	99	45.8
Don't Know	10	4.6
Average flood incidents		
Increase	18	8.3
Decrease	59	27.3
No Change	115	53.2
Don't Know	24	11.1
Total	216	100.0

Source: Field Survey, 2018

Water Availability to Irrigate the Fields and Average Number of Pest & Plant Disease Attack

Regarding the perception towards water availability to irrigate the fields, almost two fifth of the respondents (39.4%) responded that they perceived no change in the availability of water to irrigate the fields. Almostone third of the respondents (32.9%) responded as an increase in the availability of water followed by decrease (22.2%) and don't know (5.6%) respectively. Further almost all the respondents (96.3%) responded that they perceived increase in the average number of pest and plant disease attack on the agriculture. Very few perceived as no change (2.3%) and decrease (1.4%).

Table 6

Water Availability to Irrigate the Fields and Average Number of Pest & Plant Disease Attack

Water availability to irrigate	Frequency	Percent
Increase	71	32.9
Decrease	48	22.2
No Change	85	39.4
Don't Know	12	5.6
Average number of pest and plant disease attack		
Increase	208	96.3
Decrease	3	1.4
No Change	5	2.3
Total	216	100.0

Source: Field Survey, 2018

Level of perception of the farmers towards climate change

To find the level of perception of the farmers towards climate change, all the indicators of the farmer's perception towards climate change, i.e., annual average temperature, annual average summer hotness, annual average rainfall, annual average draught incidents, flood incidents, water availability to irrigate and average number of pest and plant disease attackwere taken at once and the total score is calculated. Then the total score is divided by the total highest score of the indicators to find the individual mean score (IMS). Then the mean and standard deviation of IMS of 216 respondents are calculated i.e. it is found to be 0.5531 and 0.0645 respectively. The IMS value less than (mean±S.D.) is considered as low level. The IMS value more than (mean±S.D.) is considered as high level and the IMS value within (mean±S.D.) is considered as medium level.Finally frequency analysis is carried out and the output is shown in table no. 7.

Table 7

Farmer's Perception Level towards Climate Change

Level	Number	Percent
Low	29	13.4
Medium	165	76.4
High	22	10.2
Total	216	100.0

Source: Field Survey, 2018 and Authors Calculation.

Out of 216 respondents, more than three fifth of the respondents (76.4%) have medium level of perception towards climate change followed by low (13.4%) and high (10.2) respectively. It shows that the proportion of the respondents with medium level of perception is higher than that of other respondents with low and high level of perception towards climate change.

Factor Associated with Perception of Farmers towards Climate Change

This unit shows the different factors associated with farmer's perception level towards climate change. For this, chi-squared test was applied taking farmer's perception level as dependent variable and other socio-economic variables as independent variables.

Table 8

Factors Associated with Farmer's Perception Level towards Climate Change

Variables	Farmer's Perception Level towards Climate change							
	Low		Medium		High		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Age								
Up to 60 years	23	10.6	122	56.5	17	7.9	162	75.0
> 60 years	6	2.8	43	19.9	5	2.3	54	25.0
Sex***								
Male	22	10.2	106	49.1	19	8.8	147	68.1
Female	7	3.2	59	27.3	3	1.4	69	31.9
Educational Status								
No Formal Education	6	2.8	42	19.4	3	1.4	51	23.6
Primary	13	6.0	59	27.3	9	4.2	81	37.5
Lower Secondary	4	1.9	26	12.0	1	.5	31	14.4

Secondary and above	6	2.8	38	17.6	9	4.2	53	24.5
Caste/Ethnicity***								
Brahmin	10	4.6	73	33.8	13	6.0	96	44.4
Chhettri	5	2.3	27	12.5	6	2.8	38	17.6
Dalit	6	2.8	13	6.0	1	.5	20	9.3
Janajati	8	3.7	52	24.1	2	.9	62	28.7
Major Occupation***								
Agriculture	11	5.1	89	41.2	15	6.9	115	53.2
Non-agriculture	18	8.3	76	35.2	7	3.2	101	46.8
Agriculture Skill*								
Yes	17	7.9	107	49.5	5	2.3	129	59.7
No	12	5.6	58	26.9	17	7.9	87	40.3
Farming Experience (Years)								
10- 20	12	5.6	93	43.1	7	3.2	112	51.9
21-30	10	4.6	49	22.7	10	4.6	69	31.9
31 and above	7	3.2	23	10.6	5	2.3	35	16.2

Note: ** significant at the 5% level of significance

*** significant at the 1% level of significance, P-value is based on chi-squared test

Source: Field survey, 2018.

It is found that there is significant association of farmers' perception level towards climate change with agriculture skill of the respondents at one percent level of significance (P<0.01). This result is same with the study of Udin et al. (2017). Further, there is significant association of farmers' perception level towards climate change with Caste/Ethnicity, major occupation and sex at ten percent level of significance (P<0.1). Whereas, there is no any significant association of farmers' perception level towards climate change with age of the respondents, educational status of the respondents(which is contradictory with the study Mustapha et al., 2012, Ndambiri et al., 2012, Amdu et al., 2013, Akanda and Howlader, 2015 and Udin et al., 2017) and farming experience of the respondents(which is in contradiction with the study of Udin et al.(2017). It shows that agriculture skill, sex, caste/ethnicity and major occupation of the respondents are the major factors associated with farmers' perception level towards climate change. However there is no any significant effect of age, educational status and farming experience in farmers' perception level towards climate change.

Conclusion

The majority of the respondents perceivedincrease in average annual temperature, increase in average annual summer hotness, decrease in average annual rainfall, no change in average annual draught incidents, no change in flood incidents, no change in water availability to irrigate and increase in average number of pest and plant disease attack.

Further it is concluded that agriculture skill, sex, caste/ethnicity and major occupation of the respondents are the major factors associated with farmers' perception towards climate change. So, the government should lunch some trainees regarding agricultural skills and the farmers themselves should be aware about agricultural skills to increase their perceived level towards climate change.

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Research Article

Awareness on Sexual Abuse among Adolescents in Baglung District of Nepal

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Article History

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Abstract

Sexual abuse is a pervasive public health problem that affects all directly or indirectly causing many short- and long-term struggles for victims, families, communities and the whole social system. Although sexual abuse is growing as a major problem in community, especially among the adolescents the trend and facts have not been explored adequately. Therefore, a descriptive study entitled "Awareness on Sexual Abuse among Adolescents" was carried out among 114 students of grade 9 and 10 in Tribhuvan Secondary School at Baglung Municipality. Census method was adopted and self-administered structured questionnaire was used for data collection. Data was analyzed using SPSS Version 16. Descriptive and inferential statistics were used to analyze the data. The findings revealed, almost 51 percent had low level of awareness on sexual abuse, and prevalence rate of sexual abuse was 18.4 percent. Out of 114 respondents, 38.6 percent were of age 14 years and 66.7 percent of the respondents were studying in grade 10. The highest proportion 38.6 percent were Brahmin and 71.0 percent got information about sexual abuse from their teachers. More than half (59.6%) respondents define try to rape as a sexual abuse. There was significant association between education of respondents with awareness on sexual abuse. It is concluded that the awareness on sexual abuse is low among adolescents therefore there is need of awareness program and education to adolescents in the school and community for improving their knowledge as well as to make them aware of sexual abuse.

Key words*: Abuse, adolescent, awareness, prevalence, sexual abuse awareness, sexual abuse*

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Introduction

Child sexual abuse is the involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared and cannot give consent, or that violates the laws or social taboos of society. Child sexual abuse is evidenced by this activity between a child and an adult or another child who by age or development is in a relationship of responsibility, trust or power, the activity being intended to gratify or satisfy the needs of the other person. WHO (World Health Organization) state that that female sex, unaccompanied children, children in foster care, adopted children, stepchildren, physically or mentally handicapped children, history of past abuse, poverty, war/ armed conflict, psychological or cognitive vulnerability, single parent homes/broken homes, social isolation, parent(s) with mental illness, or alcohol or drug dependency are the risk factor for the victim of sexual abuse" (WHO, 1996).

Child sexual abuse is a global problem with serious life-long consequences. International studies reveal that a quarter of all adults' report have been physically abused as children and 1 in 5 women and 1 in 13 men report having been sexually abused as a child (WHO, 2016). There is very little knowledge about sexual abuse among adolescents. Adolescents get information about sexual abuse from school, mass media, friends and parents (Fouche, 2015). Adolescents are not so aware about sexual abuse and whoever are aware; many know about the harassment only after they have been into those situations (Desouky & Marawan, 2013).

High school students with 11 to 20 years responded that they experienced physical abuse where aggressors were neighbors, strangers and relatives (Lucatero, Hernandez, Guerrero & Vasquez, 2009). Different literature revealed that sexual abuse is one of the sensitive and growing problems of children especially of adolescents. In majority of the cases perpetrators are relatives and known person which might be difficult to recognize the victims that they are going to be abused. Impact of sexual abuse are unpredictable as suicidal thought is the effect of sexual abuse. Many study revealed that the level of knowledge/awareness about sexual abuse among adolescents was not good. Therefore, it is a necessary to assess awareness on sexual abuse among adolescents.

Data and Methods

A descriptive cross-sectional research design was conducted to assess the level of awareness on sexual abuse among adolescents. The study was done in Tribhuvan Secondary School, Baglung ward no 13 which is 15 kilometers northwest from Baglung city. Convenience Sampling was done to choose this school for the study. This is one of the oldest and well-known government school of Baglung established in 2007 B.S. Most of the adolescents in that area were enrolled in this school so; this school was selected for the study. The total adolescents who study in grade 9 and 10 were taken for the study. Total number of students in grade 9&10 were 114 students. Complete enumeration was technique was used and all adolescents were enrolled in the study.

Total population of the school is 450. The population of the study was the adolescents who study in grade 9 and 10. All 114 students were enrolled in the study. A self-administered questionnaire schedule was developed to collect data on the basis of objectives of the study. It consists of two parts with total 24 questions. Part I consists of questions related to demographic information of the respondents and Part II consists of questions related to awareness on sexual abuse along with 5 questions regarding the experience of sexual abuse.

Tool was finalized on the basis of objectives of the study. Content validity of the tool was ascertained by consultation with colleagues, research advisors, faculties and subject experts. Pretesting of the tool was done in school children similar in setting to assess the clarity, feasibility and appropriateness of tool among 12 (10% of the sample) students of class 9and 10 (6 from each class) in Shree Nava Prabhat Secondary School, Pokhara. Necessary modification was done after pretesting in order to ascertain the relevancy, consistency and completeness of instrument.

Data was collected after getting approval from T.U. I.O.M. Pokhara Campus and formal permission from Tribhuvan Secondary School. The objectives of the study were clearly stated and explained to each respondent. They were clearly explained about their voluntary participation in the study and they were free to refuse to participate in research. Informed verbal consent was taken from the respondents. Then self-administered questionnaire were distributed to the respondents that were collected on the same day by the researcher herself. Time duration for each respondent was 15-20 minutes. Data was collected from 2074/02/21-2074/03/02. Confidentiality was assured by not disclosing the information given by respondents and it was explained to them.

Data was arranged and tabulated in computer to present the findings and was analyzed and interpreted by employing both descriptive (frequency, percentage, mean and standard deviation) and inferential statistical method (Chi-square test). The level of significance was set as 5% with p value <0.05 and 95% confidence interval. Regarding knowledge, each of the correct answer was given the weightage score 1. The level of awareness was calculated by using mean value of total awareness. The level of awareness was categorized in low level, average level and high level awareness (Jasmine & Hamed, 2016).

Results and Discussion

Table 1

Respondents Classified According to Selected Background Characteristics

Characteristics	Number	Percentage
Age (in years)		
13	13	11.4
14	44	38.6
15	32	28.1
16	25	21.9
Mean ± SD 14.60±0.95		
Gender		
Male	52	45.6
Female	62	54.4
Current grade of class		
Grade 9	38	33.3
Grade 10	76	66.7
Ethnicity		
Brahmin	44	38.6
Chhetri	19	16.7
Janajati	08	7.0
Dalit	43	37.7
Family Type		
Monogamous	107	93.9
Polygamous	05	4.4
Single parents	02	1.8
Father's Education		
Illiterate	09	7.9
Can read and write	23	20.2
Primary level	15	13.1
Secondary level	35	30.7
Higher education	32	28.1
Mother's education		
Illiterate	15	13.2
Can read and write	22	19.2
Primary level	24	21.1
Secondary level	41	36.0

Higher education	12	10.5
Source*		
Teacher	81	71.1
Parents	26	22.8
Other family member	19	16.7
Friends	30	26.3
Mass media	73	64.0

Note: *multiple responses

Source: Field survey 2074

Table 1 shows that 44.0 percent of the respondents belonged to age 14 years and the mean age was 14.6 years. Almost 55.0 percent of respondents were female with 38.6 percent of respondents belonged to age group 14. The mean age was 14.60 years (standard deviation ± 0.95years) and 66.7 percent of the respondents were of grade 10. The highest proportions 38.6 percent of the respondents were Brahmin and most (93.9%) of the respondents belonged to monogamous family. The study showed that 30.7 percent of the respondents' fathers' and 36.0 percent of the respondents' mothers' education was secondary level. From teacher 71.1 percent of respondents got information about sexual abuse.

Table 2

Awareness on Sexual Abuse among Respondents

Characteristics	Number	Percentage
Meaning of sexual abuse*		
Shown pornographic materials	39	34.2
Touch or catch others, private body parts	43	37.7
Try to see naked/ private parts	46	40.4
Use of vulgar wards	48	42.1
Rape	62	54.4
Expose own private part by perpetrator	63	53.3
Try to rape	68	59.6
Knowledge about law		
Perpetrator should be punish	112	98.2
There is law against sexual abuse	76	66.7
Victim of sexual abuse		
Children	02	1.8
Preteens	07	6.1
Adolescents	93	81.6
Youth	12	10.5
Gender of victim		

Boys only	01	0.9
Girls only	28	24.5
Both boys and girls	85	74.6
Place of sexual abuse*		
School	10	8.8
Home	15	13.2
Work place	42	36.8
Public place	93	81.6

*Multiple response

Source: Field survey 2074

Table 2 reveals that 59.9 percent of the respondents defined sexual abuse as try to rape. It was found that 66.7 percent were known about the law against sexual abuse in Nepal and most (98.2%) of respondents stated that the perpetrator should be punished. Regarding the knowledge about the victim of sexual abuse 81.6 percent respondents answered as adolescents where 74.6 percent mentioned both boys and girls can be the victim of sexual abuse. Eighty one percent of respondents indicated public place as a place for sexual abuse.

Table 3

Awareness on Consequences and Approach to Stop Sexual Abuse

Characteristics	Number	Percentage
Reason behind sexual abuse *		
Overcrowded households	06	5.3
Thinking lowly of own self	11	9.6
Living with single parents	12	10.5
No friend support	14	12.3
Living with step parents	22	19.3
Parents don't talk about sexual abuse	35	30.7
No sexual education	44	38.6
Pressure from friends	45	39.5
Dress up	48	42.1
Bad family relationship	55	48.2
No discipline in home	55	48.2
Drinking a lot of alcohol	70	61.4
Taking drugs	93	81.6
Consequences of sexual abuse *		
Eating disorder	19	16.7
Sleeping disorder	21	18.4
Depression	30	26.3
Anxiety	62	54.4

Phobia	73	64.0
Suicidal thoughts	84	73.7
Best approach for sharing information*		
Information pamphlets	24	21.1
Showing documentary	44	38.6
Education	63	55.3
Website information	69	60.5
Best approach for stop sexual abuse *		
Education	47	41.2
Awareness program	71	62.3
Strong law	77	67.5

Note: *Multiple response

Source: Field survey 2074

Table 3 shows that total 81.6 percent respondents stated that the using drugs can cause sexual abuse and 73.7 percent mentioned suicidal thought as a consequence of sexual abuse. Sixty percent indicated that website is the best way to share information and 67.5 percent of respondents mentioned strong law is the best approach to stop sexual abuse.

Table 4

Respondent's Experience of Sexual Abuse *(n = 21)*

Characteristics	Number	Percentage
Types of abuse faced*		
Try to see naked/private parts	01	4.8
Touch or catch other body parts	03	14.3
Perpetrator expose own private part	04	19.0
Try to rape	04	19.0
Shown pornographic materials	05	23.8
Use of vulgar words	14	66.7
Frequency of event		
Rarely	01	4.8
Frequently	04	19.0
Only once	16	76.2
Perpetrator		
Teacher	01	4.8

Relatives	02	9.5
Stranger	04	19.0
Friends	05	23.8
Lover	09	42.9
Sex of perpetrator		
Female	10	47.6
Male	11	52.4

Note: *Multiple response

Source: Field survey 2074

Table 4 shows that among 114 respondents, total of 21 adolescents were exposed to sexual abuse. Among them 66.7 percent of respondents experienced the use of vulgar word as a sexual abuse and 76.2 percent experience for only one time. Forty three percent of perpetrators were lover among whom 52.4 percent were male.

Table 5

Level of Awareness on Sexual Abuse *(n = 114)*

Level of Awareness	Number	Percentage
Low level	58	50.9
Average level	06	05.3
High level	50	43.9

Note: The level of awareness was calculated by using mean value of total awareness (Jasmine & Hamed, 2016). The minimum score of awareness is 12 and maximum score is 40. Mean value is 21.94 and Std. Deviation ± 5.525.

Source: Field survey 2074

Table 6

Association Between Level of Awareness on Sexual Abuse With Selected Variables (n=114)

Variables	Level of Awareness				
	High level n (%)	Low level n (%)	χ^2	(df)	*p*-value
Age(in years)					
13-14	27(47.4)	30(52.6)	0.140	1	0.708
15-16	29(50.9)	28(49.1)			
Gender					
Male	25(47.2)	28(52.8)	0.151	1	0.697
Female	31(50.8)	30(49.2)			

Education					
Class 9	13(23.2)	25(43.1)	5.052	1	0.024
Class10	43(76.8)	33(56.9)			
Past experience					
Yes	13(61.9)	8(38.1)	1.683	1	0.195
No	43(46.2)	50(53.8)			
Father's education					
Illiterate	14(43.8)	18(56.3)	0.514	1	0.473
Literate	42(51.2)	40(48.8)			
Mother's education					
Illiterate	18(48.6)	19(51.4)	0.005	1	0.94
Literate	38(49.4)	39(50.6)			

Source: Field survey 2074

Table 6 shows, there is significant association between the education of respondents with awareness (p<0.05) but it is revealed that there is no significant association between level of awareness on sexual abuse with age, gender, past experience and parents' education.

Discussion

The present study showed 54.4 percent of respondents were female with 38.6 percent of respondents belonged to age group 14. The mean age was 14.60 years (standard deviation ± 0.95years) and 66.7 percent of the respondents were of grade 10. The highest proportions 38.6 percent of the respondents were Brahmin and most (93.9%) of the respondents belonged to monogamous family. The study showed that 30.7 percent of the respondents' fathers' and 36.0 percent of the respondents' mothers' education was secondary level. This study revealed that the major sources of information on sexual abuse were teachers in 71.1 percent of respondents which is consistent to the findings of previous the study (Nlewem & Amodu, 2016; Fouche, 2015).

In the present study, high level of awareness was seen in 43.9 percent, average level awareness in 5.2 percent and low-level awareness in 50.9 percent. The level of awareness score is dissimilar to the findings of a previous study where good knowledge seen in 27 percent average knowledge in 62 percent and 11 percent with poor knowledge (Anusha et al., 2015).

In this study 59.6 percent of the respondents defined sexual abuse as try to rape and 54.4 percent of them perceived sexual abuse as an expose of private part by perpetrator. This response is similar to the study done in Abia State Nigeria (Nlewem & Amodu, 2016).

The study mentioned that 66.7 percent were known about the law against sexual abuse in Nepal and most (98.2%) of respondents stated that the perpetrator should be punished which is consistent to another study done at Chennai (Joshe, 2015).

Regarding the knowledge about the victim of sexual abuse 81.6 percent respondents answered as adolescents which is supported by a study conducted at rural area of the Northern Cape (Fouche, 2015) while 74.6 percent mentioned both boys and girls can be the victim of sexual abuse which is similar to the study revealing that girls are not only victim of sexual abuse (Dzimadzi & Klopper, 2007).

Eighty-one percentage of respondents indicated public place as a place for sexual abuse this finding is consistence to the study of Menoufiya University (Desouky & Marawan, 2013) and inconsistent to study where the higher number of respondents responded home as a place of sexual abuse (Jasmid & Hameed, 2016). Regarding the reason behind sexual abuse 81.6 percent stated the use of drug which is consistent to the study conducted at rural area of Northern Cape (Fouche, 2015).

Present study revealed that 73.7 percent mentioned suicidal thought as a consequence of sexual abuse which is inconsistence to the finding of study done at Minnisota University showing anxiety (Muse, 2013). Sixty percent respondents indicated that website is the best way to share information and 67.5 percent mentioned strong law is the best approach to stop sexual abuse. This finding is the similar to the study done in rural area of Northern Cape (Fouche, 2015).

In concerning the prevalence of sexual abuse was 18.42 percent which is consistent to the previous research study (Lucatero, et al., 2009; Joshe, 2015). In this study 66.7 percent respondents experienced the use of vulgar word, faced the exposure of pornographic materials which is consistence to the study done at Tirunelvelli district (Pavithra & Relton, 2017).

Present study mentioned that 76.2 percent experienced sexual abuse for only one time which is similar to the study with finding the length of the time of sexual abuse lasted were one time only (Lucatero, et al., 2009). The study showed 42.9 percent of perpetrator were lover and the 52.4 percent of perpetrator were male which is consistence to another study done by Dzimadzi & Klopper, (2007).

There is significant association between the education of respondents with awareness on sexual abuse ($p<0.05$) but not with age, gender, past experience and parent education. This finding is inconsistent to the study done at Punjab (Kaur, 2017). There is no significant association between level of awareness among experienced and non-experienced respondents which is similar to another study (Dzimadzi & Klopper, 2007).

Conclusion

The study concluded that half of the respondents have low level of awareness on sexual abuse and there is significant association between the education of respondents with awareness. On the basis of finding on awareness level it is needed to provide awareness program to respondents regarding sexual abuse.

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Research Article

Knowledge and Practices towards Avian Influenza among Poultry Workers in Pokhara

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Abstract

Avian influenza is currently a threat to global health. Prevention and control of Avian influenza depends on the knowledge and preventive practices of the poultry workers as well as general population. This article aims to assess the knowledge and preventive practices related to Avian influenza among poultry workers in Pokhara. Descriptive cross sectional study was conducted among 108 poultry workers in Pokhara using purposive sampling. Data was collected through face to face interview using structured interview schedule. The obtained data was analyzed by using descriptive (frequency, percentage, mean and standard deviation) and inferential statistics (Pearson correlation). The findings revealed that only 11.1 percent of the respondents had good knowledge. Only 26.9 percent gave correct answer about causative agent and three out of four gave correct definition of Avian influenza. Nearly two-third of the respondents had good practice of preventive measures. There was no significant relationship (r= 0.117, p= 0.226) between knowledge and practice score. The study concludes that the knowledge of Avian Influenza among poultry workers was low and the Practice was found relatively better. The groups should be targeted for appropriate intervention based on knowledge.

Keywords : *Avian influenza, knowledge, Pokhara, poultry workers, practice*

Introduction

Avian Influenza (AI) or "Bird Flu" is a highly contagious viral infection which can affect all species of birds as well as humans and can manifest itself in different ways depending mainly on the ability of the virus to cause disease *(Beigel et al.,* 2009*)*. It transmit from bird to human probably environment to human and limited or rarely from human to human. The most well-

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known of these are Avian Influenza viruses circulate in poultry. The global mortality rate for human with Avian Influenza is 60 percent. Globally, it is one of the emerging problem that has been in developed as well as developing countries.

Poultry farmers are on the first line when it comes to risk of contracting AI. A cross sectional study on knowledge, attitude and poultry handling practices of poultry workers in India revealed that knowledge regarding AI was acceptable but poorly correlated with actual biosecurity practices (Kumar, Sreevastan, Joseph, Alle & Belanik, 2013). Similarly, a study conducted in Kathmandu, Nepal on social determinants that lead to poor knowledge about and inappropriate precautionary practices towards Avian Influenza among Butchers revealed that 38.7 percent had some knowledge while 44.6 percent had satisfactory practices. None of the respondents had adequate knowledge or displayed practices (Poudel, Acharya & Adhikari, 2013).

In the developing country like China, the cases on human death was 100 percent in 2003 which has been declined to 50 percent in 2010. Similarly in Egypt, the case on human deaths was 56 percent in 2003 and declined to 45 percent in 2010. Since 2005, a number of other Asian countries have reported cases of H5N1 including Afghanistan, Bangladesh, India, Myanmar and Pakistan and most recently Bhutan and Nepal (WHO, 2018). Avian influenza virus spreads in the air and in manure and there is no evidence that the virus can survive in well cooked meat. The most well H5N1 hits Nepal for first time on January 16, 2009. The first outbreak was confirmed in Kankarbhitta on January 16. 28,000 chickens were killed in the area to control the virus (Manandhar, Chatau & Shrestha, 2013). To identify Knowledge and Practices among Poultry Farmers is very much essential. Hence this article aims to explore Knowledge and Practices regarding Avian Influenza among Poultry Workers in Pokhara.

Data and Methods

A quantitative descriptive cross sectional study design was used to conduct this study. The study was conducted at Pokhara Lekhnath Metropolitan City-32 because of its feasibility. Purposive method was used to select 108 sample which was calculated on the basis of prevalence of similar study done at Kathmandu, Nepal (Poudel, Acharya & Adhikari, 2013). In this research, structured interview schedule was used as research instrument to collect data. The instrument was developed through literature review and consultation with research advisor and subject expert. The instrument consisted three part : part I related to socio-demographic information like age, sex, educational level etc.(QNo.1 to 12) Part II, questions related to knowledge of avian influenza (QNo.13 to 22) and Part III, related to practice of avian influenza (QNo.23.1 to 23.9). Pretesting of the developed instrument was done at Bhattarai Poultry form on 11 poultry workers meeting the similar criteria. Validity and reliability of the tool as ascertained by consulting with research advisor and experts. The study was carried out after approval of research proposal from the research committee of Novel Academy, formal permission was taken from ward number 32 of Pokhara Lekhnath Metropolitan City. Verbal informed consent was taken from respondents prior to the data collection. Respondents were assured that all the information given during the data collection was used only for the research purpose and confidentiality was maintained by taking interview separately and anonymity was maintained by writing only the serial numbers but not their name. After the data collection, the researcher provided information on queries of the respondents.

After the collection of data, the data was checked for completeness and error. Then, it was edited, organized, coded, classified and was entered in SPSS version 20. Interpretation was done by using descriptive statistics (i.e. frequencies, percentage, mean, median, standard deviation) and inferential statistics (Pearson correlation) was used to show the relationship between Knowledge and Practice score.

Results and Discussion

Table 1

Socio Demographic Characteristics of Respondents *(n=108)*

Characteristics	Frequency	Percentage
Age		
15-24		20.4
25-34	42	38.9
35-44	36	33.3
45	08	7.4
Sex		
Male	78	72.2
Female	30	27.8
Religion		
Hindu	97	89.8
Buddhist	11	10.2
Ethnicity		
Brahmin/Chhetri	40	37
Janajati	30	27.8
Dalit	38	35.2

Educational Status		
Uneducated	09	8.3
Primary	27	25.0
Secondary	31	28.7
SLC or above	41	38.0
Type of family		
Nuclear	81	75
Joint	27	25
Working Status		
As a poultry worker and owner both	21	19.4
As employees only	87	80.6
Type of medias		
Mass media	78	72.2
Health personals	09	8.3
Family/Friends	21	19.4
Involvement in this occupation		
Less than 3years	67	62.0
More than 3years	41	38.0

Source: Field survey 2017

Table 1 shows that more than one third (38.9%) of the respondent were of 25-44 years. More than three quarters of the respondents (72.2%) were male. Regarding the religion, majority of them (89.9%) were Hindu religion followers. More than one third (38.0) of the respondents were educated up to SLC and above .Three out of four respondents were living in nuclear family.

Table 2

Knowledge of Avian Influenza among Respondents *(n=108)*

Variable (Question)	Frequency	Percentage
Avian influenza is disease of birds and transmitted to humans	81	75
Avian influenza is caused by bacteria	79	26.9
Avian influenza is communicable	100	92.6
How avian influenza is transmitted		
Contact with infected birds animals	100	34.8
Contact with virus caused by slippers , clothes	86	30.0
Human to human	54	18.8
Contact with infected manure and equipments	47	16.4
Signs and symptoms in birds		
Sudden death without any signs	90	20.4

Lack of coordination	62	14.4
Swelling of eyelids	57	12.9
Purple discolaration of comb, hooks	55	12.5
Decreased eggs	47	10.7
Soft shelled eggs	37	8.4
Measures to take if avian influenza is suspected*		
Keep in separate room	93	27.7
Precautions taken	77	22.9
Report to the respective authority	70	20.8
Provide food to different place	65	19.3
Kill them	31	9.2
Signs and symptoms in humans		
Cough	85	20.9
Respiratory distress	79	19.5
Common cold	72	17.7
Diarrhea	49	12.1
Swollen eyes	43	10.6
Fever	40	9.9
Headaches	38	9.4
Prevention of avian influenza in human		
Wear gloves ,boots and masks	100	25.8
Restrictions of people	77	19.9
Dispose waste properly	73	18.9
Use separate clothes	71	18.3
Wash hands properly	66	17.1
Transmission to human*		
Eat raw meats and products	98	29.3
Breathes through air	86	25.7
Contact with infected equipments	80	24
Contact with infected chickens	70	21.0

Source: Field survey 2017

Table 2 shows that three out of one respondents could define the avian influenza correctly. As regard to the transmission, 34.8 percent were well known about contact with infected birds and animals and 16.4 percent said that contact with infected manure and equipment can transmit disease. Regarding signs and symptoms in bird, 20.4 percent mentioned sudden death without any signs and eight percent mentioned soft shelled eggs. Only 27.7 percent correctly answered to keep in a separate room and nine percent mentioned to kill them as a measure to take if avian influenza is suspected. Regarding signs and symptoms in human, 20.9 percent answered cough and nine percent answered headache. Similarly, 25.8

percent mentioned to wear gloves, boots and masks and 17.1 percent answered to wash hands as preventive measures. Less than one third (29.3%) mentioned that eating raw meats and products can transmit disease. Similarly, 21.0 percent answered that contact with infected chickens as the transmission to human can transmit disease.

Table 3

Knowledge about Avian influenza among respondents *(n=108)*

Knowledge level	Frequency	Percentage
Good(>80%)	41	11.1
Fair(50-80%)	64	80.6
Poor(<50%)	09	8.3

Source: Field survey 2017

Table 3 illustrates that majority (80.6%) of the respondents has fair knowledge level on Avian Influenza.

Table 4

Practice towards the Prevention of Avian Influenza *(n=108)*

Practices	Always (%)	Sometimes (%)	Never (%)
Use of separate clothes	85 (78.7)	16 (14.8)	7 (6.5)
Contact with bird cages	96(88.9)	7 (6.5)	5 (4.6)
Keep in separate farms	81 (75)	21 (19.4)	6 (5.6)
Put lime	57 (52.8)	37 (34.3)	14 (13.0)
Consult doctors	24 (22.2)	44 (40.7)	40 (37.0)
Treat separately	81 (75.0)	19 (17.6)	8 (7.4)
Inform to livestock offices	78 (72.2)	17 (15.7)	13(12.0)
Dispose dead body properly	76 (70.4)	27 (25.0)	5(4.6)

Source: Field survey 2017

Table 4 shows the respondent's practice on Avian Influenza in which 78.7 percent always use separate clothes ,while 88.9 percent always contact with bird cages .Similarly, 75 percent always keep in separate farms. Regarding to the putting lime ,52.8 percent always does. In the same way 40.7 percent sometimes consult doctors. Similarly, 75 percent always treat separately. Regarding the information to live stock offices, 72.2 percent always does. Whereas, 70.4 percent always disposes dead body properly.

Table 5

Practice on Avian Influenza *(n=108)*

Practice	Frequency	Percentage
Good (75-100%)	64	59.3
Fair (50-75%)	41	38.0
Poor (<50%)	03	28

Source: Field survey 2017

Table 5 illustrates that 59.3 percent of respondents has good practice on Avian Influenza.

Discussion

The primary aim of this study was to investigate the knowledge and practice of avian influenza among poultry workers in Pokhara, Nepal which was done by using unstructured interview schedule. In present study, 8.3 percent had poor knowledge and 59.3 percent had good preventive practices which are contrast to the findings to the study conducted in Sindhuli district of Nepal. It might be due to the reason that the researcher had conducted the study in the setting where all the workers follows similar kind of practice even they have lack of knowledge (Kumar et al., 2013).

In present study, 75 percent gave correct definition of bird flu. Regarding the transmission of bird flu, 29.3 percent from uncooked raw meat, 41.8 percent from human to human was answered by respondents. This result is not consistent with the result of the study conducted in Ikorodu, Logus State, Nigeria where 38.1 percent defined correctly as a disease of bird and transmitted to human and transmission from 54.5 percent uncooked raw meats , 41.8 percent from human to human (Elelu, 2017). In present study signs and symptoms in birds includes, (20.4%) sudden death, (12.5%) purple discoloration of comb, hooks, (17.7%) difficulty breathing and 12.1 percent diarrhea. Whereas, varied result was found in a study conducted in Bangladesh, in which the signs and symptoms present in birds were: 77.3 percent sudden deaths, 18.79 percent purple discoloration of comb, hooks, 2.09 percent difficulty breathing and 1.13 percent diarrhea. Regarding practices of using separate clothes in present study, 78.7 percent always does. Similar findings was concluded in a study conducted in Italy i.e. 82.9 percent always use separate clothes (Islam, Kabir & Begum, 2013).

In present study, signs and symptoms indicated by the respondents were fever by 9.9 percent, cough by 20.9 percent and diarrhea by 12.1 percent. Contradictory finding was found in a study conducted in Cambodia in which signs and symptoms indicated by respondents were fever by 64.6 percent, cough by 34.6 percent and diarrhea by 6.1 percent. But in the same study the good practice percentage (59.3) of present study founds to be similar i.e. 58.9 percent (Khun, Heng & Hideki, 2012).

In this study 11.1 percent has good knowledge level, 80.6 percent has fair and 11.1 percent has poor. The result is not similar to the study conducted in Egypt, which revealed that 8.1 percent had good knowledge level, 42.9 percent had fair level and 49.0 percent had poor level of knowledge. Similarly the practice level is also contradictory to the finding of the same study. In present study, 59.3 percent has good practice, 38 percent has fair and 28 percent has poor practice level and ,good 31.3 percent fair 53.3 percent and poor 15.4 percent which are contrast to each other (Ally, Oveda, Hellal & Madian, 2007).

Conclusion

It can be concluded that majority of the poultry workers had fair knowledge about avian influenza and the practice was good among them. The overall practice level was found relatively better than the knowledge of poultry workers. There was no significant relationship between Knowledge and Practice of Avian Influenza among Poultry Workers. There is still a place for improvement of Knowledge and Practice of Avian Influenza among Poultry Workers in Pokhara.

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Research Article

Financial Performance of Janapriya Multiple Campus Pokhara

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Abstract

Financial performance analysis is based on financial statement. Financial statement is a final product of accounting process. Fundamentally, financial performance analysis refers to financial statement analysis to identify financial strength and weaknesses by establishing appropriate relationship among the figures of income statement and balance sheet. The main objective behind this study was to assess the financial performance of Janapriya Multiple Campus (JMC). Beside this, it also aimed to compare the financial performance and analyze the financial changes over a period of five years along with examining the cost recovery rate of JMC. This research was done with the help of secondary data entirely gathered from the annual report and official documents of the campus. The financial performance measured by using various financial/accounting and statistical tools such as common size financial statement, horizontal trend percent analysis, profitability ratios, mean and standard deviation. Based on the analysis, internal sources of fund including reserve and surplus, long term fund and campus development fund contribute more than 65percent of the total liabilities/total assets. The highest percentage of permanent capital and fixed assets denote that the durable assets and fixed deposit amount were covered by the internal sources of fund. Findings have been arrived that the campus has got enough current assets to meet its current liabilities. The income statement shows total revenues increased every year at good rate and profit also increased every year except the years of 2070/71 and 071/72. In average, all profitability ratios are positive. Moreover, the analysis of collected data showed that there is no high fluctuation in the calculated profitability ratios and cost recovery rate. There exist positive relationship between revenue and expenses but the relationship is insignificant. Revenue explains 52.3 percent variation of variation in expenses. However, the institution is financially viable and there is a strong possibility to make money in long run.

Keywords: *Assets, expenses, financial performance, financial statement, profitability ratio, revenue*

Introduction

Basic and minimum level objective of any organization is to survive at any cost. And then, they can seek for long term existence in this tough competition age. Long term existence is possible only when the organizations can earn sufficient operating profit by using their scarce resources. Profit is not god gifted. Nor it happens by chance. It has to be managed by each and every organization. Ultimate goal of profitability can be achieved by efficient use of resources. It is related with maximization of wealth and can be attained through financial performance analysis. Financial performance is a subjective measure of how well an organization uses its resources to generate revenues. This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare with similar organization. Financial performance refers to the act of performing financial activity. Financial performance analysis is the process of determining the operating and financial characteristics of a firm from accounting and financial statements. The goal of such analysis is to determine the efficiency and performance of firm's management as reflected in the financial records and reports (Bhunia, Mukhuti & Roy, 2011).

Financial performance analysis is necessary for the proper management of profit which is based on financial statement of a certain accounting period. Financial statement comprises income statement, statement of retained earnings, balance sheet and cash flow statement. Income statement is a profit and loss account that summarizes operation result of an organization for a given time period. It shows whether a concern making or losing money (Pillai & Bagavathi, 1998). Statement of retained earning shows profit retained after appropriation. The retained profit is the amount that can be reinvested in an organization. Balance sheet is a financial statement that shows financial position of a concern for a particular point of time. It is a status statement as it shows the financial status of any organization on a particular date (Gupta & Radhaswamy, 1996). Cash flow statement provides information about inflow and outflow of cash of a firm in an accounting period. It is a part of financial statement which explains the changes in cash position from one balance sheet date to another balance sheet date (Dangol & Dangol, 2010).

Financial statements are the most important sources of information to all the users of accounting information like lenders, suppliers, government agencies, financial analyst, employees, organization's management etc. Employees can use them to demand for additional salary and benefits. Lenders use them to make lending decision. Government may use the same to formulate tax policies. The statement acts as a basis for management to perform managerial functions like planning, promotion, decision making, research and development etc.(Koirala et al., 2013).

Financial statement analysis is the process of identifying financial strengths and weaknesses of the firm by establishing proper relationship among the figures of financial statement (Bajracharya et al., 2014). Financial performance analysis is prepared mainly for decision-making purposes. The information given in the financial statements is of immense use in making decisions through analysis and interpretation of financial statements. Comparative Financial Statement analysis provides information to assess the direction of change in the business. Financial statements are presented on a particular date for a particular period. The balance sheet indicates the financial position at the end of an accounting period and income statement shows the operating and non-operating results for a period. But financial managers and top management are also interested in knowing whether the business is moving in a favorable or an unfavorable direction. For this purpose, figures of current year have to be compared with those of the previous years. In analyzing this way, comparative financial statements are prepared (Ravichandran & Subramanian, 2016). Successful investing has no secret formula. A good strategy and a basic understanding of the rules of the game are required to do well in the long run. Since financial statements are basic tools of fundamental analysis, it is important to be able to read and analyze them. Financial statements provide the means to measure the performance of the company and its management (Bajkowski,1999).

Financial statement analysis is the collective name for the tools and techniques that are intended to provide relevant information to decision makers. This analysis enables investors to evaluate past performance and financial position, and to predict future performance. Information about past performance is useful in judging future performance. Trends of past income ,earnings, surplus, cash flow, return on assets etc. provide basis for evaluating the efficiency of an organization and helps in assessing its prospect (Narayanaswamy, 2003). Financial analysis is the process of assessing the financial position of a company by analyzing its stability, viability and profitability. One of the primary objectives of financial analysis is to recognize changes in financial trends, to help measure the progress made by an enterprise and identify a relationship to draw a logical conclusion on the performance of the company. Profitability and financial performance could be defined as a measurement of the results of a firm's polices and operations in monetary terms (Sultan, 2014).

The main problem in any organization is making correct estimates for the future which cannot be done unless data representing changes over a period are systematically and scientifically analyzed. Financial analysis is a powerful mechanism which helps to ascertain the strength and weakness in the operation and financial position of an enterprise. Financial analysis is the process of identifying the financial health of the firm by properly establishing relationship between the items of the balance sheet and the profit and loss account. To be more specific to the problem, the study tries to answer the research questions, what is the order of magnitude of changes in income, expenses, assets and liabilities? What are the major changes in the financial statement items for successive study period? What is the position of cost recovery rate? Thus, the main objective of this paper is to assess the financial performance of JMC. In addition to this, it also aims to compare the financial performance and to analyze the financial changes over a period of five years and to examine the cost recovery rate of JMC. The finding of this paper has to be cautiously and carefully used because the analysis is based only on the last five years.

Prior to this, studies were limited to manufacturing company, trading stores, hospitals and constituent colleges. There is not any study that has been done on financial performance of public campus like JMC. Therefore, the study will certainly be much worthy as it will fulfill the lack. This paper, obviously, will help to formulate plans and policies regarding revenue maximization and cost minimization of JMC. Providing a base for the further studies to researchers on related topic will be another additional merit of the study.

Conceptual Framework

Income statement and balance sheet are very important reports of any organization in assessing the overall financial position as income statement captures the company's operating performance and balance sheet shows its net worth. Financial performance could be assessed using the following key measures which are important to assess the current financial position and performance. These are descriptive and analytical measures of financial position and performance. The former includes current assets, current liabilities, total assets, total revenues, total expenses and net surplus. And analytical measures of financial position and performance could include profitability measures. Thus, researcher would like to study and investigate the financial statements of JMC, its profitability and performance. The income statement and balance sheet are the outcome of accounting process of a certain period of time that provides valuable information to stakeholders. Every firm is mostly concerned with its profitability and performance. Therefore, the general purpose of a financial statement is aimed to meet the need of a wide range of users. Most of the organizations have a main objective to maximize their profits. Traditionally, the firm performance is evaluated based on profits, reflected in the income statement. Financial statements analysis measures performance and profitability of any firm. Horizontal analysis, vertical analysis, cost recovery rate, return on assets, return on fixed assets and return on net worth are used to measure the financial performance.

The absolute accounting figures reported in the financial statements does not provide any fruitful meaning until and unless the figures are compared to each other. The study is concerned on financial analysis to evaluate the financial performance and profitability of the campus. The future plans and policies of JMC should be laid down in view of the firm's financial strength and weakness by properly establishing relationship between the items of balance sheet and income statement. It is only rearrangement of data given in financial statements, and analysis and discussions are based on the available data. Inter campus comparison is not possible because the study covers only one campus.

Data and Methods

JMC, a QAA certified public campus affiliated to Tribhuvan University and National Education Board, Nepal, was established in 1991A.D with the active involvement of local community including social workers, teachers, educationist and social organizations having 14 teaching staff, 4 non teaching staff and 124 students in proficiency certificate of Management and Humanities faculties situated in a centre of clean and beautiful city of Nepal, Pokhara. JMC has been offering plus two level in management, science, education and humanities, BBS, BBA, BA, B. Ed, B.Sc. Environment, B.Sc. Microbiology, BMTM of Bachelor level and MBS of Master level along with 126 teaching staff, 42 non teaching staff and 4042 students. There is no any study about the financial soundness of this campus. Easy accessibility of data, less time consuming and cost effectiveness are the major responsible factors behind the causes of selecting the study area. This paper totally depends upon the secondary sources of quantitative audited data annually published by JMC ranging from fiscal years 069/70 to 073/74. The reliability of secondary data has not been examined but the ethical approval has been taken from JMC to conduct research work based on the audited published secondary data. Descriptive and analytical research design was used to achieve the research objectives. The collected data have been presented in a tabular form. Tables related with common size comparative balance sheet, common size comparative income statement, cost recovery rate and return in relation to total assets, net worth and total revenue are presented separately. The data have been analyzed with the help of financial and statistical tools like percentages, proportions, ratios, mean and standard deviation. Collected data were analyzed through the use of statistical packages for social sciences (version 22) software.

Expenses are made by any organization to increase revenue and the expenses are based on income level. Hence, a estimating linear equation of the expenses and income has been used in the form of $Y= a + bx$ where, y stands for expenses, a stands for intercept, b stands for slope of the line and x stands for income. A statistical hypothesis for the dependent and independent variables has been tested as well. For this purpose, the null hypothesis $H_{1,}$ there is no significant relationship between expenses and revenue/income is formulated and tested at 5 percent level of significance. Simple correlation technique has been used to measure degree of relationship between the two variables.

Result and Discussion

Common size or vertical analysis is a method of evaluating financial information by expressing each item of a financial statement as a percentage of a base amount for the same time period. Common size balance sheet displays both the numeric value and relative percentage for total assets/total liabilities. Table 1 shows that the internal fund including reserve and surplus, long term fund and campus development fund cover major portion of total liabilities of JMC. The amount of outstanding expenses in relation to the total liabilities is in second position. Total assets of JMC include fixed assets, fixed deposit, advance, bank balance and closing stock. There is high investment in the fixed assets by the campus which can be taken as a symbol of bright future of earning.

Table 1

Common Size Comparative Balance Sheet

Particulars	2069/70		2070/71		2071/72		2072/73		2073/74	
	Rs.	%	Rs.	%	Rs	%	Rs.	%	Rs.	%
Capital and liabilities										
Reserve and surplus	53738368	65.1	5,08,93,982	52.0	3,71,25,297	42.3	4,37,18,307	40.6	6,57,36,738	47.7
Long term fund										
Campus	1,26,23,282	15.3	1,97,31,272	20.2	2,08,71,817	23.8	2,54,74,030	23.7	2,73,98,432	19.8
development fund	13,43,991	1.6	13,43,991	1.4	13,43,991	1.5	13,43,991	1.3	13,43,991	0.9
Account payables	2,53,555	0.3	48,555	0.1	1,16,232	0.1	1,16,232	0.1	1,16,232	0.1
Outstanding expenses	1,45,84,882	17.7	2,58,44,296	26.4	2,84,20,088	32.3	3,69,84,577	34.4	4,32,81,001	31.4
Total	8,25,44,078	100	9,78,62,096	100	8,78,77,425	100	1076,37,137	100	1378,76,394	100
Assets										
Fixed assets	4,55,28,884	55.16	4,79,29,175	48.9	4,50,69,743	51.3	4,50,18,244	41.8	679,30,853	49.3
Fixed deposit	59,63,982	7.23	1,17,52,982	12.1	1,05,64,786	12.2	1,48,66,007	13.8	1,48,66,007	10.8
Bank balance	2,39,84,989	29.1	1,75,48,568	17.9	79,15,820	9.1	1,57,20,535	14.6	1,81,26,707	13.2
Advance	65,26,866	7.9	2,01,24,000	20.6	2,37,24,000	27.0	3,14,49,539	29.2	3,64,74,739	26.5
Closing stock	5,39,357	0.7	5,07,371	0.5	6,03,076	0.7	5,82,812	0.5	4,77,907	0.4
Total	82,54,4078	100	9,78,62,096	100	8,78,77,425	100	1076,37,137	100	1378,76,394	100

Source: Annual reports of JMC (069/70 – 073/74)

In table 2, common size income statement shows all income and expenditure in figures and percentage of expenses on the basis of total revenue. It clears that most of the revenue is consumed by salary and TADA. All other expenses are nominal and less than 10 percent except office operating expenses of 070/71 in comparison with total revenue. The table depicts that the revenue cannot cover entire expenses during 070/71 and 071/72 due to high increase in salary and TADA of teaching and non teaching staff.

Table 2

Common Size Comparative Income Statement

Particulars	069/70		070/71		071/72		072/73		073/74	
	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.	%
Total revenue	87646332	100	76900639	100	61543303	100	89440064	100	121302680	100
Administrative and operating expenses										
Salary and TADA	49175133	56.1	58238205	75.73	56929500	92.50	60708903	67.9	75974740	62.63
Electricity, water and communication	514634	0.6	517623	0.7	424906	0.7	588381	0.7	811112	0.7

Particulars	069/70		070/71		071/72		072/73		073/74	
	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.	%
Office operating exp.	2440039	2.8	8200760	10.7	4248709	6.9	4810653	5.4	3291365	2.7
Deprecation	4221414	4.8	5222060	6.8	4998850	8.1	4718094	5.3	6935710	5.7
Taxes, charges and donation	690918	0.8	651265	0.9	720987	12	417323	0.5	320844	0.3
Registration and exam fee	4203993	4.8	4311288	5.6	4813293	7.8	5042574	5.6	5026492	4.2
Student welfare and scholarship	2597799	2.9	1180010	1.5	1918190	3.1	2535190	2.8	3082976	2.5
Advertising, sports, lab materials and general meeting	924448	1.1	434064	0.6	600772	0.9	687556	0.7	794503	0.7
BBA program expenses	425944	0.5	884191	1.3	404996	0.7	2969120	3.3	2717151	2.2
UGC program expenses	600387	0.7	105557	0.14	251785	0.4	369260	0.4	329356	0.3
Total expenses	65794709	75.1	79745023	103.70	75311988	122.4	82847054	92.6	99284249	81.9
Surplus (Deficit)	21851623	24.9	(2844386)	(3.7)	(13768685)	(22.37)	6593010	7.37	22018431	18.2

Source: Annual reports of JMC (069/70 – 073/74)

Horizontal trend percent analysis shows the analysis of financial statement over a series of years. The percentage is useful for comparing financial statements of different years as they depict changes and trends of several headings. The analysis is made after taking the year 069/70 as the base year. The horizontal trend percent analysis of asset and liabilities show changes in performance and highlight the trend (table 3). Long term fund, outstanding expenses and advance given are in increasing trend. But reserve and surplus declined to 95percent and 65percent in the fiscal year 070/71 and 071/72 and started to increase thereafter. Fixed assets also decreased in the fiscal year 071/72 and 072/77 and then there was remarkable change from 98percent to 149percent based on 069/70. Hence, all assets and liabilities (except campus development fund and outstanding expenses) were in raising trend from the fiscal year 071/72.

Table 3

Horizontal Trend Percent Analysis of Assets and Liabilities: As a percentage of 069/70 Level

Particulars	2069/70		2070/71		2071/72		2072/73		2073/74	
	Rs.	%	Rs.	%	Rs	%	Rs.	%	Rs.	%
Capital and liabilities:										
Reserve and surplus	53738368	100	50893982	95	37125297	69	43718307	81	65736738	122
Long term fund	12623282	100	19731272	156	20871817	165	25474030	202	27398432	217
Campus development fund	13,43,991	100	1343991	1	13,43,991	1	13,43,991	1	1343991	1
Account payables	2,53,555	100	48555	19	1,16,232	45	1,16,232	45	116232	45
Outstanding expenses	14584882	100	25844296	177	28420088	195	36984577	254	43281001	297
Total	8,2544078	100	9,7862096	119	8,7877425	106	107637137	130	137876394	167
Assets:										
Fixed assets	4,5528884	100	47929175	105	45069743	99	45018244	98	67930853	149
Fixed deposit	59,63,982	100	1,17,52,982	197	1,05,64,786	177	1,48,66,007	249	14866007	249
Bank balance	2,3984989	100	1,7548568	73	7915820	33	15720535	66	18126707	76
Advance	65,26,866	100	2,01,24,000	308	2,37,24,000	363	3,14,49,539	482	36474739	559
Closing stock	539357	100	507371	94	603076	112	582812	108	477907	89
Total	8,2544078	100	97862096	119	87877425	106	107637137	130	137876394	167

Source: Annual reports of JMC (069/70 – 073/74)

Table 4 shows that the total income declined to 88 percent and 70 percent in the fiscal year 070/71 and 2071/72 respectively. Then the revenue began to increase. Salary and TADA and registration and exam fee expenses are increasing subsequently. Office operating expenses were in rising and falling order. BBA program expenses had high fluctuation during the study period. In aggregate, total expenditures had gradually increased from 100 percent of fiscal year 2069/70 to 154 percent in the fiscal year 2073/74. But it decreased in the year 071/72.

Table 4

Horizontal Trend Percent Analysis of Income Statement as a Percentage of 069/70 Level

Particulars	069/70		070/71		071/72		072/73		073/74	
	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.	%
Total revenue	876,46,332	100	769,00,639	88	615,43,303	70	894,40,064	102	1213,02,680	138
Administrative and operating expenses										
Salary and TADA	4,91,75,133	100	5,82,38,205	118	5,69,29,500	116	6,07,08,903	124	7,59,74,740	155
Electricity, water and communication	5,14,634	100	5,17,623	101	4,24,906	83	5,88,381	114	8,11,112	157
Office operating	24,40,039	100	82,00,760	336	42,48,709	174	48,10,653	197	32,91,365	135
Deprecation	42,21,414	100	52,22,060		49,98,850		47,18,094		69,35,710	
Taxes, charges and donation	6,90,918	100	6,51,265	94	7,20,987	104	4,17,323	60	3,20,844	46
Registration and exam fee	42,03,993	100	43,11,288	103	48,13,293	114	50,42,574	120	50,26,492	120
Student welfare and scholarship	25,97,799	100	11,80,010	45	19,18,190	73	25,35,190	98	30,82,976	119

Advertising, sports, lab materials and general meeting	9,24,448	100	4,34,064	47	6,00,772	65	6,87,556	74	7,94,503	86
BBA program expenses	4,25,944	100	8,84,191	206	4,04,996	95	29,69,120	697	27,17,151	638
UGC program expenses	6,00,387	100	1,05,557	18	2,51,785	42	3,69,260	62	3,29,356	55
Total expenses	6,57,94,709	100	7,97,45,023	121	7,53,11,988	114	8,28,47,054	126	9,92,84,249	151
Surplus	2,18,51,623	100	(28,44,386)	(13)	(1,37,68,685)	(63)	65,93,010	30	2,20,18,431	101

Source: Annual reports of JMC (069/70 – 073/74)

Table 5 shows profitability ratios and cost recovery rate of JMC. Return on assets measures, the relationship between surplus generated and assets used to produce those profits. Return on net worth is an important measurement of an organization. It shows how efficiently the company uses net worth to earn positive total revenue. Net surplus margin is bottom line margin that indicates how well management has been able to convert revenue into earning available for reinvestment. Cost recovery ratio is the ratio of total revenue to total operating expenses and is a main indicator of financial performance. All the ratios were higher in the fiscal year 069/70. Then, these were declined in the following two years. After the fiscal year 071/72, the ratios showed an increasing trend. The mean ratio of return on total assets, return on fixed assets, and return on net worth, net surplus and cost recovery are positive. As the standard deviations are less than 28, it can be concluded that there is not high dispersion among the figures of study period. In other words, low standard deviation indicates that the ratios are close to the expected value.

Table 5

Profitability Ratios and Cost Recovery Rate

Particulars	069/70	070/71	071/72	072/73	073/74	mean	SD
Return on total assets	26.47	(2.91)	(15.67)	6.13	15.97	5.998	14.61
Return on fixed assets	48.00	(5.93)	(30.55)	14.65	32.41	11.716	27.75
Return on net worth	32.93	(4.03)	(23.74)	9.53	23.64	7.666	20.10
Net surplus ratio	24.93	(3.7)	(22.37)	7.37	18.15	4.876	16.74
Cost recovery rate	1.33	0.96	0.82	1.08	1.22	1.082	0.18

Source: Annual reports of JMC (069/70 – 073/74)

The estimated regression equation is Y = 4,53,27,866 + 0.403687X shows that the estimated fixed expenses of the campus is Rs. 4,53,27,866 when the income equal to zero and each additional one rupee of income will cause to increase the expenses by about Rs. 0.40. The correlation between income and expenses is 0.723238 means that there is perfect positive relationship between them. The calculated value of P is greater than the table value, the H_1 is accepted and there is not significant relationship between income and expenses. Coefficient of determination (r^2) is 0.523 which indicates that 52.3 percent of variation in expenses is explained by the income of the campus.

Conclusion

Financial performance analysis is the analysis of success and failure of any organization which is helpful to make plan and to take decision for future sustainability. The analysis is based on financial statement. The main objective of this paper is to assess financial performance in terms of profitability and cost recovery for a specified time period of five years. Measurement of performance is made on the basis of Horizontal analysis, vertical analysis, cost recovery rate, return on assets, return on fixed assets, return on net worth and net surplus ratio. The study reveals that the financial performance of the campus is good and is in improving stage in the latest years. It has been maintaining good quality financial performance and further can improve if the campus concentrates its managerial skill to minimize cost and maximize total revenue keeping its objectives in mind as far as possible. There is positive relation between income and expenses. It will be fruitful to analyze the income and expenses on the basis of its different cost and revenue centre.

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Research Article

Knowledge on Preconception Care Among Reproductive Aged Women in Kaski District, Nepal

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Abstract

Preconception care is any intervention provided to women and couples of childbearing age, regardless of pregnancy status or desire, before pregnancy, to improve health outcomes for women, newborns and children. The aim this study was to assess level of knowledge among reproductive aged women and to find out association between selected demographic variables and knowledge. A descriptive cross sectional research design was used to conduct the study. Non probability purposive sampling technique was used to select 220 reproductive aged women in Pokhara, Metropolitan city-32 ;Janachautra, Malmul. Data was collected through structured interview schedule and analyzed using SPSS version 16. Data was analyzed using descriptive and inferential statistics such as frequency, percentage, mean, standard deviation, Chi-square test. The findings revealed that about 20 percent of respondents possessed poor knowledge followed by 64.5 percent of the respondents possessed average level of knowledge and 15.5 percent of respondents possessed good level of knowledge. The mean score for the level of knowledge was 50.6±10.6. There was statistically significant association betweenlevel of knowledge on preconception care with education, number of children, heard about preconception care, source of information($p<0.005$).Itconcludes that majority of the respondents had average level of knowledge so, awareness program is required to to prevent the health risks of women and offspring in the near future and to improve the different aspects of knowledge regarding preconception care.

Keywords: *Education, knowledge, preconception care, reproductive aged women*

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Introduction

Preconception care (PCC) is a relatively new conceptthat was first described by Chamberlain in 1980(Chamberlain, G. 2011).Preconception care is the provision of biomedical, behavioral and social health interventions to women and couples before conception occurs. It aims at improving their health status, and reducing behavior and individual and environmental factors that contribute to poor maternal health (Tuitui, R. 2016).Preconception care is the integral part of antenatal care as it helps to reduce potential risk, maternal &child mortality, birth defect in infant like neural tube defect, low birth weight baby, preterm and post-term baby, as well as promote healthy pregnancy and fetal outcome and improve readiness for pregnancy (WHO, 2013).On 2012, the Inter-Agency group for Safe Motherhood developed a package of services which included various preconception care services such as family planning, adolescent reproductive health education services etc (Moos et al., 2009).The importance of preconception care has gained greater recognition with the World Health Organization (WHO) Global Action Plan for the Prevention and Control of Non-communicable Diseases 2013–2020 (Ojukwu et al., 2016).

In 2010, globally 287000 women died suffering with the long term disability due to the cause related to pregnancy & childbirth. During same year, globally 3.1 million newborn babies were expired in first month of life, while premature babies were 14.5 million &2.7 million were stillborn (Dean et al., 2014). Approximately four million global neonatal deaths that occur annually, 98 percent occur in developing countries, where most newborn die at home while they are cared by mothers, relatives and traditional birth attendants (WHO, 2011). Major causes of neonatal deaths worldwide are infections 36 percent which includes sepsis/ pneumonia, tetanus and diarrhea, complication of prematurity 20 percent and birth asphyxia and injuries 29 percent, congenital anomalies 10 percent. Globally more than 20 million infant are born with low birth weight. The maternal death in the world is 5,36000. 960 in a developed region, 533,0001 in a developing region. The maternal mortality ratio is 281/100000 live birth and neonatal mortality rate is33/1000(Dhakal, 2013).

In 2006, an estimated 30 percent of U.S. women have complications during pregnancy. Currently, 12 percent of babies are born prematurely, 8 percent are born with low birth weight, and 3 percent have major birth defects (Kent et al., 2006). Studies have found that only 13.5 percent to 15.2 percent of women in Oklahoma receive preconception care. Only 12.0 percent of Oklahoma women received advice or counseling to prepare for becoming pregnant (PRAMS Working Group. 2010).

In Asia, in Kelantan, Malaysia, while assessing socio-demographic data and knowledge, attitudes and practice of preconception care the mean (SD) knowledge, attitude and practice scores were 11.37 (3.94), 15.39 (2.12) and 10.13 (2.30), respectively (Kasim et al., 2016).

According to 2008/2009, 69 percent of maternal death are due to direct cause & 39 percent maternal death are due to indirect cause. The number of neonatal death in Nepal is 24,261 in a year, 66 in a day & 3 in an hour (Dhakal, 2013).In Nepal, while assessing Knowledge on preconception care among 55 reproductive age women visiting the Gynecological/Obstetric OPD of National Medical College Teaching Hospital the majority 69.09 percent of reproductive age women had moderate knowledge regarding preconception care, 20 percent had inadequate knowledge and 10.91 percent had adequate knowledge (Thakuri& Singh, 2017).

As this locality is in developing phase, the maternal mortality and infant mortality rate is high, many respondents were deprived of proper health education along with precautions regarding preconception care which signifies the importance of such research in my community.

The aim of this study was to assess the Knowledge on Preconception Care among the Reproductive Aged Women in Pokhara Metropolitan city- 32 :Janachautra, Malmul. In Nepal, preconception care is the new concept and the research done in this topic is limited. Nepalese population hasn't been explore to the preconception care concept so to generalize the concept the researcher felt the need to assess level of knowledge on .preconception care among reproductive age women.

Data and Methods

Among 32 wards of Pokhara Municipality one ward was selected by using simple random (Lottery) method. Pokhara- Lekhnath Metropolitan City-32, Janachautra, Malmulis chosen as the research area as this place is the intermediary between urban area and rural area. Urban area is developed with more opportunities for women educationand rural area lacks such provision. The study population was married reproductive aged women.List of total population of reproductive age women was collected from VDC office i.e. 3079. Each respondents was selected by purposively. Household were approached with the help of FCHV. If the inclusion criteria were not met, the next respondent was taken until required sample size was met. Thesample size was 220 according to prevalence rate (15.42%) of article on knowledge on preconception among reproductive age women (Gautam, 2016).

Structured interview schedule was used to collect the information on the basis of objectives of the study.Self-developed, structured and pretested questionnaire were used to collect the information. The questionnaire consisted of two parts with includes31questions. Part Iincluded the items regarding socio demographic characteristics (age, religion, ethnicity, type of family, education,occupation, number of children, source of information) and Part ll consists questionnaire regarding knowledge on preconception care (definition, necessary, components, advantage, importance, preconception counselling, barrier, laboratory investigation, timing for folic acid supplementation and its benefits).

Tool was finalized on the basis of Objectives of the study. Content validity of the instrument was ascertained by consultation with colleagues, research advisors, faculties and subject experts. Pretesting of the tool was done in a locality which is similar in setting to assess the clarity, feasibility and appropriateness of instrument among 20 reproductive aged women (10% of sample size) Rupa lake VDC, Nepal. Necessary modification was done after pretesting in order to ascertain the relevancy,consistency and completeness of instruments. Similarly, sentence structure was made more simplified after pretesting with the help of language expert. Since the respondents were homogenous, reliability has not been computed.

The study was carried out after the approval of research proposal from the Institutional Review Board (IRB), Novel Academy for ethical clearance.The ward secretary and ward chairman were briefed about the objectives, duration, times and process of data collection of study. The data was collected by the researcher herself from 2017-6-2 to 2017-6-29.In order to protect the right of respondents, informed consent (both verbal and written) was taken from each respondents before collecting data. Structured interview schedule was used to collect information by the researcher individually at time 11 an to 5 pm. The anonymity of the information was maintained by asking not to write their names in questionnaire. The participation in the study was voluntary and was free to withdrawn at any time of data collection. All the information obtained was treated with confidentiality and was used for the sole purpose of research.

After the completion of data collection,the data was checked thoroughly and organized for the completeness and consistency. The collected data was coded, entered, tabulated and analyzed using Statistical Package for Social Science (SPSS) version 16. Descriptive statistics (frequency, percentage, mean and standard deviation and range) was used to describe the characteristics of collected data and inferential statistical method (Chi-square test) was used to find association between two categorical variable. The level of significance was set as 5% with p value <0.05 and 95% confidence interval. Regarding knowledge, each of the correct answer was given the weightage score 1. The mean score for level of knowledge was 50.6±10.6. Total score was 73 which was converted into range <40, 40 -61, >61. On the basis of score range obtained by the respondents, knowledge level was categorized as 'poor' if the score was less than 40 and 'average' if the score ranges from 40-61 then 'good' if score was greater than 61.

Results and Discussion

Table 1

Respondents Classified According to Selected Background Characteristics (n=220)

Characteristics	Frequency	Percentage
Age (in years)		
15 – 20	2	0.9
21 – 25	36	16.4
26 – 30	58	26.4
>30	124	56.4
Mean±SD==3.38±0.78		
Religion		
Hindu	188	85.5
Buddhist	27	12.3
Christians	5	2.3
Ethnicity		
Brahmin	104	47.3
Chhetri	25	11.4
Dalit	33	15
Janajati	58	26.4
Type of family		
Nuclear family	98	44.5
Joint family	122	55.5
Education Level		
No education	17	7.7
Primary	37	16.8
Some secondary	52	23.6
SLC or above	114	51.8
Occupation		
House maker	107	48.6
Labour	9	4.1
Agriculture	52	23.6
service holder	35	15.9
Business	17	7.7
Income of family(Rs/month)		

7000-14000	15	6.8
14001-21000	48	21.8
21001-28000	46	20.9
≥28001	111	50.5
Mean ±SD= 3.15±0.989		
Number of Children		
None	28	12.7
1	55	25
2	71	32
≥3	66	30
Mean ±SD= 2.80±1.011		
Heard about preconception care		
Yes	129	58.6
No	91	41.4
If yes ,		
Source of information		
Radio/ television	45	20.5
Health worker	48	21.8
Friends/family	12	5.5
Newspaper/books	29	13.2

Source: Field survey 2016

Table 1 reveals that, more than half (56.4%) of the respondents were in the age group of more than 30 years, majority (85.5%) of the respondents belonged to Hindu by religion, less than half (47.3%) of the respondents were Brahmin, more than half (55.5%) of the respondents were residing with joint family. With regard to educational level more than half (51.8%) of the respondents passed SLC or above, with regard to occupational status of respondents less than half (48.6%) of the respondents were housemaker, with regard to income of the family (Rs/month) about half (50.5%) of the respondents income ranged for >28001. About one third (32%) of the respondents had 2 children, more than half (58.6%) of the respondents heard about the preconception care and the most common source of information were health worker which was less than one fourth (21.8%) of the respondents.

Table 2

Respondent's Classified According to Level of Knowledge on Preconception Care (n=220)

Level of knowledge	Frequency	Percent
Poor(<40)	44	20.0
Average(40- 61)	142	64.5
Good(>61)	34	15.5
Total	220	100

Note: Cut off score was set as per (mean ± SD)

Source: Field Survey 2016

Table 2 reveals that about (20%) of respondents possessed poor knowledge, (64.5%) of the respondents possessed average level of knowledge, (15.5%) had good level of knowledge.

Similarly, table 3 reveals that there was statistically significant association of level of knowledge on preconception care with education (p=0.000), number of children (p=0.049), heard about preconception care (p=0.000), source of information (p=0.000) whereas there was no statistically significant association of level of knowledge with age, religion, ethnicity, type of family, occupation and income (p>0.05).

Table 3

Association Between Knowledge and Selected Background Characteristics (n=220)

Variables	Poor	Knowledge level(%) Average	Good	Chi square value	p- value
Education					
No education	10(58.8)	6(35.3)	1(5.9)	42.632	0.000
Primary	16(43.2)	16(43.2)	5(13.5)		
Some secondary	8(15.4)	40(76.9)	4(7.7)		
SLC or above	10(8.8)	80(70.2)	24(21.1)		
Number of children					
No child	10(35.7)	13(46.4)	5(17.9)	12.670	0.049
1 child	9(16.4)	38(69.1)	8(14.5)		
2 child	8(11.3)	48(67.6)	15(21.1)		
3 and above	17 (25.8)	43(65.2)	6(9.1)		
Knowledge about preconception care					
No	35(38.5)	47(51.6)	9(9.9)		
Yes	9(7)	95(73.6)	25(19.4)	33.556	0.000
Source of information					
Radio/television	5(11.6)	30(69.8)	8(18.6)	41.183	0.000
Health worker	3(6.4)	39(83)	5(10.6)		
Friends/Family	0	8(66.7)	4(33.3)		
News paper/book	1(3.7)	18(66.7)	8(29.6)		

Source: Field survey 2016

Discussion

In present study among 220 respondents, more than half (56.4%) of the respondents were from the age group of>30 years. The result of the study was supported by quantitative study conducted at Osun State, which reveals that age range of respondents was 20–59 years. Most respondents (44.8%) were within the age range of30–39 years. Present study revealed that majority (85.5%) of the respondents was from Hindu by religion and rest 14.5% were of other religion. Most of the respondents were Brahmin (47.3%) by caste. More than half(55.5%) of the respondents belonged to joint family. With regard to educational status, more than half (51.8%) of the respondents belonged to SLC graduates and 7 percent of respondents were deprived from education. Almost half (48.2%) of the respondents were unemployed and worked as house wives. With regard to income of the family (NRS/month) half (50.5%) of the respondents income was above 28000 rupees. About one third (32%) of the respondents had 2 children. This present study found that (15.5%) of the respondents had the adequate knowledge of preconception care, two third (64.5%) of the respondents had moderate knowledge and (20%) of respondents had inadequate knowledge regarding the preconception care.This findings is in the line with previously study conducted at Birgunj by Thakuri & Singh (2017).

In present study regarding the knowledge of preconception 69.5 percent expressed that correct answered that preconception care is the care provided to couple before conception. More than one third (35.4%) of respondentsexpressed health promotion as the component of preconception care. 50.5 percent of the respondentsmentioned the correct answer that preconception care should be focused for both married and unmarried people. Most (97.3%) of respondentsprovided the correct answer that preconception care is important to future offspring which is consistent to the finding of a study conducted at Dang by Gautam (2016). The study shows that55.9 percent of respondents were aware of preconception care, most of(90.30%) of the respondents mentioned promoting health as the components of preconception care.

The study further reveals that third quarter (75.9%) of the respondents provided the correct answer that preconception counselling is the counselling given to women well before planning pregnancy. More than one third (37.6%) of respondents expressed family planning as a component of preconception counselling.This finding is contradictory with the finding of the study conducted at Oklahoma by Pramsgam (2010), which showed that only 12.0 percent of Oklahoma women received advice or counseling to prepare for becoming pregnant.

In this Present study more than one third (37.3%) of respondentsmentioned barrier to preconceptioncare was lack of awareness and one fourth (25%) of respondents mentioned aslimited access to health service. The finding is similar to the study conducted at MankatobyPaulsen, et.al(2017) on preconception health knowledge among undergraduate women which shows that the greatest barrier was lack of knowledge which support the present study. More than one third (36.1%) of the respondents expressed that low birth weight as a effects of alcohol in pregnancy, 28.1 percent followed by as miscarriage. This study was supported by the study conducted in River state, Nigeria by Ordinioha, & Birsibe (2015) which shows that about half (51.5%) of the respondents in this study knew the harmful effects of alcohol on the fetus.

Similarly, (40.5%) of the respondents mentioned correct answer that women should start preparing for pregnancy 3 month before conception. More than one third (38.6%) of the respondents provided the correct answer that folic acid should be taken 3 month prior to conception. Similar findings were observed in the study conducted at Dang by Gautam, (2016) which revealed that awareness for preparing for pregnancy was high (55.07%) conception but contradictory with the findings that only 11.46 percent had awareness about folic acid.

There was statistically significant association of level of knowledge of preconception care with education (0.000), occupation (0.001), number of children (0.007), heard about preconception care (0.000), source of information (p=0.000).Similarly, a significant association was found between respondents educational level and knowledge of preconception care which was similar with the study done at Osun State, Nigeria by *Olowokere, et al. (2015).*

Conclusion

The study findings concluded that 20 percent of the respondents in the study had poor level of knowledge, more than two third of the respondents 64.5 percent in the study had average level of knowledge and 15.5 percent of the respondents of the study had good knowledge about the preconception care. There was statistically significant association between level of knowledge on preconception care with education, number of children, heard about preconception care and source of information .

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Research Article

Knowledge on Post Exposure Prophylaxis of HIV among Nurses in a Hospital of Pokhara

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Abstract

Health care providers are at risk of acquiring human immunodeficiency virus (HIV) infection from occupational exposure, with nurses being the most vulnerable. Post exposure prophylaxis (PEP) of HIV is the only way to reduce risk of HIV after potential exposure. A study was conducted on Nurses Knowledge on PEP of HIV at Gandaki Medical College (GMC), Pokhara to find out the knowledge on PEP of HIV among nurses. Descriptive cross sectional research design was used for the study. Probability stratified systematic random sampling technique was used for sampling and self administered questionnaires was used for data collection with sample size of 90 nurses working in GMC. The data was analyzed using Statistical Package for Social Science (SPSS) version 20 software programme and presented in terms of frequency distribution, percentage, mean and standard deviation. For inferential statistics, chi square test was used at 5% level of significance. The findings of the study revealed that mean age of the respondents was 24.57 with standard deviation 3.43. Out of 90 respondents majority (83.3%) of the respondents were PCL passed and 47.8% of the respondents had adequate knowledge regarding PEP of HIV. The study found no significant association between demographic variables and knowledge level. It can be concluded that the nurses need to improve their level of knowledge on PEP of HIV by participating in different training programs. Health institution should also conduct continue nursing education programme to improve and update knowledge among the employees.

Key words*: HIV (Human immunodeficiency Virus), knowledge, nurses, PEP (post exposure prophylaxis), Pokhara*

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Introduction

Post-exposure prophylaxis (PEP) is short-term antiretroviral treatment to reduce the likelihood of HIV infection after potential exposure. Globally, there were an estimated 35 million people living with HIV, of whom 13 million were on antiretroviral treatment (ART) at the end of 2013. (WHO, 2014). In Nepal, ART coverage among people with HIV infection eligible for ART is 32 percent (WHO, 2012).

PEP is the use of antiretroviral drugs after a single high-risk event to stop HIV from making copies of itself and spreading through the body. In 1987, CDC recommended the use of "universal precautions," which became a part of "standard precautions" in 1995, to prevent occupational HIV exposures. Since 1996, occupational post exposure prophylaxis with antiretroviral to prevent infection has been recommended. PEP must be started as soon as possible to be effective and always within 3 days of a possible exposure (CDC, 2015).

It is estimated that worldwide, about 35 million healthcare workers (HCWs) provide services to patients. However, occupational exposure to blood or other body fluids in healthcare facilities constitutes a significant risk of transmission of HIV and other blood borne pathogens to HCWs. HIV/AIDS in particular is a major threat in the workplace. Each day thousands of HCWs around the world suffer accidental occupational exposures during the course of their role of caring for patients. It is further estimated that through occupational exposure, 0.5 percent of HCWs are exposed to HIV annually and this equates to approximately 200-600 HIV infections worldwide (Beyera & Chercos, 2013). ARV drugs have been prescribed for post-exposure prophylaxis following occupational exposure to HIV for health workers since the early 1990s (WHO, 2013).

The findings of the quantitative and qualitative study in south west Ethopia revealed that the knowledge of health workers about post exposure prophylaxis against HIV is inadequate. Among the total 254 participants, 213 **(**83.9%) had inadequate knowledge about post exposure prophylaxis of HIV (Tebeje & Hailu, 2010).

A cross-sectional study conducted among nurses in a rural health district in the North West Region of Cameroon revealed that though many (83.8%) had heard about PEP, just 10 (12.5%) had received formal training on PEP for HIV. Only 24 (30%) and 20 (25%) knew the correct drug regimen and duration of treatment respectively. In all, 73.7 percent of the participants had poor knowledge about PEP for HIV (Aminde et. al, 2015). Study done in Chitwan Medical College revealed that out of 65 respondents only 6 percent of respondents had good level of knowledge, 68 percent had fair level of knowledge and 26 percent of respondent had poor level of knowledge regarding PEP (Lamichhane, Aryal & Dhakal, 2012).

As there is increasing rate of HIV infection and health care workers are at higher risk of developing HIV, it is important to have adequate knowledge in nurses so that they could timely manage in case of accidental exposure. Since many studies depicts good percentage of nurses having low level of knowledge regarding Post Exposure Prophylaxis of HIV, further study, ongoing awareness and training is important to improve the knowledge and practice of nurses. In addition, nominal research have been found in this area so far in researcher's knowledge. Hence, it is necessary to undertake study to examine the existing knowledge on PEP of HIV among nurses.

Data and Methods

A descriptive cross sectional study design was used to find out the knowledge on post exposure prophylaxis of HIV among the nurses working in Gandaki Medical College (GMC). Gandaki Medical College is a tertiary level hospital located at Prithvi Chowk- Pokhara ward no 9. All the registered nurses working in Gandaki Medical College was the study population irrespective of their professional qualification. A total of 90 samples were selected for study. Sample size was 90 which was calculated by using the formula i.e. $4pq/l^2$, where, prevalence of knowledge related to PEP of HIV conducted in Chitwan Medical College was 6 percent (0.06) at 5 percent level of significance. Sampling method used was multistage sampling method. First of all GMC was chosen purposively, as this is a tertiary level hospital where many nurses are working in general and critical wards and the patient flow rate is high. Second step was stratified sampling technique where qualification was assumed as strata and four strata were made i.e. ANM, SN, BN, B.Sc Nursing. Then from each strata using systematic sampling technique, samples were selected at k^{th} interval proportionately. Sample was selected proportionately from each strata out of 160 nurses working in GMC. i.e. BN were selected at the interval of 2, B.sc at the interval of 1, PCL at the interval of 2 and ANM at the interval of 2.

Structured self administered questionnaire was developed by the researcher herself after extensive literature review. Validity of test instruments was maintained by reviewing literature, consulted with supervisors, subject matter experts and colleagues. Pretesting was in 10 percent of total sample size in different setting who meets the study criteria and were excluded from the study sample. No any modification was needed.

Data was collected after getting formal written permission letter from administration of GMC. Purpose and objectives of the study was clearly explained. Written consent was taken from each participant. Respondents were clearly explained about their freedom to withdraw from the study whenever they want to. Data was collected by using self administered questionnaire. Assurance was given for confidentiality and anonymity of the participants. Findings of the study were used for research purpose only. The data collection time period was of 2weeks.

The collected data were checked, reviewed and organized for the accuracy and completeness. Editing and coding of data was done. All the collected data was entered into Statistical package for Social Sciences (SPSS) version 20 and analyzed by using descriptive statistics in term of frequency, percentage, mean and standard deviation. Data were depicted by frequency table. For inferential analysis, chi-square test was used to assess the association between knowledge on PEP of HIV among nurses and independent variables at 5 percent level of significance.

Results and Discussion

Table 1

Background Characteristics of Respondents *(n=90)*

Characteristics	Frequency	Percentage
Age in years		
20-24 years	60	66.7
25-29 years	22	24.4
30-34 years	6	6.7
35 years and more	2	2.2
Mean ± SD	24.57 ± 3.431	
Qualification		
ANM	9	10.0
PCL	7	83.3
BSC	5	2.2
PBBN	2	4.4
	4	
Working Areas		
Critical area	45	50.0
General ward	45	50

Working experience		
1 year and less	28	31.1
2-3 years	35	38.9
4-5 years	11	12.2
6 years and more	16	17.8
Had taken care of patient with HIV		
Yes	76	84.4
No	14	15.6

Source: Field Survey 2016

Table 1 shows that more than half (66.7%) of the respondents were from the age group 20-24 years. The mean age was 24.57 and standard deviation was 3. Majority (83.3%) were PCL passed, equal no of participants are from critical care unit and from general departments. i.e. 50 percent, 38.9 percent of the respondents had working experience of 2-3 years. None of the respondents 100.0 percent has received training on HIV and related to HIV. Maximum respondents (84.4%) had taken care of patient with HIV.

Table 2

Knowledge of Post Exposure Prophylaxis *(n=90)*

Characteristics	Frequency	Percentage
Meaning of PEP for HIV		
Medical help given to prevent occupational transmission of HIV before exposure.	16	7.8
Medical help given to clients after the transmission of HIV.	5	5.6
Medical help given to prevent the occupational transmission of HIV after exposure.	63	70.0
Psychological support given HIV positive people.	6	6.7
Time for PEP initiation		
When the source patient is at high risk for HIV	19	21.1
When the patient is known to be HIV positive.	31	34.4
When the HIV status of the source is unknown	9	10.0
For any needle stick injury in the work place	31	34.4
Preferable time to take PEP		
Within an hour	39	43.3
Within 6 hours of exposure	10	11.1
Within 12 hours of exposure	18	20.0
Within 72 hours of exposure	23	25.6

Maximum delay to take PEP		
12 hours	9	10.0
24 hours	21	23.3
48 hours	13	14.4
72 hours	47	52.2
Duration to take PEP		
7 days	37	41.1
14 days	12	13.3
28 days	39	43.3
40 days	2	2.2

Source: Field Survey 2016

Table 2 shows that the majority (70%) of the respondents has correct response on meaning of post exposure prophylaxis for HIV, only 34.4 percent of respondents have given correct response on knowledge regarding when PEP should be initiated. This table also depicts knowledge regarding preferable time to take post exposure prophylaxis for HIV in which 43.3 percent gave the correct response and regarding maximum delay to take PEP more than half (52.2%) gave the correct response. Regarding duration to take PEP, 43.3 percent of the respondents gave correct response. More than half (52.2%) of the respondents has inadequate knowledge regarding PEP of HIV.

Table 3

Association Between Selected Background Characteristics and Knowledge of the Respondents (n=90)

Variables	Inadequate	Adequate	x^2x^2	P value
Age				
<25 years	31	27	0.098	0.754
≥25 years	16	16		
Working experience				
<3 years	27	22	0.358	
≥ 3 years	20	21		
Working department				
Criotical area	20	25	2.182	0.140
General ward	27	18		

Source: Field Survey 2016

As shown in Table 4, there is no significant association between independent variables and knowledge level of the respondents. This reveals that knowledge regarding PEP of HIV doesn't vary with age, working experience and working department of respondents.

Discussion

The finding revealed that regarding duration to take PEP, 56.7 percent of the respondents didn't know about the duration and 80% of the respondents gave correct response on most common mode of HIV Transmission to health care workers in health care setting. This finding is supported by a study of Owolabi et.al, (2011) which showed that 77.2 percent of the respondents didn't know about the duration to take PEP and 86.1 percent know about the most common mode of HIV transmission to health care workers in health care setting.

Majority of the respondents (70.0%) have correct response on meaning of post exposure prophylaxis for HIV, which is similar to the findings of Agrawal1, Saoji & Kasturwar (2013) whose knowledge on meaning of PEP of HIV was 66 percent. More than half (56.7%) of the study participants have given correct response on knowledge regarding first aid immediately after potential exposure (needle stick injury) which is lesser to the finding of the study done by Bairy et.al., (2005) where 98 percent has given correct response. This may be because nurses over there may have taken information about immediate first aid after potential exposure or needle stick injury.

Regarding when to start PEP for HIV 43.3 percent respondents has given correct answer which is quiet similar to other findings from study conducted by Mathewos et.al., (2013) where 50.8 percent of the total respondents gave correct answer. Finding of the study done by Mathewos et.al., (2013) about when PEP should be initiated was 15.4 percent which is lesser than that of my study where 34.4 percent of the respondents has given correct answer. In same study finding of the length of time to take PEP is 72.8 percent which is lower in my study that is 43.3 percent.

Only 23.3 percent of the respondents had knowledge that 0.3 percent is the risk percentage of getting infection after needle stick injury. This is lesser than study finding of Lamichhane et.al.,(2012) where 46 percent nurses were aware of correct risk of getting infection. With respect to the ideal PEP drug regimen, nearly half 47.8 percent of the participants correctly stated the expanded three drug regimen. This finding is supported by the study of Aminde et.al., (2015) which showed 30.0 percent of the respondents had knowledge regarding PEP of HIV drug regimen. Only less than half of the respondents have correct information because there may not be the continuing nursing education programme on PEP of HIV and nurses are not updated to the knowledge.

This study found that maximum respondents 84.4 percent had taken care of patient with HIV in the past and finding of this study was supported by a similar type of study done on nurses in Cameroon by Aminde et.al., (2015) 67.5 percent of the respondents has exposure to HIV in the past. The finding of this study showed that less than half (47.8%) of the respondents has adequate knowledge regarding PEP of HIV. The knowledge level of this study is lesser than of the study conducted in Chitwan Medical College (CMC) where 68 percent respondents had fair level of knowledge. This may be because of inadequate training and no provision of protocol for PEP of HIV in hospital.

Conclusion

The study concluded that less than half of the respondents had adequate knowledge on PEP of HIV and knowledge level of nurses was not affected by age, work experience and working department. Thus, nurses need to improve their level of knowledge on PEP of HIV by participating in different training programs and in service education related to PEP so that they can manage timely in case of accidental exposure.

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Research Article

Students' Perception towards the Drinking Water Facility at Janapriya Multiple Campus, Pokhara

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Abstract

The study entitled " Students' perception towards the drinking water facility at JMC Pokhara" is carried out to find out the perception of drinking water and examine the impact of drinking water on student's health in Janapriya Multiple Campus of Kaski district. The descriptive method was applied to meet the objectives and the survey technique was used to collect necessary information. All the students in JMC(4350) were the population of this study. The sample size was 160 through lottery method. The questionnaire and observation schedule were the major tool of data collection. Campus has its own boring system from 2071/ 0/ 17 B.S. The water was lab tested in the beginning by the microbiology department and recommended that it was safe. Most of the respondents felt that it was needed to test the water time to time and notified to concern people. Nearly 80 percent students said that the water was safe and pure but only eleven students complained. Only 6 students bought it and other 5 brought boiled water from their homes. Thirty one students felt water born diseases during their JMC period but they weren't ensure either from their college water or residential water. Students' perception on water availability in JMC was satisfactory.

***Keywords**: Lab test, notified, quantity, water. waterborne diseases*

Introduction

Water is one of the most basic elements for all living beings on this earth. About 70 percent of the human body is made up of water. Human being can live without food for sometime but not without water. Water is used for various purposes such as drinking, cooking food, washing clothes, bathing, growing crops, construction work and for generating hydro-electricity etc.

Water plays vital role in the development of the country if it is used wisely. If pure drinking water is supplied, citizen will be healthy and they can contribute to their country as a result development of a country will be rapid.

Various United Nation (UN) agencies reported roughly 780 million people around the world lack access to clean drinking water. The World Health Organization (WHO) estimates 6.3 percent of all deaths are caused by limited access to safe drinking water. The Millennium Development Goals, one of which includes a target to halve the proportion of people without access to safe drinking water and basic sanitation by 2015. According to the (U.N.), more than 14,000 people die daily from water-borne illnesses The world is on-track to meet the Millennium Development Goal (MDG) water target based on the indicator "use of an improved drinking water source but, at the current rate of progress, this still will leave 672 million people without access to improved drinking water sources in 2015, and possibly many hundreds of millions more without sustainable access to safe drinking water (WHO & UNICEF 2012).

The government of Nepal has not given much more attention for drinking water supply at higher education. No doubt, this is a rich country around the world for water resources. Drinking water quality varies from place to place, depending on the condition of the source water from which it is drawn and the treatment it receives. Drinking water or potable water is water safe enough to be consumed by humans or used with low risk of immediate or long term harm. In most developed countries, the water supplied to households, commerce and industry meets drinking water standards. Over large parts of the world, humans have inadequate access to potable water and use sources contaminated with disease vectors, pathogens or unacceptable levels of toxins or suspended solids (Leggett, Brown, Stanfield, Brewer, & Holliday 2001).

The City University of New York, campuses are all connected to the New York City water system which is considered to be one of highest quality municipal water system in the united stated. The New York City Department of Environmental Protection regulates and protects reservoirs and the water is tested more than half a million times a year at various points throughout the system. Additionally Department of environmental protection adjusts the (PH) of the water to minimize corrosion and adds phosphoric acid to create a protective film on pipes to prevent the release of lead and other metals.

According to Kantipur television (11 August 2016) about the title Polluted drinking water in Kathmandu concluded that water from the tap was mixed with drainage. Similarly water of jar and mineral water were not safe because of coli form, the germ found in faeces. Water from underground was with the mix of Arsenic so the government said that it wasn't safe water for drinking purpose. NAST collected water samples from different places of Kathmandu which was provided to public by Water Supply Corporation and those samples were lab tested. It was found that 50 percent samples had germs Ecoli so such water shouldn't provide to public. Food Technology And Quality Control Division (FTAQCD) collected 79 samples of Mineral water and they were lab tested and concluded that 23 percent water found low quality and aware to the company . Consumers compelled to drink such water as a result there were so many water borne diseases. The government should control to all concerned companies and the Water Supply Corporation (WSC) in time and makes them provide safe and pure drinking water (You Tube Video Translated on 13th February, 2018).

Gyawali (2015) made the research on a study of drinking water accessibility at government higher secondary schools in Pokhara. The study was conducted at ten selected schools. The objectives of the research were to find out the condition of drinking water among 10 higher secondary schools in Pokhara, students from class 11 and 12 were selected through random sampling. Students of all faculties were respondents. There were 74 boys and 44 girls altogether 118 were in total. Similarly, ten head masters, ten chairmen of school management committee, ten chairmen of parent's teacher association were selected from every school for data collection period. An observation schedule was also prepared and put the remark by the researcher. It was targeted particularly to know water purification system, water distribution, water availability, and water quality status and school policy regarding to drinking water. Although, water accessibility was not a big concern in selected school but the quality of drinking water was poor. No doubt, there was euro guard, filter and tap at schools but it seemed to be insufficient. Somewhere tap was broken but the whole water distribution system was not much bad at all.

Once the researcher asked students to provide drinking water nearby Bachelor in Business Administration (BBA) building. Students replied whether it was the safe water. They showed the glass, filter pot and Euro guard. The researcher had the queries to assess the drinking water availability in Campus and the relation with the students' health. There were so many questions aroused whether the students were happy or not with the facilities of drinking water. Similarly the source of drinking water safe? Is the facility sufficient or not? What are the problems they faced with the drinking water, etc. the objectives were to find out the perception on drinking water in JMC and to examine the impact of drinking water on student's health.

Data and Methods

This study was based on descriptive design in JMC on students' perception of drinking water. Quantitative method has been followed in this research. Both primary and secondary source of data were used in the study. Students of JMC were the population of the study. The students of bachelor and Master level from Humanities and Social Science, Education, Management and Science faculties are the population. According to administration section there were 4350 students. Multi stage sampling techniques have been used. First JMC is chosen on the basis of convenience method. Forty students in each faculty were taken through quota sampling method. One hundred sixty students were taken as the respondents through random sampling method. All available students inside the campus classroom were taken and students who were absent while talking data were excluded.

The observation sheet, questionnaire with open and close type questions were the major tools of data collection. Questionnaire were pre-tested at Prithvi Narayan Campus Pokhara to get its reliability and validity. Then the researcher prepared the tools as receiving feedbacks from the respondents and the supervisors. First of all, the researcher took authority to do the research on the topic from JRCC. Being a lecturer of such campus, the researcher took permission from the Campus Chief to meet the students and stakeholders. Afterwards, the researcher told them about the fact of the visit. Then the researcher provided questionnaire and collected filled questionnaire The researcher observed all the related things to drinking water and filled the observation sheet. Those facts and figures were analysed in the descriptive manner. A few statistical tools such as percentage is used to analyzed data. All the data were presented in tables. Necessary comparison were done with other’s finding and conclusion.

Results and Discussion

Quantity of Drinking Water

Generally an adult needs at least 3 to 4 litters drinking water daily for the good health (WHO, 1993). Every day people lose water through their breath, perspiration, urine and bowel movements. To function human body properly, an individual must replenish its water supply by consuming beverages and foods that contain water. So how much fluid does the average, healthy adult living in a temperate climate need? The Institute of Medicine determined that an adequate intake (AI) for men is roughly about 13 cups (3 litres) of total beverages a day. The AI for women is about 9 cups (2.2 litres) of total beverages a day. Everyone has heard the advice, "Drink eight 8-ounce glasses of water a day." That's about 1.9 litres, which isn't that different from the Institute of Medicine recommendations. Students generally stay 5 to 6 hours in the college. They need to eat breakfast and snacks. They need to drink safe and pure drinking water. Students were asked how much water they drank while they were staying in the college.

Table 1

Quantity of Drinking Water in College

Quantity	Education	Management	Humanities	Science	Total	Percent
Half litre	5	7	11	5	28	17.50
One litre	5	7	11	10	33	20.62
Two litre	3	3	0	6	12	7.50
It depends on the situation	27	20	18	19	84	52.50
Not drinking college water	0	3	0	0	3	1.87
Total	40	40	40	40	160	100

Source**:** Field Survey, 2017.

Table 1 shows that 17.50 percent students drank half litre, 20.62 percent drank one litre, 7.50 percent drank two litre and majority 52.50 percent drank water as the situation. Only 1.87 percent students didn't drink college water. They carried boiling water from their homes. According to Kerry, Larry, & Charles (`n d) the basic minimum quantity is 2 gallons per pupil per day. If the building is fully equipped, including showers and kitchen facilities.

It's pretty common knowledge that drinking enough water is essential to detoxification, healthy metabolism, & overall health. The usual figure given is about 8 glasses of water (64 ounces or about 1.9 liters) for an adult, though this varies based on climate, lifestyle, physical condition, and exercise habits. This water calculator is a useful tool for getting an idea of how much water is needed per day. Drinking water at the correct time maximizes the positive effects on the human body. Everyday 2 glasses of water after waking up helps activate internal organs. It's best to sip and not chug these, and if two feels like too much, just drink one. Similarly, 1 glass of water 30 minutes before a meal (but not any closer to eating time!) helps digestion. Then 1 glass of water before taking a bath helps lower blood pressure and 1 glass of water before going to bed is also beneficial for cardiovascular health (WHO& UNICEF, 2012).

Time Spent for Drinking Water

Students came to college in the morning at 5:55 0r 10:55 after some walk either from Ratna Chowk or Airport Chowk or little further so it is better to drink a glass of water before entering the class .If they got water in hands or nearer they could drink as they like. The researcher wanted to know that how far the water and what time they got it when they wanted to drink. The responses are shown as in table.

Table 2

Time Spent for Getting Drinking Water

Time Spent for Drinking Water	Number of Respondents	Percent
Get water within a minute.	71	44.37
Get water within 2 minutes	50	31.25
Get water within 5 minutes	28	17.50
Get water more than 5 minutes	11	6.87
Total	160	100

Source: Field Survey, 2017.

Table 2 revels that how much time they spent to drink water. Generally in the same class they had to spend different time to drink water. Master students got bottle water in their own classes so they had water in their hands as a result they got water within a minute. But other students needed to go ground floor so they took more time . As their replied many students 44.37 percent students drank water within a minute. Similarly 31.25 percent students could drink water within two minute .Nearly one quarter students 24.23 percent took 5 minute or more time to drink water. It seems good when students want water they should have it nearby them or easy access.

Students were asked whether the quantity of drinking water that they received was adequate or not . Two third students 66.25 percent replied that it was sufficient. Similarly twenty five respondents out of one hundred sixty (15.62) replied that it wasn't sufficient. Likewise 18.12 students replied that it was poor.

Water is consumed daily in large amounts by human. It is responsibility of the school districts to provide safe and pure drinking water. Ideally, the water supply should be obtained from municipal sources. When this isn't possible, well should be drilled (Kerry, Larry, Charles, n.d). Most schools and colleges obtain their water from established public water. These supplies are under the surveillance of the health department, and the school properly can accept. This supervision as adequate, some schools provide their water supplies, usually by drilling wells. A deep more than 30 feet drilled well is the recommended water sources for a school when no public supply is available (Anderson,1972).

Drinking Water Access Points

Fountains with running water fountains provide the most sanitary drinking facilities for the schools. One fountain per seventy five pupils is an acceptable standard (Anderson, 1972). Sanitary drinking fountains should be strategically placed throughout the school building.

These fountains should be easily accessible to persons in wheelchairs and should be placed in such a way as to minimize safety hazards. It is better if drinking fountains are placed in wall recesses rather than projecting into hallways The fountains should be of the (Jet) type as opposed to (bubblers).Further , the drinking fountains should be designed for easy cleaning: this cleaning should be occur several times daily. (Kerry, Larry, Charles,n.d).

A drinking fountain, also called a water fountain or a bubbler, is a fountain designed to provide drinking water. It consists of a basin with either continuously running water when turn on. Modern indoor drinking fountains may incorporate filters to remove impurities from the water to reduce its temperature. Students were asked how many fountains were there in JMC.

Table 3

Fountains of Drinking Water in College

Number of Fountains	Education	Management	Humanities	Science	Total	Percent
Less than five	23	5	23	28	79	49.37
Five to ten	3	6	5	6	20	12.50
More than ten	6	11	2	4	23	14.37
Others	8	18	10	2	38	23.75
Total	40	40	40	40	160	100

Source**:** Field Survey, 2017.

Table 3 revels that 49.37 percent students said there were less than 5 fountains. Similarly 12.50 percent told that there were five to ten fountains.. Nearly one quarter 23.75 percent students replied that they didn't know the numbers of fountains in the college. According to observation there were 2 fountains on the buckets at ground floor, 2 at first floor and one in at middle of first and second floor of main building. similarly 5 buckets and 5 steel glasses were found at BBA building. Only one jar with cold and hot water was placed on Maitri building. All together there were only 11 fountains in JMC except in the canteen. There were nearly 3094 in the morning and 1256 in day time. Nearly one quarter got bottle water in their classes as a result it seems good ratio because it is in the morning. One fountain had the load of two hundred students in the morning and only one hundred in day shift. It was inefficient in morning time in the comparison of C. L. Anderson's recommendations.

Students often expressed a desire for chilled water. While some fountains were certainly inviting and deliver clean-tasting water, this is certainly not the case in everywhere. And water fountains may not be the best way to ensure adequate access to drinking water. Imagine a busy lunchroom with a hundred students lining up to grab a sip of water from a fountain. It’s pretty difficult to get a substantial drink of water for them. So the location and number of fountains were the major things to fulfil the thirst in time.

(Kerry, Larry, & Charles, n.d).wrote on their book on organization of school health programme that there should be a sufficient number of fountains throughout the facility to meet the daily demands. There should be at least one fountain per floor and at least one fountain for every one hundred students.

One quarter of respondents 25.65 percent said that those fountains were at the ground floor. Similarly 28.12 percent said that those fountains at the middle floor. Likewise 21.25 percent respondents said those fountains were in every floor. Only 12.50 percent students replied that those fountains were in the canteen. Rest of 12.50 percent students didn't know where were those fountains. MBS students got the bottle water in their own classroom so they suggested to provide the bottle water in every classes.

Diseases Due to Water

Health may be affected by the ingestion of contaminated water either directly or through food; and by the use of contaminated water for purpose of personal hygiene and recreation .The term water -related diseases includes the classical water-borne diseases. Developing countries carry a heavy burden of water-borne diseases the heaviest being the diarrhoeal diseases . Water -related diseases may be classified as follows: In the hilly areas the sources of water very far and limited, there was no sufficient water in urban areas. Diseases like dysentery, diarrhoea, typhoid and cholera spread due to unsafe and polluted water. The water of Terai suffered from skin diseases due to presence of arsenic in the tube well water. Only 31 students out of 160 felt the following health diseases due to the water.

Table 4

Diseases Due to Drinking Water

Diseases	Education	Management	Humanities	Science	Total	Percent
Diarrhoea	4	3	1	6	14	45.16
Cholera	0	1	1	1	3	9.67
Stomach pain	2	3	3	6	14	45.16
Worm	0	2	2	1	5	16.12
Dysentery	0	1	2	1	4	12.90
Gastroenteritis	0	0	0	1	1	3.22
Guardia	0	0	0	1	1	3.22
Hepatitis	O	0	0	0	0	0
Others	0	4	0	0	4	12.90
Total	**7**	15	9	17	48/31	1oo

Note: There are multiple response alternatives for this table so the sum of all categories may not be equal to the total cases or respondents.
Sources: Field Survey 2017

Table 4 shows that 31 out of 160 students felt waterborne diseases while running in JMC. Students were asked what the diseases were felt or seen . Diarrhoea and stomach pain were the major health problems seen which were 14 in numbers. They didn't feel sure of it whether it was due to college water or out of college water. Only five respondents were found suffered from worm. Students only stayed 6 hours in the colleges and rest of the time they lived in their home and they drank water where they stayed . Above mentioned diseases were seen on students so the campus always aware whether the water was safe or not. Most of the respondents 122 out of 160 students satisfied with the water of JMC

Conclusions

The study is concluded that the drinking water is sufficient as the students ratio. Most of the students satisfied with the water of JMC. Students were aware how to handle drinking water. It was known that campus had tested and proved that the water of JMC boring was good for the health, when it was lunched. Students as well as teachers wanted to test it before and after the monsoon so they are confident about the drinking water.

According to students storing pots, glasses, jugs and storing pots were needed to wash daily. Filter of Euro guard should be changed time to time. It is better to put the buckets at every floor of each building, The bad is seen that some students dipped the jug to take water without opening the tap that is why some dust particulars insert inside the buckets . Soap, water and towel should manage near by the toilet or hand washing bin to minimize the water borne diseases. Only 31 out of 160 students felt water born disease in their college life in JMC but they didn't sure whether it might be the result of campus water or home water. According to campus administration filter of Euro guard, glasses, mugs and pots were changed time to time and washed daily. The campus has the policy to make water corner in very floor of every building.

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Research Article

Finding of principle square root of a real number by using interpolation method

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Abstract
There are various methods of finding the square roots of positive real number. This paper deals with finding the principle square root of positive real numbers by using Lagrange's and Newton's interpolation method. The interpolation method is the process of finding the values of unknown quantity (y) between two known quantities.

Keywords: *Interpolation, real number, square root.*

Introduction

The square root of a number is value that when multiplied by itself, gives the number. All positive real number has two square roots, one positive square root and one negative square root. The positive square root is sometimes referred to as the principle square root. A square root is written with a radical symbol √ and the number or expression inside the radical symbol, below denoted a called radicand $\sqrt{a}$. Negative numbers don't have real square roots since a square is either positive or 0. If the square root of an integer is another integer then the square is called perfect square. For example: 36. It is perfect square $\sqrt{36} = \pm 6$.

If the radicant is not perfect square i.e the square root is not a whole number then we have to approximate the square root $\sqrt{3} = \pm 1.73205 \approx \pm 1.7$. The square roots of numbers that are not a perfect square are members of the irrational numbers.

The process of finding the value of $y(x_i)$ for corresponding value of $x_i \in (x_0, x_n)$ is called interpolation.

The process of finding the value of $y(x_i)$ for corresponding value of $x_i \notin (x_0, x_n)$ is called extrapolation.

To obtain the value of unknown quality by using Newton's interpolation method we use three types of formula namely, forward difference, backward differences and central difference.

Forward difference: The first order forward difference of f(x) is the change in f(x) when x is increased by a positive difference h. The operation is carried out through the notation Δ.

Backward difference: The first order backward difference of f(x) is the change in f(x) when x decreases by a positive difference h. The operation is carried out through the notation ∇.

Central difference*:* The forward and backward differences are mainly useful in interpolating the values near the beginning and the end of the table respectively. Central differences are particularly useful in interpolating for value of x in the interior of the table.

For equal interval we use the following method to find the interpolation:

1. Newton's forward difference interpolation formula.
2. Newton's backward difference interpolation formula.

For unequal interval we use the following methods to find the interpolation:

1. Newton's divided difference formula.
2. Stiring central difference formula.
3. Gauss central difference formula.
4. Bessel's interpolation formula.
5. Lagring's interpolation formula

Table 1

Newton's Divided Difference Table

x	f	Δf	$\Delta^2 f$	$\Delta^3 f$	$\Delta^4 f$
x_0	f_0				
		$\Delta f_0 = \frac{f_1 - f_0}{x_1 - x_0}$			
x_1	f_1		$\Delta^2 f_0 = \frac{\Delta f_1 - \Delta f_0}{x_2 - x_0}$		
		$\Delta f_1 = \frac{f_2 - f_1}{x_2 - x_1}$		$\Delta^3 f_0 = \frac{\Delta^2 f_1 - \Delta^2 f_0}{x_2 - x_0}$	
x_2	f_2		$\Delta^2 f_1 = \frac{\Delta f_2 - \Delta f_1}{x_3 - x_1}$		$\Delta^4 f_0 = \frac{\Delta^3 f_1 - \Delta^3 f_0}{x_4 - x_0}$

		$\Delta f_2 = \dfrac{f_3 - f_2}{x_3 - x_2}$		$\Delta^3 f_1 = \dfrac{\Delta^2 f_2 - \Delta^2 f_1}{x_3 - x_1}$
x_3	f_3		$\Delta^2 f_2 = \dfrac{\Delta f_3 - \Delta f_2}{x_4 - x_2}$	
		$\Delta f_3 = \dfrac{f_4 - f_3}{x_4 - x_3}$		
x_4	f_4			

Table 2
Newton's Forward Difference Table

x	y	Δy	$\Delta^2 y$	$\Delta^3 y$	$\Delta^4 y$
x_0	y_0				
		$\Delta y_0 = y_1 - y_0$			
x_1	y_1		$\Delta^2 y_0 = \Delta y_1 - \Delta y_0$		
		$\Delta y_1 = y_2 - y_1$		$\Delta^3 y_0 = \Delta^2 y_1 - \Delta^2 y_0$	
x_2	y_2		$\Delta^2 y_1 = \Delta y_2 - \Delta y_1$		$\Delta^4 y_0 = \Delta^3 y_1 - \Delta^3 y_0$
		$\Delta y_2 = y_3 - y_2$		$\Delta^3 y_1 = \Delta^2 y_2 - \Delta^2 y_1$	
x_3	y_3		$\Delta^2 y_2 = \Delta y_2 - \Delta y_1$		
		$\Delta y_3 = y_4 - y_3$			
x_4	y_4				

Table 3
Newton's Backward Difference Table

x	y	∇y	$\nabla^2 y$	$\nabla^3 y$	$\nabla^4 y$
x_0	y_0				
		$\nabla y_0 = y_1 - y_0$			
x_1	y_1		$\nabla^2 y_0 = \nabla y_1 - \nabla y_0$		
		$\nabla y_1 = y_2 - y_1$		$\nabla^3 y_0 = \nabla^2 y_1 - \nabla^2 y_0$	
x_2	y_2		$\nabla^2 y_1 = \nabla y_2 - \nabla y_1$		$\nabla^4 y_0 = \nabla^3 y_1 - \nabla^3 y_0$
		$\nabla y_2 = y_3 - y_2$		$\nabla^3 y_1 = \nabla^2 y_2 - \nabla^2 y_1$	
x_3	y_3		$\nabla^2 y_2 = \nabla y_2 - \nabla y_1$		
		$\nabla y_3 = y_4 - y_3$			
x_4	y_4				

Result and Discussion

To find the principle square root of real number by interpolation method it is necessary to know the Lagrange's interpolation formula as well as Newton's interpolation formula.

Lagrange's interpolation formula

Suppose y=f(x) be function with $f(x_0), f(x_1), f(x_2)$ .... $f(x_n)$ corresponding to the values x_0, x_1, x_2 .... x_n then $y_0 = f(x_0)$, $y_1 = f(x)_1$, $y_2 = f(x_2)$ .... $y_n = f(x_n)$. Thebn Lagrange's interpolation formula is given by $y = f(x) = \frac{(x-x_1)(x-x_2) \,.......\, (x-x_n)}{(x_0-x_1)(x_0-x_2) \,....\, (x_0-x_n)} \times y_0 + \frac{(x-x_0)(x-x_1) \,.......\, (x-x_n)}{(x_1-x_0)(x_1-x_2) \,....\, (x_1-x_n)} \times y_0 + \,.................\, + \frac{(x-x_0)(x-x_1) \,.......\, (x-x_{n-1})}{(x_n-x_0)(x_n-x_1) \,....\, (x_n-x_{n-1})} \times y_n$

Newton's divided difference formula

Suppose $y = f(x)$ be function with $f(x_0), f(x_1), f(x_2)$ .... $f(x_n)$ corresponding to the values x_0, x_1, x_2 .... x_n then $y_0 = f(x_0)$, $y_1 = f(x_1)$, $y_2 = f(x_2)$ .... $y_n = f(x_n)$ then Newton's divided difference formula is given by $y = y_0 + (x-x_0)\,\Delta f_0 + (x-x_0)(x-x_1)\,\Delta^2 f_0 + \ldots\ldots + (x-x_0)(x-x_1)\ldots\ldots(x-x_n)\,\Delta_n f_0$

Newton's forward difference formula

$$y_p = y_0 + p\Delta y_0 + \frac{p(p-1)}{2!}\Delta^2 y_0 + \frac{p(p-1)(p-2)}{3!}\Delta^2 y_0 + \frac{p(p-1)(p-2)(p-3)}{4!}\Delta^4 y_0 + \ldots\ldots$$

Where, $p = \dfrac{x_p - x_0}{h}$

x_p = value of which interpolation is to be found
x_0 = initial value related to x_p
h = interval of x.

Newton's backward difference formula

$$y_p = y_n + p\nabla y_0 + \frac{p(p+1)}{2!}\nabla^2 y_n + \frac{p(p+1)(p+2)}{3!}\nabla^2 y_n + \frac{p(p+1)(p+2)(p+3)}{4!}\nabla^4 y_n + \ldots\ldots$$

Where, $p = \dfrac{x_p - x_n}{h}$

x_p = value of which interpolation is to be found
x_n = initial value related to x_p
h = interval of x.

Example: Given that

X	1	4	9	16	25
y	1	2	3	4	5

Calculate the approximate principle square root of 10.56 by using Lagrange's interpolation formula.

Here, $x_0 = 1, x_1 = 4, x_2 = 9, x_3 = 16, x_4 = 25$
Here, $y_0 = 1, y_1 = 2, y_2 = 3, y_3 = 4, y_4 = 5$
X = 10.56

Lagrange's interpolation formula is

$$y = f(x) = \frac{(x-x_1)(x-x_2)\ldots\ldots(x-x_n)}{(x_0-x_1)(x_0-x_2)\ldots(x_0-x_n)} \times y_0 + \frac{(x-x_0)(x-x_1)\ldots\ldots(x-x_n)}{(x_1-x_0)(x_1-x_2)\ldots(x_1-x_n)} \times y_0 + \ldots\ldots\ldots\ldots + \frac{(x-x_0)(x-x_1)\ldots\ldots(x-x_{n-1})}{(x_n-x_0)(x_n-x_1)\ldots(x_n-x_{n-1})} \times y_n$$

$$\text{or, } y = f(10.56) = \frac{(x-x_1)(x-x_2)(x-x_3)(x-x_4)}{(x_0-x_1)(x_0-x_2)(x_0-x_3)(x-x_4)} \times y_0 + \frac{(x-x_0)(x-x_2)(x-x_3)(x-x_4)}{(x_1-x_0)(x_1-x_2)(x_1-x_3)(x_1-x_4)} \times y_1 + \frac{(x-x_0)(x-x_1)(x-x_3)(x-x_4)}{(x_2-x_0)(x_2-x_1)(x_2-x_3)(x-x_4)} \times y_2 + \frac{(x-x_0)(x-x_1)(x-x_2)(x-x_4)}{(x_3-x_0)(x_3-x_1)(x_3-x_2)(x_3-x_4)} \times y_3$$

$$= \frac{(10.56-4)(10.56-9)(10.56-16)(10.56-25)}{(1-4)(1-9)(1-16)(1-25)} \times 1 + \frac{(10.56-1)(10.56-9)(10.56-16)(10.56-25)}{(4-1)(4-9)(4-16)(4-25)} \times 2 + \frac{(10.56-1)(10.56-4)(10.56-16)(10.56-25)}{(9-1)(9-4)(9-16)(9-25)} \times 3 + \frac{(10.56-1)(10.56-4)(10.56-9)(10.56-25)}{(16-1)(16-4)(16-9)(16-25)} \times 3$$

= 0.09304-0.61985+3.298+0.49831
= 3.23.

Therefore the approximate principle square root of 10.56 is 3.23.

Example: Given that

X	7	10	13	16	19
y	2.64	3.16	3.60	4	4.35

Calculate the approximate principle square root of 10.56 by using Newton's forward difference formula.

Table 4

Newton's Forward Difference Formula is

x	y	Δy	$\Delta^2 y$	$\Delta^3 y$	$\Delta^4 y$
x_0	y_0				
		$\Delta y_0 = y_1 - y_0$			
x_1	y_1		$\Delta^2 y_0 = \Delta y_1 - \Delta y_0$		
		$\Delta y_1 = y_2 - y_1$		$\Delta^3 y_0 = \Delta^2 y_1 - \Delta^2 y_0$	
x_2	y_2		$\Delta^2 y_1 = \Delta y_2 - \Delta y_1$		$\Delta^4 y_0 = \Delta^3 y_1 - \Delta^3 y_0$
		$\Delta y_2 = y_3 - y_2$		$\Delta^3 y_1 = \Delta^2 y_2 - \Delta^2 y_1$	
x_3	y_3		$\Delta^2 y_2 = \Delta y_2 - \Delta y_1$		
		$\Delta y_3 = y_4 - y_3$			
x_4	y_4				

Or.

x	y	Δy	$\Delta^2 y$	$\Delta^3 y$	$\Delta^4 y$
7	2.64				
		3.16-2.64=0.52			
10	3.16		0.44-0.52=-0.08		
		3.60-3.16=0.44		-0.04+0.08=0.04	
13	3.60		0.4-0.44=-0.04		-0.01-0.04=-0.05
		4-3.60=0.4		-0.05+0.04=-0.01	

16	4		0.35-0.4=-0.05
		4.35-4=0.35	
19	4.35		

$x_p = 10.56$ lies between 10 and 13
$x_0 = 10$, $y_0 = 3.16$
$h = 3$

$$p = \frac{x_p - x_0}{h} = \frac{10.56 - 10}{3} = 0.18666$$

y_p = is value of x when x =10.56

Newton's forward difference formula is

$$y_p = y_0 + p\Delta y_0 + \frac{p(p-1)}{2!}\Delta^2 y_0 + \frac{p(p-1)(p-2)}{3!}\Delta^2 y_0 + \frac{p(p-1)(p-2)(p-3)}{4!}\Delta^4 y_0 + \ldots\ldots..$$

$$y_p = 3.16 + 0.1866 \times 0.44 + \frac{0.18666(0.18666-1)}{2!}(-0.04)$$

$$+ \frac{0.18666(0.18666-1)(0.18666-2)}{3!}(-0.01)+0 \qquad = 3.244$$

Therefore the approximate principle square root of 10.56 is 3.23.

Conclusion

by using Lagrange's and Newton's interpolation method we can find the principle square root of real number.

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Research Article

Factors Associated with Children Ever Born among Lower Caste Women in Some Selected Wards of Pokhara, Nepal

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Abstract

Fertility is the main components of population growth. Children ever born vary in different sub groups of the same population in terms of age at marriage, age of women, literacy, occupation, contraception user and mass media exposure.The objective of this study is to find out association between children ever born and selected socio-¬demographic characteristics in lower caste women. A descriptive study was conducted in some selected wards of Pokhara, Nepal during April 2018. Five wards were selected randomly out of 33 wards and 187 lower caste women were selected using convenience sampling technique. The data was collected by using semi¬-structured interview schedule. Chi-square test was applied to find out association between children ever born and selected socio-demographic characteristics.Higher children ever born were concentrated in the age at marriage from 21 to 25 as compared to other groups of age at marriage. Practice of contraceptive use is low among lower caste people although 66.31% lower caste women were exposed to mass media. The result shows that the factors age at marriage, contraceptive use and mass media exposure were highly associated with children ever born among lower caste women under study (P<0.05). Education on fertility is more powerful than urban residence. Concern authorities should play vital role to increase education level among lower caste people for increasing age at marriage, contraceptive use and practice of family planning to reduce children ever born.

Keywords: *Children ever born, contraception, lower caste, marriage, Nepal, women*

Introduction

Fertility refers to the actual production of offspring from a woman rather than the physical capability to produce. Fertility is different from fecundity which is the potential for reproduction. Fertility is the actual level of reproduction of a population based on the number of live births that occur. Fertility is normally measured in terms of woman of childbearing age defined as 15-49 years. Fertility rate is the number of offspring born per mating pair, individual or population. Many factors affect a person's fertility such as age, medical condition, genetics, environment, lifestyle and a variety of other more things. Fertility is rooted in a biological sequence of conception, gestation and birth; social and environmental factors heavily influence each stage. Children ever born are one of the main components of population growth. Although reproduction is a biological phenomenon, levels of children ever born can be influenced by socially controlled norms and practices. Children ever born comprises information on the number of children born alive during the lifetime of the women concerned up to a specified reference date. Childrenever born is referred as to lifetime fertility.

Lower castes which are also known as Dalit are those communities which are considered and treated as untouchable in traditional Nepal society. Thus they are the most backward in social, educational, economic, religious and political fields. Dalit are considered as the poorest community in Nepal.This is the reason for their poor economic condition and thus most of the lower caste people are not able to give higher education to their children. It is obvious that higher levels of education provide a higher level of information keeping children ever born under control by keeping small family size for better standard of living. Lack of education in the lower caste community results in adolescent marriage. Statistics indicate that adolescent marriages play a central role in national fertility. There arises a question that do one of the poor and educated sub group like dalit peoples have think about children ever born in their life. Do they have knowledge and desire to keep it low or not? As a result of this, the purpose of this study is to find factors those are associated with children ever born in lower caste women by studying in Pokhara.

According to census 2011, Nepal officially crossed 26.6 million figures. Over the last 10 years, Nepal added 3343081 persons to its population. The average annual growth rate of population was 2.25 percent. If it will continue in this rate, then Nepal's population will double after 50 years. Fertility in Nepal stood at 2.6 births per women in 2006-2012 (MOHP, 2012). The average family size is 4.9 persons per household (CBS, 2012). It would be important to look at the district level fertility differentials to get a better idea of the different factors contribute to the national variation of fertility. The levels and patterns of children ever born vary in various sub sectors and sub groups.A study of children ever born is important from the point of view of the implementation of family planning program because it helps us identify high fertility groups on which the program efforts can be concentrated (Clyde and whelpton, 1990). Most society viewed erroneously female children as owing responsibility and support to their marital home when married and not to their parents whereassons are, on the other hand, viewed as the ones to assists their families financially in old age as well as perpetuate family name. The drive for male children and hence high fertility is also related to religious practice (Agbim and Ikyernum, 2013). With respect to high premium on male children as compared to females, women that have only female children or who are experiencing male infant mortality are compelled to keep bearing children until the desired sons are born (Harrison, 1985). Demographic, Socio-economic and cultural factors affect fertility differentials in Nepal (Adhikari, 2010). Education, occupation and age at menarche are the most powerful factors in deciding the timing of first marriage in Nepal (Aryal, 2007). As the age at marriage increase, the number of children ever born decreases (Dahal,1989).

Pokhara Metropolitan City is the largest city of Nepal in terms of area and is the second largest city in terms of population. It is the provincial capital of province number 4 of Nepal. It is located 200 kilometers (120 miles) west of the capital Kathmandu of Nepal. According to census 2011, Population of this city stands at 413934 with males 201107(48.6%) and females 212827(51.4%). In recent years, city has experienced a rapid increase in the number of immigrants because of its natural beauty and climate condition. This city has lower caste people in significant number. Urban migration by Nepalese Dalit has not only provided them with social, economic and educational opportunities but also the possibility of escaping traditional caste based discrimination. However, despite making the most of opportunities provided by the city, Dalits have not been able to pursue their political agenda to the extent of other ethnic communities (Pariyar and Lovett, 2016). Despite representing about 13.1 percent of the Nepalese population (CBS, 2011), Dalit have failed to unite and clearly articulate their political agenda. Dalit continue to remain one of the most economically marginalized, politically excluded and socio-culturally oppressed communities in Nepal (Dahal et al., 2002). Although Nepal experienced a great change in the political sphere after the people's movement 2006 but change has not been able to benefit the Dalit community significantly.

Although lower caste's participation in political process and representation in government at the village, district and national level has been slowly increasing but most Dalit groups have their own traditional occupational skills like tailoring, shoemaking, iron smithy, gold smithy, fishing etc. These occupational skills are the only way to solve their hand-to-mouth problem. Dalits are not getting well fair value of their work as they deserve and thus their economic status is very poor. Most of the Dalit's living standard has not significantly increasing over years. This is the reason why they are not able to give higher and better education to their children. More than twenty Dalit caste groups from Hill and Mountain Dalit, Tarai Dalit and Newar Dalit exist in Nepal at present. The National Dalit commission of Nepal identified 22 separate cultural groups within the Dalit in 2003 (National Dalit Commission, 2003). In 2011, the number was increased to a total of 29 cultural groups within Dalit (Biswakarma, 2011). Dalits are not concentrated in any single geographic area but live throughout the country. Published statistics indicate that Dalit as a group are significantly below the national average in most development indicators such as poverty-48%; Literacy-40%; Chronic Childhood malnutrition-60 %, Food deficiency - 85% and Life expectancy - 48%years (CBS, 2011). Furthermore, the humiliating and degrading practice of untouchability is still continuing despite the country being declared 'untouchable free' by the new constitution (Bhattachan et al. 2009; Cameron, 1998 & 2009; Lamsal, 2012). This social practice keeps most of them backward from getting well respected job and position in society.

The number of children ever born is still high in Nepal and Pokhara is not different from nation’s statistics. There are so many factors responsible for high children ever born in different sub sectors and sub groups. It is not possible to achieve overall development of nation by ignoring any one sub sector or sub group.As a result, the aim of this study is to examine the associated factors of children ever born in lower caste sub group. Many studies have been done on the fertility differential among lower caste women in different study area but not in second largest populated city Pokhara metropolitan city. This study, therefore, is mainly carried out to determine and analyze the children ever born in lower castes women of some selected wards of Pokhara Metropolitan city. The major justification of the study was to provide detail and valuable information on the children ever born in lower castes peopleto advance human knowledge so that it will help to determine major associated factors which is needed as major input for decision making in planning and development programs. As the study of children ever born has importance in detecting relevant socio-demographic variables of interest for intervention so this study attempts to examine several factors affecting the children ever born among lower caste women in Pokhara, Nepal.

Data and Methods

The study population was lower castes women aged from 15 to 49 years who were permanent or temporary residents of the study area. The study area chosen was Pokhara Metropolitan City as it is the largest city and one of the most populated city of Nepal. This city has lower caste people in significant number. This study was based on primary data collected from a sample of 187 women of lower castes women.

Simple random sampling was used to select the wards of Pokhara Metropolitan City. Five wards numbering 4, 9, 12, 17 and 20 were selected randomly. Sample of 187 lower castes women were selected by rule of thumb from dalit castes distinguishes by National Dalit Commission from selected wards by using convenience sampling. Data was collected by field survey from selected wards. Convenience sampling method was used to recruit respondents living in the study area. Three eligibility criteria were used for recruiting participants. These were: Dalit castes, age from 15 to 49 years and residency, living in study area either permanently or temporarily.

Primary data has been used. Structured questionnaire was used. Interview schedule was used to get information. The data was collected by bachelor level students from field visit. After checking completeness and accuracy of the data obtained from field visit, the collected data were entered and analyzed by using statistical package for social science (SPSS) version 20.0. Descriptive statistics were conducted using frequencies. Validity and reliability has been tested by Cronbach's alpha (α= 0.68) by using SPSS.

For statistical analysis, chi-square test was applied to examine the association between children ever born and other selected socio-demographic characteristics. The 5% level of significance ($p<0.05$) was taken to be statistically significant.

Results and Discussion

Table 1

Respondents Classified by Castes

Castes	Number
Biswokarma	57
Pariyar	43
Damai	31
Sarki	30
Kasai	14
Pode	12

Source: Field Survey 2017

Children Ever Born by Age at Marriage

Age at marriage is one of the main determinants of children ever born. Age at marriage is influenced by the socio-economic conditions. Table 2 shows the variation in children ever born by age at marriage.

Table 2

Respondents Classified by Age at Marriage According to Number of Children Ever Born

Age at Marriage Number of Children	15-20	21-25	Above25	Total
0 to 1	19 (19.2)	52 (52.5)	28 (28.3)	99(100)
2 to 3	37 (48.7)	26 (34.2)	13 (17.1)	76(100)
4 to 5	8 (66.7)	3 (25)	1(8.3)	12(100)
Total	64 (34.2)	81 (43.32)	42 (22.5)	187

Note: Chi-square value = 22.724 with $p < 0.01$

Source: Field Survey 2017

Table 2 demonstrates that out of 187 respondents, 64(34.2%) women were married in the age ranges from 15 to 20, 81(43.3%) women were married in the age ranges from 21 to 25 and 42(22.5%) women were married in the age above 25 years. Out of 99 respondents having children ever born ranges from 0 to 1, 19.19 percent are in the age group of 15-20, 52.53 percent are in the age group of 21-25 and 28.28 percent are in the age group above 25. Out of 76 respondents having children ever born ranges from 2 to 3, 48.7 percent are in the age group 15-20, 34.2 percent are in the age group of 21-25 and 17.11 percent are in the age group above 25. Similarly, out of 12 respondents having children ever born ranges from 4 to 5, 66.7 percent are in the age group 15-20, 25 percent are in the age group 21-25 and 8.33 percent are in the age group above 25. Chi-square test is used to test association between children ever born and age at the marriage. The p-value is 0.00014. As p-value is less than 5 percent so study shows that there is significant association between children ever born and age at marriage in lower caste families.

Children Ever Born by Age of Women

Children ever born are affected by age of mother. Age of mother is another important determinates of children ever born. Table 3 shows the variation in children ever born by age of women.

Table 3

Respondents Classified by Age of Women According to Number of Children Ever Born

	Age of Married women			
Number of Children	15-25	26-35	36-49	Total
0 to 1	31(31.3)	42(42.4)	26(26.3)	99(100)
2 to 3	17(22.4)	35(46.1)	24(31.6)	76(100)
4 to 5	1(8.3)	4(33.3)	7(58.3)	12(100)
Total	49(26.2)	81(43.3)	57(30.5)	187

Source: Field Survey, 2017

Table 3 demonstrates that out of 187 respondents, 49(26.2%) women are in the age group 15-25, 81(43.3%) women are in the age group 26-35 and 57(30.5%) women are in the age group 36-49. Higher children ever born are concentrated in the age group 36-49. Chi-square test is used to test the association between children ever born and age of married women. The p-value is 0.1378. As p-value is greater than 5 percent so study shows that there is no significant association between children ever born and age of married women in lower caste families.

Children Ever Born by Literacy

Literacy is the ability to read and write. Literacy of women has great influence in children ever born. Literate women become more knowledgeable about family planning and contraceptive use method. This helps directly in reducing children ever born. Table 4 shows the variation of children ever born by literacy.

Table 4

Respondents Classified by Literacy According to Number of Children Ever Born

Level of Literacy			
Number of Children	Literate	Illiterate	Total
0 to 1	57 (57.8)	42(42.4)	99(100)
2 to 3	42 (55.2)	34(44.7)	76(100)
4 to 5	3 (25.0)	9(75)	12(100)
Total	102 (54.5)	85(45.5)	187

Source: Field Survey 2017

Table 4 demonstrates that out of 187 respondents, 102(54.6%) women were literate and 85(45.5%) women were illiterate. Out of99respondents, 57(57.6%) respondents have children ever born from 0 to 1. Out of 76 respondents, 42(55.3%) literate respondents and 34(44.74%) illiterate respondents have children ever born from 2 to 3. Similarly, out of 12 respondents, 3(25%) literate and 9(75%) illiterate respondents have children ever born from 4 to 5. Out of 187 respondents, 102(54.6%) respondents were literate and 84(45.5%) respondents were illiterate. Chi-square test is used to test the association between children ever born and literacy status. The p-value is 0.09989. As p-value is greater than 5 percent so study shows that there is no significant association between children ever born and literacy status in lower caste families.

Children Ever Born by Occupation

Occupation is one of the important determinants of children ever born. Employment might reduce women's hazard of marriage and pregnancy. Women having occupation are most likely to postpone first birth. For this study, respondents other than household work and dependent are considered as working. Table 5 shows the variation in children ever born by occupation status.

Table 5

Respondents Classified by Occupation according to Number of Children Ever Born

Occupation Status Number of children	Working	Non-working	Total
0 to 1	64 (64.7)	35 (35.4)	99 (100)
2 to 3	47 (61.8)	29 (38.2)	76 (100)
4 to 5	5 (41.7)	7 (58.3)	12 (100)
Total	116 (62.0)	71 (37.9)	187

Source: Field Survey 2017

Table 5 demonstrates that out of 187 respondents, 116 (62.03%) respondents were working and 71 (37.9%) respondents were non-working. Majority of lower caste respondents are working respondent. Out of 99 respondents, 64 (64.7%) working respondents and 35(35.4%) non-working respondents have children ever born ranges from 0 to 1. Out of 76 respondents, 47 (61.8%) working respondents and 29 (38.2%) non-working respondents have children ever born ranges from 2 to 3. Similarly, out of 12 respondents, 5(41.7%) working respondents and 7(58.3%) non-working respondent have children ever born ranges from 4 to 5. Chi-square test is used to test association between children ever born and occupation status. The p-value is 0.3009.As p-value is greater than 5 percent so study shows that there is no significant association between children ever born and occupation status in lower caste families.

Children Ever Born by Contraception

Contraceptive use allows women to prevent from fertilization. It helps couples to achieve their desired family size by stopping unwanted births. Contraceptive use helps to stop giving birth or to increase the birth interval. It is expected to have low children ever born for those who use contraception

Table 6

Respondents Classified by Use of Contraceptive According to Number of Children Ever Born

Use of Contraceptive

Number of Children	User	Non-user	Total
0 to 1	58 (58.6)	41 (41.4)	99 (100)
2 to 3	27 (35.5)	49 (64.5)	76 (100)
4 to 5	2 (16.7)	10 (83.3)	12 (100)
Total	87 (46.5)	100 (53.5)	187

Note: Chi-square value = 13.7838 with p <0.01

Source: Field Survey 2017

Table 6 demonstrates that out of 187 respondents, 87(46.5%) respondents were users of contraception and 100(53.5%) were non-users of contraception. Out of 99 respondents, 58 (58.59%) contraception users and 41(41.41%) contraception non-users have children ever born ranges from 0 to 1. Out of 76 respondents, 27(35.5%) contraception users and 49(64.5%) contraception non-users have children ever born ranges from 2 to 3. Similarly, out of 12 respondents, 2(16.7%) contraception users and 10(83.3%) contraception non-users have child ever born ranges from 4 to 5. Chi-square test is used to test the association between children ever born and contraception users.

Children Ever Born by Mass Media Exposure

Mass media can affect fertility in women. It is expected to have low fertility level for those women who are exposed to mass media as they are likely to use contraception than the non-exposed women. Table 7shows the variation in children ever born by mass media exposure.

Table 7

Respondents Classified by Mass Media Exposure According to Number of Children Ever Born

Mass Media Exposure

Number of children	Yes	No	Total
0 to 1	64(64.7)	35(35.4)	99(100)
2 to 3	57(75.0)	19(25.0)	76(100)
4 to 5	3(25.0)	9(75.0)	12(100)
Total	124(66.3)	63(33.7)	187

Note: Chi-square value = 11.8584 with $p < 0.01$

Source: Field Survey 2017

Table 7 demonstrates that out of 187 respondents, 124(66.3%) respondents were exposed to mass media and 63(33.7%) respondents are not exposed to mass media. Out of 99 respondents, 64(64.7%) exposed respondents and 35(35.4%) non-exposed respondents have children ever born ranges from 0 to 1. Out of 76 respondents, 57(75.0%) exposed respondents and 19(25.0%) non-exposed respondents have children ever born from 2 to 3. Similarly, out of 12 respondents, 3(25%) exposed respondents and 9(75%) non-exposed respondents have children ever born ranges from 4 to 5. Chi-square test is used to test the association between children ever born and mass media exposure. The p-value is 0.00266. As p-value is less than 5 present so there is significant association between children ever born and mass media exposure in lower caste families.

This study examines the socio-demographic variables that are associated with children ever born in lower caste women as distinguishes by National Dalit Commission of some selected wards of Pokhara Metropolitan City. The discussion on finding was based on results obtained from chi-square test. Age at marriage in lower caste women found significant with children ever born in present study since p-value is less than 0.05 (0.00014). Similar result was found in a study conducted in Bangladesh by Kabir et al. (2001). This could be because of the fact that most of the lower caste women participated in this study was married at lower age. A lower age at marriage provides a long reproduction span and thus may results in higher children ever born. Rise in the age of marriage can reduce children ever born. The present study showed that children ever born in lower caste women are not significantly associated with the age of mother since p-value is greater than 0.05(0.1378). This result was consistent with the study conducted by Gautam and Paudel (2014) in Lamachaur of Kaski of Nepal.

Surprisingly, literacy had no significant association with children ever born of lower caste women since p-value is 0.09989 (P>0.05). This result was inconsistent with the results of other research. Literacy in women reduces the fertility level (Susuman, Lougue and Battala, 2014). The desire to limit child bearing is more apparent at higher levels of education than at lower levels (MOHP, 2011). This may be due to the fact that education in lower caste women was not much higher though they were living in urban region. In present study, occupation status of lower caste women was not statistically associated with children ever born in lower cast women since p-value is 0.3009(P>0.05). The result was supported by Gautam and Paudel(2014). The previous research suggests that occupation has significant association with children ever born (Begall and Mills, 2013). But present study has no evidence of a statistically significant in lower caste women. The present study showed that working respondents have higher children ever born than non-working respondents. This could be because of the fact that most of the lower caste people are migrated from rural area and had to work to solve their hand-to-mouth problem. Husbands of nonworking women might be abroad.

The present study showed that 46.5 percent respondents are user of contraception and 53.48 percent respondents are non-user of contraceptive. The result also showed that non-user of contraception had higher children ever born. Children ever born are significantly associated with the contraceptive use. This result was similar with the result of Morgan and Niraula (1995). This may be due to the possibility of less educated lower caste women were not practicing the use of contraception in real life scenario. In present study, 66.3 percent respondents were exposed to mass media and 33.7 percent respondents were non-exposed to mass media. The study showed that children ever born was significantly associated with mass media exposure since p-value is 0.00266 (P<0.05). This result is consistent with many previous studies that showed mass media exposure reduces the children ever born in women (Cheng, 2011; Bankole, Rodriguez and Westoff, 1996). These are a number of reasons that mass media exposure reduces the children ever born. Mass media provides knowledge of contraceptive use and family planning method. Mass media provides benefits of small family size. No matter which fertility metric is measured, the knowledge of contraceptive use and family planning will reduce children ever born to some extent. This will also be applicable for lower caste women too.

Conclusion

The major finding of present study is that significant factors of children ever born in lower caste women in Pokhara, Nepal are age at marriage, contraceptive use and mass media exposure.

As age at marriage is earlier for most of the respondents so they have a longer reproductive lifespan. This may result in higher number of children ever born. Rise in the age of marriage may reduce children ever born in lower caste women. Children ever born is highly concentrated in non-user of contraceptive. This may be due to the possibility of less educated lower caste women were no practicing the use of contraception in real life scenario. Respondents who do not practicing the use contraceptive have more chances to get pregnant and this results in higher childrenever born. Low children ever born was concentrated to those respondents who had exposure to mass media. This is because the respondents who have exposure to mass media had more knowledge of contraceptive use and family planning method. Mass media provides them the benefits of small family size in future's better standard life.

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General Article

Green Marketing and Environment

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Abstract

Green revolution is protecting our earth, people and many more through a natural phenomenon in everyday life. Green marketing is a tool used by many companies in various industries to follow this trend. There have been a lot of literature review on green marketing over the years, here analysis of the aspects of green marketing on customer value addition, satisfaction, environmental safety, sustainable development, benefits to stakeholders, prospects are presented. This can be used by researchers who need to study green marketing on these issues.

Keywords: *Consumer, environmental safety, green marketing, strategy, sustainable development, value Addition*

Introduction

In the last decade, consumers have become more enlightened on environmental issues. Green marketing refers to selling product or rendering services based on environmental benefit. It came into existence in late 1980s and early 1990s. Green marketing is growing rapidly and consumers are willing to pay a lot for green products. There have been little analysis of the impact of this new market on the consumers, environment, development, stakeholders benefits, etc. Green marketing affects all areas of economy, it does not just lead to environmental protection but it also create new market and job opportunities. Companies that are environmental friendly stand a chance of gaining many satisfied and loyal customers. Besides these support for development as well as many benefits to stakeholders are countable (Hopfenbeck, 1993).

There is now a real sense that environmental protection is highly necessary. Everyone believes a green life is a better and healthier life for present and future generation. Most consumers' spending pattern shows that they have a desire for brands that 'go green'.

Consumers not only want to buy their products but are willing to pay more for it. Based on research, 70 percent of some 2000 people in US, UK, Germany, the Netherlands, Australia and Japan are willing to pay a premium for energy alternatives such as wind and solar power (Baumann, 2002). Consumers are motivated to buy products from companies that are eco-friendly in the production. When a company display's the green logo on their product, it shows that their product or services stands out from the crowd and this gives them a competitive edge. Consequently, most customer buying decisions are influenced by green product label. In this context to explore green marketing process, its value and prospects on the basis of literature is the objective of the paper.

Green marketing and its objectives

Generally, green marketing refers to the process of selling products and services based on their environmental benefits. The American Marketing Association (AMA) held the first workshop on ecological marketing in 1975, 1980 was the first time green marketing came into existence. AMA defines green marketing as the marketing of products that are presumed to be environmentally safe, it incorporates several activities such as product modification, changes to production processes, packaging, advertising strategies and also increases awareness on compliance marketing amongst industries. Business Dictionary defines green marketing as promotional activities aimed at taking advantage of changing consumer attitude towards a brand. These changes are increasingly being influenced by a firm's policies and practices that affect the quality of the environment and reflect the level of its concern for the community. It can also be seen as the promotion of environmentally safe or beneficial products. Major attributes of green marketing are recyclable level, ozone friendly, energy saving, hazardous chemical free, environment protection and value addition.

Main objective of green marketing is to produce, promote and sell the environment friendly products and services. Specific objectives can be pointed as: eliminate the concept of waste, reinvent the concept of product, make environmentalism profitable, bringing out product modification, changing in production process, changes in packaging, modifying in advertising.

Green marketing mix

Green Marketing begins with 'green design'. **Product** design constitutes an active interface between demand (consumers) and supply (manufactures). The product itself has to be made in such a way that it satisfies consumer and manufacture's needs. For ecologically sustainable products to be successful, green branding attributes have to be efficiently communicated. Most buyer decisions are influenced by the labeling, (green labeling) that states all that makes the product green compliant.

The **Price** of green product has to be affordable for the customer to encourage purchase. Industrial differentiation works only when products reduce client's cost. More value addition encourages to pay more price.

Most buyers are influenced by **Promotion** activities including advertisement that reflects a company's commitment to environment. Companies that do green advertisement that tend to portray an image of environmental friendliness, influences their customer purchase decisions. Consumers love to associate themselves with companies that are environmental stewards. When a company communicates this through their advertisements, promotions, publicity and corporate social responsibilities, they are sure to get many loyal customers.

Green **Place**/distribution is a very delicate operation. Customers must be guaranteed of the 'ecological nature' of the product. The green environment is a constantly regulated environment and as such high level of compliance is necessary when carrying out distribution of green products. This is a common procedure in the developed countries.

Green Marketing Strategy

In order to expand the market of green products it require some of strategies which can be conducive to boost up the market of the green products. Those strategies are as follows:

Product Differentiation: It is necessary to make continuous efforts which can be helpful to differentiate then products and services using green marketing practices. It can be used eco-performance to differentiate and to compete. It has been observed that the product with poor eco-performance can become target for new substitution.

Value positioning of consumer: The organization can design environmental products to perform as promoting and delivering the customer's desired value of environmental products and target relevant customer market segment can be proved conducive to organization to differentiate.

Designing the packaging: It has been observed that promotion of green products have been strongly influenced by the packaging. They buy environment friendly packaged green products. Green marketing should modify the product packaging by making use of recycle as well as hand- made paper in packaging rather than using more mechanized material. The manufacturers, who are using plastic for packaging should meet some of requisite standard.

Product design strategy: In order to promote green products it is an urgent need to identify customer's environmental necessities and develop the products accordingly. It includes more environmentally responsible set which ensure that products meet or exceed the quality expectation of the consumers; so that the marketers may charge higher price with highlighting the eco-logical viability of the products.

Distribution strategy: In this strategy of green marketing, it is very essential to take customer support. In this case, the location must be differentiated form the competitors. It can be achieved by promoting the in-store activities like recycling of materials by focusing the environmental and other related benefits.

Life cycle analysis strategy: Product brand is a vital aspect, which can help to formulate plans for green marketing. It is a best tool for performing life cycle analysis complex assessment which can provide useful statistics on social, environmental and economic impact of products. Life cycle analysis can inform a brand requirement to go before it claims to be sustainable. Such study and analysis help to modify the existing strategy to be followed.

Technology and process change strategy: Product related technology will be changing continuously that also direct to the required change in production process. Up to date information about it and fast required change in process is also concerned with strategy.

Effect of green marketing

Green marketing is helpful to establish enterprise's green image and green brand to increase customer's recognition. It effects to customer satisfaction, environment, value addition, development, stakeholders, etc differently.

Customer Satisfaction

Satisfaction retains to customers. It is the perceived performance of a customer from a product in relation to the expectations. It is post purchase outcome. Customer satisfaction has been defined in two basic ways: as either an outcome or as a process. As an outcome, satisfying the end state resulting from the consumption experience. As a process, it is the perceptual evaluative and psychological process that contributes to satisfaction. The definition is varied with regards to their level of simplicity which includes; Product satisfaction, satisfaction with the purchase decision experience, satisfaction with the performance attribute, satisfaction with the store or institution, satisfaction with pre-purchase experience.

Marketing literature suggests that there is a relationship in between customer satisfaction and loyalty. Satisfaction leads to attitudinal loyalty. It could be seen as the intension to purchase and satisfaction is an outcome that occurs without comparing expectations. Customer satisfaction could also be defined as an evaluative response to perceived outcome of a particular consumption experience. It is an overall judgment on satisfaction, based on the assumption that satisfaction is the outcome of ser-vice quality.

Many Authors believe that customers have a high level of involvement regarding environmental issues as a consequence of growing environmental consciousness. Studies have shown the significant influence of environmental knowledge and consciousness on consumer environmental attitude. consequently, companies that communicate their ‘green product’ in their packaging, advertisement or manufacturing process, gain satisfied customers. Because of the green trend, companies that fail to ‘go green’ are not failing to fail in their industry. Customers want to associate themselves with companies and products that are eco-friendly.

Environmental Safety

Environment is simply surroundings. The increased awareness on environmental issues is as a result of increased publicity on the media on issues such as, the warring off of the ozone layer and increased pollution of the environment by industries. Customers have become concern about their everyday habit and the impact it has on their environment.

Managing environmental safety issue is highly challenging, time consuming and expensive. There are many laws on environmental safety that have made companies liable to any wrongdoings. These laws cover areas such as, harmful pollution, managing of hazardous materials and so on. As a result, several hazard control, pollution control and prevention programs are held in different parts of the world on emergency procedures, contingency planning and employee training.

Similarly, many regulatory bodies and acts are set to ensure environmental safety and protection, some of which include, OSHA (Occupational Safety and Health Act), CERCLA (Comprehensive Environmental Respond Compensation Iiability Act), TSCA (Toxic Substance Control Act), HMTA (Hazardous Material Transportation Act), FIFRA (Federal

Insecticide, Fungicide and Rodenticide Act), FFDCA (Federal Food, Drug and Cosmetic Act), CAA (Clean Air Act), CWA(Clean Water Act), GHSCLC (Globally Harmonized System of Classification and Labeling of Chemicals) etc (Pujari, 2003).

Environmental safety is not an easy task to implement. Implementing the accepted standardization policies of a single frame work of the classification and labeling of chemicals so hazards are consistently defined across different national jurisdiction is beneficial but highly challenging, especially in countries like U.S, Japan and Korea that have multiple regulatory authorities. EH&S (Environmental Health and Safety) regulatory compliance and CSR (Cooperate Social Responsibility) initiative throughout the supply chain can help promote and sustain ongoing improvement within an organization. These improvements will help the company achieve regulatory compliance and position itself as a socially responsible company.

Customer Value Addition

Customer needs and expectations are changing. They expect more value by paying price. Value is the ratio in between what a customer gets and what she/he gives that can be calculated by dividing functional and emotional benefits by money, time, energy and psychic costs. Customers are value maximizers. Products value attracts to customers. They want more benefit by paying low price. Green marketing makes possible to buy and use more environmental friendly products. It can provide more utility and benefits by paying the price. Customers compare how much they paid and what they got. We can deliver more value by offering green products and services.

Sustainable Development

According to the World Commission on Environmental Development (1978), Sustainable Development is “meeting the needs of the present without compromising the ability of the future generations to meet their own needs”. The common theme throughout this strategy of sustainable development, is the need to integrate economic and ecological considerations in decision making by making policies that conserve the quality of agricultural development and environmental protection. This is what the end product of green marketing is, environmental protection for the present and the future generation. The development of energy- efficient operations, better pollution controls, recyclable and biodegradable packaging, ecologically safe products are all part of green marketing which also leads to sustainable development.

Stakeholders

Investors, creditors, bankers, agencies, employees, overall society etc are concerned with green marketing. Investors can get more return on their investment. Creditors can supply inputs rapidly. Bankers can provide more credit for working capital and facility creation as well as for installation. Advertising and facilitating agencies can support for promotion, research and other expertise based works. Employees can help to increase the sales and their professional quality can developed. Besides these, all the communities and aspects of society can be benefited by green marketing.

Challenges and Prospects of Green Marketing

Ecological environment of the world is continuously destroying. It needs to check and control the negative expands. For this green marketing can be a supportive function to minimize it. From product design, production to sales and after purchase service all should be green. There are many associated challenges and prospects in implementation of green marketing.

Major challenges of green marketing are:

Expenses on R & D, high input cost, lower sales volume due to high price. lack of consumer awareness, difficult to communicate the concept sharply, problem of product standardization, use of new technology.

Future prospects of green marketing can be pointed out as follows;

Reduction in cost by minimizing waste and materials through effective production process, increase of exports by developing eco friendly products. Possibility to search new market, enhances the green image of the firm by offering eco friendly products and services, improvements in the health of the consumers through environmental protection, benefits of government tax rebate, increase in market share and profit by attracting customers, sustainable development is possible.

Conclusions

Green marketing is a new concept that is rapidly growing due to its usefulness to protect the environment for future generation. It concerns to holistic marketing concept that refers to the marketing of products those are presumed environmentally safe. Its main objective is to offer eco-friendly products. For this marketing must be managed appropriately by using the strategies related with product design, differentiation, value positioning, packaging, distribution and life-cycle analysis but research, consumer awareness, process effectiveness and increased cost cannot be ignored. Green marketing can contribute to customer satisfaction, safety environment and sustainable development. Similarly future scope of green marketing can be pointed out as it minimizes the waste, increase in export/market share, green image positioning, less negative effect in people's health, increase in profit and sustainable development.. For companies to survive in the market, they need to go green in all aspect of their business. Consumers want to identify themselves with companies that offer the green and are willing to pay a premium for a greener life style. As such, green marketing is not just an environmental protection tool but also a marketing strategy and process for overall interest of world and lives.

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Research Note

Employment Status of the Graduates and Postgraduates of Janapriya Multiple Campus

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Abstract

Employment status of graduates is an important indicator of the effectiveness of academic and training programs. This research study attempts to explore employment status of graduates and postgraduates in terms of types of employment (i.e. full time, part time and self employment), designation(i.e. senior, middle, operation and assistant level), and types of employers' institution (i.e. private, public, NGO/INGO and government) of Janapriya Multiple Campus. This study is a descriptive research based on frequency analysis of quantitative data. A structured questionnaire was designed to collect relevant quantitative data necessary for the research through convenient sampling technique. The sample size for this study is 90. Among the total sample, 87 i.e. 96.7 percent are graduates and remaining are post graduates. This study concludes that more than three quarters of the respondents i.e. 85.40 percent were employed in private institutions as full time employees i.e. 75.90 percent. Moreover, majority of respondent i.e. 60.9 percent were employed at assistant level and very few i.e. 13.0 percent were self employed.

Keywords: *Employment, graduates, postgraduates*

Introduction

Human resource development (HRD) is a necessary condition for the development of a country. Japan and Singapore are the typical examples of developed economies without bearing abundant natural resources. These countries established and developed their own universities, colleges and training centers to match the supply of skills with the demand for their economies. Similarly, government of Nepal adopted the concept of multi-university system after the restoration of democracy in 1990. At present, higher education in Nepal is delivering by 11 universities, namely; Tribhuvan University, Nepal Sanskrit University, Lumbini Buddha University, Kathmandu University, Purbanchal University, Pokhara University, Far Western University, Mid Western University, Nepalgunj University, Agriculture and Forestry University and Nepal Open University. There are two more academic institution viz. BP Koirala Institute of Health and science (NAMS) and National Academy of Medical Science that run medical courses of undergraduate and post graduate levels. Moreover, 60 constituent campuses and 1084 affiliated colleges of TU are running different academic and training programs in the country.

Janapriya Multiple Campus is a Quality Accreditation and Assurance (QAA) certified community college which was established by collective efforts of academicians, local philanthropists and local organizations (Janapriya Secondary School and Srijana Bikas Kendra) with the objective of contributing to match supply of competent human resources and entrepreneurs with demand of the country. At present, it is running five graduate levels of programs of T.U., namely; Bachelor in Business Studies, Bachelor in Arts, Bachelor in Education, Bachelor in Business Administration, and B.Sc. Microbiology. In addition, it is running Bachelor in Mountain Tourism Management (BMTM) as its autonomous program recognized by T.U. Moreover, it is running master's degree program in Business studies (MBS) based on semester.

Lumbini Banijya Campus conducted similar study in 2017A.D. covering 161 graduates completed their degree in 2015A.D.. The study revealed that out of total respondents, 33.50percent (54) were found employed and self employed. Out of total employed, 66.60percent (36) and 20.30percent (11) were found full time and part time employees respectively, whereas 13.00percent (7) were self employed. Regarding the designation, 11.10percent (6), 20.30 (11), 9.30percent (5), and 44.40percent (24) were found in the position of senior, middle operating and assistant level respectively (LBC, 2017).

Kathmandu University conducted a study in 2017A.D. to explore employment status of 27 postgraduates out of 54 completed their degree in 2015. This study found that out of total respondents (27), 88.90 % (24) were employed and self employed. Out of total employed, 58.30% (14) were found in full time, 33.30 % (8) part-time employment and 8.30% (2) were self employed. More than average 62.50% (15) were working in private 16.70 (4) each in public and NGO/INGO, and very few 4.10% (1) in government institutions. Regarding their designation in employment, 37.50% (9), 45.80% (11), 8.30% (2) and 8.30% (2) were positioned in senior, middle, operation and assistant level respectively (KU, 2018).

Tikapur Multiple Campus conducted similar study in 2018 A.D. covering 136 graduates completed their degree in 2016 A.D. and found that out of total, 26 percent (35) were employed (TMC, 2018). This paper attempts to explore employment status of graduates and postgraduates of JMC.

Data and Methods

This study is an attempt to explore the status of employment of JMC graduates and postgraduates completed their degree in 2016 A.D. Quantitative data were used from both primary and secondary sources. Descriptive research design was used to carry out the study. The sample size was 90 out of 165 graduates and postgraduates of JMC passed in 2016 A.D. Out of total sample 87 i.e. 96.7 percent were graduates and remaining were postgraduates. The convenient sampling technique was used for sampling. The standard format questionnaire developed by University Grants Commission of Nepal was used for the study. Self-administered questionnaire (reference period from March 2018 to April 2018) was used for collecting necessary data for the study. Necessary data were collected through field visit, face-to-face and telephone interviews, and messenger with the help of college non teaching and teaching staffs. The questionnaire used in this study was also used to study the graduates of Janapriya Multiple Campus in 2016 A.D. The responses collected in 2016 A.D. and responses collected for this study are found consistent. Statistical Package for Social Science (SPSS) 16.0 was used for processing the collected data and computed data were used to generate table. Frequency and percentage analyses were used to analyses the data.

Results and Discussion

Types of employment of graduates and postgraduates are classified in three categories and presented in table below:

Table 1

Respondents Classified by Types of Employment

Types of Employment	Number	Percent
Full time	41	75.9
Part time	6	11.1
Self	7	13.0
Total	54	100

Source: Field Survey, 2018

Out of total (90), majority 54 (60%) were found in employment. Table found in full-time employment, very few proportions were found in part –time and self –employment respectively. Very few proportions of self employment status indicates that respondent might not have interest to be entrepreneurs or they did not learn skills necessary to be entrepreneurs. The study indicates majority of respondents were working as full time in the sense that they involved of the workplace for eight hours. However, this study did not answer whether they were getting employee benefits from the jobs as full time employees.

Designations in employment are classified into senior, middle, operation and assistant level and shown in following table.

Table 2

Types of Designation in Employment

Designation	Number	Percent
Senior level	4	8.7
Mid level	5	10.8
Operation Level	9	19.6
Assistant level	28	60.9
Total	46	100

Source: Field Survey, 2018

Table 2 indicates that out of total respondents, 14.8 percent (8) did not respond their designation. Out of total respondents (46) regarding designation, majority respondents were found working in assistant level and very few respondents were found in senior level. This study covered large number of respondents from graduate level (87) and very few from postgraduate level (3), this might be the cause of minority involvement in senior level and majority involvement in assistant level. Moreover, holding senior level position requires experiences of couples of years.

Types of employers' institution are categorized into private, public, NGO/INGO and government and the current job status by types of employer is presented in table 3.

Table 3

Types of Employers' Institution

Designation	Number	Percent
Private	41	85.4
Public	2	4.2
Government	5	10.4
Total	48	100

Source: Field Survey, 2018

Table 3 shows that out of total respondents (54), 12.50 % ignored their employers. Majority respondents (more than three quarters) were found employed in private sector institutions. The government of Nepal started to open economy of the country to private sectors from 1990 A.D.(after the restoration of democracy) as it privatized its undertakings and also if gradually lowered down the traffic rates. Consequently, private sectors undertakings started to grow in the country. This raises employment opportunities in the private sector institutions. However, the employment in government and public sectors has not been expanding as compared to private sectors. Also, potential candidates require relatively larger period of time for preparation to be selecting in the jobs of government and private sectors. These might be reasons behind minority involvement in public and government sector.

Conclusion

As more and more private institutions come into existence after the restoration of democracy in 1990 A.D, employment opportunities in the private sectors have been expanding. This is why majority of the respondents could find their employment opportunity in private sectors. Candidates are required relatively longer time for preparation for selecting jobs in public and government sectors as employment opportunity of these sectors have not been expanding as compared to private sectors and the degree of competition in these jobs are relatively very high than in jobs of private sectors. This is why, minority of respondents were found in jobs of government and public sector. As senior level jobs placement requires experience and additional trainings for the job, minority were found working in senior level. Similarly, as the institution's programs are not focusing more on developing skills for self employment, minority were found in self employment. This study concludes that majority of the respondents were employed in private institutions as full time employees at assistant level and very few were self employed.

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Review Article

You Can't Go Home Again: International Students Adjustment to New Cultural Environments

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Abstract

Culture shock including its variety of symptoms and outcomes is a completely normal physical and psychological reaction to foreign environments and a part of successful adaptation process--the best and may be even the only means to experience and understand foreign cultures. This article argues that the anxiety and stress related to the adaptation process are shocking but the extent of adjustment does not depend on whether the negative symptoms of culture shock are experienced, but how they are coped with. Adaptation in hosts cultures can be made through different learning processes rather than single learning process that can have positive outcomes in the end, by serving as a hint that something is not right and therefore motivating thinking about how to adjust that can help reduce ethnocentrism and increase acceptance of cultural diversity and appreciation of cultural integrity relating to the challenges of an unfamiliar environment. It is important for spoon-fed theoretically nurtured Nepalese students to grow through this discomfort in order to understand them better and to gain new sensitivities that encourages personal and intercultural competency developments, positive learning experiences leading to increased self-awareness and personal growth in a comparatively developed pragmatic host culture.

Keywords: *Acculturation, culture shock, ethnocentrism, homesickness, sojourner*

Background

At a time when the Nepalese government is screening the dream of prosperity to its people, the number of Nepali students travelling for higher education in foreign countries has increased considerably. Nepal Mountain News (2018) notifies that Nepali students have now reached as many as 72 countries and in the year 2018 only, over 60,000 students went abroad for higher study. In an increasingly globalizing world, production of skilled, capable and talented citizen is the modern goal of international students studying abroad which proffer opportunities for personal enrichment, travel, greater chance of graduate school acceptance, job market advantage, and increased awareness of global issues and cultural differences. Study abroad has both merits and demerits. Embedded with study abroad, *culture shock* is regarded as a common phenomenon among migrant population which is the special disorientation a person may experience when experiencing an unfamiliar way of life in new country, a move between social environments, or simply travel to another type of life. It is the process of initial adjustment to an unfamiliar environment and the psychological construct of adjustment process in emotional, psychological, behavioural, cognitive and psychological aspects. It is that shock or a condition or time of a person in host culture where he/she is searching his or her possessions left in culture of origin e.g. searching same foodss, same families, same friends and the same environment.

Culture shock was first named by Kalervo Oberg in 1960 who termed it as an occupational disease or ailment, as *intercultural adjustment* precipitated by the anxiety that results from losing all our familiar signs and symbols of social intercourse in a non-specific state of uncertainty where the individuals are not certain what is expected of them or what they can expect from the person around them. For Ward et al. (2001) culture shock is the adjustment process of stressful life event that requires a variety of affective, behavioural, and cognitive responses to new environment. Paul (1995) argues that culture shock applies to any situation where an individual is force to adjust to an unfamiliar social system where previous learning process no longer applies.

Guanipa (1998) describes culture shock with a list of negative symptoms and the various stages one may go through when experiencing culture shock. The prevalent problems of culture shock consist of:

language barriers, technology gap, acculturation problem, information overload, generation gap, skill-interdependence, formulation of dependency, regress/ homesickness, frustrations, alienation and isolation, boredom, responsibility etc. Other symptoms include loneliness, irritability, depression and rigidity. Culture shock results in unexpected and upsetting impression on the mind or feeling, usually one produced by some unwelcome occurrence or perception, by pain, grief, or violent emotion, and tending to occasion lasting depression or loss of equanimity, in weaker sense, a thrill or start of surprise, or of suddenly excited feeling of any kind. Excessive washing of hands, excessive concern over drinking water, foods, dishes, and bedding fear of physical contact with attendants, the absent far-away stare, a feeling of helplessness and a desire for dependence on long-term residents of one's nationality, fits of anger over delays and other minor frustrations, delay and outright refusal to learn the host language, excessive fear of being cheated, robbed, injured, great concern over minor pains, and finally dreadful longing to be back home are the major symptoms of culture shock. Culture shock last for about seven weeks on average and feeling isolated anxiety and worry, reduction in job performance, high energy, and helplessness are the symptoms of culture shock. The psychological and emotional effects of culture shock may be serious physical symptoms including increased amount of illness and injuries, mental trauma, committing suicide, cognitive and behavioural problems.

Culture shock has negative effects on education and work place but there is no precise way to entirely prevent culture shock, as individuals in any society are personally affected by cultural contrasts differently owing to cross-cultural practices of different cultures. Renowned anthropologist Malinowski who is known for his fieldwork suffered from culture shock during his fieldwork in Trobriand. In his diary (1967) he describes symptoms attributable to culture shock-homesickness and depression. McFarland (1999) informs that companies experience expatriate failure and failure to candidate selection due to inability to adapt host cultures. Some companies provide communication preparation for employees to help them adapt, other causes of culture shock are rarely addressed/acknowledged by companies or universities. Many students contact University Counseling Services and report feeling alienated because of counselor's lack of knowledge about their culture.

With increasing globalization, culture shock has been a research topic for European and American anthropologists and psychologists since 30 years before (Eickelmann, 2006). Anthropologists and psychologists have carried out culture shock research on the students of different countries, international workers and migrated people. Research done by them is based on particular class for example Ward et.al (1996) did culture shock experience research on Japanese students in New Zealand. Lysgaard (1955) did research on Norwegian Fulbright grantees in U.S.A. Majority of researches were done on country wise classification of students which is due to students' cultural differences. Amid globalization trend, obsession for Nepalese students for abroad study is escalating but the culture shock impact on them has not been studied circumspectly to help them organize. They find it difficult to adapt themselves to new changed environment, education, situation, job, relationship or perspective requiring role adjustment and a new identity. It starts before the beginning of journey and ends after the complete adaptation in different culture, if failed, students become mentally depressed, some commit suicide, left colleges, move to another country or even return home. Because of its negative effects on students education and workplace, culture shock has become an important research topic, yet little research exists which has investigated differences in its causes and factors. This article investigates various aspects of the causes of culture shock and differing cultural symbolic realities and notions of risk on international students and elaborates the major factors (cross-cultural practices) of cultural shock. The article is pedestal on secondary data congregated from secondary sources- books, journals, and internet sources.

The Clash of Differing Cultural Symbolic Realities and Notions of Risk

Most research on culture shock originates within the psychological disciplines and focuses on how various groups, such as immigrants, students, charity workers, and anthropologists adapt in new environments. Psychological literature focuses heavily on *differing cultural values*, with the idea that *bothersome* values, such as gender roles, conceptions of family, food, and poverty disturb many sojourners. Referring to Hofstede (1997), culture is learned not inherited shaped by parents, relatives, teachers, friends, and the society, anthropologists define culture as a dynamic set of shared attitudes, values, beliefs, goals and practices which characterize a group of individuals. Definition of culture for people is same whether he/she is inside the organization or outside the organization and whether he/she is inside the country or outside the country. There are some key terms like *National Culture, International Culture and Organizational*. National Culture is a share system of attitude, values, belief, behaviour and norms of people living in a particular country, for example, share system of attitude, values, belief, behaviour and norms of Nepal is the National culture of Nepalese people. Likewise the way of doing things other than their own country can be termed as *International Culture*. For example cultures of Nepalese are International Culture for foreigners. In the same manner, the way of doing things inside an organization can be termed as *Organizational Culture.* Organizational Culture includes rules and regulation, responsibility, duty and accountability of any organization. Whether it is national culture, international culture or organizational culture, it is nothing more than a share system of attitude, values, belief, behaviour and norms of people living or working inside that particular sector where émigré need to adapt, failure in which may result in culture shock a sudden and disturbing impression on the mind by annoying occurrence/perception.

Acculturation is a major process in culture shock explaining those phenomena which result when groups of individuals having different culture come into continuous first hand contact with subsequent changes in the original culture patterns of either or both groups (Redfield et al. 1936). For Berry et al. (1987) two levels of acculturation (group level and psychological) involve overlapping categories of psychological changes, social and relational changes, cultural changes, physical changes, such as new habitats, and biological changes, such as nutritional and health status changes. Berry (1997) classified psychological acculturation into three groups on the ground that psychological acculturation is a rather undemanding process, and is referred to as *behavioural shift*, *culture learning* or *social skill acquisition*. Accordingly, psychological acculturation involves conflict which seeks resolution and culture shock has its place in this perspective and the close synonym is acculturative stress defined as a generalized physiological and psychological states of the organism, brought by the experience of stressors (risks) in the environment, and which require some reduction (for normal functioning to occur), through a process of coping until some satisfactory adaption to the new situation is achieved. Notions of risk are based upon the shared set of symbols that make up *a cultural currency*, and risk perception thus can be understood to depend on shared culture, not individual psychology (Douglas and Wildavsky 1982). The problem of risk exists at two levels. Firstly, the *unknown* (the *unfamiliar* or the *other*) is seen as risky, and secondly, clashing conceptions of risk lead to conflict. E.g. Nepalese students abroad may experience anxiety in new socio-cultural environment mainly with language, gestures, customs, signs and symbols that they are used to and when they find that whatever they know suddenly have no meaning or have new meanings. Most upsetting and risky for them may be the loss of social support system (family, friends, classmates, co-workers), and the necessity of starting all over again in an unfamiliar environment

Anderson (1994) has noted that sojourners must cope with obstacles in the new environment like vast difference in values and belief system, differences in communication and interpersonal relationship, and standing out because of physical appearance. Swagler and Jome (2005) distinguished between psychological adjustment and socio-cultural adjustment and as per the psychological adjustment which is the emotional component of intercultural adjustment, and is measured by mental and physical well being and on the other hand socio-cultural adjustment is the cognitive and behavioural component. Persons who exhibit good socio-cultural adjustment are able to function well in the new environment. For Berry (1997) psychological adjustment is variable throughout time, and it is determined by social support and personality variables. Socio-cultural adjustment, on the other hand, increases linearly with time and is predicted by cultural knowledge, amount of contact with host culture, and inter group attitudes. Paul (1995) squabble that there are at least six indicators that a culture shock adjustment is taking place. First, familiar cues about how the person is supposed to behave are missing, or the familiar cues now have a different meaning. Second, values the person considered good, desirable, beautiful, and valuable are no longer respected by host. Third, the disorientation of culture shock creates emotional state of anxiety, depression, or hostility, ranging from mind unease to host society. Fourth there is a discontent with the new ways and an idealization of the ‘‘the way things were”. Fifth, recovery skills that used to work before no longer seem to work. Sixth there is a sense that this culture shock discrepancy is permanent and will never go away.

Understanding a new culture is sudden and sometimes unpleasant feeling causing persons to re-evaluate both the new host and their own home culture. Oberg (1960) mentioned six negative aspects of culture shock including (a) Strain resulting from the effort of psychological adaptation, (b) a sense of loss or deprivation referring to the removal of former friends, status, role, and/or possessions, (c) rejection by or rejection of the new culture, (d) confusion in the role definition, role expectations, feeling, and self-identity, (e) unexpected anxiety, disgust, or indigestion regarding cultural differences between the old and new ways, and (f) feeling of helplessness as a result of not coping well in the new environments. Challenges to sense of identity, frustration, anger, withdrawal, depression, exhaustion, and numbness are the major consequences of culture shock. Sicat (2011) reveals that the most common culture shock problem faced by Nepalese students studying in the Philippines is the adjustment to the food and hygiene practices of the Filipinos. Also adjustment with local culture, being homesick and language factor (accent of the English speaking Filipino teachers) are the problems of the Nepalese students creating a feeling of helplessness, frustration and depression as a result of not coping well in the new environment.

As per Swagler and Jome (2005), if those symptoms left unresolved then culture shock can result in premature return to home culture, functional difficulties, and prolonged psychological distress. Culture shock may also result in *reverse culture* shock mainly in the development of person and international understanding. Reverse culture shock is the repetition of same symptoms in the person after returning to his original culture. Milstein (2005) describes *reverse* culture shock or *re-entry shock*, or *own culture shock* that may take place- returning to one’s home culture after growing accustomed to a new one that can produce the same effects as at foreign country. These are the results of psychosomatic and psychological consequences of the readjustment process to the primary culture. The affected person often finds this more astonishing and difficult to deal with than the original culture shock. This phenomenon, the reactions that members of the re-entered culture exhibit toward the re-entrant and the inevitability of the two can be encapsulated in '*You Can't Go Home Again*'.

Results and Discussion

Berry (1997) divided the variables of culture shock into two groups-*Environmental Variables* and *Individual variables*. Environmental variables include the host and home cultures, contact with host culture, social support, and duration of residency. Higher the difference between home culture and host culture, harder the adjustment process and vice versa. Greater contact with the host culture smoothes adjustment process but participation and contact must be positive in quality. Culture shock differs from individual to individual and psychological consequences of *acculturation* process are highly variable, depending on social and personal variables that reside in the society of origin, the society of settlement, and phenomena that both exist prior to, and arise during, the course of acculturation. Anticipatory adjustment, personal background, demographics such as age, gender and personality are individual level variables. Black and Mendenhall (1991) divulge that individuals can facilitate the process of cultural adjustment by anticipating and preparing for it. Personality characteristics--willingness to communicate and to establish relationships, tolerance for ambiguity, degree of ethnocentricity, or the degree to which individuals believe their culture is better than other cultures, and willingness to substitute reinforces also facilitate cultural adjustment.

Five Factors Model of Personality Neuroticism, Extraversion, and Openness to experience, Agreeableness, and Conscientiousness influence cultural adjustment (Swagler and Jome, 2005). Neuroticism is the degree to which individuals experience negative emotions and how susceptible they are to stress. Extraversion involves tendencies toward interpersonal interaction, sociability, assertiveness, and warmth. Those who score high on Openness to Experience seek out and enjoy new experiences. Agreeableness are the characteristics-sympathy, trust and the ability to work cooperatively with others. Individuals who are high on Conscientiousness tend to be attracted to order, control, and achievement. Low levels of neuroticism and high level of agreeableness, conscientiousness, and acculturation to host culture are correlated with high level of psychological adjustment. High score on extraversion and acculturation to host cultures are correlated with high levels of socio-cultural adjustment.

There are other diverse factors related to the sojourner's personality that have a considerable influence on the adjustment process. The motivation to adapt is maybe one of the most important of these factors. This motivation depends largely on the length of stay in the host culture. The longer the stay is expected to be, the higher is the motivation to adapt. Besides motivation there are also the aspects of extraversion and sensitivity that are believed to facilitate adjustment. In contrast to that, authoritarianism, rigidity, and ethnocentrism impede the acculturation process. Other personality factors related to the culture shock process are coping with humor, personal flexibility, and tolerance of ambiguity. Even though some personality factors are generally believed to have a positive influence on the adaptation process, the model of perfect sojourners does not exist.

The culture shock process is only an idealistic one and this cannot be applied to every sojourner in the same way. Why somebody experiences negative effects of culture shock and what determines them, how intense the experience is and whether the individual finds a way out of the crisis cannot be answered by any single model. The degree and length of culture shock vary significantly due to differences in the individual, the cultures involved and the situation of encounter. Furnham and Bochner (1982) distinguish between three categories of conditions that influence the duration and extent of culture shock viz. differences affecting adaptation processes (cultural differences, individual differences, sojourn experience). The ability to cope others culture is affected by knowledge of the culture, language, stereotypes and attitudes towards people of other culture, being able to suspend evaluation of other people's behaviour and understanding the *self* as a cultural being.

Knowledge about host culture, language, attitudes and behaviour and the length of residence, amount of contact with host nationals, previous experience abroad, and cross-cultural training are commonly considered in relation to cross-cultural adaptation. For cross-cultural adaptation, Nepalese students can increase contact with local culture by reading books, watching local TV programs, talking to people who have extended contact to the host culture or directly to host nationals, or by observing the behaviour of members of the other culture. Berry et.al (1987) argues that differences in language of inability to communicate are also predictors of a more stressful adjustment process. But knowledge of local language does not mean that it is essential to speak the local language fluently, but the more of the language is understood, the more of the culture can be understood. Hofstede (1997) states that in order to establish a more fundamental intercultural understanding, it's necessary to learn the host culture's language which is the vehicle of culture transfer. Language fluency bears an easy relationship to socio-cultural adjustment related directly to increased interaction with host nationals and hence the decrease in socio-cultural adjustment problems. Expectations also play an important role in the adaptation process. Realistic expectations are believed to facilitate adjustment, while overly optimistic expectations are likely to result psychological adaptation problems.

Sojourners go through the adaptation process at different rates- some adapt more quickly than others and a few don't not adapt at all. There are many reasons more closely related to the host environment, some countries and organizations are easier to fit to than others e.g. South Asian cultures are more similar to Nepalese students hence they can adjust easily there compared to European. This refers to the concept of cultural distance accounting for the adjustment problems. Students' social networks have a strong influence as well. Having friends who are members of the host society is positively related to the attitude towards the host culture and the speed and degree of cross-cultural adaptation. Personal informal orientation may be more effective than institutionally sponsored assistance.

There may be different solutions for culture shock but it does mean that it works for everyone. Whatever the effectiveness of such solutions e.g. a) effective international human resource management, appropriate émigré recruitment policies (establishing skills/ knowledge profile, planning/implementing selection procedures, training/monitoring overseas performance, b) émigré qualification profile (understanding ethnocentrism, intercultural experience, cognitive/behavioral flex, general/ specific intercultural knowledge, adequate behaviour/interpersonal skills, avoiding dual career), may help in reducing culture shock. Didactic host culture sharing training and practical assistance may be supportive. For Nepalese students it may be necessary to congregate intercultural knowledge about the new culture they are going to immerse in viz. about host food, cuisine, shopping, festivals and rituals, dress codes, forms of address and greetings, local language, gestures and body language, attitudes towards smoking, alcohol, gift-giving and neighborliness, daily schedules, political system and organization. Culture's specific beliefs about various aspects of life influence many unwritten rules, relationship to time, personal space and eye contact, gender roles and family life, social classes and ethnic groups, attitudes towards rules, authority, and seniority, work ethic and behavior in the workplace hence it is necessary to develop intercultural skills. Students should be able to interact with the people from new culture without automatically falling back on their own cultural assumptions – even if this means adopting an outlook that they may not share. No matter how much they learn about intercultural communication, it can be never assumed that they can actually reduce a culture to the models, tips, and guidelines meant to support strangers. It's always more complicated because any national culture is not necessarily homogeneous. It is not uniform throughout, and culture may not be the same everywhere in the country. There might be sub-cultures differing due to strong regional or religious influences, or due to immigrants mixing the two cultures they navigate daily.

Significance of Culture Shock

It is myth that experiencing culture shock is a weakness or negative indication of future international success. Culture shock in all its diverse forms is completely *normal* and is part of a successful process of adaptation. The anxiety and stress related to the adaptation process are not bad in and of themselves. The extent of adjustment does not depend on whether the negative symptoms of culture shock are experienced, but how they are coped with. In fact, they can have positive outcomes in the end, by serving as a hint that something is not right and therefore motivating thinking about how to adjust (Guirdham, 1999). Culture shock experience helps reduce ethnocentrism and increase acceptance of cultural diversity and appreciation of cultural integrity. It is important for students to grow through this discomfort in order to understand them better and to gain new sensitivities. Although culture shock may bring some challenges, it is also a process which encourages personal and intercultural competency developments and serve as an indicator to explore about the foreign as well as the own culture. Study among Canadian expatriates in Africa showed that those who experienced culture shock were most effective and were able to adapt more effectively later on (Guirdham, 1999).

Conclusion

As a process of intercultural adjustment resulting in a positive learning experience leading to increased self-awareness and personal growth, culture shock in all its diverse forms is completely normal and is part of a successful process of adaptation. There is strong positive relationship between culture shock and social responsibility, immigration policy, politics, mentality, educational infrastructure, educational system, lack of job and repetition of regular activities in foreign country. Cross-cultural perspectives, differences in the culture of origin and host culture practices, lack of education about host culture, environment, interpersonal communication etc may create culture shock. Acceptance of available alternatives in the host culture is the temporary solution of culture shock. Host country's student oriented political situation, immigration policy, education system, and increase in job availability, positive change in mentality and reduction in social responsibility may cause reduction in culture shock. Repetition of regular activities and observation and experiences has strong positive relationship with culture shock and this signifies that adaptation in the culture of hosts can be made through different learning processes rather than single learning process.

Amid the rising trend of going abroad in the name of higher education, culture change is a common occurrence, a psychological phenomenon and part of a learning process *acculturation* where students want to adapt them self in different culture applied to any new situation, job, relationship or perspective requiring a role adjustment and a new identity. Though culture shock has many negative effects on both students education and work place but there is no *permanent* way to entirely prevent culture shock, as individuals in any society are personally affected by cultural contrasts differently owing to cross-cultural practices of different cultures. As a consequence of culture shock in foreign culture, *reverse culture shock* or *re-entry shock*, or *own culture shock* is encapsulated in '*You Can't Go Home Again*'. Students who spend utmost time in one culture and shift to another then visibly new culture is formed –*Third or Hybrid Culture*- students having this culture neither completely adapt in host culture nor in origin culture. But few defence measures may be vital. Most of the Nepalese and developing countries students have two aims to be in foreign country--to continue their higher study and to stay there for a long time and earn money which is impacted by availability of job, immigration policy, social responsibility and host politics. Developing countries students socialized in theoretically spoon-fed education system find it problematic to adjust with student oriented practical education system of hosts thus considering host countries educational system and educational infrastructure unique and different in various aspects. Theoretical education creates more hypothetical images about host culture and its education system which results in high differences between host culture and culture of origin. This may be the reason that Nepalese and developing countries students may consider lack of job, immigration policy, social responsibility and politics as strong factors causing them culture shock in host country. Hence, cultural education of host country must be provided to the students while still at home. Movies, documentaries, seminars and orientations may be helpful. Abroad study is a good venture but the most important thing is that students should return home after completing their studies. Though there is a tendency among Nepalese students not to return after completing their studies, they should not forget that their country needs them for its prosperity. Nepal needs the knowledge of the international graduates, and there are ample prospects for them in their homeland.

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Review Article

Culture and Symbolism Nexus in Anthropology

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Abstract

Study of symbols or the theory of symbolism makes micro study of the culture. Symbols are the gestures, objects and language, which form the basis of human communication. Interpretation of symbol may differ according to the culture. At the same time a symbol may have one meaning in one culture another meaning in another culture. Symbols represent signs which are used to signify objects, real or imaginary. Symbols are arbitrary based on convention of culture. Interpretation of symbol depends on culture. Symbols are means of Communication of language, a form of ritual expression, cultural interpretation, expression of art and belief. Symbols should not be looked at in an abstract way and at meaning as constructed apart from human action but rather at the way meaning is constructed and used in the context of this action. Symbolism studies how a culture functions on the basis of its meanings, how a symbol is interpreted and so on. Symbolism studies the interrelationship between culture, language and people. Culture is constructed on the basis of different symbols. There are different meanings of symbols. The same symbol in different contexts may have different kinds of meanings. Symbols are directed by cultural norms. As cultural norms are diverse symbols too are multicoil, multifocal and multivariate and they can represent many things. Symbols do not necessarily have the same meaning in different context. Thick description by Clifford Geertz takes into account the fact that any aspect of human behavior has more than one meaning.

Keywords: Communication, paradigm, symbolic anthropology, *thick description*

Introduction

As a theory for the micro study of culture the theory of culture and symbolism also called *Symbolic Anthropology* became perceptible after World War II. This theory shows the importance of symbols in a culture. Symbols are the gestures, which form the basis of human communication. Although, there remains an important role of symbols in a culture, interpretation of symbol may differ according to the culture. At the same time a symbol may have one meaning in one culture another meaning in another culture. The meaning of symbols depends on individual definition of gestures. Symbols are the gestures, objects and language, which form the basis of human communication.

Symbols exist in diverse forms:

Symbols as means of Communication of language, Symbols as a form of Ritual Expression Symbol as a form of Cultural Interpretation, Symbol as a form of the Expression of Art and belief, Symbol as a form of Psychological Expression, Symbols as a form of analysis of attributes.

Language and symbols are interrelated and there exists an important role of cultural patterns, which include systems of beliefs or ideas, systems of expressive symbols and systems of value orientations. In this regard, Clifford Geertz says that culture is a historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed in symbolic forms by means of which mean communicate, perpetuate and develop their knowledge about the attitude towards life. *For him symbol is any object, event, quality or relation, which serves as a vehicle for conception; the conception is the meaning of the symbol and meaning is embodied in symbols.*

It was during sixties that anthropologists in the United States and Europe reacted against the utilitarian conceptions of human behavior in society. Instead of explaining behavior like the functionalist approach had advocated they raised questions about the meaning of behavior to the actors of the culture. Due to this in the sixties and seventies a new or another kind of Anthropology began to appear and it was *Symbolic Anthropology*. This newly emerged symbolic Anthropology never had a clear center, but a number of people had a concern for interpreting the symbolic structures symbols or complexes as a way of trying to understand the basis of culture since they went about it in different ways.

Symbolic anthropologists Clifford Geertz, Mary Douglas, David Schneider treated culture as more open-ended. They treated culture with in the perspective of concrete reality and started to look at culture in the way symbols give meaning to and gain meaning form specific context of social action: like gossiping, rituals, cock fights and all kinds of everyday activities. Symbolic anthropologists believe that symbols should not be looked at in an abstract way and at meaning as constructed apart form human action *but rather at the way meaning is constructed and used in the context of this action.*

Conjectures of Symbolism and Culture Nexus

Symbolic theory is concerned primarily with the subjective meaning that individuals give to their and other's action. Anthropologists Mary Douglas has argued that symbol is the main instrument of thought and the only regulator of experiences. Leslie White even says that a symbol may have any kind of physical form, material object, sound, taste, color or our, notion of an object. Thus, the value and meaning of a symbol is in no instance-derived form the properties intrinsic in its physical form. Meaning is bestowed by human organisms upon physical things or events, which there upon become symbol with a meaning.

Clifford Geertz rejected the cognitive view of culture because he said "it" locates meaning inside people's heads. The focus of Clifford Geertz's concern is the public social aspects of meaning. Symbolic anthropologist David Schneider says that when a symbol refers to an entity, the entity can never be said to be the signification or the meaning of the symbol. Symbolist converse on how symbols operate in actions and the interactions of individuals.

The basic assumptions of culture and symbolism are as follows:

1. In all societies different types of symbols exits which gives different meanings.
2. Symbol controls and guides man, social activities, behavior etc.
3. Culture fulfills human needs and language is a medium of expression. Likewise symbolism studies the interrelationship between culture, language and people.
4. Social and cultural system is mobilized by symbols and the culture is a network of symbols
5. Culture is constructed on the basis of different symbols e.g. Cockfights of Balinese people where victorious is regarded as a hero for a certain period. And all these support the norms and values of a society /culture.
6. There are different *meanings* of symbols. The same symbol in different contexts may have different kinds of meanings. The focus of the ethnographer must be on the symbols.
7. Although the focus of the ethnographer must be on symbols, the analysis must not be divorced from the informal logic of everyday life or actual life on which it operates. One must pay attention both to the symbols the way in which the symbols are constituted to the context in which they are used. Cultural analysis of this type therefore is interpretive in

character and that is why people call this interpretive Anthropology –the goal is to interest or unravel the meanings of symbols and symbols system as a way of trying to understand cultural process.

8. Symbols are directed by cultural norms. As cultural norms are diverse symbols too are multicoil, multifocal and multivariate and they can represent many things. Symbols do not necessarily have the same meaning in different context. In one context green may be male in another female.

Variants of Culture and Symbolism

Various scholars contributed in the field of symbolic Anthropology, which became a branch of American Anthropology viz. John Dewey, W. James, C.H Cooley, J.H Mead, W.J Thomas, V. Turner, H. Blumer, E. Goffman, etc. These early symbolists's work helped the new scholars whose contributions are regarded prominent. Among these new scholars C. Geertz, V Turner, Schneider, M. Douglas are prominent contributors. The basic question that is being posed by symbolic anthropologists is *how are symbols and systems of symbols used by human beings to provide order to their social lives*?

Clifford Geertz and Thick Description

The main concern of American anthropologist Clifford Geertz's is that he wants all to understand a culture in its own terms. According to him culture is a historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed on symbolic forms by means of which men communicate, perpetuate and develop their knowledge about the attitude towards life. For him symbol is any object, event, quality or relation, which serves, as a vehicle for conception, the conception, is the symbols meaning.

Clifford Geertz says that culture is a set of control mechanism for governing people's behavior. The mechanism operates on public via significant symbols. For him culture constitutes the webs of significance, symbol and to expose these meaning is the challenge of anthropologists. While writing about culture and symbols, Geertz is in a search for meanings, for application…..indeed, literary explanation …..and not for laws of experimental science. *Interpretation* is the tool he uses to achieve this goal of excavating for meaning. Geertz developed the concept of *thick description* which takes into account the fact that any aspect of human behavior has more then "one meaning.

Geertz in order to clarity the role of symbols in a culture, studied the Balinese culture of the Bali island of Indonesia and wrote about their "cock-fight" The cock fight culture among the people of Bali with its symbolic significance was presented by Geertz in his work *Notes on the Balinese cockfight*. He has written that, April of 1958, he along with wife arrived; malarial and diffident (shy), in a Balinese village they intended as anthropologists to study. In Bali he noticed cockfight. Although, by the time, a few special occasions aside cockfight was illegal in Bali under the Republican government of Military Dictator General Suharto. As a result, the fights were usually held in a secluded corner of a village in semi secrecy, a fact which tends to slow the action little not very much, but the Balinese do not care to have it slowed at all Geertz has written that the third match was interfered by policemen (as cockfight was illegal). After the police retreated, the cockfight took place another day.

Cockfights (Called *Tetadjen Sabungan* in Balinese language) used to be held in a ring about 50 feet square. Usually they begin toward late afternoon and run three or four hours until sunset. Each match was precisely like the others in general pattern; there was no main match, no connection between individual matches, no variation in their format, and each arranged on a completely ad hoc basis. After a fight has ended and the emotional debris is cleaned away the bets have been paid, the curses cursed, the carcasses possessed seven, eight, perhaps even a dozen went slip negligently into the ring with a cock and seek to find there a logical opponent for it. Narrating all these incidents Geertz further says that the cockfight in Bali looks as if people are betting over fights and that a lot of communication is taking place. Then he shows as he peels off different layers how the cockfight is a *reenactment* or rebuilding of Balinese society and all of the major principles of status and rules of interaction are essentially dramatized and acted out in the context of the cockfight. The Balinese used to portray themselves and their culture through the symbols.

After the study of Balinese cockfight Geertz traced out the following points:

1. For the Balinese people, there is metaphorical significance of cockfight. Although cockfight was banned, cock for them the symbol of champion, hero, warrior or even lady-killer or a bachelor etc.
2. For the Balinese people, cockfight is the symbol of masculine per excellence. In Bali culture, cockfight is the fight of courageous, brave and strong males and being the game of males no woman or hen can participate in the fight.
3. Balinese people used to take cockfight as a gamble where they make speculations and bet that their cock will be victorious. A victorious cock brings prestige prosperity to its owner

and he is considered rich person in the community. But if his cock is defeated he is not regarded as prosperous. It is thought that as he is not rich enough to take nutritious food, his cock too is malnourished and not strong enough to be victorious.

4. For the Balinese people cockfight is the game of superior and senior male citizens where they make bet of money. There are two sorts of bets, or ***toh*** (Balinese language which means stain or mark). There is the single axial bet in the center between the principals (*Toh Ketengah* in Balinese language) and there is the cloud of peripheral ones around the ring between members of the audience. It is a game related with power and to some extent even politics where poor and weak are debarred from participation.

Victor Turner and the Characteristics of Symbols

Victor W. Turner is a Scotsmen born in 1920 in Glasgow and died in 1983. As a symbolist Turner was interested in the characteristics of symbols and the ways they condense meaning or capture meaning. Turner says that the same symbol can be used to designate good or bad so what they mean is that you can’t take a symbol and say it stands for something and only one thing. *Symbols,* says Turner, *by their nature are multifocal and multivariate and they can represent many things at the same time.* In one context "Red" may be male and in another female. Symbols are dynamic entities and static cognitive signs. They are patterned by events and enforced by the positions of human inter connection in friendship, sexuality and politics.

Victor Turner conducted his study among the Ndembu tribe of Zambia (Africa). In his study of Ndembu society, Turner explored that Ndembu culture had helped to maintain the status of the tribe. The Ndembu people used to worship their ancestors after and before hunting the animals. They use five types of trees for worshipping on the basis of giving priority to the first tree they come across. The name of one tree was *Chisinga* meaning curse. The second tree was *Musoli* meaning ‘to increase or enhance’. The Ndembu people used to take the branch of any one of the tree and cut it into **V** shape with branches. They used to put the horn of hunted animals at the top and animal flesh in the branches and used to wash the ground with animal blood. It is widely believed among Ndembu that the blood act as a protection against flies and mosquitoes. Symbolically the flesh put in the branches was regarded as leaves and fruits. The pointed branch means tender leaves and the blood used for washing the ground means water. Removing the bark of tree branches symbolically denoted the clean heart of Ndembu people. Pointed branches and keeping flesh meant that the Ndembu people are expert hunters and they never miss their prey (animal).

For Ndembu *Chisinga* tree is curse. This tree also denotes pace (speed) and women. Musoli was regarded a boon because this tree bear sweet fruits and when wind blew deer's used to come to eat the fruits and Ndembu used to kill these deer's. Musoli was helpful for killing deer's and hunting animals bring high status among Ndembu tribe thus Musoli was regarded a good tree or a *boon*. Musengu tree bear extra sweet fruits and was symbolically regarded more beneficial as more deer's used to come to this tree to eat sweet fruits.

Pollution and Purity of Mary Douglas

As a symbolic anthropologist Mary Douglas sees ideas and symbols as systems of thought. Some of the symbolic anthropologists like Geertz tend to emphasize the emotional effects whereas like David Schneider and Mary Douglas emphasize the cognitive aspects. Douglas is more concerned with the meaning of symbols and how people use them to construct a worldview.

While writing about the meaning of symbols in her book *Purity and Danger* (1966) Douglas has mentioned in tribute that she was first interested in pollution behavior by professor M.N. Srinivas and Franz Steiner who each, as Brahmin and Jew, tried in their daily lives to handle problems of ritual cleanness. Douglas says no particular set of classifying symbols can be understood in isolation, but there can be hope of making sense of them in relation to total structure of classifications in culture in question.

For Mary Douglas's symbol are the main instrument of thought and the only regulator of experience. Symbol for her is structure communication, a whole system of order. She note symbols in relationship to the whole system of orders – conceptual structure. For Douglas "Holism" emphasizes both orders, she tried to clear "Holism" in reference to boundary purity, ritual purity, population etc. According to Douglas in all societies there are certain rules and regulation and if someone tries to cross that boundary, he/she becomes impure. An idea such as the idea of pollution has been one of her main interest. This has meaning not in isolation but also in reference to the total structure of thought whose boundaries are maintained by cultural practice. She is concerned mainly with ideas – like how the ideas of pollution operate in a system of action. The purpose of the system is order and this is a central point: order is central to people's views of the world. Culture then is a way of providing order to our experience and that people have a strong need for a sense of order and when it is violated we respond with strong feeling.

Douglas believed that the system of ideas and symbolism are units that depend upon each other for meaning. Pollution, for example, only exists as an idea in relation to the idea of purity. She suggests that the concepts of order are associated with such ideas as holiness, wholeness, and morality. Purity is associated with wholeness and morality and disorder is associated with pollution incompleteness, and immorality. Dirt can be conceptualized as matter out of place. Or, what people see as polluting or dirty is basically matter out of place implying that it violates a system of ordered relationships.

As a symbolic anthropologist, Douglas argues that we have a sense of order and those things that violate our sense of order and are out of category are responded to do with anxiety, disgust, etc. For example if we are chewing a cough drop we are flavoring out spit and swallowing it. If we spit our saliva into a glass and drink it then it would be disgusting. If we spit our saliva into a glass and drink it, it would be disgusting, but the material there is the same. So once saliva leaves the body we regard it as matter out of place. Pollution rules support clarification of forms and they reduce our sense of dissonance. Pollution beliefs reinforce the culture and social structure and reduce ambiguity in the moral sphere. They not only enhance our order, but also protect those areas of culture most vulnerable to disruptive aspects of the ambiguity. For example in many cultures common pollution beliefs is that menstrual blood is polluting. Due to which women are debarred (prohibited or kept away) from various kinds of activities social and religious, activities. In the Nepalese context also menstrual women are debarred from attending religious and other rituals. Douglas argues that menstrual blood is matter out of place. But the interesting point to be noted is that sacrificial blood is regarded holy and not polluting since it is shed within the control of the conceptual system.

Douglas presented the idea that Jewish and Islamic avoidance of pig-meat (pork) is due to dangers of eating pig in hot climates. She says that there can be marvelous correspondence between the avoidance of contagious disease and ritual avoidance of contagious disease and ritual avoidance. The washings and separations which serve the one practical purpose may be apt to express religious themes at the same time. So it has been argued that their rule of washing before eating may have given the Jews community in plagues. But one thing to point out is the side benefits of ritual actions, and another thing to be content with using the by-products as a sufficient explanation.

She said that Israeli people believe that their army should be united and should follow rituals properly. For it solders need to be pure. It is believed that Israeli army wins because of their purity. While taking about the concept of purity she has illustrated a hoary old puzzle from biblical scholarship, the "Abomination of Leviticus", and particularly the dietary rules.

Why should the camel, the hare and the rock badger be unclean? Why should some locusts, but not all, be unclean and why should the frog be clean and the mouse and hippopotamus unclean? What have chameleons, moles and crocodiles got in common that they should be listed together?

In her book *Purity and Danger* she talked about "Magic and Miracle" and referred example of Kung Bushmen who performed their rain rituals to bring rain. The *Dinka* tribe of Africa too performs all annual ceremony to cure malaria. The ceremony is timed for the month in which it is to be expected that malaria will soon abate. We can cite examples from *Soraha* of Nepal Terai where people arrange the marriage of frogs in the anticipation of rain.

Conclusion

Culture and symbolism is a reaction against the utilitarian conceptions of human behavior in the society, with the passage of time symbolic anthropology was criticized for its loopholes viz it rejects the existence of social structure, concentrates only on symbols and meaning, ignores history, economy politics. Culture and symbolism has never had a clear center, but a number of people had a concern for interpreting the symbolic structures, or complexes as a way of trying to understand the basis of culture. Also, symbolic anthropology has no regard for human needs, social change, motivation, desire etc but it gives priority only to the definition of symbols. Symbols are abstract thus making difficult the interpretation. It is hard to pin down a symbolic anthropology paradigm like that of structuralism, functionalism etc. Despite criticism, symbolic anthropology has been able to establish itself as a strong and reliable theory, competent enough to cope with the meanings and symbols rampant in different cultures of the world.

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