

**KNOWLEDGE ON FOOD ADULTERATION AND
THEIR EFFECTS ON HEALTH**

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A Thesis

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**TRIBHUVAN UNIVERSITY
FACULTY OF EDUCATION
JANATA MULTIPLE CAMPUS
DEPARTMENT OF HEALTH EDUCATION
ITAHARI, SUNSARI**

2016

DECLARATION

I hereby declare to the best of my knowledge thesis is original, no part of. It was earlier submitted for the candidature of research degree to any university. All the work in the report are my own and I have not copied any materials from thesis completed earlier.

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RECOMMENDATION LETTER

This is to be recommended that the research report entitled "**Knowledge on Food Adulteration and their Effect on Health**" has been varied out by **Miss SangitgaGhimire** for the partial fulfillment of master's Degree in Health Education. This original work was conducted under my supervision. To the best of my knowledge this research report has been submitted for any other degree.

.....
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ABSTRACT

Food adulteration is the process in which the quality of food is lowered either by the addition of inferior quality material or by extraction of valuable ingredient. This study is centered to the food adulteration. The main objective of the study was to assess the Knowledge on Food Adulteration and their Effect on Health among the Tharu Community at Sundardulari Municipality Word No. 7 & 8.

This study was based on descriptive research design. For the purpose of the study only the primary data, were used. 120 household were selected from the simple random sampling techniques and researcher collected the data from interview and analyzed descriptively. At last finding and conclusion has been drawn and the researcher has recommended and suggested the points. This thesis is structure in five parts. First part deals with the introduction of the title and its theoretical ground. Second part reviews the related literature of the relevant work. Third part deals with the methodology of the study. Forth part deals with analysis and interpretation of data fifth part deals with summary. Finding conclusion and recommendations.

In this research, 44.4% was male population and 55.6% was female population. Where 65.1% respondent was literate and 34.9% were illiterate. 87.5% respondents were heard about food adulteration most of the respondents 38.1% were heard about food adulteration from T.V. 38% respondent were get food from market.90% respondent had knowledge about harmful effect of food adulteration.

Most of the respondents (45.7 percent) were told that constipation is the effect of lead poisoning. 56.3 % respondent told that cancer is the harmful effect of argemone oil mixed with edible oil. 35% respondents said that if we ate that food contains which is adulterated with non-permitted colour or permitted food colour that may cause allergies. 15% respondents got stomach disorder, 30 percent respondents got Diarrhea as side effect of adulterated food.30% respondents used to visit Hospital and 70 % respondent used to visit health post for the first time checkup. 85% respondent was known about the ways for precaution for the food adulteration practice. 50% respondents told that the Government is most responsible factor for control the practice of food adulteration.

Due to lack of education, lack of good job opportunity, low income knowledge and awareness programme. 70% respondent was visit health post for the health checkup.

Based on the above findings and conclusion, it is recommended that different programs related to health should be conducted. Parents should be concurred about the quality and freshness of these food articles like chocolate sweets that children usually like.

Refresher training programme should be arranged for all the functionaries namely, food inspectors, local Authorities, food authorities, public analysis and chemist. There is an urgent needed of an organization to aware, support empower to people and these types of organization should also give emphasis to people counseling about the problems of food adulteration and their solution. We can being by take interest in the place from where we buy our food ingredients for example it is from a reputed shop or retails we need to check out. It is also necessary to talk regularly to the local community to check if people are falling sick after eating in a particular restaurant or food in gradients bought from a particular retailer.

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ABBREVIATION

AD	:	Anno Domini
FA	:	Food Adulteration
FDA	:	Food and Drug Administration
GAO	:	Government Accountability Office
INGOs	:	International Non-Governmental Organization
NGOs	:	Non-Governmental Organization
NSF	:	National Sanitary Foundation
T.U.	:	Tribhuvan University
USA	:	United States of America
WHO	:	World Health Organization

CHAPTER-I

INTRODUCTION

1.1. Background of the Study

Nepal is mountainous and land locked spanning the narrow strip of land between the two great nation of India and China. Nepal is one of the developing countries in the world. Nepal is known as least developed country among the developing countries of the world which is determined by measuring the income level, health status, physical facilities and educational status of people living in the country.

Health is an ends in itself but it is a means to reach an ends. WHO defined Health is a state of complete physical, mental and social well-being not merely the absence of disease or infirmity (WHO report 1978). Health is an important part of human life. Human life is always in the verge of collapse in absence of a sound health with healthful living. An individual can have a happy and meaningful life who s/he is healthy. A diseased person is only the obstacle in his family, community and national. In order to have healthy life a person should be away from any disease. A healthy person can be the base for nation building therefore health is multidimensional units of human beings like physical mental, emotional, social, spiritual, sexual, environmental and etc are the various dimension of human health.

The word "Adulteration" is a legal term meaning that a food produced fails to meet federal or state standards. Adulteration is an addition of a non food item to increase the quality of the food item in raw form from a prepared form which may result in the loss of actual quality of food item among meat and meat products one of the items used adulteration is water, dead carcasses. Carcasses of animal and other the animal meat to be consumed.

Adulteration use was first investigated in 1820 by the German chemist Frederick Accum, who identified many toxic metal compounds in food and drink. His work antagonized food suppliers and he was ultimately discredited by a scandal over his alleged mutilation of books "The royal institution library. The physician author Hill Hossal conducted extensive studies in the early 1850 which were published in the lancet and led to the 1860 food Adulteration Act and rather legislation.

Adulteration of food is the mixing or substitution of and impure weaker. Cheaper or inferior, possibly toxic substances to the food stuff which affect the quality of food. Food can be adulterated intentionally and accidentally.

1.1.1 Intentionally Added Substances

These are added intentionally to the food generally are small quantities to improve its appearance colour and flavors taste, texture or storage properties. This substance may be as follows.

- Colouring agent e.g. turmeric, saffron etc
- Flavoring agent e.g. vanilla essence
- Sweetener e.g. saccharin
- Preservatives e.g. sodium, Benzoate etc.

These agents are generally considered for human consumption uncontrolled or in discriminate use of food additives may cause health hazards. Generally the processed foods such as breads, cakes, biscuit, sweets, toffees, jams, tallies, soft drink, ice creams and refined, oil etc contain food additives.

1.1.2 Contaminants Incidental/Accidentally

These are added to the food to the incidentally during cultivation as insecticide process of food preparation through packing of food through environmental conditions. Adulteration of food is done through the following.

- Mixing
- Substitution
- Abstraction
- Concealing the quality
- Putting up decayed foods for sale
- Wrong advertisement of a food
- A Fixing of false levels on the containers
- Addition of toxicants

Food adulteration is addition of unhealthy or unsafe food substances under the preventive of food Adulteration act. Adulterations are any materials substituted which is employed for the purpose of adulteration. Any articles of food is adulterated if

- Any inferior or cheaper substances have been wholly or in part.
- Any constituent of the has been wholly or in part abstracted.
- Any article has been prepared packed or kept under unsanitary conditions.
- The article contains any poisonous ingredient.
- The article has un-prescribed colouring substance or the colouring substance is in excess of the prescribed limits.

- The article contains any prohibited or excessive preservatives.
- The neither quality of nor purity of the article falls below prescribed standard.

Adulteration food is one that contains low quality substances or the substances which are fatal to our health. Mixing mustard oil with soya bean oils mixing stone pebbles and dust in rice high quality fine rice mixed with course rice etc. are examples of food adulteration. Adulteration of food refers to a large number of unwise practices such as mixing, substituting, concealing of the quality, putting of decomposed food. Giving false labels, etc. when farmers put more insecticides in their crops in order to increase production such crops are contaminated with insecticides and become very dangerous to the health of the people when consumed.

The concept of adding non food substances to food products is not new various non-nutritive substance are added intentionally to improve the appearance of products. As for example a butcher uses yellow or red colour, sweets are coloured by various additives, colour mixed with turmeric, green colour is used to show vegetables fresh, and so on. These malpractices have the motto, of gaining maximum profit. But in the purpose they use low quality colour, not good for eating cause expire or sometimes unnatural mixture of chemical without thinking about the health of consumer, in fact it is a permitted colour according to government regulation, its use must be in small quantity and in controlled way. It can improve the quality and durability of food. But if is not permitted the adulterated food. Such food items may cause allergy, throat or mouth infection. Inching sensation, vomiting, poisoning, blindness, and sometimes this may even lead to death.

Synthetic or artificial chemical of products mixed in natural food products as adulterants as bad effects on our health, but natural item mixed with natural products may be termed as good adulterant, for example synthetic food colour are bad adulterants for all coloured food product but addition of water in cow milk is good adulterant of mainly for children .

1.2. Statement of the Problem

Health is the backbone of developed country. So that the development of a country depends upon health status, economy, public awareness, educational status, physical resources of the people and country. Among those factor health status and educational

status is most important, that determined the knowledge, attitude and practice about any process of developing nation. Similarly behavior of eating food of any community is also determined by their levels of education awareness, socio economic status as well as availability of facilities and services. Health cannot be attained by the health sector alone people should realize their responsibilities for promote own health and community health as well drinking water, nutrition, environment, sanitation, economic condition and literacy rate work are the principle factors of inflecting directly for improve community health moreover, the control of eating is the major contributing factor for improvement of health.

While traditionally, people used to cook food at home with healthy ingredients and knew that what went into the meal in modern times, with rising incomes and affluence more and more people are moving away to readymade fast food and eating regularly at restaurants. The food in many of these outlets is cooked with poor quality ingredients to attract and satisfy the palate rather than provide a wholesome nutritional meal we now have a lot more varieties and the choices are many. Through some of us may not be ware of the facts that the food consume may be adulterated.

This study was based on Sundardulari Municipality Word no.7 and 8. In this study only Tharu community was selected. Tharu, the fourth major population (5.8%) in Nepali is a kind of ethnic group in Nepal mainly in habitant of the Terai, Region also called "Dharti Putra" of Terai. In this community still most of the people are illiterate and their economic condition is not satisfactory. Most of the people are not still aware about Food Adulteration and harmful effect on human, due to lack of education. So that, they used to have such adulterant food which is harmful for their health.

Adulteration of food cause several health problem in human some of the health hazards include stomach ache, body ache, anemia, abortion, paralysis, and increase in the incidence of tumors, pathological lesions in vital organs abnormalities of skin and eye. Hence food adulteration should be given great importance due to its effects in the health significance of the public.

1.3. Objectives of the Study

The main objectives of this study are to assess the "Knowledge on Food Adulteration and their Effects on Health" in Sundardulari Municipality ward no 7 & 8 of Morang District. However, the specific objectives of this study are as follows:-

- To identify the knowledge about food adulteration
- To find out the ways of food adulteration or contaminants.
- To find out the effects, prevention and of food adulteration.

1.4. Significance of the Study

The research is based on Knowledge on Food Adulteration and their Effects on Health among Sundardulari-7& 8. It focused on various variables which concern with human health. The significances of this study are listed below:-

- This study would help to find out the knowledge and harmful effects of food adulteration.
- The study was helped to provide information about the admixture and substitution of inferior substances.
- It helps to aware the people about the effects and prevention of food adulteration.
- This study would help for future researcher to related field as reference.
- After exploring the finding of the study, the study would be create a consciousness and awareness among the people toward food adulteration and. It harmful affection human health.
- The study will be a valuable literal asset for future researcher to the related field in the upcoming days.
- The reset of study will be helpful and effect for nation planning commission to plan the awareness programmed toward food adulteration.
- The result of this study will be help to NGOs/INGOs and other institutions to lunch their programmed and to find out the level of knowledge of people food adulteration.

1.5. Delimitation of the Study

Research cannot cover the whole area of desire sectors. Every research covers specific area for the study because specific area is one of the most important characteristics of research. Every research has it own compulsion and obligation due to the lack of time and financial support. This study was delimited within the following areas.

- This research was conducted to the responses to the selected population only on Tharu community of Sundardulari – 7& 8 of Morang District. So it may not be generalized all over the country and other area.

- The study was delimited to small size therefore the findings cannot be generalized as national indicator.
- This study was limited only 120 household of Tharu Community at Sundardulari Municipality.
- This study was based on first-hand information that will collect through the help of interview and questionnaire. The researcher will take interview to the people collect information data.
- The study area was selected on the basis of purposive and simple random sampling by lottery method with replacement

1.6. Operational Definition of the Key Terms.

Food: Food is any substance consumed to provide nutritional support for the body it is usually of plant or animal origin and contains essential nutrients, such as Fats, Proteins, Vitamins or Minerals.

Adulteration of Food: Adulteration of food is the mixing or substitution of an impure, weaker, cheaper or inferior possibly toxic substance to the food- stuff which affects the quality of food.

Health: According to WHO Health is a state of physical, mental and social wellbeing and not merely absence of disease or infirmity.

Tharu : Tharu, the fourth major population (5.8 percent) in Nepal is a kind of ethnic group in Nepal mainly in habitants of the Terai, Region also called " Dharti Putra" of Terai.

Community: A collection or groups persons in social interaction in a geographical area and sharing a common social and cultural life.

Knowledge: Information, understanding and skills gained through learning or experience.

CHAPTER-II

REVIEW OF LITERATURE

2.1 Review of Theoretical Literature

Food is anything that can take by mouth, digested in body and gives useful nutrition. In other word food is any substance consumed to provide nutritional super for the body it is usually of plant or animal original and contains essential nutrients, such as fats, proteins Vitamins or minerals. The substance is ingested by an organism and assimilated by the organism cells to provide energy, maintain life, or stimulate growth. Combination of food constituent in a proper combination makes a balanced diet. Balanced diet is the balanced diet intake of nutrients required for proper continuation of life process.

Modification of quality of any products in various ways like mixing low quality goods, mixing decomposed or outdated foods. Misbranding, mislabeling substitution. Addition of toxic preservatives and such others practice which degrade in quality is called food adulteration. For example, mixture of soybean oil in mustard oil, small white pebbles in rice, papaya seeds in pepper, brick-dust in turmeric powder, etc. are some examples of food adulteration. Adulterated foods are injurious to health they may be the cause of different diseases nt it may cause the loss of life. Adulteration of mustard oil with Argemone oil has taken lives of few Nepales people few years before. They died of dropsy due to consumption of Argimone oil at that time. in the same way artificial and harmful taste and scent in food is also food adulteration so, while purchasing food. We must the standard of food and we must be careful whether the foods in nutrition or not.

Some foods look affricative but they may be of low nutrition quality, if we aren't conscious even the nutritive food also loser if nutrition. For example, over cooked food. overcleaned vegetables, junk food, street food and flavored foods may have low nitation. However in city are the main reason is very fond of instant readymade junk and street food and they take them in substitution of their meat. As a result prevalence of under-nutrition in children has become a burning problem in Nepal in rural and town area both.

Producers use different non-edible colour to attract the consumers. Mixing such non-edible colours is harmful to the consumer's health. in the same way. Advertising agency advocates for the false information regarding function and contents of food

items to attract the customer, infect the goods may not have the nutritive value as advertised in the media. Consumers must be conscious regarding the advertised information and the facts and realities of the foods available in the market.

2.2 Empirical Review

Global status of food adulteration as the global food supply chain widens, the challenges of safeguarding our food supply have increased and more advanced fraud detection procedures are needed. This increasingly globalised food supply chains and the economic motivation to provide cheaper food products have contributed to the food fraud issue, with recent news articles about horse meat in beef products drawing world wide attention to the growing problem.

"What we're seeing today is an increasingly complex and fragmented food supply chain" according to NSF international's Global Food Safety Division managing Director David Edwards". Due to its global nature and the fact the most food today no longer follows a straight and tracing and ingredient back to its source has become challenging due to its increasing network of handlers. Suppliers and middlemen globally.

Shaun Kennedy, who is with the national center for Food protection and Defense, claims, "About 10 percent of the food we buy in the grocery shelf is probably adulterated and this supports data from the international chamber of commerce that claim 7 percent of our food supply contains fraudulent ingredients. A 2015 U.S. Government Accountability office (GAO) report entitled food and Drug administration (FDA) Better co-ordination could enhance efforts to address Economic Adulteration and protect the public health Identified supply chain complexity as a challenge in the detection and prevention of economic adulteration. The report highlights two seduction posing significant public health risks. The use of melamine, an industrial chemical and heparin, a blood thinner, where ingredients were evidently added to products to increase the apparent value or reduce their production costs (e.g. economic adulteration)

In the GAO report, the FDA commissioner underscores these growing challenges and emphasize how economic adulteration remain a public health threat the report also emphasizes how another public health crisis like heparin or melamine contaminations

inevitable unless change are made to ensure the safety and quality of food and more robust. Collaborative and proactive, not reactive fraud detection system is planned and implemented.

2.3 Implication of the Literature Review for the Study

Literature review can direct the researcher to accomplish the research work. Since the research is scientific process, related literature gives the idea to the researcher to conduct the assignment. The present work also has had the review of related literature. Theoretical literature review has its implication to guidelines to the research. The cited theoretical review has presented. To some extent the theoretical idea to the study field. After the theoretical review it had provided the guideline to develop the conceptual framework for the study. Similarly empirical literature review has illustrated the practice related t the research area. It also has provided the idea and has shared the experience to conduct the research work in the scientific manner. So the reviewed literature both theoretical and empirical, have the implication to carry but the research work and complete in right and scientific way.

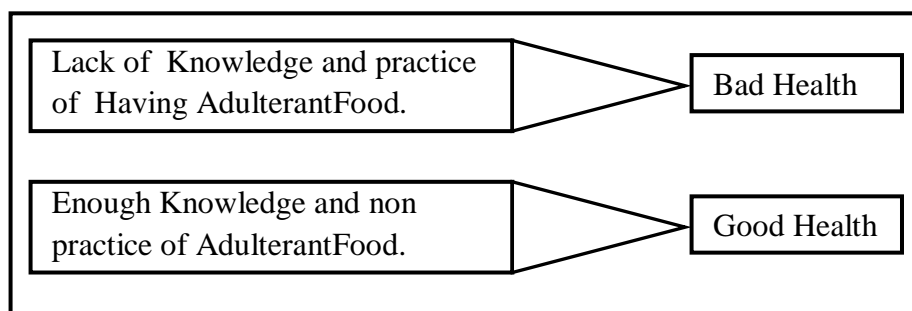
The literature review has helped in my study in following ways.

- To determine the topic of the study
- To implement various programs to the concerned field.
- To identify the related field for the study
- To gain additional knowledge about research methods.
- To compare the old finding of the study with the present one.
- To evaluate the recent research
- To give reference to the further studies related to the topic.

2.4 Conceptual Framework

Man cannot live without food. It is essential for health and life. But this food must be pure, clean and fresh. Nowadays foods are often adulterates in hotels and restaurants state and rotten food are mixed with fresh food and served to the customers. Fish and vegetables and adulteration by putting on them chemicals and other preservatives in order to make them look fresh. Bakery and confectionery products are salsa adulterated by using toxic substance. Junk food contains harmful chemicals. Even fruits milk and beverages are also adulterated. In fact all kinds of foods and food articles are adulterated by dishonest and greedy businessmen for a quick and unbarred

profit. Adulterated foods are a serious health hazards. They cause many fatal adulteration has become an alarming problem in our country. Dealing in adulterated food is a grail crime. The criminals have to be identified and punished. We must remember that if we fail to solve that once this problem may go out of control in near future. However though our government this taken some steps to remove food adulteration, but these are not sufficient at all. In the end it is not possible for the government to solve a problem in single hand. Public awareness should be created so that people can become careful about buying food and food articles.



CHAPTER-III

RESEARCH METHODOLOGY

This chapter deals with research methodology of the study. It covers area like research design, population and sample, sampling procedure and sample size, tools of data collection, data collection procedure, data analysis and interpretation technique.

3.1 Research Design

The research design is a roadmap which always facilitates and guides the researcher in the operation of research. The plan of is the overall scheme or program of the research. It includes an outlines of what the investigator was done from writing the hypothesis and their operational implications to the final analysis of data. The research was based on descriptive as well as analytical method. Quantities data were collected through household's survey

3.2 Population and Sample.

This study was limited on Sundardulari Municipality Word No. 7&8 which is situated in the eastern part of Nepal in Morang district in Koshi zone In this study only 120 house hold of Tharu Community was selected.

3.3 Sampling Procedure and Sample Size

Because of limited time, economy study of whole population was not possible and just representative population was selected by purposive and simple random sampling by lottery method. Therefore Sundardulari - 7& 8 was selected. Then out of 120 households from Tharu community were taken by using simple random sampling method.

3.4 Tools of Data Collection

For the purpose of this research interview schedule and observation checklist was used as the major tools of data collection. The interview schedules was developed the based on the stated objectives and with the consultation of reference materials, magazine, books, research report papers and also suggestion given by supervisor. The interview schedule was contained with structured questions for household's survey.

3.5 Data Collection Procedure

First of all the researcher got a letter from central Department of Health, Education which was helped to go to the study area to collect the data and information. After then, the researcher was visited the selected Municipality and consults with secreting local political leaders and intellectual people take permission for collect data and information Researcher collected the data and information on the basis of objectives

3.6 Data Analysis and Interpretation Techniques

After accumulation fill up interview schedule and they was rechecked and verified manually to reduce errors. Then different headings. After that the data was analyzed and interpreted by using mathematical numerical like number, percentage, with tables, diagrams and figure were used in this research.

CHAPTER -IV

ANALYSIS AND INTERPRETATION OF RESULTS.

This chapter deals with analysis and interpretation of the data that were collected from field survey; The Data were tabulated and kept in sequential order according to the need to study. Then the data was analyzed on the need of basis of percentage and ratio. Tables and figures have been used to make the presentation more clear and meaningful.

4.1 Demographic and Socio-Economic Characteristic

The demographic and socio-economic characteristics of the population play a vital role in the life status of the people as well as in the development of the country. The development of a country depends upon its demography natural resources and socio-economists of the people.

The section of the study present the total population of respondents houses according to sex, educational status of respondent occupational status of respondents and their monthly income of saving of respondents.

4.1.1 Distribution of Population According to Sex.

Sex plays an important role in population composition. Sex is an important impetus for the formulation of development policy and program in every sector. Here, population composition of respondent's house is shown in the table no. 1.

Table no. 1
Total Population of Respondents House According to Sex.

S.N.	Sex	Number	Percent
1	Male	320	44.4
2	Female	400	55.6
	Total	720	100

The table on.1 shows the population of the areas was 120 houses and 720 peoples where 320 were males and 400 were females it covers 44.4 percent male and 55.6 percent female. Types of family of respondent, sequentially below.

4.1.2 Educational Status of Respondent.

Education is the third eyes of people it avoids the darkness of people and improves the living standard of people. Educated people can make the society advanced. Actually a fundamental factor for all around development of an individual and community. It develops capable manpower, productive manpower as well as modifies the people's bad attitude in to good. It is said that it is the backbone of country and vital parts of infrastructure of the nation. In this study the researcher tried to find the educational status of the respondent. Educational status of respondent of the study has been presented below in the table no. 2.

Table no. 2
Educational Status of Respondents

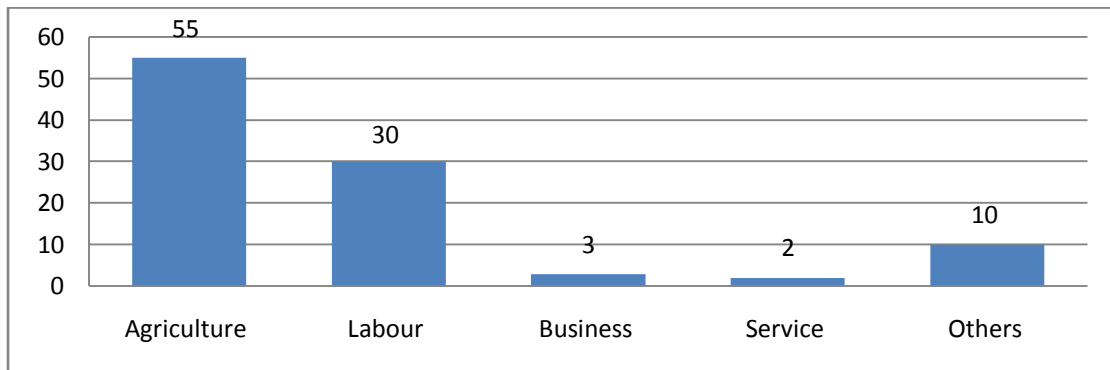
S.N.	Educational Status	No of family	Percent
1	Primary	105	14.5
2	Lower secondary	95	13.2
3	Secondary	110	15.3
4	+2	70	9.7
5	Above	40	5.5
6	Formal Education	50	6.9
7	Illiterate	250	34.9
	Total	720	100

The table no.2 shows that 34.9 percent of respondents are illiterate and literate respondent percentage is 65.1. The respondent having primary level passed percentage is 14.5. Similarly the respondent with the lower secondary level education and secondary level education is 13.2 and 15.3 similarly only 9.7 percent respondent have completed +2 over there most of respondent have completed only secondary level so we can say that there were poor educational condition on Tharu community.

4.1.3 Occupational Status of Respondents.

Occupation leads human being towards certain direction and it can make their life comfortable occupation status plays a vital role for promotion and projection of individual as well as community health. The occupational status of respondent is given below.

Figure 1
Occupational Status of Respondents.



The figure no.1 shows that most of people are involved in agriculture where, 55 percent respondent are involved in agriculture, 40 percent respondent are involved in labour, 3 percent respondent are doing business and only 2 percent respondent are involved in Governmental service similarly 10 percent respondent are involve in other like foreign employment s wall as other works. This data shows that traditional occupation. Agriculture is the main occupation of study area.

4.1.4 Monthly Income.

Actually income plays vital role in human being. It is clear that people who has good income obviously they have quality of life and they gibes few number for children for their prestige as well. The monthly income of respondent in study area is shown in table.

Table no. 3
Monthly Income of Respondents

S.N.	Monthly income (In rupees)	No of Family	Percent
1	Less than 4000	35	29.2
2	4000-6000	55	45.8
3	6000-10000	19	15.8
4	More than 15000	11	9.2
	Total	120	100

Table no. 3 shows that among 120 respondents 29.2 percent had income less than 4000, 45.8% respondent had 4000 to 6000, 15.8% respondent had 6000 to

10000. Where only 9.2% respondent had income more than 15000. It shows that still now also they have facing poverty and several problems related to economic sectors.

4.1.5 Types of Family.

In nuclear family the need of family members fulfill easily but in joint family if is very difficult. Hence the type of family also plays vital role of quality of life. The types of family of respondents are shown in below.

Figure 2
Types of Family

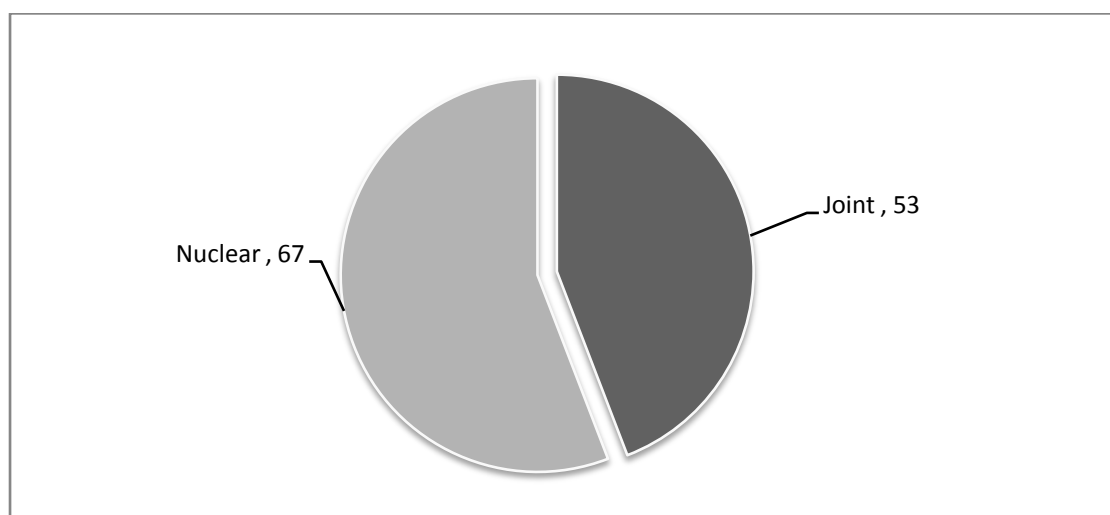


Figure no. 2 shows that the types of family of respondents in study area where 53% family were joint and 67% family were nuclear over there. This data shows that still Nepal has so many joint families and increasing the size of population and will be increase day by up.

4.2 Knowledge about Food Adulteration.

Knowledge is a familiarity, awareness or understanding of someone or something, such as facts information, description or skills. Which is acquired through experience or education by proceeding, Discovering or learner, knowledge refers to a theoretical or practical understanding of a subject.

Food adulteration is the act of intentionally debasing the quality of food offered for sale either by the admixture or substitution of inferior substances or by the removal of some valuable ingredient.

This chapter is specially related to level of knowledge about Food Adulteration of respondents of study area.

4.2.1 Heard about Food Adulteration.

While entering the main subject meter, first up all we should know the level of knowledge or respondents.

Table No. 4
Heard about Food Adulteration

S.N.	Heard about food adulteration	No of family	Percent
1	Yes	105	87.5
2	No	15	12.5
	Total	120	100

Table no. 4 shows that 87.5% of respondent were heard about food adulteration and 12.5% of respondent still didn't heard about food adulteration. This data shows that still some of people of Tharu community didn't heard about food adulteration.

4.2.2 Place to Heard about Food Adulteration.

People get knowledge from different ways of communication. In this study I had tried to know that from where they heard about food adulteration. Which was said by the respondents is given in the figure.

Figure no. 3
Place to Heard about Food Adulteration.

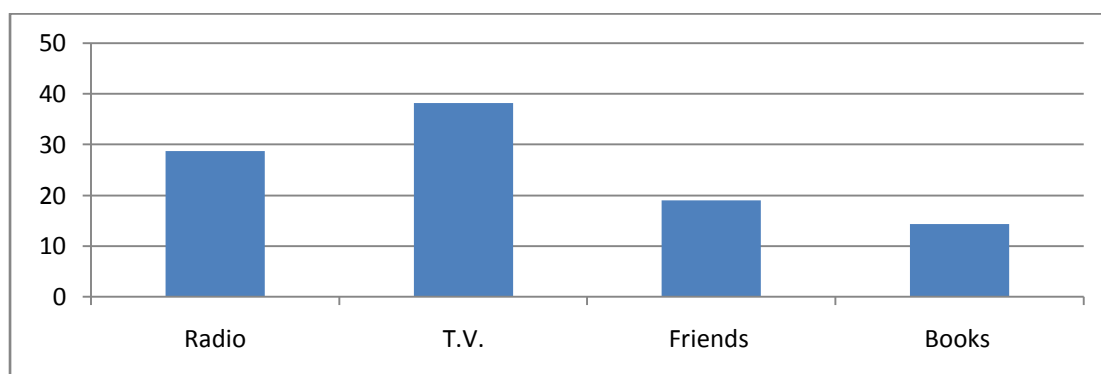


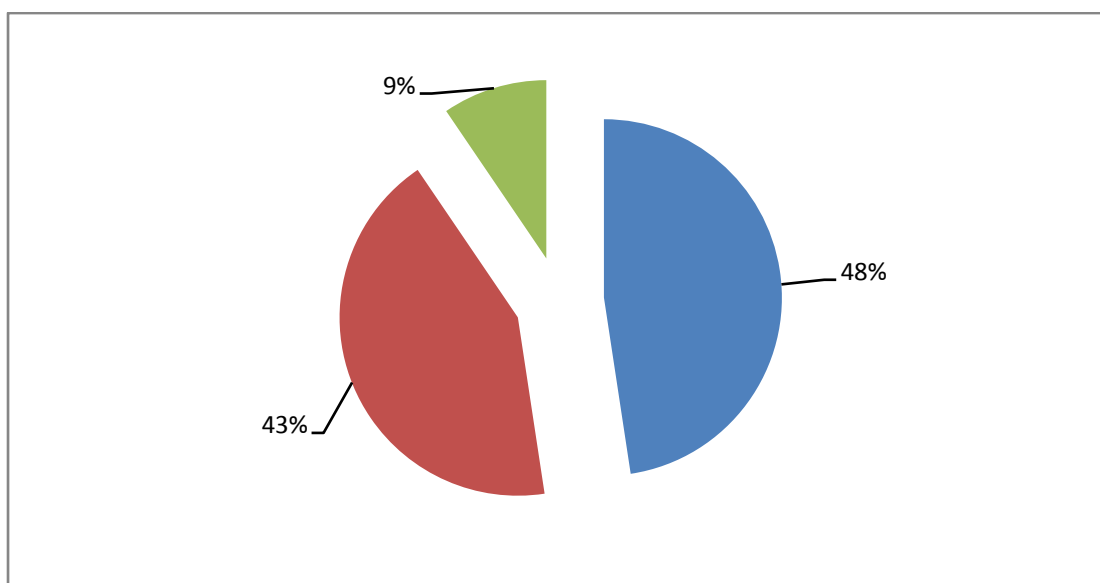
Figure No. 3 Shows that 28.6 % of respondent had heard about food adulteration from Radio. Similarly 38.1% of respondent had heard from T.V. 19% of respondent had

heard from friends and 14.3% of respondent had heard from Books. This data shows that most of people had heard about food adulteration from radio.

4.2.3 Knowledge about Food Adulteration.

Actually Education spreads the knowledge about different aspect like food Adulteration. Knowledge changes the malpractice into good practice. If change bad behaviors concept and attitude into good as well the knowledge level of the respondents about food adulteration is given below in figure.

Figure no. 4
Knowledge about Food Adulteration



Figure, No. 4 Shows that 47.6% of respondent said food Adulteration is addition of unhealthy or unsafe food substance under the prevention food adulteration. Similar 42.9% percent of respondent said non-prescribed coloring substance or the coloring substance is in excess of the prescribed limits and 9.5% of respondents said any article has been prepared packed or kept under sanitary condition. This data shows that most of respondent had knowledge about food adulteration.

4.2.4 The Causes of Food Adulteration.

There are many causes of food adulteration. The cause of or food adulteration is to get more profit to increase volume to trade by showing lower prize and the availability of too many product in the market. The views of the respondent about the causes of food adulteration were shown in below.

Table no.5
The Causes of Food

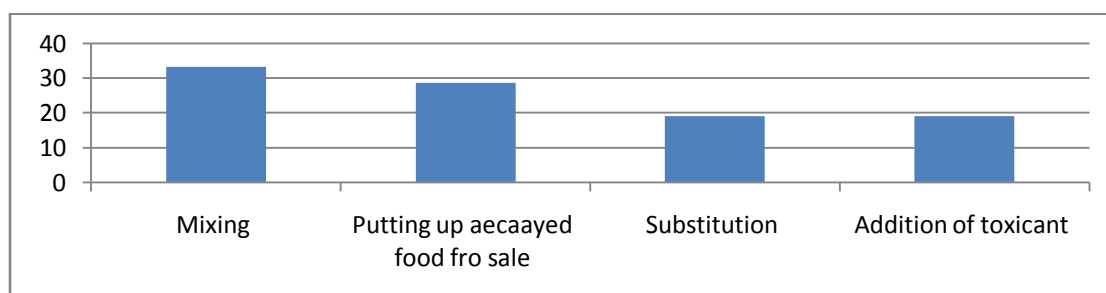
S.N.	Causes	Percent
1	To get more profit	38.1
2	To increase the weight	28.6
3	To increase volume of trade by showing lower prices	14.3
4	To of tract consumer	19
	Total	100

Table no.5 Shows that most of the respondents were said that to get more profit is the main causes of food adulteration where 38.1 percent respondent said to increase more profit, 28.6 percent of respondents said to increase the weight similarly 14% respondents said to increase more profit, 28.6 percent of respondents said to increase the weight. Similarly 14.3% respondents said to increase volume of trade by showing lower prices and 19% of respondents said to attract the consumer. These days shows that the main causes of food adulteration are to get more profit.

4.2.5 Ways of Food Adulteration.

There are many was of food adulteration. Food can be adulteration intentionally and accidentally. These are added intentionally to the food generally are small quantities to improve it appearance, colour, and flavors taste, texture or storage properties and the food incidentally during cultivation as insecticides process of food preparation through packing of food through environmental conditions. The different ways of food adulteration which was said by the respondents are given in figure.

Figure no. 5
Ways of Food Adulteration



The figure No. 5 show that 33.3% respondents said mixing is the way of food adulteration, 28.7% respondent said putting up decayed food for sale.

Similarly 19% respondent said substitution and 19% said Addition of toxicant is the way of food adulteration. Most of respondents said that the mixing is the main ways of food adulteration.

4.2.6 Place to Getting Food.

Foods are available in different places like departmental store, street vendors, market shops etc. The place of getting food in this area is given figure.

Figure. No. 6
Place to Getting Food

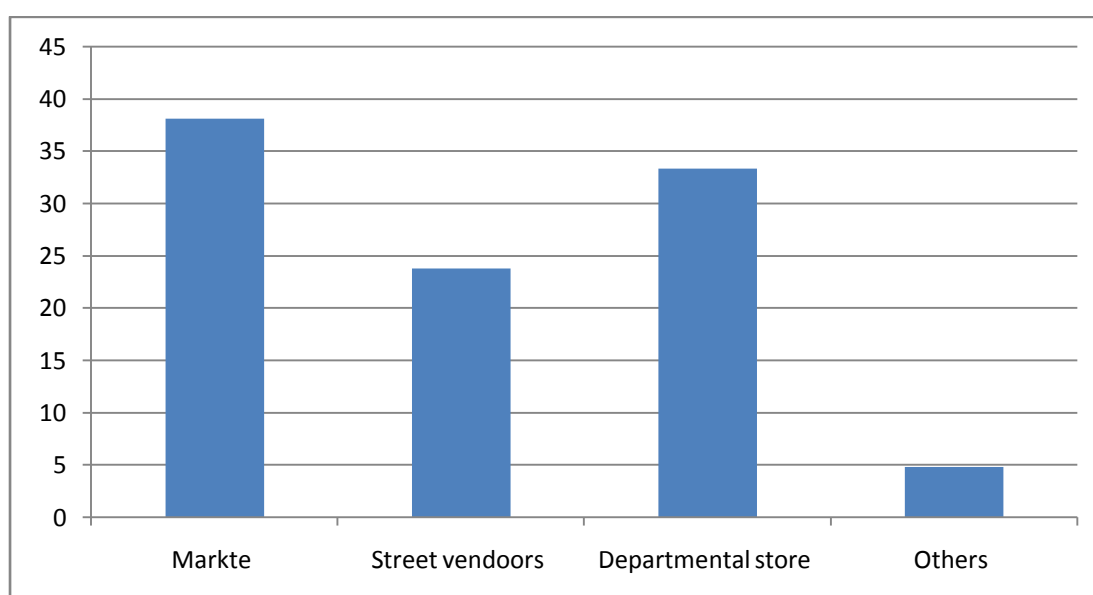


Figure no.6 show that 38.1% respondents were getting food from market where 23.8% respondents were getting food from street vendor. Similarly 33.3% respondents were getting food from Departmental store and 4.8% of people were getting from different (others) places. We can that moreover people were getting food from market.

4.3 Harmful Effect of Food Adulteration.

4.3.1 Knowledge about Harmful Effects of Food Adulteration.

An adulterant food product has bad effect on our health. Adulteration of food causes several health problems in human, some of the health hazards include stomached liver disorder, poisonous respiratory tract infection etc. the knowledge harmful effect of food adulteration in this study area as follows.

Table no. 6

Knowledge about Harmful Effect of Food Adulteration.

S.N.	Knowledge	Percent
1	Yes	95
2	No	5
	Total	100

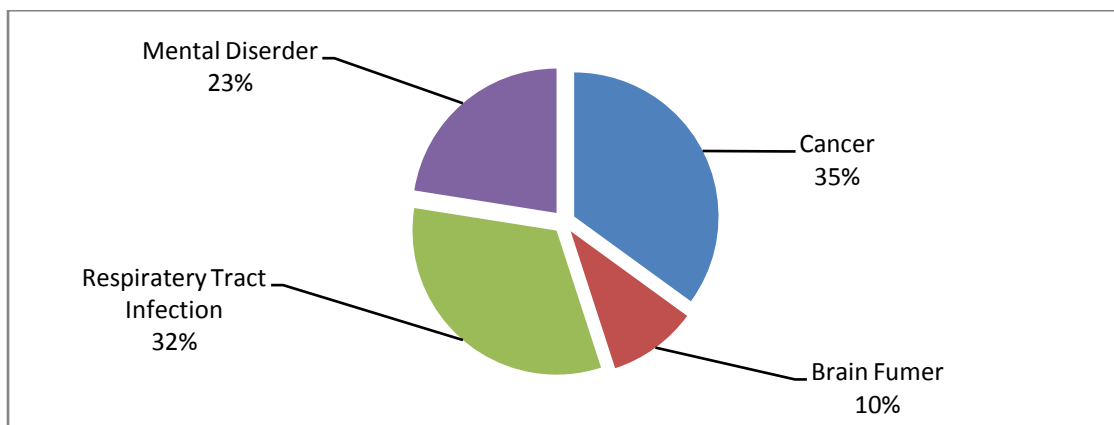
Table.no. 6 Show that most of respondents had the knowledge about harmful effect of food adulteration where 95% respondents had knowledge about the effect of food adulteration and 5% respondents did not have the knowledge about the harmful effect of food adulteration. This data shows that still some respondents didn't have knowledge. About harmful effect of food adulteration.

4.3.2 The Effect of food Preservatives on the Human Body.

Food preservatives extend the shelf life of food grocery store but may have a detrimental effect on human health. Preservatives are also beneficial to us in that we're not eating food that has begun to decay. These chemical compounds however, can have may undesirable side effect in our body. The views of respondents about the effect of food preservatives on the human body are shown in figure.

Figure no. 7

The Effect of Food Preservatives on the Human Body.



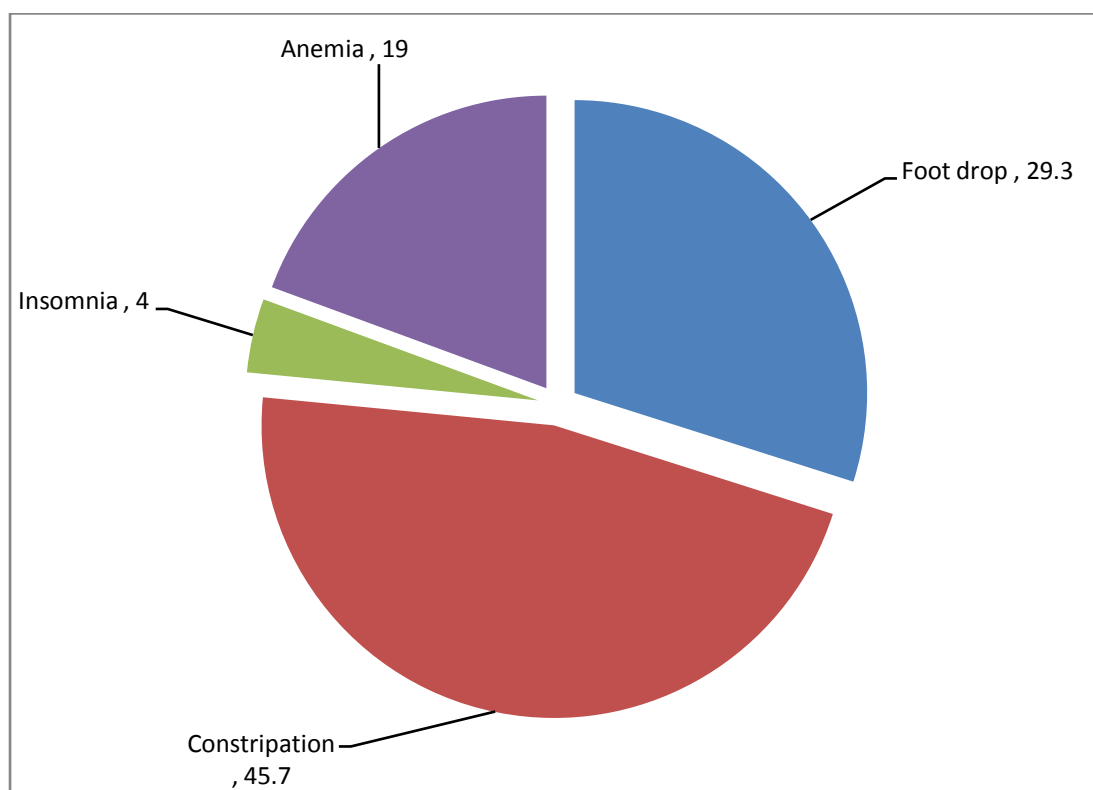
This figure no. 7 shows that 35 percent respondent said, cancer is the effect of food preservatives on human body, 10% respondents said brain tumor, 32.5% respondents said respiratory tract infection. Similarly 22.5% respondents said mental disorder is

the effect of food preservatives. This data shows that most of the respondent said cancer is the harmful effect of food preservatives on human body.

4.3.3 The Harmful Effects of Lead Poisoning.

Generally if a food contains apoisnous or deleterious substance that may render it inferiors' to health, it is adulterant. In this study time I was fried to know the harmful effect of lead poisoning from respondents. The answer, given by respondents are shown in

Figure no. 8
The Effect of Lead Poisoning



The figure No. 8 show s that 29.3% of respondent said, foot drop is the harmful effect said constipation, 4% respondent said insomnia. Similarly 19% respondent said Anemia is the harmful effect of lead poisoning. We can say that constipation is one of the dangerous effects of lead poisoning.

4.3.4 Effect of Sodium Benzoate

Sodium benzoate or benzoic acid is another preservative used to prevent bacterial growth in foods. Sodium benzoate may pose a several risk of human health like cancer, including leukemia. The effect of sodium benzoate is given in figure.

Figure No . 9
Effect of Sodium Benzoate

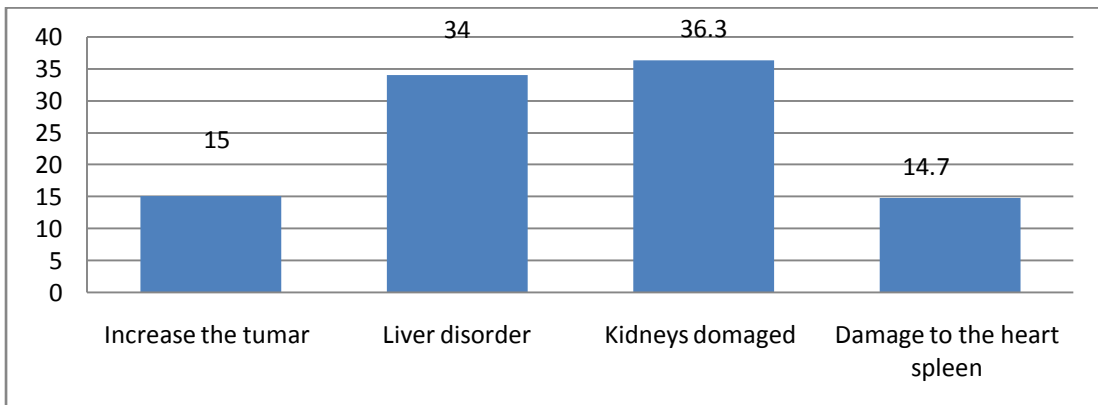


Figure no. 9 shows that 15% respondents said while we ate such food products which is adulterant with sodium benzoate it increase the tumor., Similarly 34% respondent said liver disorder 36.3 percent said kidneys damaged and 14.7% respondent said it damage to the heart spleen. This data shows that if we eat such types of food products adulterant with sodium benzoate of is injurries to human health

4.3.5 Effect of Sulfites.

The term sulfites are an inclusive term for sulfur dioxide (So^2). So^2 is a preservative and widely used in winemaking and most food industries, because of its antioxidant and antibacterial properties. It has also the some side effect of on human health like dermatitis. Hypotension, abdominals pain and diarrhea to life threatening anaphylactic and asthmatic, The Effect of sulfites which is given by respondents is given below

Figure No. 10
Effect of Sulfites.

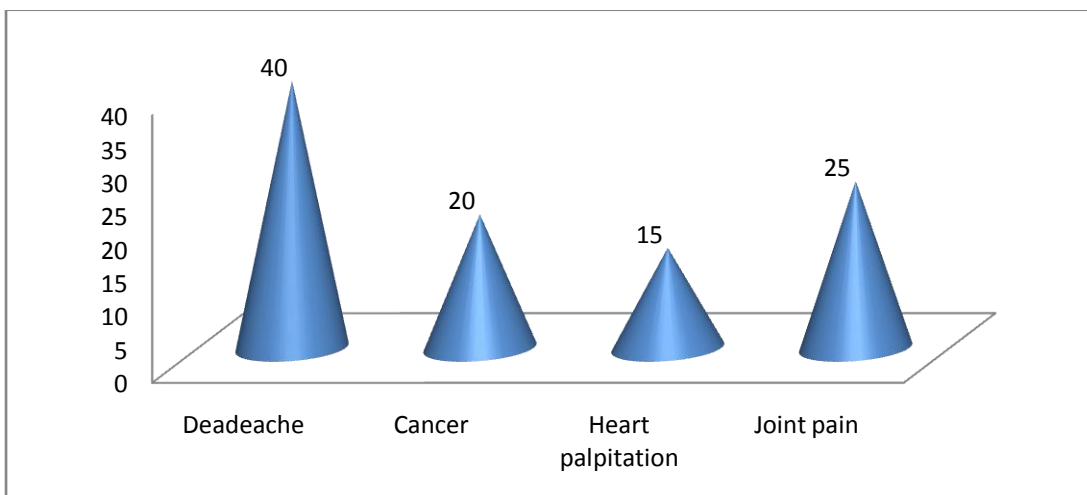


Figure no. 10 shows that most of respondent said that the side effect of safeties is headache, where 40% respondent said Headache 20% respondent said cancer similarly 15% respondent said heart palpitation and 25% respondent said joint pain is the side effect of sulfites. This data show that headache is the main said effect of such food contains which is adulterant with sulfites.

4.3.6 The Effects of Agrimony Oil Mixed with Edible Oil.

Consumption of adulterated mustard oil with agrimony oil even for a short duration leads a clinical condition referred as epidemic dropsy. In human agrimony oil contained in adulterant mustard oil causes oxidative stress and death of red blood cells via met hemoglobin formation by altering pyridine nucleotide and glutathione redox potential the effects of argemone oil mixed with edible oil given by respondents are given below.

Figure. No. 11
The Effects of Argemone Oil Mixed with Edible Oil

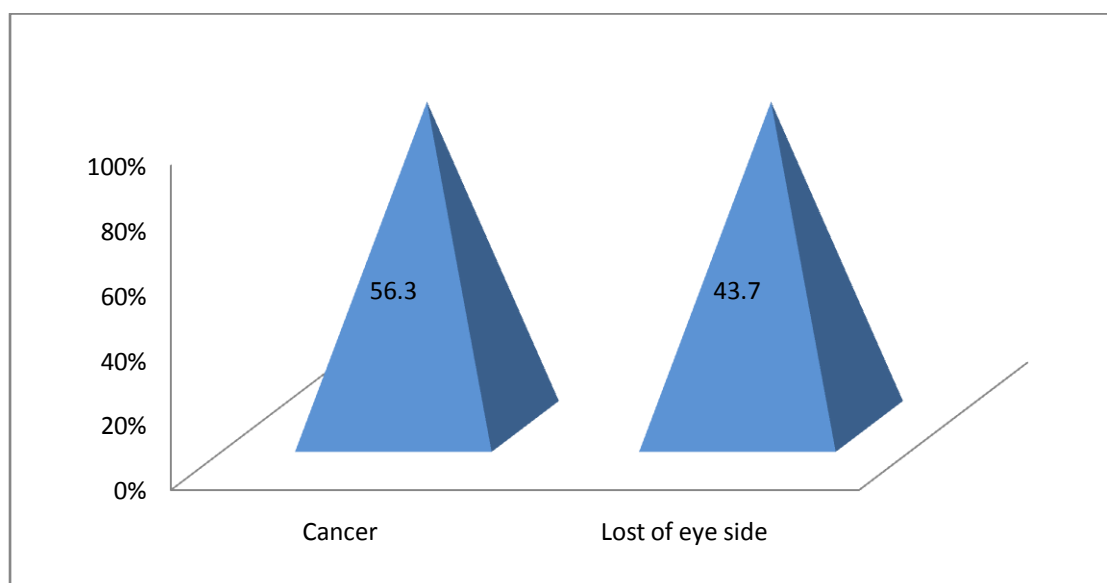


Figure No.11 shows that 56.3% respondent said cancer is the effects of argemone oil mixed with edible oil similarly 43.7% respondent said lots of eye side. This data Said that if we use argemone oil mixed with edible oil if is harmful to human health

4.3.7 Harms of Adulterated Food Coming in Festive Season Cause.

Will as Navaratri have started so does the festive season but along with that manufactures especially sweet shops have started there adulterated food supply

because they know people will buy them maximum at this time. But they don't know, if people buy these days their adulterated food sweets maximum people are also buying harm they have hidden in sweets with food adulteration in this study time I asks the respondents of If ate such food product which is specially made for festive season. The response to the harm of adulterated food coming in festive season by the respondents is given below.

Figure No. 12

Harms of Adulterated Food Coming in Festive Season Cause

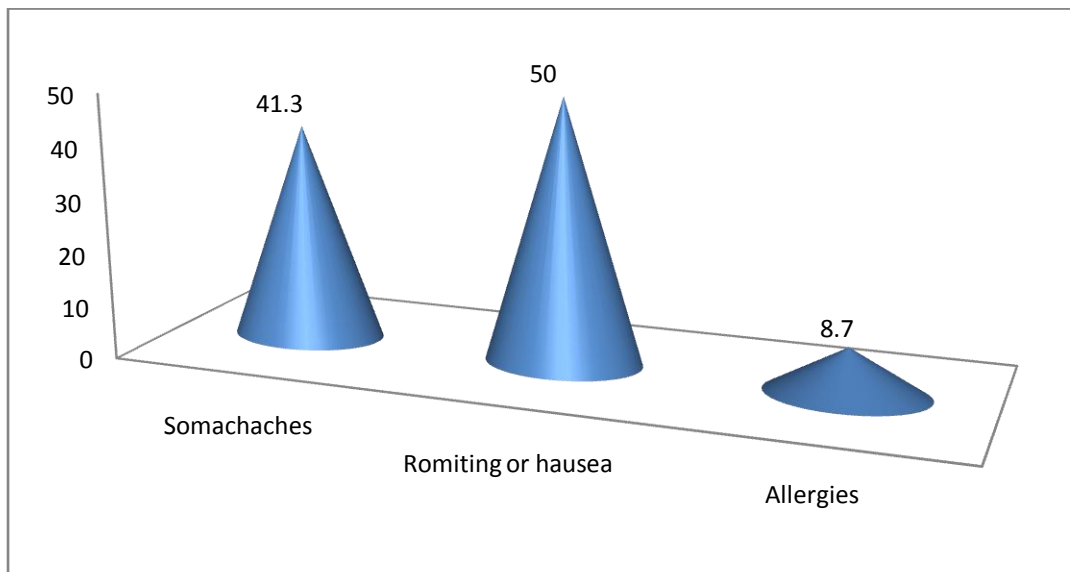


Figure No. 12 show that 41.3% respondent believes that if we ate such food products that are special made only for festive season it may cause stomachaches. Similarly 50% of respondent said vomiting or nausea and 8.7 percent respondents said allergies the harms of adulterated food coming in festive season. We can say that that food product which is made for special accusation will adulterate is not good for human health.

4.3.8 Effect of Non-permitted Colour or Permitted Food Colour.

Food colour are used to give an attractive appearance to food articles. Food colours are categorized as permitted and non-permitted colour. Use of non-permitted food colours has led to loss of real quality of food and it is called the adulterated food such food items may cause allergy. Throat or mouth in fiction. The effects of non-permitted colour or permitted food colour which is response by respondents are given below.

Figure No. 13

Effects of Non-permitted Colour or Permitted Food Colour

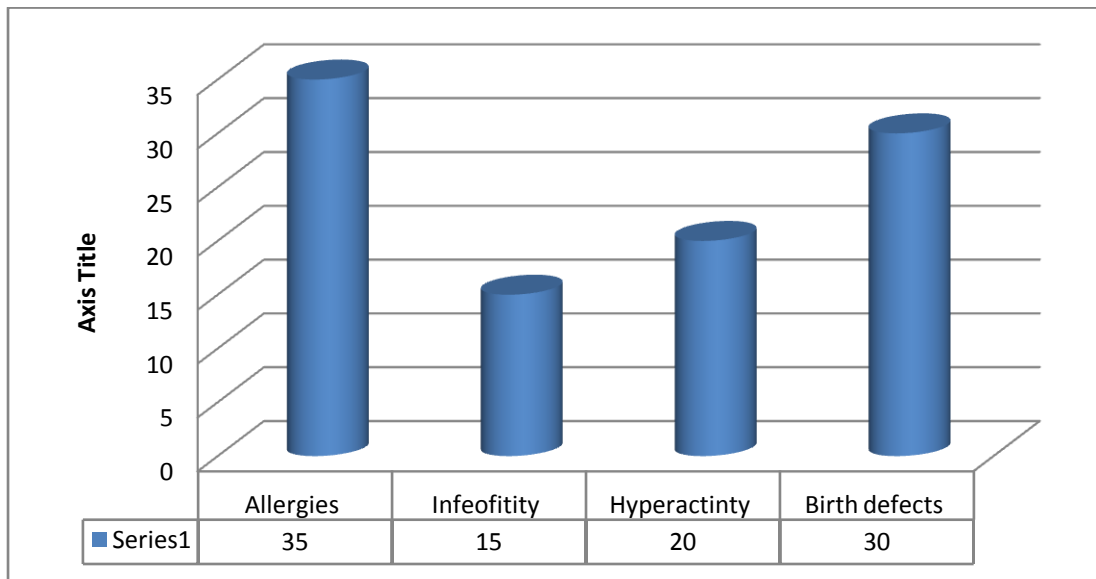


Figure No. 13 Shows those 35% respondents said allergies are the effects of non-permitted colour with are mixed with food contains 15% respondent said infertility. Similarly 20% respondent said hyperactivity and 30% respondent said birth defect is the effects of non-permitted colour. This data show that if we eat such food products with is mixed with non-permitted colour if harms on human health.

4.3.9 Unhygienic Water and Starch

Unhygienic, unprocessed water and starch can cause different health hazards like stomach disorder, diarrhea, vomiting. The effect of unhygienic water and starch. Said by respondents are given below.

Figure no 14

Unhygienic Water and Starch

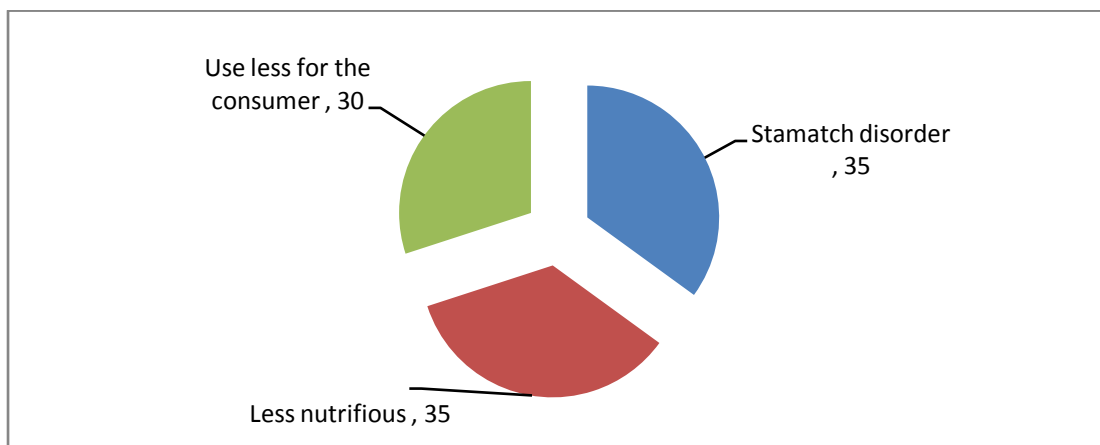


Figure no 14 shows that 35% of respondent said if are drink unhygienic water and starch if cause stomach 35% respondents said less nutritious and 30% respondents said use less for the consumer. The data shows that most of respondent had the knowledge about bad effect of unhygienic water and starch.

4.3.10 Effect of Tamarind Seed, Dead Seed Powder and Chicory Powder.

Food adulteration is the act of deliberately adding something to food intentionally debasing the quality of the food offered for sale either by the mixture or substitution of inferior substances or by removal of some valuable ingredient. People such seed into food product for many purposes, epically they want to increase the weight if we ate such food products if harm our health.

Figure no 15

Effect of Tamarind Seed, Dead Seed Powder and Chicory Powder.

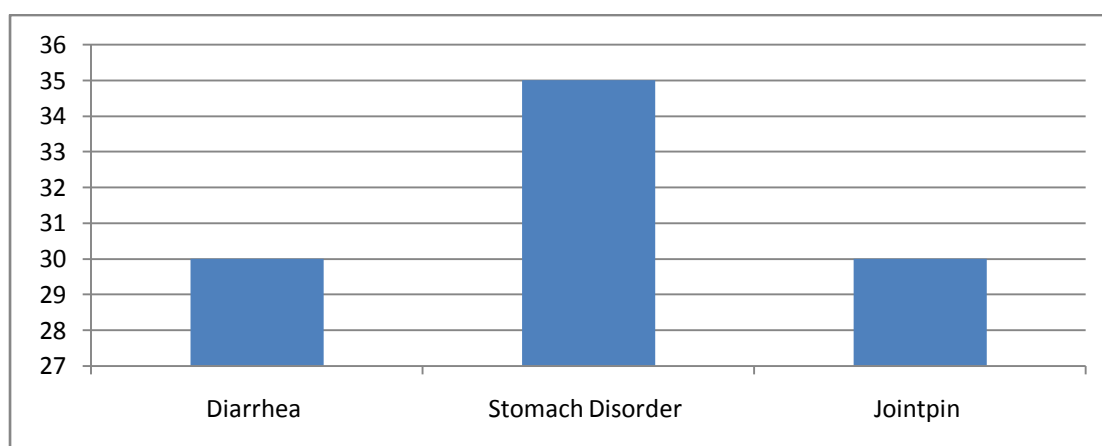


Figure No. 15 Shows that 30% respondent said Diarrhea is the effect of tamarind seed dead seed powder and chicory powder similarly 35% respondents said stomach disorder and 30% respondents said joint pain is the effect of tamarind seed dead seed powder and chicory powder . Most of the respondents said stomach disorder is the effect of such food product.

4.3.11 The Harmful Effect of Junk Food.

Junk food is a pejorative term for cheap food containing high levels of calories from sugar or fat with little fiber, protein, vitamins or minerals.

When junk food is consumed very often the excess fat, carbohydrates, and processed sugar found in junk food contributes to an increased risk of obesity. Cardiovascular disease, diabetes, weight gain, and many other chronic health conditions.

The response to the harmful effect of junk food by the respondent in the study is presented given figure.

Figure No 16
The Harmful Effect of Junk Food.

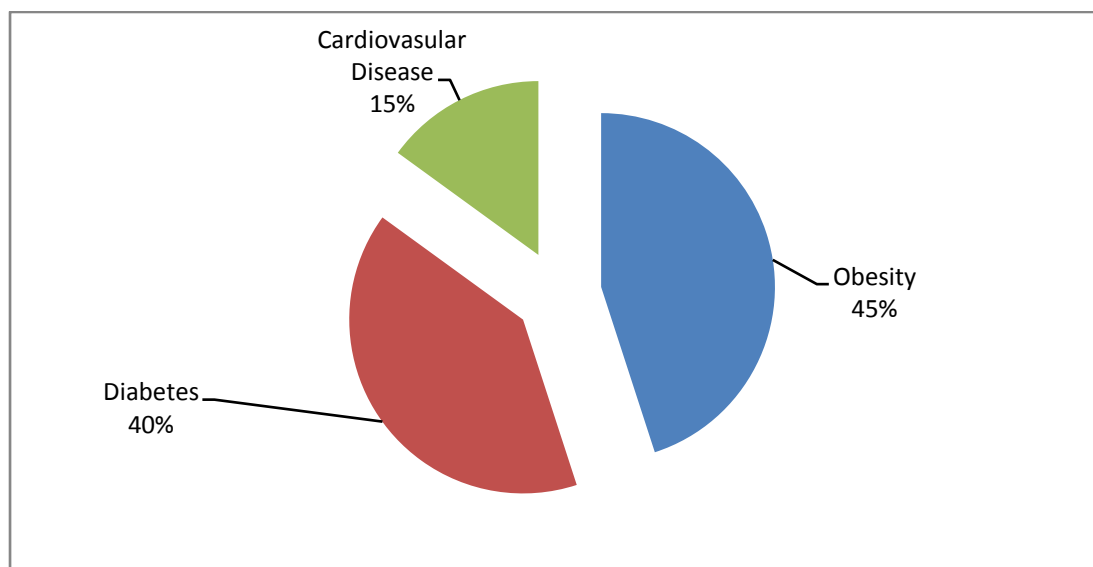


Figure no 15 shows that 45% respondents said that if we eat junk food regularly it may cause obesity, 40% respondents said diabetes and 15% respondents said cardiovascular disease may be caused by junk food. This data shows that junk foods are not good for human beings; they may cause different problems on human health.

4.3.12 Distribution of Problem that Respondents had Experienced.

Adulterated foods have many effects on individuals as well as on the community's health. Food adulteration can cause immediate effects on human health. Diarrhea, dysentery, and vomiting are such types of effects. In this study, I tried to know the problems that respondents had ever experienced or not due to having such food products here.

Table No. 7
Distribution of Problem that Respondent had Experienced

S.N.	Problems	Percent
1	Stomach Disorder	15
2	Vomiting	30
3	Diarrhea	15
4	None of them	40

The response to the problem by the respondents in the study is presented in the table on 7 below. Table no. 7 shows that some of respondent had experienced different health problem the caused by adulterant food. 15% respondents had experienced stomach disorder, 30% respondent had experienced vomiting similarly 15% respondents had experienced. Diarrhea and 40% respondents did not had any experienced. This data shows that most of the respondents had experienced of different health problem due to such adulterant food.

4.3.13 Distribution of the Respondents by Visit First Time for Checkup.

Diseases can't be cured without treatment. The treatment seeking behavior is also determined by the economic condition of the respondents. Similarly the first checkup place by the place of the respondents also varies. It may be due to different socio-behavior condition of the respondents. The choice of the place for treatment varies according to the economic condition.

Figure no. 17

Distribution of the Respondents by Visit First Time for Checkup.

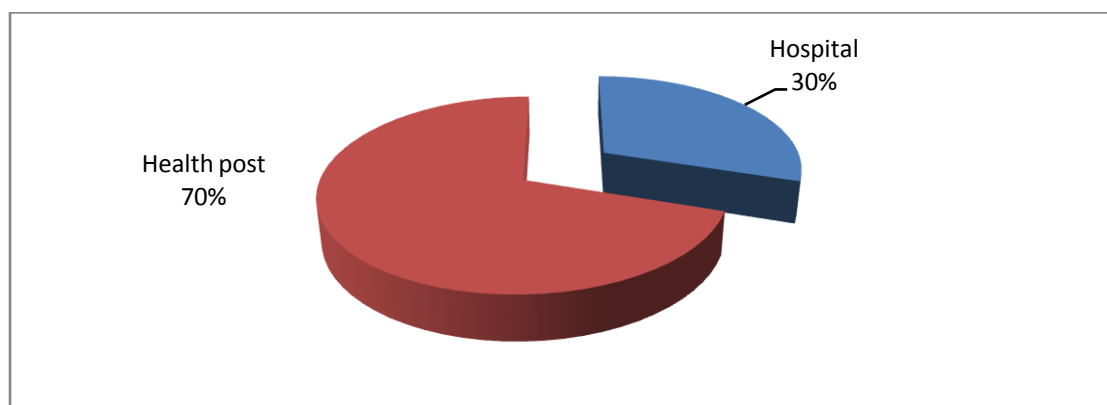


Figure No. 18 shows that 30% of respondent use to visit to hospital for treatment at first. Majority of (70%) of the respondents used to visit to health post for treatment at first. This data show that the economic condition of respondent is not so good.

4.3.14 Knowledge about the Ways for Precaution Food Adulteration.

Knowledge charges the bad practice into the good practice. It changes bad behavior, concept and attitude into good as well. In this study I was fried to know that the respondents knowledge about the way for precaution of food adulteration or not. The

response to the knowledge about the ways for precaution of Food adulteration by the respondents in the study is presented in the Figure

Figure no 18
Knowledge about the Ways for Precaution of Food Adulteration

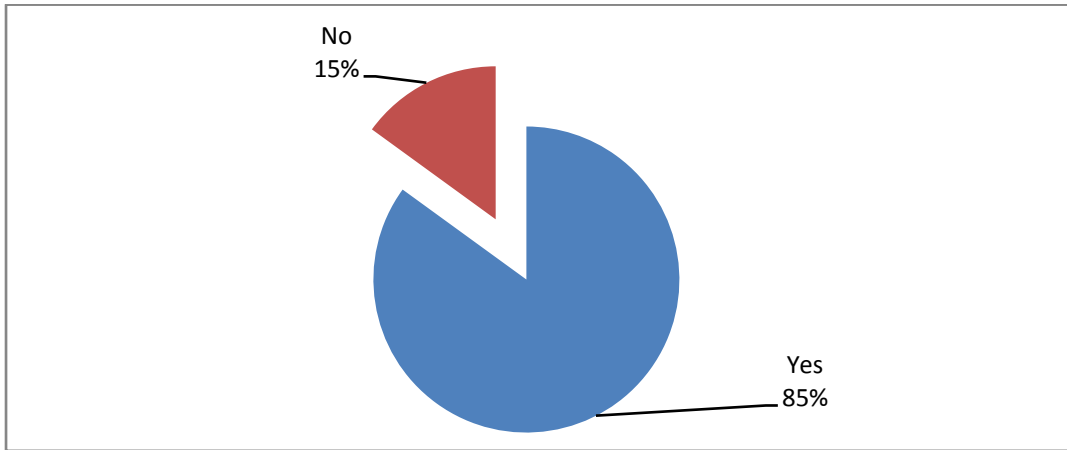


Figure No 19 show that most of the respondents had knowledge about the way for precaution of food adulteration, where 85 percent of respond respondents still did not have any knowledge of the way for precaution of food adulteration. The data show that still some of respondent did not know that the ways for precaution of food adulteration.

4.3.15 The Ways for Precaution of Food Adulteration

There are many steps we can take to ensure food adulteration. We can begin by taking interest in the place from where we buy our food ingredients for example it is from a reputed shop or retailer, we need to check out. The response to the ways for precaution of food adulteration by the respondents in the study is presented in the given figure.

Figure no 19
The Ways for Precaution of Food Adulteration

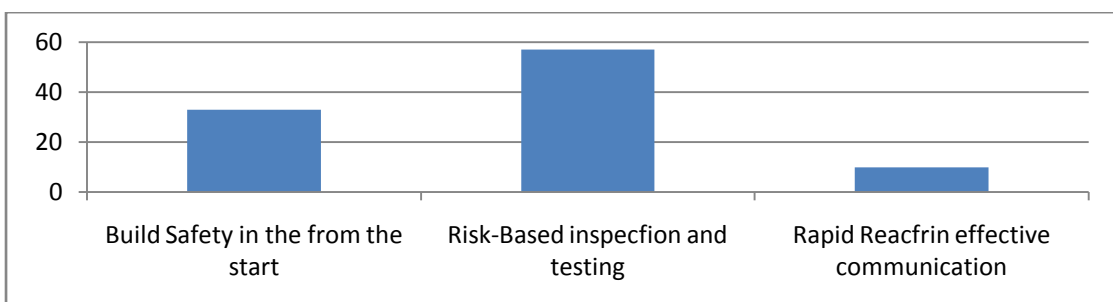


Figure no 18 shows that 33 percent respondent said Build safety in the from the start 57 percent said Risk Based inspections and testing and 10 percent respondents said Rapid reaction, effective communication is the way for precaution of food adulteration. These data shows that most of the respondent said of we want to prevent such practice we have to start risk based inspections and testing.

4.3.16 Responsible Factor for Control the Practice of Food Adulteration

Each and every people are responsible for the control the practice of food adulteration. Special, government of the nation is most responsible factor to control such practice. The Response to the responsible factor for control the practice of food adulteration by the respondents is the study is presented given figure.

Figure no 20

Responsible Factors for Control the Practice of Food Adulteration

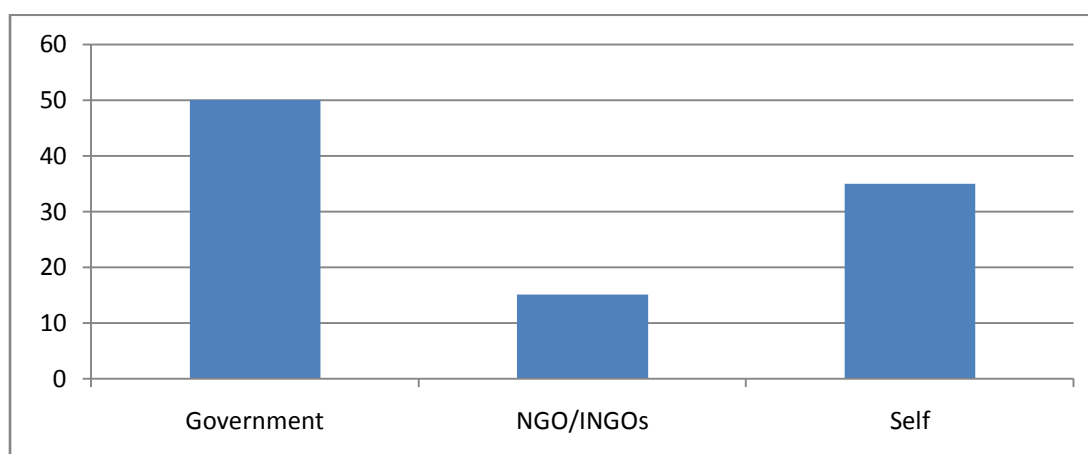


Figure no 16 show that most of respondents believes that the government of nation is responsible factor for control the practice of food adulteration where 50 percent of respondents said Government, 15 percent said NGOs/INGOs and 35 percent respondents said self are responsible for to control the practice of food adulteration. This data shows that the Government of Nation is responsible factor for control the practice of food adulteration.

4.4 Summary

Food is adulterated to increase by quality and make more profit. The food is sucked of its nutrients and the place where the food is grown is often contaminated. Chapter

or inferior possible toxic substances to the food stuff which affect the quality of food and it became very dangerous to the health of the people.

The study has been carried out to examine knowledge and harmful effect if food adulteration in Tharu community at Sundardulari Municipality ward no 7 and 8 of Morang District Nepal Based on primary data.

Reviewed many literatures and studies directly and indirectly related to the present study. It was found that the knowledge level about food adulteration and its harmful is not sufficient special information and training about Food adulteration and its various effects on human health should be organized by concerned organization.

However, the objective of this study is to analyze the knowledge levels of food adulteration and its harmful effect on human health among Tharu community. This study is descriptive in nature. The questionnaire was the only food used for the collection of primary data one the process of collecting data and information researcher was visited door to door of respondents. Necessary information was collected from 120 respondents' houses in Tharu community.

4.5 Findings

After analyzing and interpreting the data. The following results were obtained:

4.5.1 Demographic and Socio-Economic Characteristics

- 44.4 % was male, and 55.6 percent was female population in study area.
- 65.1 percent respondents were literate and 34.9 percent were illiterate.
- Agriculture (55 percent) was main occupation of the respondents.
- Only 9.2 % respondents had more then 15000 income in study area.
- 53 % families were in joint faming and 67 percent families were in Nuclear family.

4.5.2 Knowledge about Food Adulteration

- Only 87.5 percent respondent were heard about food adulteration
- Most of the respondent (38.1percent) were heard about food adulteration from T.V .
- 38.1 % respondent told that the cause of food adulteration is to get more profit

- 33.3 % respondents were told that the way of food adulteration is mixing.
- Moreover respondents (38.1 percent) were getting food from market.

4.5.3 Harmful Effects of Food Adulteration

- 95 % respondents had knowledge about the harmful effects of food adulteration.
- 35 % respondents were told that cancer is the effects of food preservatives on the human body.
- Most of the respondents (45.7 percent) were told that constipation is the effect of lead poisoning.
- 36.3 % respondents were told that, liver disorder is the effect of sodium benzoate.
- Headache is the effects of sulfites told by 40 percent respondents.
- 56.3 % respondent told that cancer is the harmful effect of argemone oil mixed with edible oil.
- 50% respondents told that vomiting or nausea is the main problem of adulterant food which is coming in festive season.
- 35% respondents said that if we ate that food contains which is adulterated with non-permitted colour or permitted food colour that may cause allergies.
- 35% respondent said that stomach disorder and less nutritious is the side effects of unhygienic water and starch.
- 35 % respondents told that stomach disorder is the cause of tamarind seed, dead seed and chicory powder.
- Obesity is caused by junk food told by 45 percent respondents.
- 15% respondents got stomach disorder, 30 percent respondents got Diarrhea as side effect of adulterated food.
- Among them 30 percent respondents used to visit Hospital and 70% respondent used to visit health post for the first time for checkup.
- 85% respondents were known about the way for precaution of food adulteration practice.
- 57% respondent aid that risk based inspection and testing is in of the most ways for precaution of such practices.
- Government is most responsible factor for control the practice of food adulteration told by 50% respondents in other hand 35% respondent believes that they are also responsible for control the practice of food adulteration

CHAPTER-V

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The study was conducted in Sundardulari Municipality ward no 7 and based on the knowledge and Harmful effect of Food adulteration. This study gibes a clear portrait of the knowledge level of food adulteration and harmful effect of Tharu community of Sundardulari Municipality ward no. 7 & 8. Agriculture is the main occupation of the study area. The educational status is also not satisfactory and monthly income too is not satisfactory according to the condition of now. Still some (12.5 percent) respondent did not heard about food adulteration and some of respondents did not know the harmful effects of food adulteration on human health. Majority of the respondents were found visited to health post for treatment after the problem appeared. Government of the nation is the most responsible factor the control these bad practice. We should also create awareness in the local community on the ill effects of food adulteration so that when it happens the public knows help sick.

We need to remember that contamination could happen in very small amount over a period of time and it might be impossible to detect or too late to intervene. So it is prudent that every one of us takes special interest in this subject and educates our families, friends and colleagues about this menace.

5.2 Recommendations

Recommendation is one of the main parts of research work to initiate the program to launch is the selected area. It can play a great role to the concerned persons or authority and fro success of program. It also provides a way for further study and research.

5.2.1 Policy Related.

- It is better to avoid adulterated cool drinks, we should a take fresh fruit juice and tender coconut.
- Awareness is a key source of behavior modification of the people. In the study area. Awareness may be an impetus to modify the health behavior among the people.

- Parents should be concurred about the quality and freshness of these food articles like chocolate sweets that children usually like.
- Make sure that food packet carry 1st.
- Do not buy food articles if expiry date is crossed.
- Take the help of food adulteration testing centers lodge complaints to the concerned authorities. If Adulteration is detected.
- Refresher training programme should be arranged for all the functionaries namely, food inspectors, local Authorities, food authorities, public analysis and chemist.
- Training programme for consumer trades vendors and street food hawkers should be organized as a consumer education programme.
- Radio and television program may be good source for people to be informed about health problem
- Research seminar workshop etc. concerning to food adulteration should be conducted time to time in the community by government and other concerned sector to reduce the problem.
- There is an urgent need of an organization to aware, support empower to people and these types of organization should also give emphasis to people counseling about the problems of food adulteration and their solution.

5.2.2 Recommendation for Practices Related.

- We can begin by take interest in the place from where we buy our food ingredients for example it is from a reputed shop or retailers we need to check out.
- We need to check if the packing is intact as also the expiry date and the sources of the product.
- We should also create awareness in the local community on the ill effects of food adulteration so that when it happens the public knows seek help.
- It is also necessary to talk regularly to the local community to check if people are falling sick after eating in a particular restaurant or food ingredients bought from a particular retailer.

5.2.3 Recommendations for Further Researcher Related.

- This study provides the general overview of knowledge and harmful effect of food adulteration but in depth the study concerning to this sector can be carried out in other parts of Nepal.

- This study was based on small size with careening small sample so this type of study can be conducted to large population size area to find out more information.
- This study covers a small area which can't represent all the areas of our country so further study in other areas of our country is essential in the future.

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Janata Multiple Campus
Itahari, Sunsari

Questionnaire

Information collected in this questions will be kept confidential and used only for academic purpose

Word No:..... Village

Name of Household Head

Total Numbers Religion.....

Demographic and Economic Characters.

1. How many members are there in your family
 - a. Total
 - b. Male
 - c. Female
2. Which is your main religion?
.....
3. Are you literate?
 - a. Yes b. No
4. If you are literate, which level have you completed?
 - a. pre primary b. primary c. lower secondary
 - e. +2 f. above
5. What are your main sources of income?
 - a. Business b. Agriculture
 - c. Service d. labor
6. How much money do you earn in a moth?
 - a. less than 4000 b.4000-6000

- c. 6000-10000 d. more than 15000
7. What is your family type?
a. joint b. Nuclear
8. How many months can your family depend upon the agriculture?
a. 3 months b. 6 months c. 1 year

Knowledge about Food Adulteration

1. Do you heard about food adulteration?
a. Yes b. No
2. From where?
a. Radio b. T.V. c. Friends d. Books
3. What is food Adulteration?
a) Food adulteration is addition of healthy or unsafe food substances under the prevention of food adulteration
b) Non-prescribed colouring substance or the colouring substance is in excess of the prescribed limits.
c) Any article has been prepared packed or kept under sanitary conditions
4. How food can be adulterant
a. Intentionally b. Accidentally
5. What is the cause of food Adulteration?
a. To get more profit
b. To increase the weight
c. To increase volume of trade by showing lower prices
d. To attract consumer
6. What are the types of food adulteration?
a) Mixing b) Substitution
c) Putting up decayed food for sale d) Addition of toxicants
7. Do you know the ways of food adulteration?
a. Yes b. No

8. If yes, what is the way of food Adulteration?
- a. Mixing
 - b. Substitution
 - c. Putting up decayed food for sale
 - d. Addition of toxicants
9. From where do you get food?
- a. Market
 - b. Street vendors
 - c. Departmental store
 - d) Others
10. Are you agreeing? "Food Adulteration is harmful to human health"?
- a. Yes
 - b. No
11. What is the harmful effect of Food Adulteration?
- a. Liver disorder
 - b. Diarrhea
 - c. Poisonous
 - d. Heart problem, liver damage

Effect of Food Adulteration

12. What are the effects of food preservatives on the human body?
- a. Cancer
 - b. Respiratory tract infection
 - c. Brain tumor
 - d. Mental disorder
13. What are the harmful effects of lead poisoning?
- a. Foot drop
 - b. Insomnia
 - c. Constipation
 - d. Anemia
14. If we eat those types of food which is adulterant with sodium benzoate, what will be the effects of such food?
- a. Increase the tumor
 - b. Liver disorder
 - c. Kidneys damaged
 - d. Damage to the heart spleen
15. What are the effects of such food which is adulterant with sulfites?
- a. Headache
 - b) Heart palpitation
 - c. Cancer
 - d. Joint pain
16. What are the effects of argemone oil mixed with edible oil?
- a. Epidemic dropsy
 - b. Wet beriberi
 - c. Swelling
 - d. Lost of eye side

17. What harms to health adulterated food coming in festive season cause?
- a. Stomachaches
 - b. Indigestion
 - c. Vomiting or nausea
 - d. Allergies
18. What are the harmful causes of non-permitted colour or permitted food colour like mental yellow beyond the safe limited?
- a. Allergies
 - b. Hyperactivity
 - c. Infertility
 - d. Birth defects
19. If we drink such milks which is adulterant with unhygienic water and starch, what will be the harmful effect human health?
- a. Stomach disorder
 - b. Use less for the consumer
 - b. Less nutritious
 - d. Others
20. What are the effects of coffee powder which is adulterated with tamarind seed, date seed powder and chicory powder?
- a. Diarrhea
 - b. Joint pain
 - c. Stomach disorder
 - d. Giddiness
21. What are the harmful effects of junk food?
- a. Obesity
 - b. Cardiovascular disease
 - c. Diabetes
 - d. Weight gain
22. If we eat coloured meet, what will be the effect of this?
- a. Stomach disorder
 - b. Diarrhea
 - c. Allergies
 - d. Others
23. Do you have any problem about food Adulteration?
- a. Yes
 - b. No
24. What problems you have experienced?
- a. Stomach disorder
 - c. Diarrhea
 - b. Vomiting
 - d. Hear problems
25. If you had this problem, where did you go at first checkup?
- a) Hospital
 - b) Native Doctor
 - c) Health Post
 - d) Others

26. What advice did you get from the doctor?
- a) Curable b) Non-curable c) Mild d) Sever
27. What are the minor effects of food adulteration?
- a. Vomiting b. Diarrhea
c. Stomach Disorder d. Dizziness and joint pain
28. What are the major effects of food Adulteration?
- a. Heart problems b. Cancer
c. Ulcer d. Poisonous
29. Do you know the way for precaution of food adulteration
- a. Yes b. No
30. Who are responsible to control the practice of Food Adulteration?
- a) Government b) NGOs/INGOs c) Civil Society d) Self
31. If yes, what are the ways of food adulteration?
- a. Build safety in from the start
b. Risk- Based inspections and testing
c. Rapid reaction, effective communication