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Manisha
Research Scholar, Home Sc
Faculty KNIPSS Sultanpur,
India

Kiran Agrahari
Advisor & Assistant Professor,
Home Sc. Faculty KNIPSS
Sultanpur, India

Mamta Jaiswal
Co Advisor & Assistant
Professor, Home Sc. Faculty
KNIPSS Sultanpur, India

Archana Singh
Co Advisor & Assistant
Professor, Home Sc. Faculty
KNIPSS Sultanpur, India

A study on the use of Iodized salt in rural areas of Sultanpur city

Manisha, Kiran Agrahari, Mamta Jaiswal and Archana Singh

Abstract

Iodine Deficiency Disorder (IDD) has been considered as major public health problem in India. It has been estimated that in India more than 71 million individuals suffer from IDDs, while another 200 million people are living in areas with iodine deficiency. India has made considerable progress in its IDD control programme. Less than 5 percent total goiter rate (TGR) was found in 9 out of 15 districts studied in 11 states by Indian Council of Medical Research (ICMR) study.

Keywords: Iodized salt, Nutritional status, Goiter

Introduction

Iodine is a trace mineral essential for human development and growth. Iodine deficiency is the most prevalent cause of brain damage in the world. The mean IQ of a population is decreased by approximately 13.5 points when there is a lack of iodine in diets, significantly hindering the social and economic development of a country. Goiter – a severe swelling of the thyroid gland – is the most noticeable sign of iodine deficiency.

An effective approach to this tackling deficiency is through iodizing one of the world's most well-known condiments Salt. Adding iodine to salt is recognized as one of the safest and most cost effective strategies towards achieving sufficient intake of the mineral. It is also looked upon favorably in terms of public health interventions for its high return on investment the World Bank estimates the annual cost of adequately iodizing salt at just five percent US individual with funding from The Bill and Melinda.

Gates Foundation, the Global Alliance for Improved Nutrition and the United Nations Children's Fund (UNICEF) has partnered to support the reduction of iodine deficiency in 13 countries, as part of the global effort toward Universal Salt Iodization (USI). Since 2009, this collaboration has been committed to reaching more than 750 million people through sustainable, business-led and market-orientated efforts. By working together to eliminate iodine deficiency, the partnership takes advantage of the available expertise from both the public and private sectors to strengthen accessibility, the policy regulatory environment, and the demand and use of iodized salt.

Food and nutrition security at the individual and population level is a fundamental right Nutrition security ensures optimal actualization of human resources and overall progress and development of a society and nation. Iodine is one of the essential micronutrients required for the normal mental and physical well-being of human beings. The healthy human adult body contains 20-30 mg of iodine of which 70- 80% is in the thyroid gland.

The spectrum of diseases includes goiter, cretinism, hypo-thyroids, brain damage, abortion, still birth, mental retardation, psycho-motor defects and hearing and speech impairment. Iodine deficiency is the single most important cause of preventable brain damage and mental retardation in the world. Iodine deficiency disorders (IDD) are a worldwide major public health problem. Their effects are hidden and profound, affecting quality of human life. Globally two billion people are at risk of iodine deficiency disorders due to insufficient iodine intake. Nearly 266 million school-aged children worldwide have insufficient iodine intake of the 130 countries which reported data for IDD in 2006.

Correspondence

Manisha
Research Scholar, Home Sc.
Faculty KNIPSS Sultanpur,
India.

Objective

- To find out the problems related to iodine deficiency.

Review of Literature

Demonstrated that correction of iodine deficiency greatly reduced or eliminated its consequences brain damage, mental retardation, goiter, impaired thyroid function and prenatal morbidity. These facts were subsequently much less clearly evident and 100A ug iron per gram of DFS 3, 4. When correction of iodine deficiency occurred on a large scale using iodized salt, which is nevertheless the universally adopted strategy aiming at the sustainable elimination of IDD.

Conducted that a number of advocacy measures were initiated to promote the consumption of iodized salt by the beneficiaries. Efforts were also made from banning the sale of non-iodized salt in different states. Around 43% of the populations do not consume adequate amounts of iodine which make them vulnerable to physical and mental disorders. The recent national demographic health survey conducted by the department health services stated the only 53% of the countries household consume enough amount of iodine although 94% of the population used iodized salt Bhat *et al* (2008) [4] Revealed that has been market improvement in the goiter in Jammu region. This could be due to increase awareness about benefits of iodized salts, wide availability of iodized salt improved socioeconomic condition of the population with better purchasing power. More than 75% of the population consumed powered salt with more than 98.5% of powder salts were having an iodine content of greater than 15ppm.

Material and methods

Scientific methodology is necessary for a successful study as it directly indicates words the authenticity of the research and attempt has been made to provide the detail of techniques employed to attain this objective of a present investigation. Methodology includes techniques; devices and procedure applied for conducting the research, in this study, the respect concerning the research methodology have been categorized in the following.

Research Design

Simple random sampling was taken for sampling. Primary and secondary data were collected. The methods of primary data were collected for the objectives of the main study "A Study on the use of iodized salt in rural areas of Sultanpur city" through interview schedule questionnaire.

Selection of area: The area of Sultanpur district was purposively selected because study has been easily accessible for collection data.

Selection of Sample: Total 100 respondents were selected for study purpose.

Methods of collection of data

A Statistical figure indispensable for scientific work in this study was primary based on the data collection on the well development schedules to make each interview as comprehensive as possible. The open ended questionnaire in which rigid ticking of responses was replaced by and elaborate interview giving each respondent every opportunity to speak in a natural and uninhibited way secondary data obtained from various published report, research studies, bulletin, government publication newspaper, net etc.

Analysis of data: The data was analyzed using tally mark methods and the findings have been presented in the form of table. Tabulation of data was done to make comparison of each attribute in the different attributes studies. Each group in the table were expressed in terms of frequency & percentage. statistical tools were also applied where ever felt necessary and their inference was drawn according. Structured schedule would be prepared with the statements on subject related the study e.g. food habit, nutritional status etc. The selected samples would be interviewed personally by researcher. This information collection will be classified, tabulated averaged and statistical analysis tools.

Statistical analysis

$$(\%) = \frac{n}{N} \times 100$$

(%) = Percentage

n = Sum of respondents

N. = Total number of respondent.

3. Result & Discussion

The empirical results & discussion have been presented the purpose of convenience. The collected data were categorized, analyzed, tabulated & interpreted as per objective of the study.

64 per cent of respondent were belonged to nuclear family it means they were not follow traditional living & 36per cent of respondent were belonged to joint family & they were following the traditional living.10 percent of respondents were belonged to primary & 25 percent of respondents were belonged to high school, where as mostly 35 percent were belonged to intermediate and 30 percent of were belonged to graduation. 50 percent of respondents were belonged to below 10000, Whereas 30 percent of respondent were belonged to 10000 to 20000 while 20 percent of respondent belonged to above 20000 income group. 43 percent of respondent were vegetarian & 30 percent were Non-vegetarian & 27 percent of respondent were Ovatarian. 71 percent of respondents were belonged to Hindu & minimum 29 percent of respondents were belonged to Muslim. Maximum 30 per cent of respondent were belonged to service while minimum 21percent of respondent were belonged to business & 27percent of respondent were belonged to farming.

The empirical results & discussion have been presented the purpose of convenience. The collected data were categorized, analyzed, tabulated & interpreted as per objective of the study.

Table 4.1: Distribution of respondents on the basis of their Family size

Family size	Frequency (N=100)	Percentage (%)
Joint	36	36%
Nuclear	64	64%
Total	100	100%

Table 4.1. shows that 64 per cent of respondent were belonged to nuclear family it means they were not follow traditional living & 36per cent of respondent were belonged to joint family & they were following the traditional living.

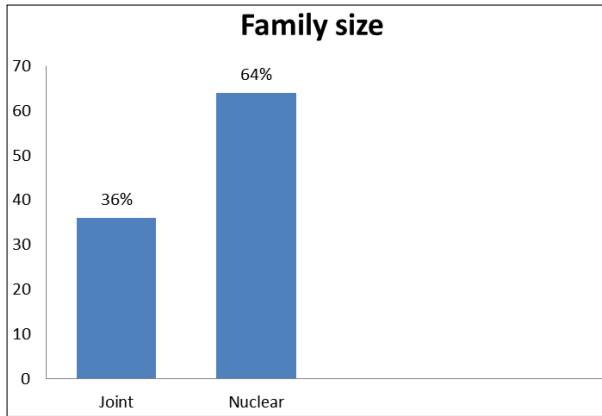


Fig 1: Distribution of respondent on basis of their Family size.

Table 4.2: Distribution of respondent on basis of their Education.

Education	Frequency N=100	Percentage (%)
Primary	10	10%
High school	25	25%
Intermediate	35	35%
Graduation	30	30%
Other	-	-
Total	100	100%

Table 4.2. showed that 10 percent of respondents were belonged to primary & 25 percent of respondents were belonged to high school, where as mostly 35 percent were belonged to intermediate and 30 percent of were belonged to graduation.

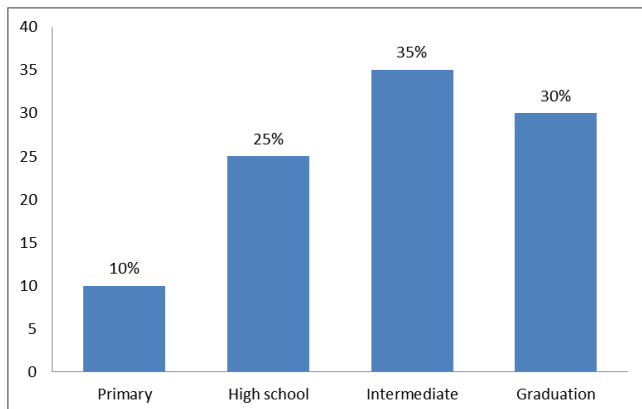


Fig 2: Distribution of respondent on basis of their Education.

Table 4.3: Distribution of respondent on basis of their Family income.

Family income	Frequency N=100	Percentage (%)
Below 10000	50	50%
10000 to 20000	30	30%
Above 20000	20	20%
Total	100	100%

Table 4.3. shows that 50 percent of respondents were belonged to below 10000, Whereas 30 percent of respondent were belonged to 10000 to 20000 while 20 percent of respondent belonged to above 20000 income group.

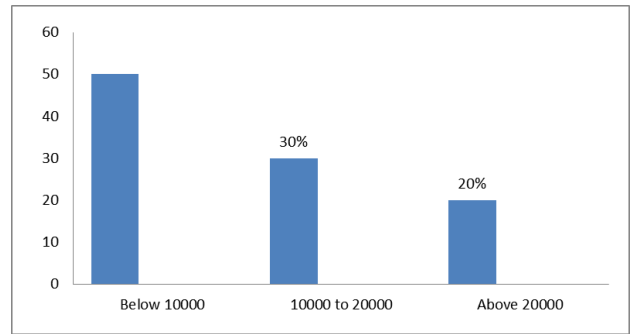


Fig 3: Distribution of respondent on basis of their Family income.

Table 4.4: Distribution of respondent on basis of their Food habit.

Food habit	Frequency N=100	Percentage (%)
Vegetarian	43	43%
Non-Vegetarian	30	30%
Ovatarian	27	27%
Total	100	100%

Table 4.4 shows that 43 percent of respondent were vegetarian & 30 percent were Non-vegetarian & 27 percent of respondent were Ovatarian.

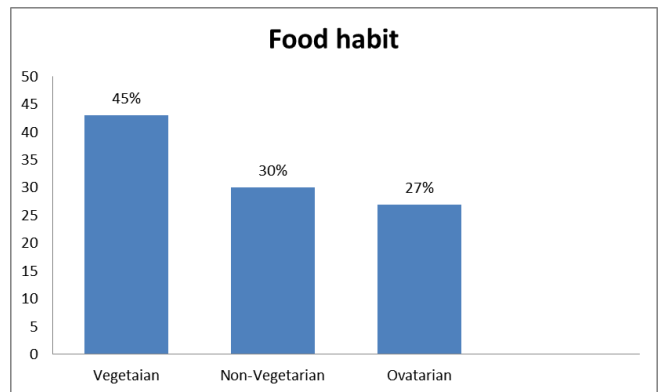


Fig 4: Distribution of respondent on basis of their Food habit.

Table 4.5: Distribution of respondent on basis of their Religion.

Religion	Frequency (N=100)	Percentage (%)
Hindu	71	71%
Muslim	29	29%
Total	100	100%

Table 4.5 shows that 71 percent of respondents were belonged to Hindu & minimum 29 percent of respondents were belonged to Muslim.

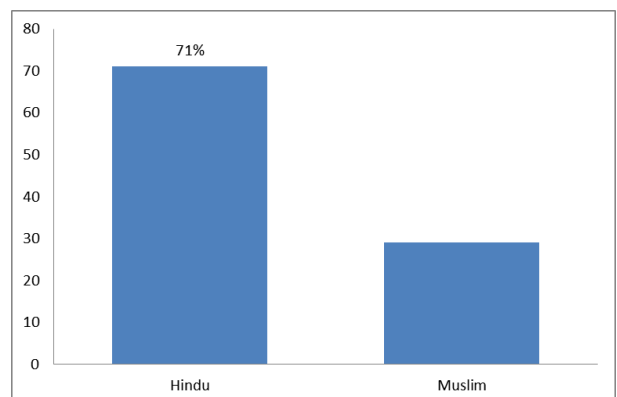


Fig 5: Distribution of respondent on basis of their Religion.

Table 4.6: Distribution of respondent on basis of their Occupation.

Occupation	frequency (N=100)	Percentage (%)
Service	30	30%
Business	21	21%
Farming	27	27%
Other	22	22%
Total	100	100%

Table 4.6 shows that maximum 30 per cent of respondent were belonged to service while minimum 21percent of respondent were belonged to business & 27percent of respondent were belonged to farming.

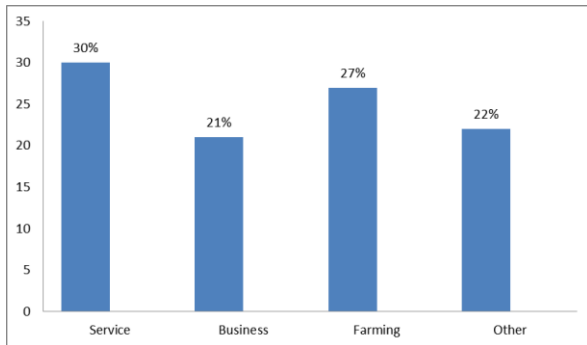


Fig 6: Distribution of respondent on basis of their Occupation.

Table 4.7: Distribution of respondent on basis of their type of salt used.

Type of salt	frequency (N=100)	Percentage (%)
Crystal	16	16%
Powder	27	27%
Packet	45	45%
Other	12	12%
Total	100	100%

Table4.7shows that maximum 45 % respondents were used packet salt while minimum 16 % of respondents were used crystal salt.

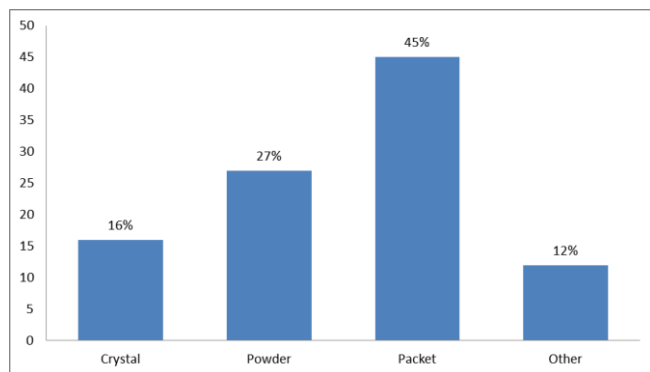


Fig 7: Distribution of respondent on basis of their type of salt.

Table 4.8: Distribution of respondent on basis of their salt take in their diet.

Salt take in diet	Frequency (N=100)	Percentage (%)
Iodized salt	58	58%
Simple salt	42	42%
Total	100	100%

Table 4.8 shows that maximum 58 percent of respondent were used iodized salt whereas and minimum 42 percent of respondent were used simple salt.

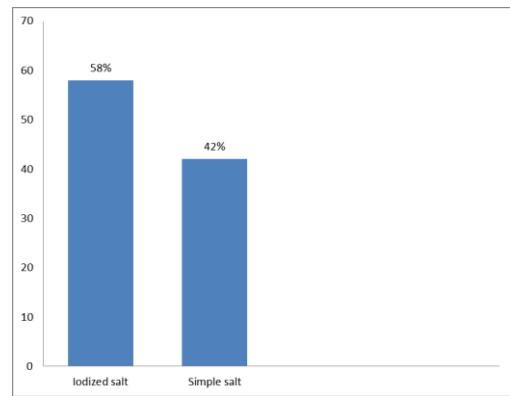


Fig 8: Distribution of respondent on basis of their salt take in their diet.

Table 4.9: Distribution of respondent on basis of their storage of salt.

Store salt	Frequency (N=100)	Percentage (%)
Container	40	40%
Open	10	10%
Packet	50	50%
Total	100	100%

Table4.9 shows that rural area 50 percent respondent were stored salt in the packet while minimum 10 percent respondent were used salt in an open area.

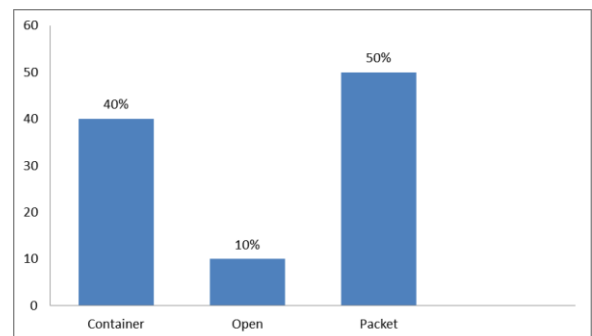


Fig 9: Distribution of respondent on basis of their storage of salt.

Table 4.10: Distribution of respondent on basis of their Intake of iodine rich salt.

Intake iodine rich salt	Frequency (N=100)	Percentage (%)
Yes	35	35%
No	65	65%
Total	100	100%

Table 4.10 shows maximum 65 percent of respondents were not using iodine rich salt while minimum 35 percent respondent were using iodine rich salt.

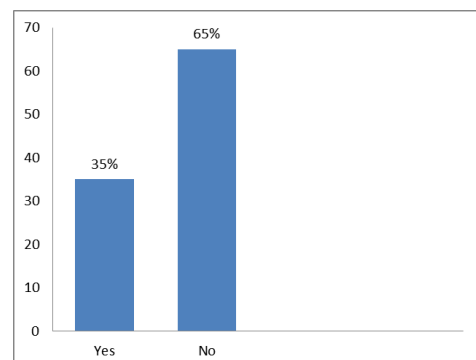


Fig 10: Distribution of respondent on basis of their Intake of iodine rich salt.

Limitations of study

- The study is carried out for short period, so that time and other resources are limited to an extent.
- It was questionnaire schedule method which has its own limitation of respondent dependent information without any alternative.

Acknowledgement

All glory to the almighty, whose blessing in the success behind this project praise pride and perfection belong to almighty. So first of all I would like to express my deepest sense of gratitude to the omniscient power of the universe, the almighty God.

This project would not have been possible without the support of many people. Word fails to express my sense of independence and profound gratitude toward my honorable Advisor Miss. Kiran Agrahari, Head Dr. Mamta Jaiswal, and Co-advisor Miss. Archana Singh Faculty of Home Science, Kamla Nehru Institute of Physical and Social Sciences, Sultanpur (U.P.), for their noble advise constructive criticism and valuable suggestion unending inspiration enduring patience during my study. Her continued encouragement positive attitude towards my ability made the achievements of this goal easy to tackle and complete my work in time.

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From the very special corner of my heart I wish to record my indebtedness to my advisor for their kind help and express my manifold thanks to Miss. Kiran Agrahari. Iam also thankful to all respondents for giving me proper co-operation during the data collection.

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