A STUDY ON KNOWLEDGE AND ADOPTION OF SELECTED HEALTH AND NUTRITIONAL PRACTICES BY RURAL WOMEN IN BELGAUM DISTRICT, KARNATAKA

Thesis submitted to the
University of Agricultural Sciences, Dharwad
in partial fulfillment of the requirement for the
Degree of

MASTER OF SCIENCE (AGRICULTURE)

In

AGRICULTURAL EXTENSION EDUCATION

By

KIRAN VANI .P

DEPARTMENT OF AGRICULTURAL EXTENSION EDUCATION
COLLEGE OF AGRICULTURE, DHARWAD
UNIVERSITY OF AGRICULTURAL SCIENCES,
DHARWAD – 580 005

SEPTEMBER, 2007

ADVISORY COMMITTEE

DHARWAD
SEPTEMBER, 2007

(L.V. HIREVENKANGOUDAR)
MAJOR ADVISOR

Approved by :

Chairman : _____
(L.V. HIREVENKANGOUDAR)

Members : **1.** _____
(N.R. MAMLE DESAI)

2. _____
(JAVED MULLA)

3. _____
(NAGARATNA BIRADAR)

4. _____
(M. SUDHEENDRA)

CONTENT

Contd…

LIST OF TABLES

LIST OF FIGURES

1. INTRODUCTION

Health is primarily a personal responsibility and demands personal care to enjoy it. Health is an essential requirement of all irrespective age, caste, creed, race, religion and economic standard. Health means not the mere absence of disease but it is the “complete state of the physical, mental and social wellbeing”. Health of an individual can be affected by general health condition of the society and vice-versa. Therefore, health of the community needs higher attention while considering the development of a region or a country.

Health is a precious asset for every one. It is the crown of all possessions and untheft treasure. It is certain that health is a basic need of all human beings from womb to tomb. Nutrition and health education (NHE) component of ICDS mainly involves diffusion of specific nutrition and health messages through a low cost software type technologies cluster package of maternal and child care, nutrition, health and hygiene practices in the client systems of ICDS project organization.

There is a significant relationship between housing conditions and health. An adequate and safe water supply, disposal of excreta and solid wastes drainage of surface water, facilities for personal and domestic hygiene and sanitary food preparation, control of indoor air pollution, safe handling of things and suitable precautions where the home serves as a work place. Proper medical services at proper time are also needed to maintain health. Moreover, the health problems are rampant in rural areas, not merely because of lack of medical facilities but because of general poverty, lack of balanced and nutritious diet to large proportion of rural population and moreover lack of knowledge with regard to health and hygiene.

The advances in medical sciences have the treatment of many diseases (like six killer diseases) possible and simple. And yet the benefits of modern medicines have not reached the vast majority of people in poverty groups and rural areas, especially women. But it is the women who are the prime producers of the necessities of the life, women on whom the society depends so heavily for economic support and family health care.

According to the census 2007 of India about 72.22 percent of Indian population is living in rural areas as against 27.78 percent in urban areas. There are nearly 5, 96,000 villages in India which are scattered over larger areas as compared to urban areas. Urban

areas are not only concentrated but are also attracting centres for economic activities and for services like health, transport. As a result, large population of hospitals, dispensaries clinics and medical centers are found in urban areas than in rural areas. On the contrary, villages being smaller size, most of the health services like hospitals, dispensaries and clinics became uneconomical as their capacities remain under utilized. Moreover, health problems are rampant in rural areas, not merely because of lack of medical facilities but because of general poverty, lack of balanced and nutritious diet to large proportion of rural population, and more over lack of knowledge with regard to health and hygiene.

Good nutrition is a firm foundation for human happiness, and sound health and skilled performance. It constitutes the most important readily improved environmental influence of health. Even, today 25 percent of our Indian populations are trapped in the viscous circle of poverty, malnutrition and diseases which reduce their work performance nullify al efforts under taken for their development and finally impede over nation’s progress.

Surveys carried out by the National Nutrition and Monitoring Bureau (NNMB) over the past decades in rural and urban areas of 10 states of the country have revealed that, the diets of the middle income groups in urban areas is fairly satisfactory, whereas diets of the rural people and slum dwellers is inadequate in many aspects. The average intake of foods (gm.c.u/day) by rural Indians is (cereals and millets (446), pulses (15), milk (70), fish and flesh foods (11) and fats and oils (9), sugar and jaggery (18). The NNMB has modified the existing prescribed diet and has recommended a low cost improved diet which consists of cereals (460), pulses (40), milk (150), leafy vegetables (50) other vegetables (60), roots and tubers (50), fats and oils (40), sugar and jaggery(50). The average intake of foods (gm.c.u/day) by rural Indians is (cereals and millets (446), pulses (15), milk (70), fish and flesh foods (11) and fats and oils(9), sugar and jaggery(18). The NNMB has modified the existing prescribed diet and has recommended a low cost improved diet which consists of cereals (460), pulses (40),

milk (150), and leafy vegetables (50) other vegetables (60), roots and tubers (50), fats and oils (40), sugar and jaggery (50).

The infant mortality rate is 34.61 deaths per thousand live births; general death rate is 6.58 per thousand in 2007. Life expectancy at birth in 2007est. is 68.59 years.

The percentage of deaths caused due to child birth and pregnancy was reported as 2.4 percent of the total Indian population. The reasons given were malnutrition due to lack of food as well as poor choice of food. Only 48 percent of the Indian infants were fully immunized against diphtheria, poliomyelitis and tetanus (DPT).

There are many programmes, agencies, schemes and medical services to the rural people who live in inglorious surroundings. In the year 1952, as a part of community development programme, Primary Health Centre (P.H.C) and sub centers were established gradually in all parts of the country. With the intention of taking primary health care services to the door steps of the rural people, the policy planners at the national level and the implementers at the state level created a number of sub centers under each P.H.C besides increasing the number of Primary Health Centers.

Primary health care is being provided to rural population in the country through a network of 20,531 P.H.C., 1, 30,390 sub centres and over a thousand community health centers by 5.86 lakh trained dais and 4.10lakh health guides besides a large number of rural dispensaries working under state or union territory administrators.

Even though, there are many schemes, programmes, medical services to serve the people, there is a great bulk of illness in our country. The common factors which contribute are personal ignorance, poverty, isolation, lack of resources and lack of knowledge. These factors, many of which result in high fertility and overcoming, poor sanitation and hygiene, together with inappropriate nutritional concept and lack of adequate water supplies, result in high infant, child and maternal death rates, as well as high incidence and prevalence of infectious diseases in all villages.

Many programmes have been implemented in order to reduce the intensity of the diseases which has been severely affecting the people in India especially the poor livelihood.

1. NUTRITIONAL PROGRAMME FOR ADOLESCENT GIRLS (NPAG)

- A Pilot Project Nutritional Programme for Adolescent Girls(NPAG) was launched by the Planning Commission initially for a period of two years i.e. 2002-03 and 2003-04 in 51 identified districts i.e. in two of the backward districts in each of the major States and most populous district (excluding the capital district) in remaining smaller States/UTs in the country.
- This scheme was restarted in 2005-06. The Ministry of Women and Child Development administers the scheme at the central level and State/UT Governments implement the scheme.

Department of Food and Public Distribution provides food grains at BPL rates to the States /UT Government for implementing the programme through M/o Human Resources.

(lakh tones)

	Allocation				Off take	
Year	Rice	Wheat	Total	Rice	Wheat	total
2002-03	0.40	0.22	0.62	0.11	0.00	1.12
2003-04	2.22	0.29	2.51	0.63	0.00	0.63
2004-05	Programme was not in operation					
2005-06	0.68	0.35	1.03	0.40	0.08	0.48
2006-07	0.41	0.07	0.48(up to February 2007)	0.16	0.05	0.21(up to Jan 2007)

3. REPRODUCTIVE & CHILD HEALTH SECOND PHASE:

Objective:

The Second Reproductive and Child Health (RCH) Project for India will help reduce maternal and child mortality and morbidity, lower fertility and the rate of population growth through expanding the use of essential RCH services.

Funding agency: Total project cost includes funding from World Bank and non-bank sources in US$ millions.

PROJECT- AT- A-GLANCE:

Approval Date: 22-AUG-2006

Closing Date: 30-SEP-2010

Total Project Cost: 2232

Region: South Asia

Major Sector (%) :

- Health and other social services (Health) (97%)
- Public Administration, Law, and Justice (Sub-national government administration) (1%)
- Public Administration, Law, and Justice (Central government administration) (1%)
- Health and other social services (Other social services) (1%)

Bank Team Lead: Sorensen, Birte Holm

Borrower: Government of India

Implementing Agency: Ministry Of Health and Family Welfare

4. INTEGRATED CHILD DEVELOPMENT SCHEME (ICDS):

I.C.D.S. (Integrated Child Development Scheme) was started in the year 1975 as a pilot project.

Objectives:

1. To improve the health and nutritional status of children in the age group of 0-6 years.
2. To let the foundation of proper psychological, physical and social development of the children.
3. To reduce the incidents of mortality, morbidity, and malnutrition and school drop outs.
4. To achieve effective co-ordination of policy and integration amongst various departments to promote child development.
5. To enhance the capability of mother to look after the normal health and nutritional need of the children through proper nutrition and health education.

To cover the above objectives the following package of services were also introduced:

* Early Childhood Education (ECE) * Supplementary Nutrition Programme (SNP)
* Immunization * Health Check-up
* Nutrition and Health Education * Referral Services

At present 12 (twelve) blocks are covered within ICDS Project out of which 7 (seven) CARE assisted converted to Non-CARE Projects.

No. of Anganwadi Centre Sanctioned: 1968

No. of Anganwadi Centre in position: 1998

Required No. of AWC as per population: 2478

No. of AWC required to be sanctioned: 510

Package of Services: ~

1. Supplementary Nutrition Programme (SNP): All the 12 (twelve) projects are covered with local food

i. Total Enrolled Beneficiaries : 191208

ii. Covered with SNP : 123799

2. Early Childhood Education (ECE)

(For children of 3-6 years of age)

i. Total Enrolled : 106132

ii. Actually Attended : 64287

5. AYUSHMATI SCHEME:

Goal:

The goal of this scheme is to reduce the incidence of Maternal Mortality and Morbidity.

Objective:

- To increase the number of institutional deliveries by partnering with private sector facilities empanelled against certain pre-determined criteria.
- To ensure quality of service delivery in the empanelled private sector facilities by stringent monitoring and supervision.

Nature of Partnership:

a. The nature of partnership will be governed by a contractual agreement between the District Health & Family Welfare Samity and the private partner. The CMOH on behalf of the District Health & Family Welfare Samity and the Proprietor/ Chief Executive Officer / Managing Director on behalf of the Private Partner shall enter into an agreement.

b. The agreement shall remain valid for one year and is subject to renewal on satisfactory compliance of the agreement by both sides.

c. The private partner shall provide proper infrastructure including manpower, space and equipment for the delivery.

d. The District Health and Family Welfare Samity will reimburse the cost of deliveries at a fixed rate prescribed by the Department of Health and Family welfare, Government of West Bengal.

Proposed activities under the scheme

- Preparation of a Detailed Standard Operating Procedure for the implementation of the scheme to ensure standardization of processes (clinical and non clinical) . Setting up of Quality Check team and developing standards and mechanism for quality control.
- Orientation / Training workshops for District Health Officials. The Chief Medical Officer of Health to assume greater responsibility in implementing this scheme and also facilitating the involvement of private Practicing obstetricians and

others. Empanelment of private health facilities, subject to fulfilment of quality requirement (Annexure-I) set. Empanelment would carried out by District team comprising of :

a. Dy. CMOH III - Chairman b. One Senior Gynaecologist

c. One Senior Anaesthetist d. One Senior Paediatrician

e. One Superintendent of SDH / SGH of the respective District.

- These facilities will be subject to periodic quality check-ins as well.
- Once empanelled, signing of Service Agreement.
- Orientation of the administrative team and Private Medical Specialists of the empanelled facilities

6. CENTRAL RURAL SANITATION PROGRAMME:

The programme was launched in 1986 with an objective of improving the quality of the life of rural people and provides privacy and dignity to women.

The components of the programme households below the poverty line (BPL), conversion of the dry latrines to water pour flush toilets, construction of village sanitary complexes for women, setting up of sanitary marts, intensive campaign for awareness creation and health education, etc.

Keeping in view the experiences of the central government state governments, NGOs and other implementing agencies and the recommendations of the Second National Seminar on Rural sanitation (held in July 1998), the strategy for the Ninth five year plan was revised and the programme was restructured with the effect from 1 April 1999.as Total Sanitation Campaign (TSC) has been introduced. Under the TSC, so far 179 projects in 27 states/UTs have been sanctioned with the total project outlay of about RS. 1,952 crores. The Central, State and Beneficiary/ Panchayat contribution are about RS. 1,180, RS.408 and Rs.364 crores respectively.

The working group constituted by planning Commission has recommended as an outlay of 3,663 crore for rural sanitation in the tenth five year plan. During 2002-2003, Rs. 165 crore have been provided for the programme of which Rs. 16.50 crore is earmarked for North Eastern States.

NUTRITION-FRIENDLY SCHOOLS INITIATIVE (NFSI):

Objective:

The main aim is to provide a framework for designing integrated school based intervention programmes which address the double burden of nutrition-related ill-health, building on and interconnecting on-going school-based programmes being implemented by various partner agencies.

Partnership: The NFSI framework was formulated in partnership with the various UN agencies (FAO, UNESCO, UNICEF, WFP, WHO AND WORLD BANK).

Evaluation:

- NFSI applies the concept and principles of the Baby-Friendly in Hospital Initiative (BHFI).
- Schools will be assessed systematically based on the framework developed and after meeting the 25 clearly defined criteria, schools will be accredited as a Nutrition-Friendly school.
- All Nutrition-Friendly school will then be re-evaluated at regular intervals for the quality assurance.

INFANT AND YOUNG CHILD FEEDING PROJECT (IYCF):

This programme was funded by USAID.

Objectives: To create knowledge about,

- Breastfeeding.
- Timely and appropriate complementary child feeding.
- Safe infant feeding in communities affected by HIV.
- Better maternal nutrition.
- The Lactation Amenorrhea Method as a safe, short-term, modern method of birth spacing.

As it is stated earlier, women are the prime producers of necessities of life and the society heavily depends on women for economic support and family health care, so it is important to study her knowledge regarding health and nutrition practices related to her personal and socio-economic status or position. So the present study was on attempt to know the knowledge adoption level of rural women regarding health and nutrition practices in general.

The following specific objectives were developed for the study.

1. To study the profile of the rural women.
2. To find out the knowledge of rural women regarding health and nutritional aspects.
3. To study the adoption of health and nutritional practices by rural women.
4. To find out the relationship between the personal and socio-economic characteristics with their knowledge and adoption of health and nutritional practices.
5. To obtain the suggestions of rural women for the improved health and nutritional practices.

Significance of the study

The overall objective of the study is to bring the awareness to improve the health and nutrition status. The study provides the information on the knowledge and adoption of the health and nutritional practices of the rural women. It would also give the information on the suggestions to improve the health and nutrition status among the rural livelihood.

So this study assists the planners, administrators and filed level functionaries to plan and execute appropriate strategies for promoting health and nutritional practices with special attention to women folk.

Limitations of the study

All the social science researches have their own limitations and this study is exception to the said facts. Since this study is conducted by a student researcher, the time and resources at disposal of the researcher were limited. Due to these limitations the study has been conducted in only one district. Therefore the findings obtained cannot be generalized to other districts in the state. However, careful and vigorous procedures have been adopted in carrying our research as objectively as possible. In spite of the individuals the necessary response, it is believed that the findings and conclusions drawn in the present study would focus for more rigorous field observation.

2. REVIEW OF LITERATURE

The present study was designed to know the extent of knowledge and adoption of rural women regarding health and nutritional practices. Attempts were also made to identify the suggestions encountered by them in getting better health and nutrition. It was rather difficult to find out adequate research as envisaged in the outline of the study in view of the very limited research efforts in the direction. However, the available literature on the subject is presented under the different literature or headings in accordance with the objective of the study. 2.3 Personal and socio-economic characteristics

2.1 Personal and socio-economic characteristics

2.2 Knowledge level of health and nutrition practices

2.3 Adoption level of rural women of health and nutrition practices

2.4 Personal and socio-economic characteristics associated with knowledge and adoption level of respondents.

2.5 Suggestions of rural women for improved health and nutritional practices.

2.1 Personal and Socio Economic characteristics

2.1.1 Age

Kumaran (1997), the study conducted at rural areas of Tirupati block of Andhra Pradesh, reported that, the mean age among the members varied from 22 to 41 years.

Prasad (1998) in the study conducted at Salem district of Tamil Nadu found that majority of women (60%) were in the age group of 24- 45 years , 40% were in the age group of 30-40 years and about 40% were between 26-30 years.

Puhazhendi and Jayaram (1999) reported that 62% of the respondents were less than 40 years.

Murugan and Dhramalingam (2000) in the study conducted at Tamil Nadu reported that the age group of the respondents lies between 21 and 60 years.

Gautum and Tripathi (2001), indicated in her study that majority of the women were young women.

Banarjee (2002) in his study conducted in Tamil Nadu reported that respondents in the age group of above 40 years participated actively in the group activities. Groups which were more than 35 years old had 42% of the members of age more than 40 years.

Rangi *et al.* (2002) in the study conducted in Fatehgarh sahib district of Punjab reported that 70% of the respondents of self help groups were in the young age group of 25-45 years, 18% were in the 45-55years, 6% were between 55 to 65 years and 4% were less than 25 years.

Poonam Srivastava *et al.* (2004) in their study conducted considering 100 respondents 55% were in the age group of 30 and above and 40 to 45% were in 20 30 years age group.

Savita *et al.* (2006) in their study revealed that majority of respondents (70%) had completed up to 15 years, and 20% were 16 to 18 years age old.

Gunasekharan *et al.* (2006) in their study reported that 80% of the respondents were in the age group of less than 19 years, 45.8% were in the 20-25 years, and 7.9% were in 30 and above years.

Abdad *et al.* (2006) conducted their study in tribal areas Madhya Pradesh reported that majority of women belonged to middle age group.

2.1.2 Education

Kumaran (1997) in the study conducted at Andhra Pradesh that more than three quarters (76%) of the respondents were illiterates.

Prasad (1998) found that about 42% of the women were illiterates followed by 38% who had studied up to primary level.

Dasgupta and Sengupta (1998) in their study on community wise involvement of farm women n agriculture found that the women involved in livestock rearing had lower level of education.

Puhazhendi and Jayaram (1999) reported that on the whole 67% were illiterates and 30% had primary schooling, while in stabilized group the percent illiterate were comparatively a bit lower at 55%.

Suriakanthi (2000) in the study conducted at Gandhigram of Dhindigal district of Tamil nadu from her survey of 120 self help groups found that 95% of the members and 75% of the office bearers were illiterates.

Dipti Bharati *et al.* (2000) in their study conducted in Kolhapur district found that about 76.6% of the women were literates followed by 23.4% were illiterates.

Gautum and Tripati (2001) indicated that women involved in goat husbandry had lower educational status.

Rangi *et al.* (2002) in the study conducted at Fatehgarh sahib district of Punjab reported that 70% of the respondents were educated and 30% were totally illiterate. 57% of the respondents had educated up to 5^{th} to middle standard, and about 29% were educated up to 9^{th} and 10^{th} standards.

Vasudev Rao (2003) conducted a study at three districts of Andhra Pradesh that illiterates formed only 11%, while 60% have gone to school.

Poonam Srivastava *et al.* (2004) in their study revealed that 23% were illiterate and 30% were completed up to jr,high school and equal percentage(12%) were graduates and intermediate.

Gunasekharan *et al.* (2006) in their study conducted reported that illiterates formed 89.5 %, while 9.5% were literates.

Abdad *et al.* (2006) conducted their study in tribal areas Madhya Pradesh reported that majority 90% were illiterates.

2.1.3 Caste

Dasgupta and Sengupta (1998) found through their study that involvement of women from scheduled caste families in livestock rearing was found prominent.

Gautum and Tripathi (2001) indicated in their study on women were belonging to the scheduled caste.

Rangi *et al.* (2002) in the study conducted at Fatehgarh sahib district of Punjab reported that about two third of the respondents belonged to the scheduled caste and backward castes. About one third of the respondents belonged to the high castes. Jat, Sikhs, Brahmins, kharti, arora etc. mainly consisted of high castes in the sample.

Sudharani (2002) in her study conducted in slum area of Tirupati, found that participation of members in self help group mobilization was higher in scheduled caste and schedule tribe as compared to the other backward classes, because of their enhanced awareness, access to economic resources, social and political awareness and collection.

Ritu Jain *et al.* (2003) in the study conducted at Kanpur, Dehat district of Uttar Pradesh majority of respondents were belonged to scheduled caste category.

Poonam srivastava *et al.* (2004) in their study revealed that majority (42%) of respondents were belonged to upper caste and 39% were belonged to backward caste and 19% were belonged to scheduled caste.

Gunasekharan *et al.* (2006) in their study conducted reported that 69.2% of them belonged to Hindu religion and 11.3% were Christian and Muslims of 6.2%.

Swetha *et al.* (2007) in their study conducted in Hubli noticed that 80 per cent of the respondents were belonged to Hindu religion, 20 per cent of the respondents were belonged to the Muslim religion.

2.1.4 Type of family

Geeta *et al.* (1999) found that majority of the respondents liven in nuclear families.

Manay and Farzana (2000) in their study revealed that 89.4% of the families of village were nuclear families and 10.6% were joint families.

Dipti Bharati *et al.* (2000) in their study conducted in Kolhapur district found that about 43.48% of the women were from nuclear family followed by 23.8% were from joint family.

Gautum and Tripati (2001) indicated that majority of women involved in goat rearing were from nuclear family.

Rangi *et al.* (2002) in the study conducted at Fatehgarh sahib district of Punjab revealed that 56% of the respondents were having up to 5 family members whereas, 44% had 6 to 10 family members the latter categories of the respondents were living in the joint family.

Poonam Srivastava *et al.* (2004) in their study revealed in their study revealed that 59 % of the families of village were nuclear families and 41% were joint families.

Abdad *et al.* (2006) conducted their study in tribal areas Madhya Pradesh reported that majority 52% were from nuclear type of family.

2.1.5 Family size

Kumaran (1997) in the study conducted at the Andhra Pradesh found that average family size varied from 3 to 6.

Mahapatra *et al.* (1997) reported that the average size of family is 5.

Prasad (1998) found in his study that, dominant category was nuclear family with average family size of five.

Rangi *et al.* (2002) in the study conducted at Fatehgarh sahib district of Punjab revealed that 56% of the respondents were having up to 5 family members whereas, 44% had 6 to 10 family members the latter categories of the respondents were living in the joint family.

Manay and Farzana (2000) found that 25% of the families had less than 5 members and 65.2% of them had 3 to 7 members in their family which shows the reducing trend in size of the family.

Swetha *et al.* (2007) in their study conducted in Hubli noticed that 15 per cent of the families had less than 4 membrs, 75 per cent had 4-8 members and 10 per cent had more than 8 members in their family which shows reducing trend in the size of the family.

2.1.6 Land holding

Manay and Farzana (2000) conducted a study on socio economic characteristics of rural families and found that 87.8% of the families possessed either small or medium farm with less than 5 acres of land and only 6.1% of them had more then 5 acres of land.

Puhazhendi (2000) recorded that 11% of the respondents were land owners with 2 to 4 hectares of dry land.

Rangi *et al.* (2002) in the study conducted at Fatehgarh sahib district of Punjab reported that about 2/3 of the respondents did not own any land whereas bout 1/3 had their own land. The latter comprised only of small and marginal farmer.

Vasudev Rao (2003) in the study conducted at Andhra Pradesh reported that the average size of the land was around 3 acres, dominated mainly by wet land.

Dipti Bharati *et al.* (2000) in their study conducted in Kolhapur district found that majority(60.86%) of the respondents were small farmers , medium farmers were (31.88%) and only 7.26 % were land less farmers.

Jogander *et al.* (2003) in the study conducted in the Hissar and Sonepet district of Haryana found that majority(52%) of the respondents were large farmers , medium farmers were (27%) and 21 % were small farmers.

2.1.7 Annual income

Kumaran (1997) in the study conducted at the Andhra Pradesh reported that family income per month varied from Rs.255 to Rs.890 amongst various group members.

Prasad (1998) found that majority 60% of the respondents had per capita income ranging from Rs.500 to Rs.1000 per month.

Manay and Farzana (2000) pointed that the income of the families was low.

Murugan and Dharmalingam (2000) in the study conducted at Tamil Nadu revealed that all the members of the self help group were below poverty line.

Puhazhendi (2000) reported that 49% of the respondents belonged to the poorest of the poor and 40% were very poor.

Gautum and Tripati (2001) observed that a major portion of the women were from lower economic status and annual gross income was loss.

Rangi *et al.* (2002) in the study conducted at Fatehgarh sahib district of Punjab found that majority (58%) of the respondents families had net monthly income between Rs.2000 to Rs.6000, 12% of the families between(2002) in the study conducted at Fatehgarh sahib district of Punjab found that majority (58%) of the respondents families had net monthly income between Rs.2000 to Rs.6000, 12% of the families between Rs. 6000 to Rs. 8000, 2% of families had Rs. 8000 to Rs. 10,000 and 22% had Rs. 10,000 and above Rs. 6000 to Rs.8000, 2% of families had Rs.8000 to Rs.10,000 and 22% had Rs.10,000 and above.

Banerjee (2002) in the study conducted at various parts of southern India reported the 495 of respondents belonged to the poorest of the poor category and were represented mainly by landless labourers with seasonal employment. About 40% of them were poor and they had income from other sources in addition to the wage earnings. The remaining 11% of the members were land owners with activities such as dairy, poultry.

Savita *et al.* (2006) in her study revealed majority(70%) of respondents earned between 5,000 to 10,000 per month, and only 5% were earned between Rs.20,000 to Rs.25,000.

2.1.8 Source of information

Mayuri (1998) explained that television is a powerful medium to mobilize opinion on many issues related to women group, she also indicated that programmes depicts problems, discussion and dilemmas of women's group generally shunned by not only male but also female viewer's.

Rabindrajit *et al.* (2003) in their study conducted revealed that 50% of the respondents seeking the information personally and 42.5% of respondents seeking the information by impersonal sources.

Ritu Jain *et al.* (2003) in the study conducted at Kanpur reported that the quantum of exposure to mass media increased after join in SHG's.

Singh (1985) pointed out in his study that majority of1997) from their study conducted that less than ¾th (70.83%) of the respondents had low level of mass media exposure followed by medium (30%) had high (25.83%) levels.

Jogander *et al.* (2003) in the study conducted in the Hissar and Sonepet district of Haryana found that the respondents got the information through newspapers(76%) farm magazines(24.5%) participated in puppet shows (49%), fairs (34.5%), folk theaters (51.5%).

Prameela and Ravichandran (2004) in their study conducted in Kanya Kumari district revealed that 75.33% of the respondents communicated by interpersonal sources, 28.67% using radio frequently followed by 23.33% used the television.

Amtul Waris (2004) in his study conducted in arid Rajasthan revealed that 65% of the rural women utilizing the mass media for family health, post harvest ,management, agricultural activities, livestock activities.

Pankaj Dwivedi and Sharma (2004) in their study conducted in Dindori district of Madhya Pradesh almost cent percent of the respondents getting information using mass media , 83% of the respondents from the para medical staff and 70% from the primary health centers staff.

2.1.9 Social participation

Hemalatha Prasad and Omprakash (1997) reported that the women group organizers share their experience and reviews progress of their work in the monthly meeting with the project director who visit the villages every month and conduct the group meetings in the Mahila Shakti Kendra and supervise the progress of the work and take up the corrective steps, wherever necessary.

Maraddi (1999) reported that, 27 per cent had low social participation, 68 per cent had medium and 5 per cent had high social participation.

Puhazhendi (2000) observed that regularity in the attending meetings and savings habit was a disciplinary measure in self help groups. In 46 percent of the SHGs the group meeting were organized on a weekly basis whereas in 26 per cent of groups fortnightly group meetings were organized. Promptness and regularity of attendance was high in the functional non-government SHGs (88.89%), medium in quasi government (50.00%) and government.

Raghavendra (2004) in his study conducted in Gulburga district of Karnataka, noticed that half(58.75%) of the respondents have social participation and 41.25 per cent were non participants. Among the social participants (65.95%) were the members of co-operative societies, 25.55 per cent were in youth clubs and 8.51 per cent were gram panchayat members.

Rangi *et al.* (2002) in the study conducted at Fatehgarh sahib district of Punjab found that women participated in planning, implementation and monitoring activities of villages level bodies such as panchayat, Zilla parishads, village committees and samities.

Vanetha (2006) in her study conducted in Theni district of Tamil Nadu found that majority of the farm women (52.5%) possessed low level pf social participation.

2.1.10 Extension participation

Subhash (1999a) in the study conducted at Mumbai reported that members of SHG's were given training in community participation, preparing business proposals, entrepreneurship development and skills training for particular micro enterprise.

Puhazhendi (2000) reported that NGO's trained 76% of the group representatives in the procedures to conduct meetings, maintenance of records and for familiarization with banking operation. The potential group members were identified and providing training to take up income generating activities.

Mohan Rao and Sivaram (2001) in the study conducted in Nagaur district of Rajasthan stated that training of SHG's gained importance in implementing livestock hybridization programmes organizing livestock hybridization programmes, organizing agro–processing system, generation and maintenance of common assets etc.

Ritu Jain *et al.* (2003) reported that about 44% of the respondents had high level of population in group action followed by 30 and 25% women having medium and low participation in group action respectively.

Jogander *et al.* (2003) in the study conducted in the Hissar and Sonepet district of Haryana found that 39.5% of the respondents had medium extension participation,37.0% had low extension participation and 15% had high extension participation and 8.5% had no participation in extension activities.

Raghuprasad *et al.* (2004) in the study conducted at Shimoga district of Karnataka reported that in majority of cases training was given on resource management, time management, conflict management and home management.

Purushotham (2004) in the study conducted at different parts of country reported that some of the rural women involved in micro enterprises and non-farm activities do have to often visit the local markets which most of the cases are located in block or rural towns.

Ranjana Dwivedi *et al.* (2006) in their study conducted in Farrukhabad district found that majority 70% of the rural women gathered information through farm and home visits.

Vanetha (2006) in her study conducted in Theni district of Tamil Nadu found that majority of the farm women (43.33%) possessed low level of extension participation.

2.2 Knowledge level of health and nutrition practices

A study conducted by Kirankumar (1991) revealed that the correct answer for immunizing the child was known by 97.00% of the infant's mothers. Regarding the measures to be taken to protect the child from the disease, DPT was known by known by 93.5% of the respondents, BCG 58.45%, Measles23.38% and polio was known by 86.64%, of the infants mother, the doses of DPT, BCG, Measles and polio to be given were known by 85.17, 43.42, 23.35 and 68.47 percent of infants mother's respectively. The time of immunizing child with DPT, BCG and polio were known by more number of respondents and measles by less number of respondents.

Deshpande *et al.* (1994) concluded that women in rural area posses average knowledge (50%) about the health practices but they should receive more education through available media. The efforts by voluntary women organization should also be directed to rural women necessary practical education regarding health practices, by conducting campus and rural stay programmes.

Yashpal Kaur and Salil Sehgal (1995) in their study reported that majority of respondents in the experimental and control group had inadequate knowledge about cooking practices of cereals.

Rehana Marchant (1998) in her study conducted in Akola 24% of the rural women having complete knowledge on recommended weaning practices followed by 34% were had partial knowledge.

Anupama (2001) in her study conducted in Shimoga district of Karnataka with special reference to women children revealed that majority of the respondents were had knowledge about health practices.

Kumari and Sharada (2000) in Andhra Pradesh, the data were collected using a pre-tested questionnaire where the family head (woman) was interviewed. The data were analysed, and based on the scores obtained for KAP, the families were divided into low, medium or high. Results show that majority (50.0%) of vegetable growers obtained medium scores, while equal number of respondents for non-vegetable growers obtained low and medium scores (43.3%). VG obtained better scores (60.0%) than NVG (56.3%). pregnancy and lactation. Majority of them were unaware of the national nutritional intervention programme.

Dhanesekharan (2005) conducted study in Batlagundu and Dindigul district of Tamil Nadu revealed that 65% of the samples were not fully aware regarding maintenance of sanitary latrines and remaining have only partial awareness.

Abdad *et al.* (2006) conducted their study in tribal areas Madhya Pradesh reported that majority(98.0%) of respondents having knowledge about family planning methods and 6% of them having the knowledge on tubectomy, and 13% of them having knowledge on vasectomy and 26% having knowledge on both.

2.3 Adoption level of health and nutrition practices

Tandon *et al.* (1992) studied the impact of ICDS on immunization coverage of children and mothers in nineteen rural, eight tribal and nine urban ICDS projects DPT, BCG and polio vaccine was recorded for 65.00% 63% and 64% of children respectively in ICDS population. By comparing the coverage in non ICDS group was only 22% for BCG, 28% for DPT and 27% for polio Myelitis. Complete immunization with tetanus toxoid was recorded for 68% of the mothers in the ICDS group and for 40.00% in the non ICDS group.

Singh and Kang (1993), in their study, concluded that 87.50% of farmers, 60% of functionaries and 40% o9f respondents belonging to agricultural labourers class adopted the immunization programmes.

Manisha kale *et al.* (1998) revealed that majority of the tribal women (52%) belonging the medium category of adoption of personal hygiene practices found to have the nutritional status ranging between normal, but none of them were malnourished.

Rehana Marchant (1998) in her study conducted in Akola 17% of the rural women completely adopted the recommended weaning practices followed by 46.66% were partial adopted the recommended weaning practices.

Shakuntala Manay and Chaman Farzana (2000) conducted study in Doddaballapur taluk of Banglore district revealed that 21.2% of the family were fund to be poor in hygiene followed by moderately clean were 69.9%.

Chandra Singh (2006) in his study conducted in Haryana revealed that milk intake was so poor that only 18 per cent reported that taking milk daily, once in a week(43%) and majority had never taken during the lactation.

Vandana Gupta *et al.* (2006) in their study conducted in the Ferozpur city revealed that 25 percent of the students consumed non-vegetarian food weekly or once in a month, milk and milk products consumption is 20 percent all day, fruits of 15 percent all day and sprouts 10 percent all day and 55 percent of the students were aware of their daily nutritional needs.

2.4 Personal and socio economic characteristics associated with knowledge and adoption of rural women of health and nutrition practices:

2.4.1 Age and knowledge

Raja Lakshmi (1995) in her study conducted in Dharwad district of Karnataka found that the relation ship between the age and the knowledge level of the respondent regarding immunization practices is non- significant.

Pandian *et al.* (2002) study conducted in Madhurai district of Tamil Nadu on the impact of video education on knowledge retention revealed that the knowledge level of the respondents has shown significant relationship with their age.

Sudharani (2006) in her study conducted in the Chittoor district of Andhra Pradesh shows that there is no significant difference between the knowledge about reproductive health with the age.

2.4.2 Education and knowledge

Rajalakshmi (1995) in her study conducted in Dhrawad district of Karnataka found that the relation ship between the education status and the knowledge level of the respondent regarding immunization practices is significant.

Yashpal Kaur and Salil Sehgal (1995) in their study conducted in the Hissar district of Haryana reported that 66.7% of the respondents having inadequate knowledge about proper cooking of foods before imparting nutrition education. After the education 93.2% had adequate knowledge of cooking of cereals.

Mohini Devi and Saroda (1997) reported in the study conducted in Timpet village of Andhra Pradesh, the knowledge level of respondents were higher than the initial mean knowledge scores. It indicates the knowledge of the respondents has increase after the nutrition education intervention programmes.

Sivanarayana *et al*. (1999) in their study in Uttar Pradesh revealed that the correlation coefficients revealed that education, and knowledge were positively and significantly related with the information output pattern of the integrated child development services (ICDS) and non-ICDS rural women of Uttar Pradesh, India. Further, the results of path analysis also explained that education, knowledge and adoption have the largest direct effects on information output pattern in descending order.

Guldan *et al.* (2000) Chinese studies indicate that the growth of rural infants and children lags behind that of their urban counterparts after 4 mo. of age and that the gap is widening. After a 1990 survey of infants in rural Sichuan confirmed that poor infant feeding practices rather than inadequate household food resources were responsible for the growth faltering, a year-long community-based pilot nutrition education intervention (n250 infants each in Education and Control groups) was undertaken in four townships. The goal was to improve infant growth by improving infant feeding practices. Features of the intervention included the training and mobilizing of village nutrition educators who made monthly growth monitoring and complementary feeding counseling visits to all pregnant women and families with infants born during the intervention in the study villages. After 1 y, the Education group mothers showed significantly higher nutrition knowledge and better reported infant feeding practices than their Control group counterparts. Also, the Education group infants were significantly heavier and longer, but only at 12 months.

Pandian *et al.* (2002) study conducted in Madhurai district of Tamil Nadu on the impact of video education on knowledge retention revealed that the knowledge level of the respondents has shown non- significant relationship with the education status.

2.4.3 Caste and knowledge

Sharma *et al.* (1991) conducted a study in two villages pf Madhya Pradesh and found significant association between the extent of knowledge about household pests, insects, control practices and the caste of rural women.

Hosmani (1993) in his study conducted in Bhailongal taluk of Karnataka, the caste of the respondents had shown positive and significant relationship with the knowledge regarding health practices.

Rajalakshmi (1995) in her study conducted in Dharwad district of Karnataka found that the relation ship between the caste and the knowledge level of the respondent is significant.

2.4.4 Land holding and knowledge

Mehta and Laharia (1991) conducted on 200 rural women in 4 random selected villages in Hissar. They found that land holding seems to influence respondents knowledge regarding child immunization. Respondents owing more than 2acres of land had significantly higher knowledge score (39.95%) than others landless (28.73%).

Hosmani (1993) in his study conducted in Bhailongal taluk of Karnataka, the land holding of the respondents had shown positive and significant relationship with the knowledge regarding health practices.

Rajalakshmi (1995) in her study conducted in Dharwad district of Karnataka found that the relation ship between the land holding and the knowledge level of the respondent is significant.

Sudharani (2006) in her study conducted in the Chittoor district of Andhra Pradesh shows that there is no significant difference between the knowledge about reproductive health among the women of Hindu and Muslims.

2.4.5 Annual income and knowledge

Rajalakshmi (1995) in her study conducted in Dharwad district of Karnataka found that the relation ship between the annual income and the knowledge level of the respondent regarding immunization practices is significant.

Pandian *et al.* (2002) study conducted in Madhurai district of Tamil Nadu on the impact of video education on knowledge retention revealed that the knowledge level of the respondents has shown significant relationship with the annual income of the respondents.

2.4.6 Source of information and knowledge

Mehta and Laharia (1991) conducted on 200 rural women in 4 random selected villages in Hissar. They found that the respondents who have more access to mass media possessed significantly higher knowledge on child immunization than others level of knowledge on child immunization was higher (41.95%) with respondents possessing both

television and radio. The same was 36.11% with radio owners and it was 31.08% with non possessors of either television or radio.

Nagaratna and Sundaraswamy (1998) in their study conducted in Dharwad revealed a positive and significant relation between respondent's education and knowledge retention through all the treatments. Respondent's age related positively and significantly with the knowledge retention by pamphlet + lecture + discussion and negatively and significantly with the knowledge retention by video show + discussion. Extension contact and knowledge retention through video show + discussion and pamphlet + lecture + discussion exhibited positive significant relation. Extension participation exhibited positive significant relation. Extension participation exhibited positive significant relation with knowledge retention due to lecture, video show and pamphlet + lecture + discussion. The knowledge retention due to pamphlet + lecture + discussion and video + discussion was positively and significantly related with mass media.

Meeran and Jayaseelan (2002) in their study revealed that there was a positive and significant relationship between knowledge and mass media exposure of the respondents..

Subhashini and Tyagarajan (2000) revealed that the knowledge of the respondents had shown positive and significant relationship with the mass media exposure

Pandian *et al.* (2002) study conducted in Madhurai district of Tamil Nadu revealed that the impact of video education on knowledge retention was significant at 1 percent level of probability.

Venkataramulu (2003) study conducted in Guntur district of Andhra Pradesh revealed that there was a positive and significant association between knowledge and the mass media exposure of the chilli growers.

2.4.7 Social participation and knowledge

Karpagam (2000) in his study conducted in Erode district, Tamil Nadu revealed that education had positive and significant relationship with the adoption level f the respondents.

Pandian *et al.* (2002) study conducted in Madhurai district of Tamil Nadu on the impact of video education on knowledge retention revealed that the knowledge level of the respondents has shown non- significant relationship with the social participation.

Mahadik *et al.* (2006) in their study conducted in Ratnagiri district, revealed that the knowledge level of the respondents regarding agricultural development programme shown non- significant relationship with the social participation.

2.4.8. Extension participation and knowledge

Dipti Bharati *et al.* (2000) in their study conducted in Kolhapur district reveled that after the demonstration on awareness on Soya bean consumption the majority (88.4%) of literate house wives and 90.5% of illiterates respondents gained knowledge on Soya bean.

Govinda Gowda *et al.* (2000) in their study reveled that the knowledge of the respondents shown positive and significant relation with the extension participation.

Pandian *et al.* (2002) study conducted in Madhurai district of Tamil Nadu on the impact of video education on knowledge retention revealed that the knowledge level of the respondents has shown significant relationship with the Extension participation.

Venkataramulu (2003) study conducted in Guntur district of Andhra Pradesh revealed that there was a positive and significant association between knowledge and the extension participation of the chilli growers.

Mahadik *et al.* (2006) in their study conducted in Ratnagiri district, revealed that the knowledge level of the respondents regarding agricultural development programme shown highly significant relationship with the extension participation.

Ranjana Dwivedi *et al.* (2006) in their study conducted in Farrukhabad district found that information gathered through farm and home visits shown highly significant relationship with the knowledge gained on the child development.

2.4.9 Adoption with age

Karpagam (2000) in his study conducted in Erode district, Tamil Nadu revealed that non- significant relationship with the adoption level f the respondents.

Avinash Kumar *et al.* (2002) in their study conducted in Jaunpur district of Uttar Pradesh shows that the age of the respondents had non- significant relationship with the knowledge of the farmers in the adoption behaviour of the chickpea cultivation.

Kanavi (2000) in his study conducted in Belguam district, Karnataka revealed that non- significant relationship with the adoption level f the respondents.

Venkataramulu (2003) study conducted in Guntur district of Andhra Pradesh revealed that there was a non-significant association between knowledge and the extension participation of the chilli growers.

Raghavendra (2004) in his study conducted in Gulburga district, Karnataka revealed that there was a non significant relationship between adoption level f the about the post harvest technology and age og the respondents.

2.4.10. Education and adoption

Sivanarayana et al.(1999) in their study in Uttar Pradesh revealed that the correlation coefficients revealed that education, and adoption were positively and significantly related with the information output pattern of the integrated child development services (ICDS) and non-ICDS rural women of Uttar Pradesh, India. Further, the results of path analysis also explained that education, knowledge and adoption have the largest direct effects on information output pattern in descending order.

Karpagam (2000) in his study conducted in Erode district, Tamil Nadu revealed that education had positive and significant relationship with the adoption level f the respondents.

Avinash Kumar *et al.* (2002) in their study conducted in Jaunpur district of Uttar Pradesh shows that the education status of the respondents had positive and significant relationship with the farmers knowledge and the adoption behaviour of the chickpea cultivation.

2.4.11 Adoption with caste

Susheela *et al.* (1991) conducted study in 4 randomly selected villages of Dhrawad district. The findings show that, a higher percent of upper caste households were regular adopters and had immunized their children with the BCG 50%), polio and triple antigen (56.10%) vaccines as compared to the lower caste households. Further the proportions of Non-adopters among them were also less.

Tendon *et al.* (1992) studied the impact of ICDS on immunization coverage of children and mothers in nineteen rural, eight tribal and nine urban ICDS projects during 1988. on the whole the above studies disclose that the rate of adoption of immunization practices in more in upper caste people compared to lower caste people. The proportion of non-adopters is also less ion case of the upper caste people. It was also found that the adoption of immunization practices were influence by the religion of the respondents.

2.4.12 Adoption and land holding

Susheela *et al.* (1991) conducted study in 4 randomly selected villages of Dhrawad district. They found that the adoption of the immunization was better in households with bigger land holdings as compared to those with smaller ones.

Kurpagam (2000) in his study conducted in Erode district, Tamil Nadu revealed that land holding had positive and significant relationship with the adoption level f the respondents.

Venkataramulu (2003) study conducted in Guntur district of Andhra Pradesh revealed that there was a positive and significant association between adoption and the land holding of the chilli growers.

2.4.13 Adoption and annual income:

Bhattacharya (1990) conducted a study during 1987 at NRS medical college, Calcutta. He found that immunization coverage was poor for infants in the low income families.

Patnam *et al.* (1990) conducted survey by personal interview with 200 unskilled agriculture labourers of Marthwada region. They found that 61.00 % of the low middle income groups and 47.32% of low income group labourers immunized their infants.

Avinash kumar *et al.* (2002) in their study conducted in Jaunpur district of Uttar Pradesh shows that the annual income of the respondents had significant relationship with the farmers knowledge and adoption behaviour of the chickpea cultivation.

2.4.14 Source of information and Adoption

Kanavi (2002) in the study conducted in the Belguam district of Karnataka found a non- significant relationship between the mass media and adoption behaviour of the sugar cane growers.

Venkataramulu (2003) study conducted in Guntur district of Andhra Pradesh revealed that there was a positive and significant association between adoption and the mass media of the chilli growers.

Poonam Srivastava *et al.* (2004) in their study conducted considering 100 respondents 24% of the respondents adopted food and nutrition practices according to the mass media possession. The adoption level of nutritional practices was high those who are having media compared to non-possession of media.

Venkatesh Prasad *et al.* (2000) in the study conducted revealed that there was a highly significant relationship between the mass media participation and the adoption level of the paddy and groundnut growers.

2.4.15 Adoption and social participation

Avinash Kumar *et al.* (2002) in their study conducted in Jaunpur district of Uttar Pradesh shows that the participation in the social activities of the respondents had significant relationship with the farmers the adoption behavior of the chickpea cultivation.

Kanavi (2000) in his study conducted in Belguam district, Karnataka revealed that social participation had non-significant relationship with the adoption level f the respondents.

Venkataramulu (2003) study conducted in Guntur district of Andhra Pradesh revealed that there was a positive and significant association between and the social participation of the chilli grower.

Raghavendra (2004) in his study conducted in Gulburga district, Karnataka revealed that there was a non-significant relationship between adoption level f the about the post harvest technology and social participation.

2.4.16 Adoption and extension participation:

Avinash Kumar *et al.* (2002) in their study conducted in Jaunpur district of Uttar Pradesh shows that the participation in the extension activities of the respondents had significant relationship with the farmers knowledge and the adoption behaviour of the chickpea cultivation.

Kanavi (2000) in his study conducted in Belguam district, Karnataka revealed that extension participation had non - significant relationship with the adoption level f the respondents.

Venkataramulu (2003) study conducted in Guntur district of Andhra Pradesh revealed that there was a positive and significant association between adoption behaviour and the extension participation of the chilli growers.

Raghavendra (2004) in his study conducted in Gulburga district, Karnataka revealed that there was a non significant relationship between adoption level f the about the post harvest technology and extension participation

2.5 Suggestion of rural women

Gupta and Sandhu (1995) while studying the IRDP in hilly areas reported that proper selection of beneficiaries, educating the rural poor about their rights, developing backward and forward linkages and proper marinating of the programmes are the suggestions offered for achieving better results.

Vijay Hosmani (1993) suggested that 67.4% of the respondents education programmes should be conducted. 7.40% respondents suggested that P.H.C workers should extend their help properly when approached for advice and treatment. 7.40% respondents suggested that proper medical facilities should be provided to the village people. 2.25 of the respondents suggested that help and guidance should be given to the people with regard to health and nutrition.

Raju *et al.* (2001) elicited suggestions such as conducting field training in other activities during off- seasons, provision of non-formal education, conducting of more training and demonstration etc.

Raju (2000) constraints and suggestions for effective implementation of farm women development programme, effective trainings, and educational programmes should be organized.

Sudharani *et al.* (2006) suggested in the study conducted in Chittoor district of Andhra Pradesh the continuing educational programmes should stress the importance of health and arrangement of meetings with the adult learners in the continuing education centres will be useful of the better maintenance of health and nutrition status.

3. METHODOLOGY

The study was conducted in Belgaum and Gokak taluks of Belgaum district of Karnataka state during the year of 2006-2007.The methods and procedures followed are described under the following headings.

3.1 Research design

3.2 Locale of the study

3.2.1 Selection of taluks and villages

3.2.2 Selection of the respondents

3.3 Measurement of variables of the study

3.4 Developing interview schedule and collection of data

3.5 Statistical tools and tests used

3.1 Research Design

In the present study, Ex-post-facto research design was used, since the phenomenon has already taken place.

3.2 Locale of the study

The present investigation was under taken in Belgaum district of North Karnataka. The district is bounded n the north by Sangli and Kolhapur district of Maharastra, Bijapur district in the East and Dharwad and Uttar Kannada districts in South and Goa and Maharashtra state in the west. The climatic conditions in the district are characterized by general dryness except during the monsoon season. The actual rainfall of the district was 594.9 mm with the temperature ranging from 14°C to 39°C. The major rivers flowing in the district are Ghataprabha, Krisha and Malaprabha. The major portion of the district is covered by medium to deep black soils and some portion with the red sandy soilsand sandy loam soils. This district was purposively selected because it stands first among the districts of North Karnataka with regard to number of Primary Health Centers and third in the state as a whole. Further, this district is having the highest rural female population and occupies second place in the state.

Fig. 1. Map showing the study area in Karnataka State

Fig. 1. Map showing the study area in Karnataka State

Table 1: Brief description of selected district

Sl.No.	Particulars	Belgaum
1.	Total geographical area(ha)	1344382
2.	Rain fall(mm)	
	Normal	835
	Actual	951
3.	Total number of taluks	10
4.	Total number of cities/towns	20
5.	Total number of villages	1164
6.	Population in number(2001census)	
i.	Rural population	31944848
ii.	Urban population	1012416
iii.	Total	4207264
7.	Percentage of literacy	
i.	Male	75.89
ii.	Female	52.53
iii.	Overall	64.42
8.	Number of regulated markets	
i.	Main markets	10
ii.	Sub-markets	33
iii.	Total	43
9.	Area not available for cultivation	113409
10.	Other uncultivated land excluding fallow land (ha)	38769
11.	Fallow land (ha)	273307
12.	Net sown area (ha)	728473
13.	Net irrigated area (ha)	338605
14.	Area under cereal crops (ha)	411626
15.	Area under fruit crops (ha)	4075
16.	Area under vegetable crops (ha)	122668
17.	Gross cropped area (ha)	870100

Source: District at a glance, by (2005-2006), by District Statistical office, Belgaum

Fig. 2. Map showing the study area in taluks in Belgaum district

Fig. 2. Map showing the study area in taluks in Belgaum district

3.2.1 Selection of taluks and villages for the study

Belgaum and Gokak taluks were selected purposively considering the number of Primary Health Centres (P.H.C).These taluks were having highest number of primary health centres (P.H.C) in the Belgaum district.

There are sixteen and thirteen Primary Health Centres, in Belgaum and Gokak taluks respectively. And also there is one veterinary hospital; eleven rural veterinary dispensaries, eight private veterinary centres and one mobile clinic are there in the Belgaum taluk and in Gokak taluk two veterinary hospitals, seventeen rural veterinary dispensaries, eleven private veterinary centres and one mobile clinic are there. The total literacy rate of Belgaum taluk is78.31percent, male literacy percent of 86.46 percent and female literacy percent is 69.71 percent, whereas in Gokak taluk the total literacy percent is 55.90 percent with a male literacy percent 68.70 percent and that of female literacy percent is 42.84 percent.

Since the study was related to health and nutritional practices, villages having primary health centres (P.H.C) were considered for the study. There were thirteen (13) villages in Belgaum taluk and sixteen (16) villages in Belgaum taluk having primary health centres (P.H.C) in the village. Five villages were selected randomly from each taluk (total ten) for the study. All the selected villages have drinking water facility either from tank or bore well. The villages are approachable through regional road. The villages have got post office, schooling facility up to middle school. The list of listed taluks and villages are shown in the table 2.

Sl.No	Name of the taluk	Villages selected	No. of respondents
1.	Belgaum	Hire Bagewadi	15
		Badas K.H	15
		Sulebhavi	15
		Mutaga	15
		Yellur	15
2.	Gokak	Khanagaon	15
		Konnur	15
		Ankalagi	15
		Akkatangerihal	15
		Tavaga	15
		Total	150

3.2.2. Selection of respondents for the study

Since the main objective of the study was to measure the knowledge and adoption level of rural women about health and nutritional practices, which includes the different aspects like personal hygiene, sanitation, care of surroundings, care and diet of the persons or people, food preservation, it was felt necessary that the respondents in the study have sufficient information of the family life. So, it was decided to select the married women.

From the lists prepared so, fifteen women were selected randomly as respondents from the selected villages. Thus a total of one hundred and fifty (150) respondents are taken for the study.

3.3 Measurement of variables of the study

A. Independent variable

The independent variables of the study were Age, Education, Caste, Family type, Land holding, annual income, Social participation, Sources of information, Extension participation.

B. Dependent variable

The dependent variables of the study were Knowledge and Adoption.

Quantification of dependent variables: knowledge and adoption of health and nutrition practices.

Knowledge

English and English (1958) defined knowledge as “a body of understood information by an individual or by a culture.

In the present study knowledge refers to the information gained regarding general health and nutrition practices of rural women.

Construction of teacher made knowledge test

A teacher made knowledge test was developed to measure the knowledge level of rural women regarding health and nutrition practices. The knowledge test composed of twenty six questions or statements. The statements were prepared by consulting the health and family welfare department members of advisory committee, journals and the staff of food and nutrition, the child development department of home science college, university of agricultural sciences Dharwad , doctors f primary health centres and review of literature.

The collection of statements was done keeping in view of health and nutrition aspects. Totally twenty six statements were collected. All the statements were provided with yes or no answers. In the view of nature of the subject it is made to provide the ‘Yes’ or ‘No’ options and the scores were assigned to the statements. Twenty six statements were selected differently for the both child and adult’s health and nutrition aspects. The schedule was used for the collection of data is given in Appendix-

Method of scoring

The knowledge test thus developed was used to measure the knowledge of rural women about health and nutrition practices. A score of one was given if the respondents had answered for the question ‘YES’ and the score zero was given for the question answered ‘NO’. the summation of scores for the correct answers of all the items for a particular respondents indicate the level of knowledge regarding health and nutrition practices. The maximum score that one could get was twenty six and minimum was zero.

Knowledge level categories

Based on mean and standard deviation of knowledge level of respondents, they were grouped into three categories as follows.

Category	Knowledge
Low	Less than (Mean - 0.425SD)
Medium	Between (Mean ±0.425 SD)
High	More than (Mean + 0.425SD)

Adoption

The respondents were asked directly to mention whether they are adopting these selected health and nutrition practices for their better survival. The results were expressed in mean and standard deviation.

Category	Adoption
Adoption	More than (Mean + 0.425SD)
Partial adoption	Between (Mean ± 0.425SD)
Non adoption	less than (Mean – 0.425SD)

A. Measurement of independent variables

1. Age

Age is measured as number of calendar years reported to have been completed by the respondents at the time of interview. Based on the completed years respondents were classified as follows.

Category	Score
Young (30years and below)	1
Middle (35-50years)	2
Old (45years and above)	3

The similar procedure was followed by Mangasri (1999) and Raghunandan (2004)

2. Caste

The respondents were labeled based on their caste or community as follows. The castes which have been found among the respondents have also classified.

Category	Score
Forward caste	1
Backward caste	2
Scheduled caste/schedule tribe	3

Similar classification was followed by Monohar et al. (1981) and Narasalangi (1990)

3. Education

Education is operationally defined as the number of years of formal; education required by a respondent. The respondents were grouped into the following categories.

Categories	Education	Score
Illiterates	Cannot read and write	0
Primary school	1-4th standard	1
Middle school	5-7th standard	2
High school	8-10th standard	3
PUC	11th and 12th standard	4
Graduation and above	Above 12th standard	5

The procedure was followed by Hosamani (1995) was used with slight modifications.

4. Type of family

Family type refers to the classification of the family as nuclear and joint. The basic grouping of mates and their children is called nuclear family. The collection of more than one nuclear family on the basis of close blood ties and common residence is called joint family.

Category	Score
Nuclear	0
Joint	1

This method was adopted by Venkatesh Gandhi (2002)

5. Family size

In the present study the family size of the respondents was operationally defined as total number of members residing in the family, including new borne baby also. It was categorized as small and large family by following general norm.

Category	Score
Below 5	1
5 and above	2

The procedure was followed by Hosamani (1993) was used with slight modifications.

5. Land holding

The actual land possessed by the respondents was recorded and this was converted into standard acres based on Karnataka land reforms act, 38 of 1996.

Category	Score
No land (Land less farmers)	0
Less than 2.5 acres (Marginal farmers)	1
2.6 to 5 acres (Small farmers)	2
5.1 to 10 acres (Semi medium farmers)	3
10.1 to 25 acres (Medium farmers)	4
25 acres and above (Big farmers	5

The similar classification was followed by Deepak M.P. (2003).

6. Annual income

Annual income of the family refers to the income earned by all the members of the family of the respondents from different sources per year. Categories of the annual income were done as follows.

Category	Family income/year
Low income	up to 17,000
Semi-medium income	17,001-34,000
Medium income	34,001-51,000
High income	above 51,000

The similar classification was followed by Deepak M.P. (2003) as per the classification suggested by Ministry of Rural Development, Government of India.

7. Social participation

It refers to the degree of involvement of the individual in various organizations as a member or an office bearer. It was empirically measure by using the procedure followed Patil (1990) and followed by Chandra Charan (2003).

Items	Scores
Member	1
Office bearer	2
Participation	
Regular	2
Occasional	1
Never	0

The composite scores were arrived at by summing up the scores obtained by each respondent, on each item. Based on the scores, the data was analyzed by using frequency and percentage.

8. Source of information

In the present study communication behaviour refers to different sources of information consulted by rural women with respect to general health and nutritional practices. The sources of information were grouped into three categories-informal, formal and mass media. Respondents were asked to provide information regarding their frequency of contact and use of these sources to seek solutions to their health problems. Later each of these sources contacted or used by the respondents were expressed in frequency and percentages. The frequency of source of information was quantified on the three point continuum namely regularly, occasionally and never.

Sources	Responses	Scores
1. Formal	Regular	2
2. Informal	Occasional	1
3. Mass media	Never	0

It was empirically measure by using the procedure followed Hosamani(1993) and followed by Rajalakshmi(1995).

9. Extension participation

Extension participation referred to the extent of participation of rural women in different extension activities like meetings, field days, film shows, exhibitions, demonstrations, krishimela etc., and the frequency of participation was quantified on the three point continuum namely regularly, occasionally and never. The frequencies and percentages were worked out to find out the degree of participation. The similar procedure was followed by Venkatesh Gandhi (2002)

Responses	Scores
Regular	2
Occasional	1
Never	0

3.4. Interview schedule for data collection

A schedule was formulated in consultation with the medical officers and extension experts to collect information on personal and socio-economic characteristics, knowledge and adoption of health and nutrition practices and suggestions encountered by the rural women for improved health and nutrition status. The tentatively prepared schedule was pre tested in the non sample area. The final schedule was drawn after incorporating necessary corrections

in the pre tested schedule and was used to collect the data from the respondents by personal interview schedule.

3.5. Statistical tools and tests used:

The data have been presented using frequencies and percentage further analysis was carried out using statistical methods as follows.

1. Mean and standard Deviation were used to categorize the rural women into groups having low, medium and high scores with respect to knowledge and adoption.
2. To know the association between the selected personal characteristics of the respondents with the knowledge and adoption, the correlation co-efficient is used.

4. RESULTS

The main findings of the investigation are presented under the following headings.

4.1. Personal and socio-economic characteristics of the respondents.

4.2. Knowledge level of rural women about health and nutritional practices.

4.3. Adoption of the health and nutritional practices by rural women.

4.4. Relationship between selected characteristics of the respondents and their knowledge and adoption level of the respondents.

4.5. Suggestions of the respondents about health and nutrition practices.

4.1 Personal and socio-economic characteristics of the respondents:

4.1.1 Age

The data in the table 3 revealed that majority (48.00%) of the respondents were young, 36.67percent were middle aged and only 15.33 percent belonged to the old age group.

4.1.2 Education

It could be observed from table 3 that, 28.00 per cent of the respondents studied upto high school level, followed by 23.33 per cent of them with primary level and 16.67 per cent with middle school level and 13.33 per cent of them were illiterates, whereas 11.33 per cent and 7.33 per cent of them had PUC and degree level of education, respectively.

4.1.3 Caste

It was apparent from the table 1 that, majority of the respondents (43.33%) were belonged to the backward caste, followed by 38.67 per cent of the respondents were belonged to the forward caste and 18.00 per cent of the respondents were belonged to the SC's/ST's group.

4.1.4 Family type

It was observed from the table 3 that majority of the respondents (61.33%) were from nuclear family, whereas 38.67 percent of the respondents were from joint type of family.

4.1.5 Family Size

The results from the table 3 indicated that, 65.33 per cent of the respondents had less than 5 members in their family followed by 35.67 per cent of the respondents had more than 5 members in the family.

4.1.6 Land Holding

It is clear from table 3 that, majority of the respondents(31.00 per cent) were having small land holding(2.6 to 5 acres), 25 per cent were marginal farmers(<2.5 acres) 16,67 per cent of the respondents were land less farmers, 13.00 per cent of the respondents had semi medium land holding (5.1 to 10 acres), 8.33 per cent of the respondents belonged to the medium size land holding (10.1 to 25 acres) and six per cent of the farmers had big land holding(>25 acres).

4.1.7 Annual Income

Annual income of the respondents is an important factor influencing pattern of food consumption and standard of living. Results from the table 3, in this regard indicate that majority(61.33%) of the families of the respondents had an annual income below Rs.17,000, 32.67 percent had annual income between Rs.17,000 to Rs.34,000 nearly equal per cent of the respondents had an annual income between Rs.34,000 to Rs.51,000and above Rs. 50,000 per annum respectively.

Table 3.Personal characteristics of respondents

n=150

Sl.No.	Characteristics	Frequency	Percentage
1.	Age		
	Young (Upto 35 years)	72	48.00
	Middle (36 to 50 years)	55	36.67
	Old (51 and above)	23	15.33
2.	Education		
	Illiterate (can't read and write)	20	13.33
	Primary (1-4 std)	35	23.33
	Middle (5-7 std)	25	16.67
	High (8-10 std)	42	28.00
	P)UC	17	11.33
	Graduate	11	7.33
3.	Caste		
	Forward (Brahmin, Lingayat)	58	38.67
	Backward (valmiki,talwar,ambiga, vakkaliga, pattat, madiwal, Maratha, kshatriya, kumbar, weaver)	65	43.33
	SC's/ST's (Bovi, kurh, harijan)	27	18.00
4.	Family type		
	Nuclear	92	61.33
	Joint	58	38.67
5.	Family size		
	Small (< 5 members)	98	65.33
	Large (> 5 members)	52	34.67
6.	Land holding		
	Land less farmers (No land)	25	16.67
	Marginal farmers (<2.5 acre)	38	25.00

Contd…

Sl.No.	Characteristics	Frequency	Percentage
	Small farmers (2.5 to 5 acre)	47	31.00
	Semi Medium farmers (5.01 to 10 acre)	19	13.00
	Medium (10.01 to 25 acre)	12	8.33
	Big (>25 acre)	9	6.00
7.	Annual income		
	Low (Up to Rs.17,000)	92	61.33
	Semi Medium (Rs. 17,001 –Rs.34000)	49	32.67
	Medium (Rs. 34,001-51,000)	6	4.00
	High (Above Rs.51,000)	3	2.00

F = Frequency: P = Percentage

4.1.8 Sources of information on health and nutrition practices

The sources of information consulted for seeking the knowledge of health and nutritional a practice is presented in the table 4, results indicated that majority of the respondents consulted the informal and formal sources than the mass media.

Formal sources

From the table 4, it was clear that 59.33 per cent of the respondents consulted medical officers regularly, 22.00 per cent and 18.7 per cent of the respondents consulted the same source occassionally and never, respectively. In case of auxiliary nurse or mid wife, it was found that, majority of the respondents (58.00%) consulted regularly, occasionally by 30.67 per cent, in case of health educators none of the respondents consulted regularly and only 10.67 per cent of the respondents consulted the same source occassionally. In case of local doctors, 52.67 and 27.33 per cent of the respondents consulted regularly and occasionally, respectively.

Informal sources

In case of the informal sources, 82 per cent and 18 per cent of the respondents consulted the family members regularly and occassionally respectively. Whereas, in case of friends it was 50.67 and 26 percent had consulted regularly and occasionally neighbours was consulted by 44.67 percent and 47.33 per cent of the respondents regularly and occasionally respectively.

Mass media

In case of the mass media 78.67 per cent of the respondents were not reading the news paper and only 7.33 per cent of the respondents were reading the news paper regularly, 14 percent of the respondents were reading the news paper occassionally. Very few respondents (3.33 %) used radio regularly and 8 per cent of respondents used it occasionally. Nearly, one fourth (24 %) of the respondents used television regularly and 18 percent used it occasionally.

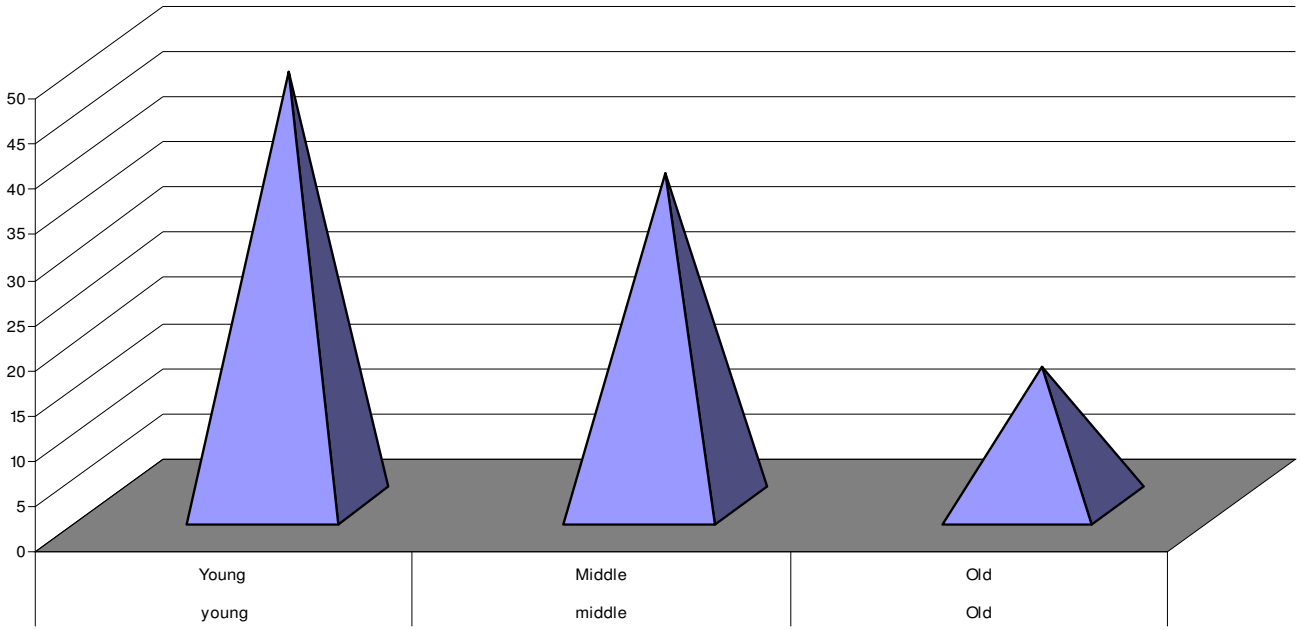

Fig. 3. Distribution of the respondents based on their age

Fig. 3. Distribution of the respondents based on their age

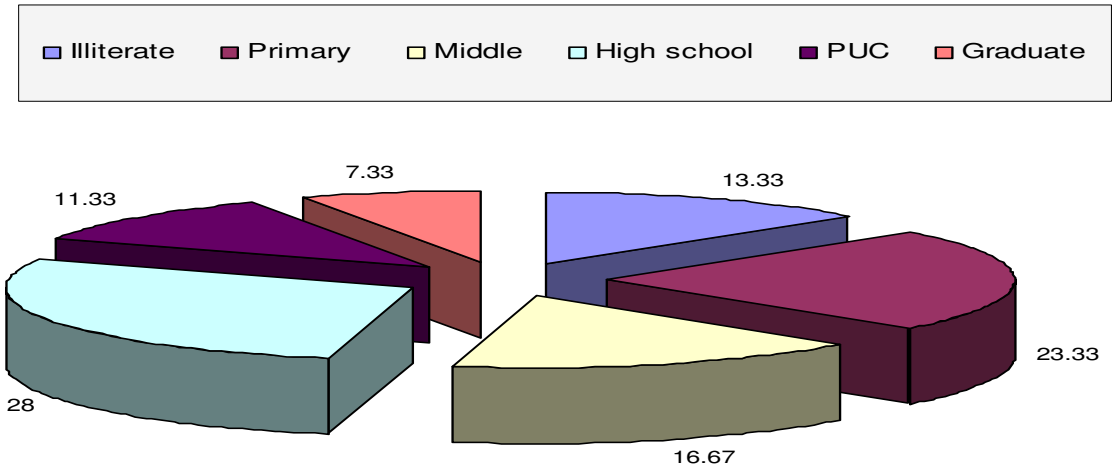

Fig. 4. Distribution of the respondents based on their education

Fig. 4: Distribution of the Respondents based on their Education

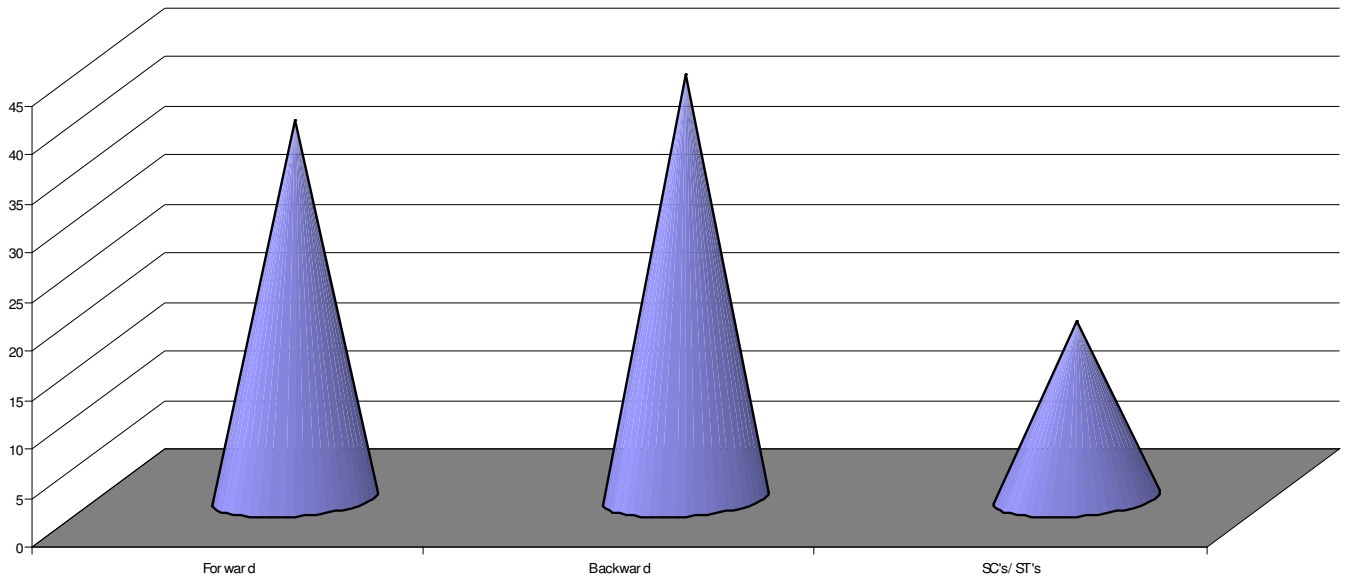

Fig. 5. Distribution of the respondents based on their caste

Fig. 5: Distribution of the respondents based on their caste

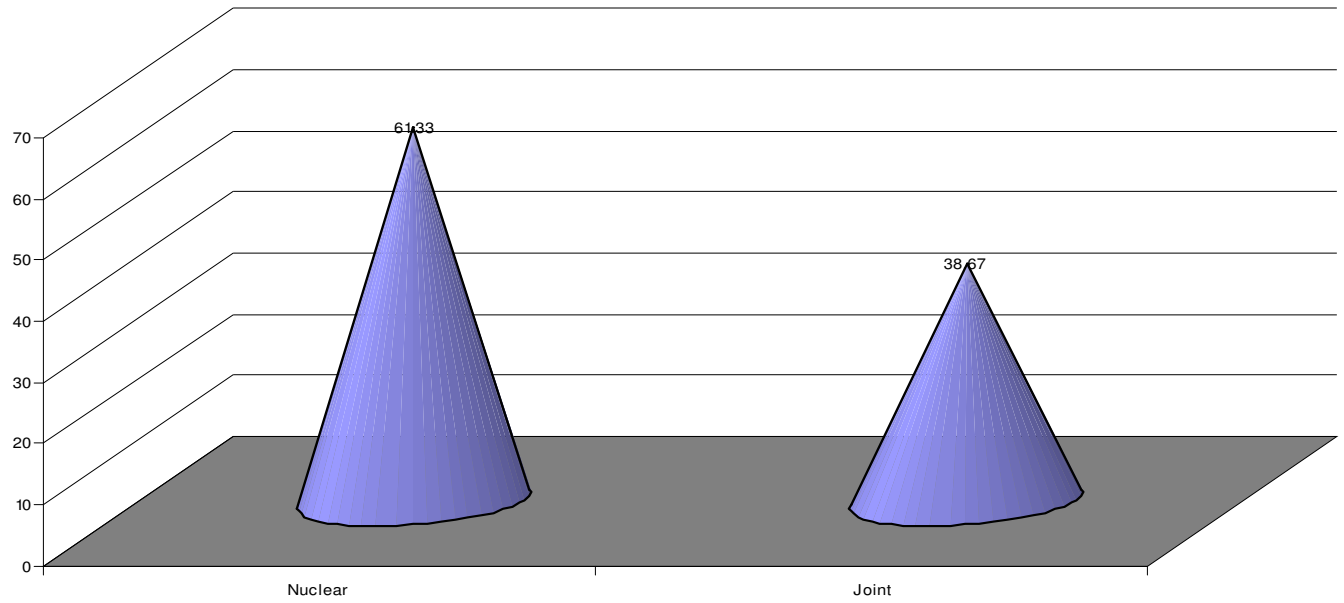

Fig. 6. Distribution of the respondents based on their family type

Fig. 6: Distribution of the respondents based on their family type

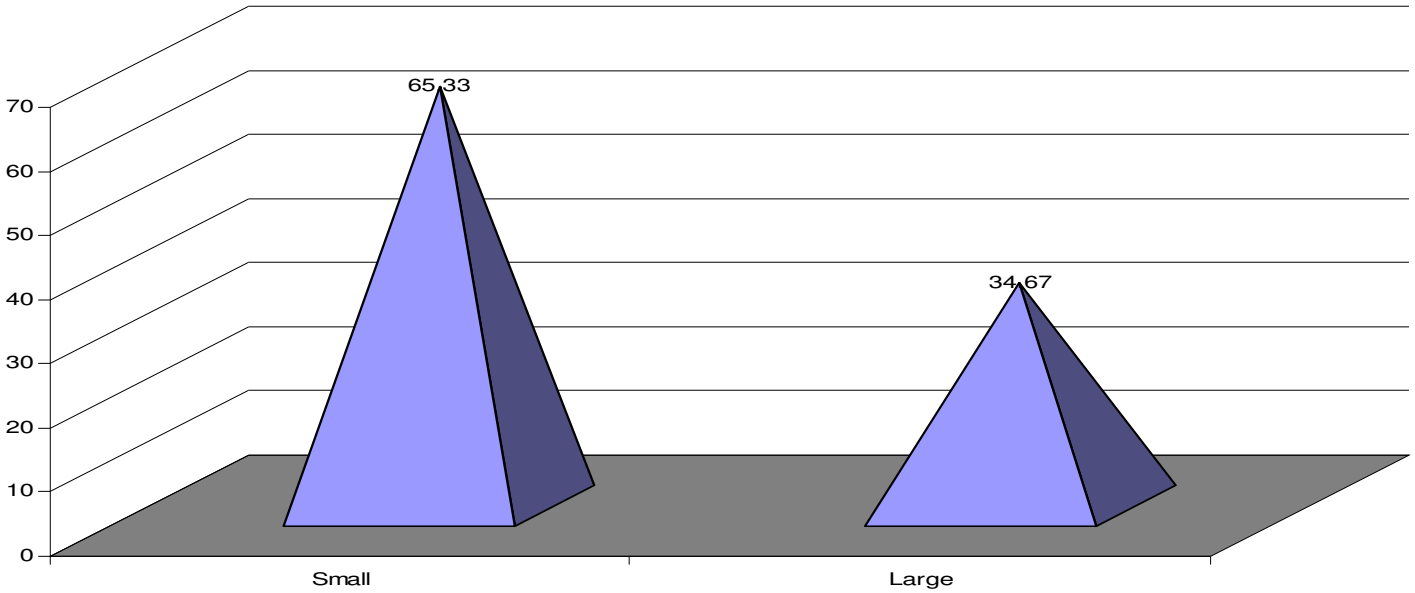

Fig. 7. Distribution of the responents basedon their family size

Fig. 7: Distribution of the respondents according to their size of the family

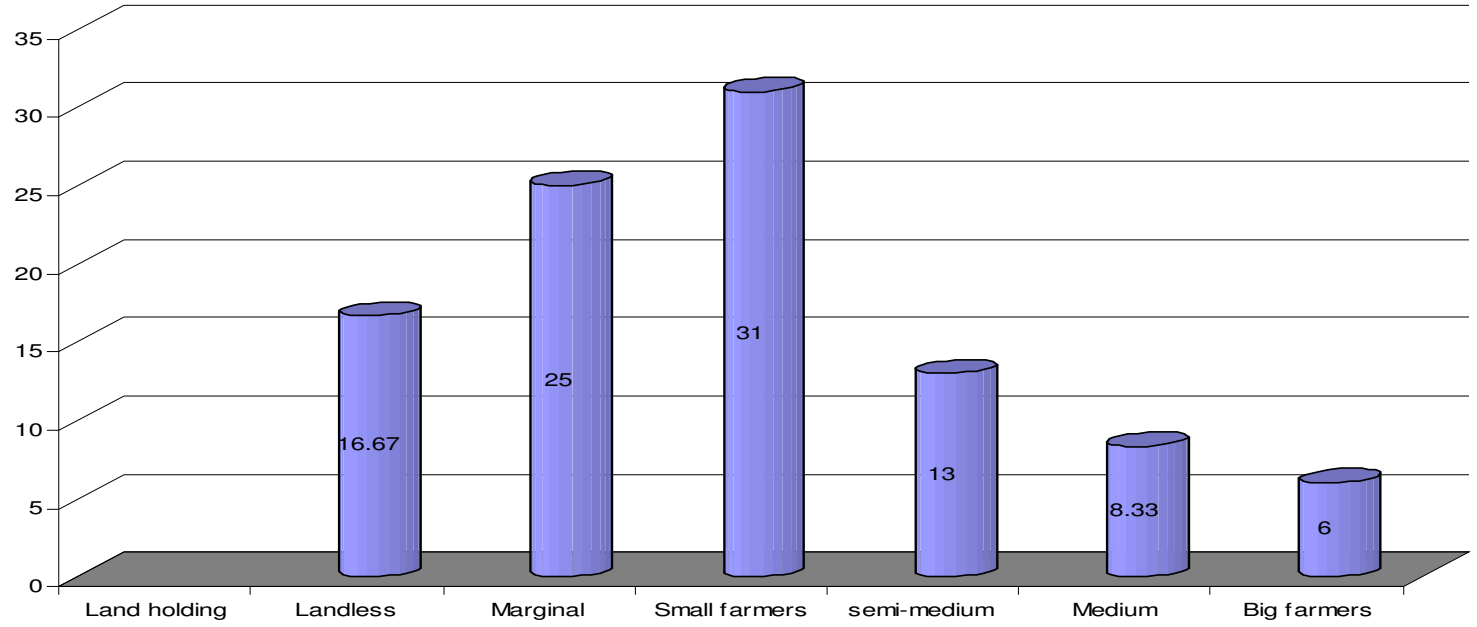

Fig. 8. Distribution of the respondents based on their landholding

Fig. 8: Distribution of the respondents based on their landholding

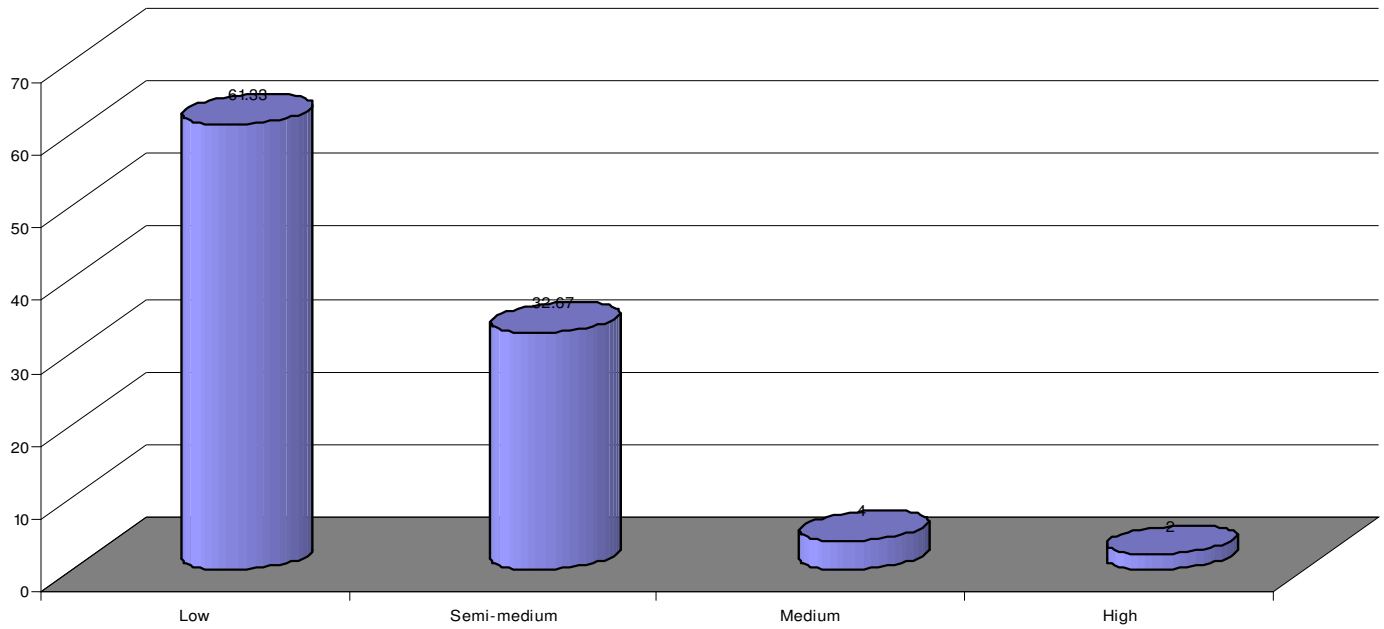

Fig. 9. Distribution of the respondents based on their annual income

Fig. 9: Distribution of the respondents based on their annual income

4.1.9 Social participation

In the present study it was evident from the table 5 that, 4.00 per cent of the respondents were the members of the gram panchayat. Whereas, 5.33 per cent of them were office bearers. Nearly one fourth (26 %) of the respondents were members of Co-operatives and only 2 percent of them were office bearers. In case of Mahila mandals the 40.00 per cent of the respondents were members and 18.00 percent were office bearers. Whereas, in other unregistered organizations like self help groups 20.00 % and 7.33% were the members and office bearers, respectively.

Regarding participation of the members and office bearers in meetings of the respective organizations, table- revealed that 6.00, 14.00, 36.67, and 20.00 per cent of them were participating regularly in Gram panchayat, Co-operatives, Mahila mandals and Self help groups, respectively. Whereas 3.33, 14.00, 16.67 and 14.67 percent respectively participated in case of gram panchayat, co-operatives, mahila mandals and self help groups, occasionally.

4.1.10 Extension participation

The results from the table 6 indicated that 6 per cent of the respondents participated regularly in demonstrations, 14.67 per cent of the respondents participated regularly in krishi mela, 8.00 per cent of the respondents participated regularly in field days, cent percent of the respondents participated in the fair and festivals regularly, 8.67 per cent of the respondents participated regularly in meeting conducted by primary health centres. None of the respondents had participated regularly in film shows, 6.00 per cent of the respondents participated regularly in demonstrations 4.00 per cent of the respondents participated regularly in study tour or educational tours. Whereas, 8.00 per cent of the respondents participated occassionally in demonstration, 20.67 per cent of the respondents participated occassionally in krishi mela, 10.00 per cent of the respondents participated occassionally in field days, 20.67 per cent each participated occasionally in Krishi mela and meetings and 4.67 per cent of the respondents participated occassionally in film shows.

4.2 Knowledge of rural women about health and nutritional practices

4.2.1 Overall knowledge of health and nutritional practices

It could be seen from table 7 that 31.33 percent of the respondents had high, 49.34 percent had medium and the remaining 19.33 percent had low knowledge level regarding health and nutritional practices.

4.2.2 Knowledge level of rural women about selected health and nutrition practices

4.2.2.1 Knowledge about detailed health practices of the respondents

The data presented in table 8 reveals that, more than half of the respondents had knowledge about detailed health practices of children, immunization is must for health of the child (100%), bathing the child daily (100%), giving the child enough safe water (100%), washing hands before holding and feeding the baby is necessary (77%), regular health check up every month in baby clinic or health centers is needed (74%). With regard to the knowledge level of respondents about health practices for adults it is revealed that keeping the house clean by sweeping and swabbing daily is necessary (83%), the diseases caused by mosquitoes, bed bugs, house flies etc., can be prevented by keeping surroundings clean without water stagnation (60.00%), trimming nails reduces many food borne diseases (54.00%), taking boiled or filtered water prevents many water borne diseases (77.00%), keeping the food articles or items covered will protect food from flies and dirt (76.00%), washing vegetables before cutting them is good for health (84.00%), and the washing of utensils, hands and plates before cooking and taking meals is good (85.00%).

The remaining percent of each statement shows that the respondents did not have the knowledge about health practices.

Table 4: Sources of Information about health and nutritional practices

1. Formal Sources						
Category	Regular		Occasional		Never	
	F	P	F	P	F	P
Medical officers	89	59.33	33	22.00	28	18.7
Auxiliary nurses	87	58.00	46	30.67	17	11.33
Health educators	0	0.00	16	10.67	133	89.33
Local doctors	79	52.67	41	27.33	30	20.00

2. Informal sources						
Category	Regular		Occasional		Never	
	F	P	F	P	F	P
Family members	123	82	27	18.00	0	0
Friends	76	50.67	39	26.00	35	23.33
Neighbour	67	44.67	71	47.33	12	8.00

3. Mass media						
Category	Regularly		Occasionally		Never	
	F	P	F	P	F	P
News papers	11	7.33	21	14.00	118	78.67
Radio	5	3.33	12	8.00	133	88.67
Television	36	24	27	18.00	87	58.00

Note: F=Frequency; P=Percentage

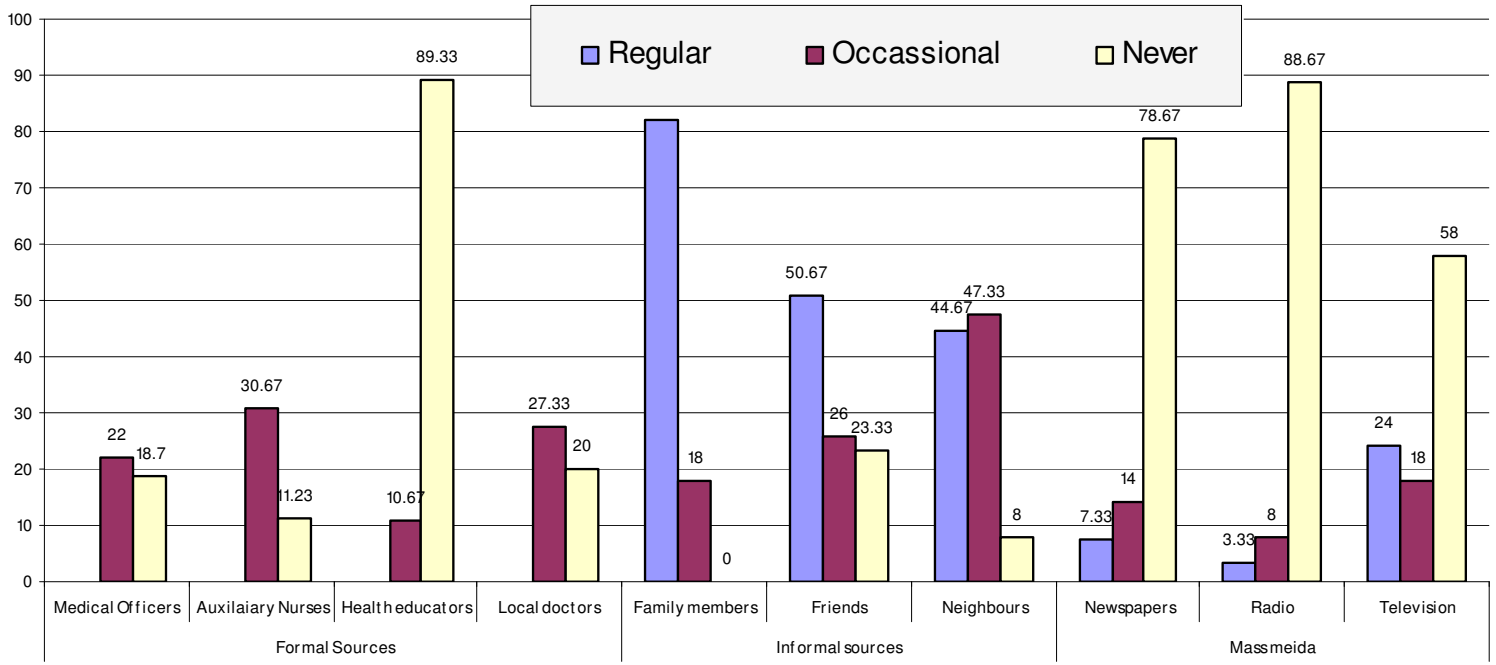

Fig. 10. Sources of information consulted by the respondents

Fig. 10. Sources of information consulted by the respondents

Table 5: Social participation

Institution/ Organization	Member		Office bearer		Extent of participation					
					Regular		Occasional		Never	
	F	P	F	P	F	P	F	P	F	P
Village Panchayat	8	4.00	6	5.33	9	6.00	5	3.33	136	90.62
Co-operatives	39	26.00	3	2.00	21	14.00	21	14.00	108	72.00
Mahila Mandals	60	40.00	27	18.00	55	36.67	25	16.67	70	46.67
Self help groups	30	20.00	11	7.33	30	20.00	22	14.67	109	73.00

Note : F = Frequency; P = Percentage

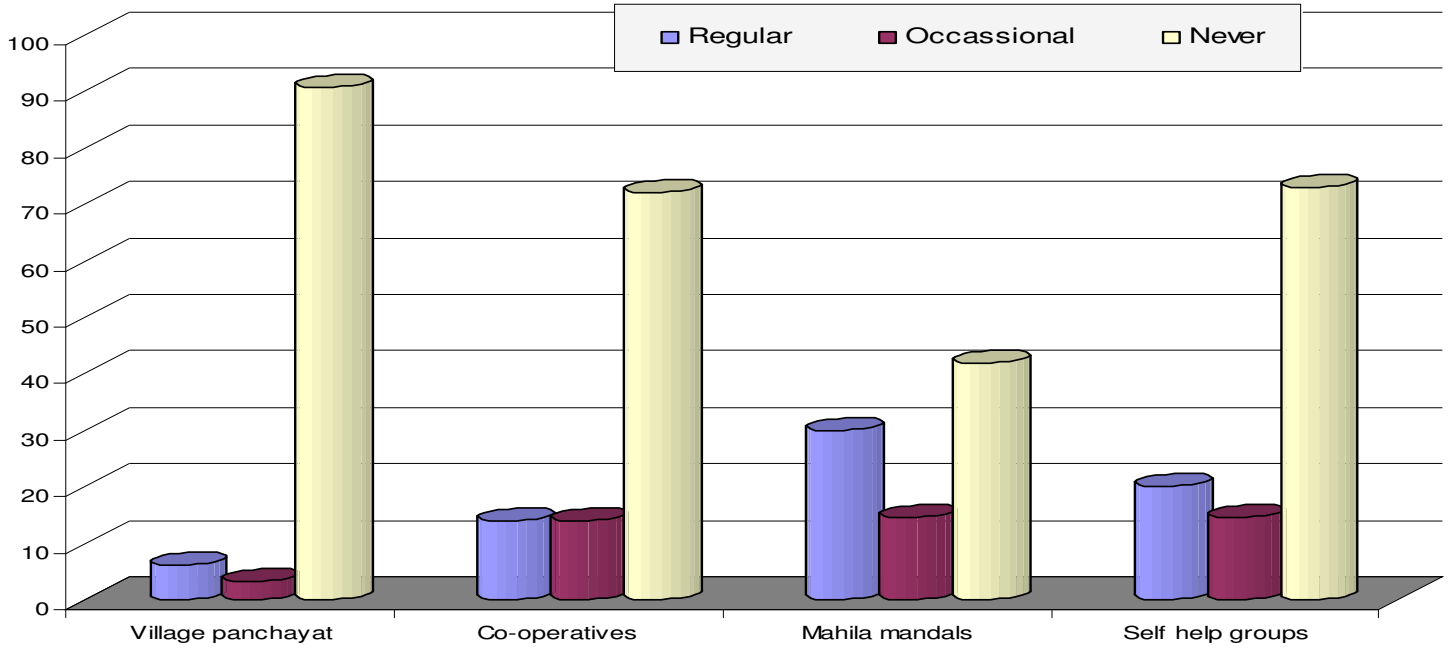

Fig. 11. Extent of participation in social organization

Fig. 11. Extent of participation in social organization

Table 6.Extension Participation

Activities	Extent of participation					
	Regular		Occasional		Never	
	F	P	F	P	F	P
Fairs	150	100	-	-	-	-
Festivals	150	100	-	-	-	-
Demonstrations	9	6	12	8	129	86
Meetings	13	8.67	31	20.67	106	70.67
Field days	12	8	15	10	123	82
Exhibitions/krishi mela	22	14.67	31	20.67	97	64.67
Film shows	0.00	0.00	7	4.67	143	95.33
Study tours	6	4.00	1	0.66	143	95.33

Note : F = Frequency; P = Percentage

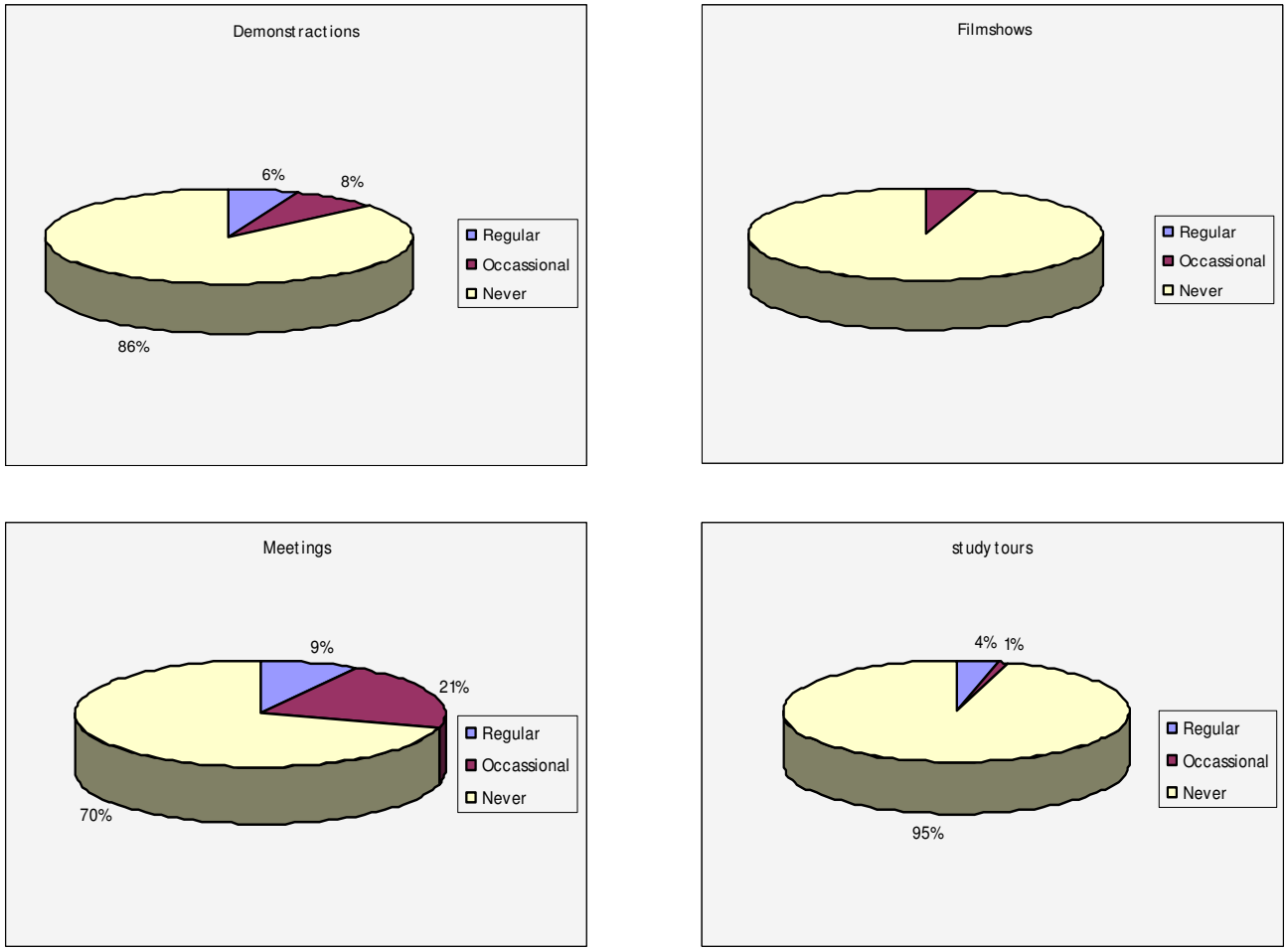

Fig. 12: Extent of participation of Respondents in Extension Activities

4.2.2.2 Knowledge about detailed nutritional practices of the respondents

It was observed from the table 8 the knowledge of respondents about nutritional practices about detailed nutritional practices of children, colostrums should be given to new born baby (53%), breast feeding for infants is must (100%), introducing solid foods like kichri/ rice/ dal/ soaked chapattis has to be given to seven month old child (63%), daily consumption of combination of rice, dal and vegetables is beneficial for growing children (55%), introducing small quantities of soups, juices, kheer etc. to baby's diet at 3 month stage is good for child health (42%), introducing milk , milk products, egg and its products is good for growing child (87%). And the knowledge about the nutritional practices of adults reveals that, green leafy vegetables must be included in the diet(58%), sprouted pulses are more nutritious (46%), including cereal-pulse combination(dal chapatti, dal-rice) in regular diet is nutritious for the body (63%), consumption of milk and curd strengthen bones (56%), using the jaggery often in the diet reduces iron deficiency (38%), fruits provide vitamins and mineral(78%), drinking of 2 liters of water would makes the person hygiene(42%), mixing Soya bean with jowar and wheat during grinding makes food more nutritious (60%).

The remaining percent of each statement shows that the respondents did not have the knowledge about nutritional practices.

4.3 Adoption of rural women regarding health and nutritional practices by rural women

4.3.1 Overall adoption of the respondents of the health and nutritional practices

It could be seen from the table 9 that majority (42.67%) partially adopted the health and nutritional practices, whereas, 20.66% of the respondents were fully adopted and 36.67 percent of respondents had not adopted the health and nutritional practices.

4.3.2 Adoption level of rural women about selected health and nutrition practices

4.3.2.1 Adoption level of detailed health practices of the respondents

The data presented in table 10 revealed that, detailed adoption level of health practices of children, immunization is must for health of the child (67%), bathing the child daily (100%), giving the child enough safe water (100%), washing hands before holding and feeding the baby is necessary (35.33%), regular health check up of the body every month in baby clinic or health centers is needed (23%). And the adoption level of respondents about health practices for adults it was revealed that keeping the house clean by sweeping and swabbing daily is necessary (55%), the diseases caused by mosquitoes, bed bugs, house flies etc., can be prevented by keeping surroundings clean without water stagnation(47%), trimming nails reduces many food borne diseases(27%), taking boiling or filtered water prevents many water borne diseases(20%), keeping the food articles or items covered will protect food from flies and dirt(47%), washing vegetables before cutting them is good for health(47.00%), and the washing of utensils, hands and plates before cooking and taking meals is good (38%).

Further, the table also reveals that, the partial adoption of child and adults health practices, washing hands before holding and feeding the baby is necessary (41.34%), regular health check up every month in baby clinic or health centers is needed (50%) Taking boiled/filtered water prevents many water borne diseases (63.33%) and the 53.33 per cent adoption had notices in both the cases of keeping the food articles/items covered will protect from flies and dirt, Washing vegetables before cutting them is good for health, 53.00 per cent.

The remaining percent of each statement indicated that the respondents had not adopted the health practices.

4.3.2.2 Adoption level of detailed nutritional practices of the respondents

The same table also revealed adoption of respondents about nutritional practices about detailed in particular to children ,colostrums should be given to new born baby (53.00%), breast feeding for infants is must(100%), introducing solid foods like kichri/ rice/ dal/

soaked chapattis has to be given to seven month old children(36.67%), daily consumption of combination of rice, dal and vegetables is beneficial for growing children(55.00%), introducing small quantities of soups, juices, kheer etc. to baby's diet at 3 month stage is good for child health(28.67%), introducing milk , milk products egg and its products is good for growing child(42%). Adoption of the nutritional practices of adults reveals that, green leafy vegetables must be included in the diet(40.67%), sprouted pulses are more nutritious (36.66%), including cereal-pulse combination(dal chapatti, dal-rice) in regular diet is nutritious for the body(30%), consumption of milk and curd strengthen bones (56%), using the jaggery often in the diet reduces iron deficiency (38%), fruits provide vitamins and mineral(23%), drinking of 2 liters of water maintain the good hygiene(33.33%), mixing Soya bean with jowar and wheat during grinding makes food more nutritious (20%).

Further, the table 10 also reveals that, the partial adoption of child and adult's nutritional practices Introducing Khichri/ricedal/ soaked chapattis ha to be given to 7 month age old child (43.33%),Introducing small quantities of soup, juices, kheer etc., to baby's diet at 3 month stage(37.33%), Green leafy vegetables must be included ion the diet(30%), Sprouted pulses are more nutritious(44.67%),Using jaggery often in the diet reduces the iron deficiency(48.67%),Fruits provide vitamins and minerals good for health(45.33%) and Mixing of Soya bean with jowar and wheat during grinding makes food more nutritious(37.33%).

The remaining percent of each statement indicates the non-adoption respondents about nutritional practices.

Table 7.Overall knowledge level of respondents about health and nutritional practices

Category	Frequency	Percent
Low (<15.91)	29	19.33
Medium (15.91-18.61)	74	49.34
High (>18.61)	47	31.33

Mean: 18.61, SD: 5.404

Note : F = Frequency; P = Percentage.

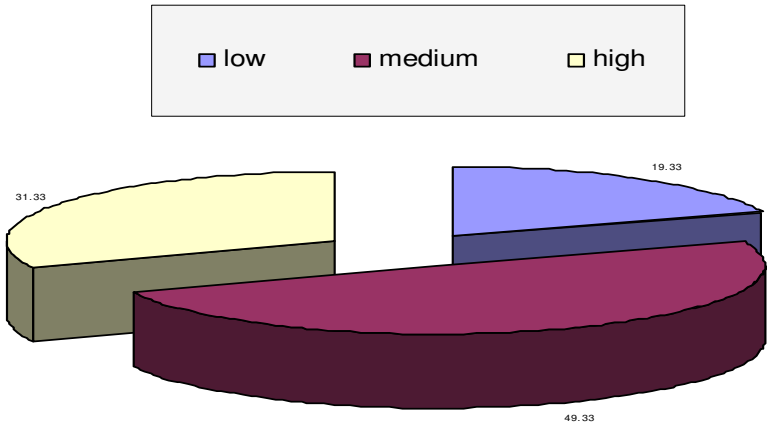

Fig. 13. Overall knowledge of the respondents on health and nutritional practices

Fig. 13. Overall knowledge of the respondents on health and nutritional practices

Table 8.Knowledge level of rural women about health and nutritional practices

Sl.No	Statements	Known		Unknown	
		F	P	F	P
A.	Health practices for children				
1.	Immunization is must for good health of the child	150	100	-	-
2.	Bathing the child daily is good for health	150	100	-	-
3.	Giving the child enough safe water for drinking regularly	150	100	-	-
4.	Washing the hands before holding and feeding the baby is necessary	115	77.00	35	23.00
5.	Regular health check-up of baby every month in baby clinic/health center is needed	111	74.00	39	26.00
B.	Health practices for adults				
6.	keeping the house clean by sweeping and swabbing daily is necessary	124	83	26	17.00
7.	The diseases caused by mosquitoes, bed bugs, house flies etc. can be prevented by keeping surroundings clean without water stagnation	90	60.00	60	30.00
8.	Trimming nails clean reduces many food borne diseases	82	54.00	68	46.00
9.	Taking boiling/filtered water prevents many water borne diseases	115	77.00	35	23.00
10.	Keeping the food articles/items covered will protect from flies and dirt	114	76.00	36	24.00
11.	Washing vegetables before cutting them is good for health	126	84.00	24	16.00
12.	Washing hands before preparing cooking and taking meals is good	127	85.00	25	15.00
C.	Nutrition practices for child health				
13.	Colostrums should be given to new born baby	80	53.00	70	42.00
14.	Breast feeding for infant/baby is must	150	100	-	-
15.	Introducing Khichri/ricedal/ soaked chapaties ha to be given to 7 month age old child	95	63.33	55	36.67
16.	Daily consumption of rice, dal and vegetables is beneficial for growing child	83	55.00	67.00	45.00
17.	Introducing small quantities of soup, juices, kheer etc., to baby's diet at 3 month stage	63	42.00	87	58.00

Contd…

Sl.No	Statements	Known		Unknown	
		F	P	F	P
18.	Introducing milk and milk products or egg and egg products is good for growing child	130	87.00	20	13.00
D.	Nutritional practices for adults				
19.	Green leafy vegetables must be included ion the diet	87	58.00	63	42.00
18.	Sprouted pulses are more nutritious	70	46.00	80	54.00
19.	Including cereal-pulse combination(dal-chapati, dal-rice) in regular diet is nutritious for the body	95	63.00	33	37.00
20.	Consumption of milk and curds strengthen bones	84	56.00	66	44.00
21.	Using jaggery often in the diet reduces the iron deficiency	57	38.00	93	62.00
22.	Fruits provide vitamins and minerals good for health	117	78.00	33	22.00
23.	Drinking 2 liters(8 glasses) of water maintain the good hygiene	63	42.00	87	58.00
24.	Mixing of Soya bean with jowar and wheat during grinding makes food more nutritious	90	60.00	60	40.00

Note : F = Frequency, P = Percentage

Table 9.Overall adoption of respondents about health and nutritional practices

Category	Frequency	Percentage
Not Adopted (<49.37)	55	36.67
Partially adopted (49.37-55.26)	64	42.67
Adopted (>61.14)	31	20.66

Mean : 55.26, SD : 5.88

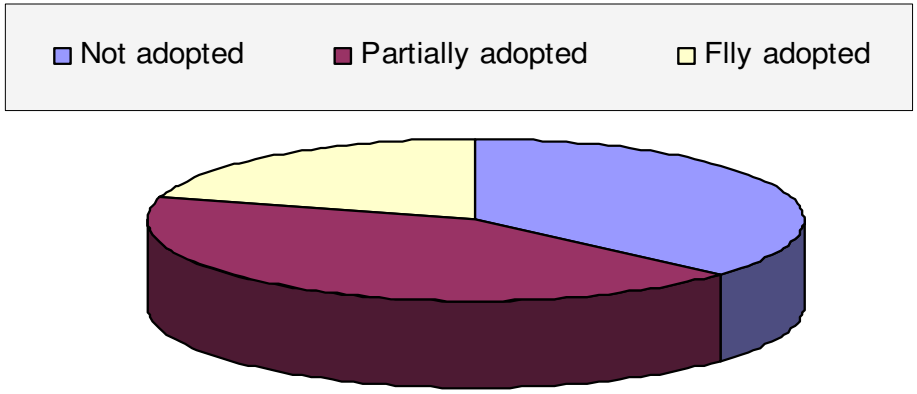

Fig. 14. Overall adoption of the respondents on health and nutritional practices

Fig. 14. Overall adoption of the respondents on health and nutritional practices

Table 10.Adoption level of respondents about health and nutritional practices

n=150

Sl. No.	STATEMENTS	Adopted		Partially adopted		Not adopted	
A.	Health practices for children	F	P	F	P	F	P
1.	Immunization is must for good health of the child	105	67.00	45	33.00	-	-
2.	Bathing the child daily is good for health	150	100	-	-	-	-
3.	Giving the child enough safe water for drinking regularly	150	100	-	-	-	-
4.	Washing the hands before holding and feeding the baby is necessary	53	35.33	62	41.34	35	23.33
5.	Regular health check-up of baby every month in baby clinic/health center is needed	35	23.00	75	50.00	40	27.00
B.	Health practices for adults						
6.	keeping the house clean by sweeping and swabbing daily is necessary	83	55.00	67	45.00	-	-
7.	The diseases caused by mosquitoes, bed bugs, house flies etc. can be prevented by keeping surroundings clean without water stagnation	71	47.00	79	53.00	-	-
8.	Trimming nails clean reduces many food borne diseases	41	27.00	109	73.00	-	-
9.	Taking boiling/filtered water prevents many water borne diseases	30	20.00	95	63.33	25	16.67
10.	Keeping the food articles/items covered will protect from flies and dirt	71	47.00	79	53.00	-	-
11.	Washing vegetables before cutting them is good for health	71	47.00	79	53.00	-	-
C.	Nutrition practices for child health						
12.	Colostrums should be given to new born baby	80	53.00	70	42.00	-	-
13.	Breast feeding for infant/baby is must	150	100	-	-	-	-
14.	Introducing Khichri/ricedal/ soaked chapaties ha to be given to 7 month age old child	55	36.67	65	43.33	30	20.00
15.	Daily consumption of rice, dal and vegetables is beneficial for growing child	83	55.00	67	45.00	-	-
16.	Introducing small quantities of soup, juices, kheer etc., to baby's diet at 3 month stage	43	28.67	56	37.33	51	34.00
17.	Introducing milk and milk products or egg and egg products is good for growing child	63	42.00	55	36.67	32	21.33
D.	Nutritional practices for adults						
18.	Green leafy vegetables must be included ion the diet	61	40.67	45	30.00	44	29.33

Contd…

Sl. No.	STATEMENTS	Adopted		Partially adopted		Not adopted	
19.	Sprouted pulses are more nutritious	55	36.66	67	44.67	28	18.67
20.	Consumption of milk and curds strengthen bones	84	56.00	66	44.00	-	-
21.	Using jaggery often in the diet reduces the iron deficiency	57	38.00	73	48.67	20	13.33
22.	Fruits provide vitamins and minerals good for health	35	23.00	68	45.33	37	24.67
23.	Drinking 2 liters (8 glasses) of water maintain the good hygiene	50	33.33	-	-	100	67.67
24.	Mixing of Soya bean with jowar and wheat during grinding makes food more nutritious	30	20.00	56	37.33	64	42.67

F= Frequency; P= Percentage

4.4 Relationship between personal and socio-economic characteristics of the respondents and their Knowledge and Adoption level of the respondents about health and nutritional practices

4.4.1 Relationship between personal and socio-economic characteristics of the respondents and their Knowledge level of health and nutritional practices

The results indicated in the table 11 reveals that the variables namely, education, caste, land holding, annual income, sources of information, social participation and extension participation had positive and significant relationship with the knowledge level of the rural women about health and nutritional practice.

4.4.2 Relationship between personal and socio-economic characteristics of the respondents and their adoption level of health and nutritional practices

The results indicated in the table 12 reveals that the variables namely, education, caste, land holding, annual income, sources of information, social participation and extension participation had positive and significant relationship with the adoption level of the rural women about health and nutritional practice.

Table 11: Relationship between personal and socio-economic characteristics of rural women with their knowledge level

n=150

Independent variables	'r'value
Age	-0.056 NS
Education	0.260**
Caste	0.170*
Family type	-0.052 NS
Family Size	0.036 NS
Land holding	0.236**
Annual income	0.327**
Source of information	0.234**
Social participation	0.162*
Extension participation	0.170*

- * Significant at 5% level of probability
- ** Significant at 1 % level of probability
- NS Non significant

4.5 Suggestions of rural women to obtain knowledge and to increase adoption level with regard to health and nutritional practices:

The results in the table 13 indicated that, 73.33 percent of the respondents suggested conducting more number of educational programmes on health and nutritional aspects. 72.67 percent of the respondents suggested that use of audio visual aids in educational programmes for effective learning, 67.33 percent of the respondents expressed that proper provision of health facilities should be made by the government in the primary health centers, 70.00 percent of the rural women suggested that the educational programmes should be frequently conducted by the government or NGO, 96.67 percent of the respondents suggested that hygienic conditions should be maintained in the local health centres or local hospitals, 80.67 per cent of the respondents expressed that provision of proper drinking water facilities in the hospitals and villages, the equal percent (80.67 %) of the respondents suggested that village should be kept clean by developing drainages and dust bins, 88.67 percent of the respondents expressed that proper guidance or training should be given to village or rural women regarding kitchen gardening to meet the nutritional requirement, 94.00 percent of the respondents expressed that safe disposal of non-degraded and health hazardous products from the village, and 82.00 per cent of the rural women expressed that proper mobility should be given to , Anganwadi workers and PHC staff.

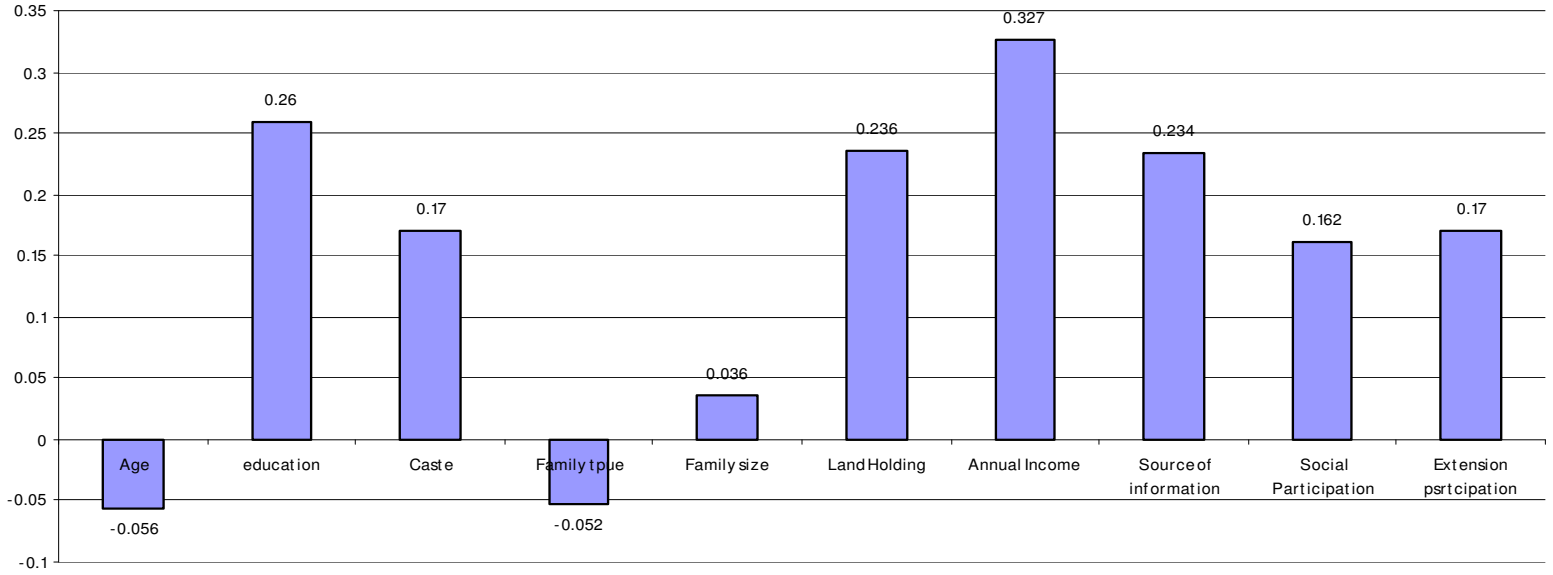

Fig. 15. Relationship between personal and social economic characteristics of respondents with theirknowledge

Fig. 15. Relationship between personal and social economic characteristics of respondents with their knowledge

Table 12: Relationship personal socio-economic characteristics with the adoption level of rural women

n=150

Independent variables	'r' value
Age	0.026 NS
Education	0.212**
Caste	0.210*
Family type	0.036 NS
Family size	0.028 NS
Land holding	0.239**
Annual income	0.245**
Source of information	0.253**
Social participation	0.180*
Extension participation	0.168*

- * Significant at 5% level of probability
- ** Significant at 1 % level of probability
- NS Non significant

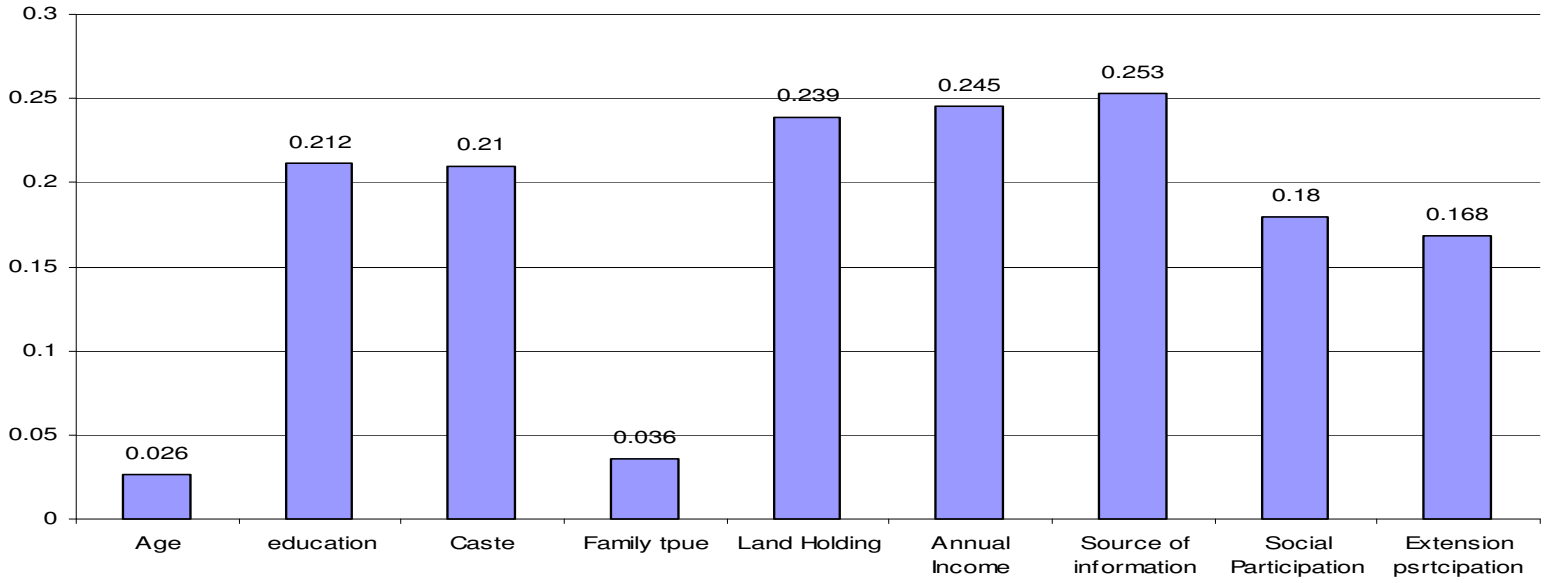

Fig. 16. Relationship btween personal and social economic characeristics of responents with their adoption

Fig. 16. Relationship between personal and social economic characteristics of Respondents with their Adoption

Table.13.Suggestions of respondents for better health and nutrition status

n=150

Sl. No	Suggestions	Frequency	Percent
1.	Conduct more number of educational programmes on health and nutrition aspects	110	73.33
2.	Use of Audio-visual aids in educational programmes	109	72.67
3.	Proper provision should be made available in the PHCs by the government.	101	67.33
4.	Educational programmes should be frequently conducted	105	70.00
5.	Hygienic conditions should be maintained in the local health centres or local hospitals	97	96.67
6.	Villages should be kept clean by developing drainages and dust bins	121	80.67
7.	Safe disposal of non-degraded and health hazardous products from the village	141	94.00
8.	Training should be given to the rural women on kitchen garden to met the nutritional requirement.	133	88.67
9.	Mobility services should be provided to the angan wadi workers	124	82.00

5. DISCUSSION

The results of present study are discussed in this chapter under the following heads.

5.1. Personal and socio-economic characteristics of the respondents.

5.2. Knowledge level of rural women about health and nutritional practices.

5.3. Adoption of health and nutritional practices by rural women .

5.4. Relationship between selected characteristics of the respondents and their Knowledge and adoption level of the respondents.

5.5 Suggestions of the respondents about health and nutrition practices.

5.1. Personal and socio-economic characteristics of rural women

5.1.1 Age

The results furnished in the table 3 indicated that, majority (48.00%) of the respondents were young. The criteria adopted for the selection of respondents, that rural women who had a married life of at least 5 years might be the possible reason. In rural areas usually girls get married at an early age only. Moreover among the married women younger ones come forward at the time of the interview, as they had undergone schooling, were enthusiastic and interested to know the new things compared to other age groups. The younger one might have thought it is necessary to know about health and its related aspects for the benefits of themselves and their family members. There were less number of respondents in the old age group.

The above result was supported by the results of the studies conducted by Akthar (1972), Hosamani (1993) and Rajalakshmi (1995).

5.1.2 Education

With regard to level of education, it could observed from table 3 that, 28.00 percent of the respondents studied upto high school level, followed by 23.33 per cent of them with primary level, 16.67 per cent with middle school level and 13.33 per cent of them were illiterates, whereas 11.33 per cent and 7.33 per cent of them had PUC and degree level of education, respectively.

This situation might have aroused due to non realization of importance of education in one's life. Illiteracy of parents might have come in the way of getting them better education to their children. Another reason could be the distance of schools for higher study and financial constraints might have prevented the parents form providing higher education to their children.

The results were in line with the findings of Moulasab (2004).

5.1.3 Caste

Results in the table 3 showed that, majority of the respondents were belonged to backward caste followed by 38.67 per cent of the respondents belonged to forward caste and 18 per cent belonged to SC's/ST's group.

Backward caste was dominant in the study area followed by the forward caste and scheduled caste and scheduled tribe. As the backward caste people were more, as compared to forward caste and scheduled caste and scheduled tribe, the possible of being included them in the sample was more.

The above results were not in the line with the studies conducted by Hosamani (1993) and finding was in support with the findings of Rajalakshmi (1995).

5.1.4 Family type

Form the table 3 it was observed that majorities (61.33%) of the respondents were from nuclear family type. Because of the people prefer to live in the nuclear families for the sake of better satisfaction of family needs. Better harmony and higher satisfaction by limited

number of the members under one roof could be the possible reason for the finding nuclear families.

These findings were in line with the findings of Deepak (2003) and the findings were in contradictory with the results of Hosamani (1993) and Rajalakshmi (1995).

5.1.5 Family size

It was observed from the table 3 pertaining to family type revealed that majority of the respondents (61.33%) were from nuclear family, whereas 38.67 percent of the respondents were from joint type of family.

The possible reason for the above result might be that, better harmony and higher satisfaction by limited number of the members under one roof and found to be better standard of living was one of the reasons.

The results support the studies conducted by Kiran Kumari (1991) Hosamani (1993) and Rajalakshmi (1995).

5.1.6 Land holding

In the table 3, revealed that, majority (31.00%) of the respondents possessed medium land holdings followed by 25 per cent of the respondents were marginal farmers. The possible reasons that could be attributed for having small land holding by the majority of the respondents, might be the agriculture is the main occupation of the family and depend largely on their lands for their employment. So they always try to possess more acres of land. It could be due to their ancestor's property got through inheritance. Those who had other occupation other than agriculture might have less acres of land holding since; they may not find sufficient time to devote for agriculture which is a labour intensive activity. The other possible reason could be the existence of nuclear family where the ancestral land holdings were broken into smaller and smaller sized land holding.

The results support the studies conducted by Kiran Kumari (1991) Hosamani (1993) and Rajalakshmi (1995) and Sashidhara (2003).

5.1.7 Annual income

The table 3 depicts that, majority (61.33%) of the respondents had low income is below 17,000 per annum followed by 32.67 per cent had 17,000 to 34,000 per annum. It might be due to the majority of them were agriculture labourers and depending upon the agriculture for their income. Results showed that 16.67 per cent of the respondent did not possess land holdings as a result the income earned could naturally be lower.

The results support the studies conducted by Kiran kumari (1991) Hosamani (1993) and Rajalakshmi (1995).

5.1.8 Information sources consulted by the rural women about Health and Nutritional practices

The data from the table 4 indicated that, most of the farmers regularly consulted the informal most of the farmers regularly consulted the informal sources like neighbors (44.67%), friends (50.67%), family members(82%). The possible reasons for the greater use of informal sources might be easy accessibility and close and intimate contact of the respondents with the family members, neighbours and friends. Majority of the respondents might have considered friends as best source to seek solutions to the problems than neighbours.

With regard to formal source more than half (59.33%) of the respondents often consulted medical officers followed by auxiliary nurses (58.00%) and local doctors (52.67%).This implied that formal sources like medical officers, auxiliary nurses and local doctors might have developed very good rapport with the people and gained their confidence. As a result rural people might have attached more to them. Further, those who are economically sound and want quick treatment might have consulted local doctors whereas those who want treatment at free of cost, because of their poor financial position, might have gone to the primary health centres staff.

Further the results showed that in general mass media was less utilized by the respondents regularly and occasionally regarding health and nutritional practices though they posses radio or televison. The reasons might be that since, the health and nutritional programmes were not broadcasted every day. Another reason was that people were showing more interest in viewing and listening the televison and radio for the entertainment purpose only.

The results were supported by the findings of Hosamani (1993) and Rajalakshmi (1995).

5.1.9 Social participation

The data in table 5 revealed that only 5.33 per cent and 4 per cent of the respondent were the members and office bearers of gram panchayat. Also, extent of participation was found to be negligible. Twenty six percent of the respondents were the members of co-operation but only 2 per cent were the office bearers, extent of participation regularly, occasionally and never is 14 per cent each.

With respect to SHG's the percentage is 20.00 per cent of the respondents were members and extent of participation is almost 20.00. This indicated, as a whole there was low participation in social organization. It clearly indicated the disinterest of the respondents to enroll themselves in such organizations. The possible reason might be the lack of motivation and interest in the activities of such organizations. But incase of the mahila mandals the 40 per cent of the rural women were members and 18.00 per cent of the respondents were office bearers. The extent of participation is regularly by 38 per cent, occasionally by 20 per cent. The reason might be that the rural women participated for the saving of the money and some mahila mandals are also actively participated in the elimination of the uncultured situation in the village.

The above findings were in line with the studies conducted by the Channel (1995) and Vijay Kumar (2000).

5.1.10 Extension participation

The result indicated from table 6, that participation in the extension activities was low. This might be due to lack of motivation and disinterest of the respondents in the participation in extension activities.

The result was in the line with the result of Gupta (1999), who found that majority of the respondents had not participated in the extension activities.

5.2 Knowledge level of rural women about health and nutritional practices

5.2.1 Overall knowledge of the respondents of regarding health and nutritional Practices

The results in the table 7 indicated that, majority (49.34%) of the respondents had medium level of knowledge with a mean score of 15.91 to 21.31 about health and nutritional practices. While, 19.33 percent and 31.33 percent of the respondents had low and high level of knowledge with a mean score of 15.91 and 21.33 respectively. When medium and high knowledge levels of respondents were combined together the percent comes to 80.67 percent which is good sign and speaks of interest of respondents to know the recommended practices of health and nutrition.

The personal and socio-economic characteristics of the respondents in the table, revealed that 41.33 percent of the respondents were primary level education. Because of good education of respondents, more knowledge about health and nutritional practices might prevailed. Further, majority of the respondents also consulted formal and informal sources of information which might have helped them to gain more knowledge on health and nutritional practices.

Kiran kumari (1991) and Hosamani (1993) who reported that most of the respondents had medium knowledge level about the health and nutritional practices.

5.2.2 Knowledge level of the rural women about selected health and nutritional practices

5.2.2.1 Knowledge about detailed health practices of the respondents

The data presented in table 8 reveals that, more than half of the respondents had knowledge about detailed health practices of children, immunization is must for health of the child (100%), bathing child daily (100%), giving the child enough safe water (100%), washing hands before holding and feeding the baby is necessary (77%), regular health check up of the body every month in baby clinic or health centres is needed (74%). And the knowledge level of respondents about health practices for adults it is revealed that keeping the house clean by sweeping and swabbing daily is necessary(83%), the diseases caused by mosquitoes, bed bugs, house flies etc., can be prevented by keeping surroundings clean without water stagnation(60%), trimming nails reduces many food borne diseases(54%), taking boiling or filtered water prevents many water borne diseases(77%), keeping the food articles or items covered will protect food from flies and dirt(76%), washing vegetables before cutting them is good for health(84%). And the washing of utensils, hands and plates before cooking and taking meals is good (85%).

The possible reason for the kind of results might be due to the fact, majority of the respondents were primary level education. Because of good education among rural women might have prompted the respondents to acquire more knowledge about health and nutritional practices. Further the Anganwadi workers and the P.H.C staff also giving the information to the village people in maintaining the health and nutritional status of the family members. Therefore, every individual tried to acquire more knowledge about the health and nutritional practices to get healthy living of the people.

The remaining percent of each statement shows that the respondents not having the knowledge about health practices. The reasons for this kind of result might be due to lack of insufficient knowledge about these due to their negligence, disinterest and their illiteracy.

The findings were in accordance with the findings of Kiran Kumari (1991) and Darling (2004).

5.2.2.2 Knowledge about detailed nutritional practices of the respondents

The results presented in the table 6 indicated that, the knowledge of respondents about nutritional practices about detailed nutritional practices of children ,colostrums should be given to new born baby (53%), breast feeding for infants is must(100%), introducing solid foods like kichri/ rice/ dal / soaked chapattis has to be given seven month age old children(63%), daily consumption of combination of rice, dal and vegetables is beneficial for growing children(55%), introducing small quantities of soups, juices, kheer etc. to baby's diet at 3 month stage is good for child health(42%), introducing milk , milk products egg and its products is good for growing child(87%). And the knowledge about the nutritional practices of adults reveals that, green leafy vegetables must be included in the diet(58%), sprouted pulses are more nutritious (46%), including cereal-pulse combination(dal chapatti, dal-rice) in regular diet is nutritious for the body(63%), consumption of milk and curd strengthen bones (56%), using the jaggery often in the diet reduces iron deficiency (38%), fruits provide vitamins and mineral(78%), drinking of 2 liters of water maintain the good hygiene(42%), mixing Soya bean with jowar and wheat during grinding makes food more nutritious (60%).

The possible reasons for the above findings might be due to the fact that, the Anganwadi workers and the P.H.C staff are interested in the job of giving the information to the village people in maintaining the health and nutritional status of the family members. Therefore, every individual tries to acquire more knowledge about the health and nutritional practices to get healthy living of the people. The possible reason for the kind of results might be due to the fact, majority of the respondents were primary level education. Because of good education among rural women might have prompted the respondents to acquire more knowledge about health and nutritional practices.

The remaining percent of each statement shows that the respondents not having the knowledge about nutritional practices.

The possible reasons might be that the products of the nutritious food are costlier. Another reason may be due to the poor education and poor participation in organization might have lead to this kind of results.

The findings have similarity with the results of Malathi (1988) and Kiran kumari (1991).

5.3 Overall Adoption of the respondents of the health and nutritional practices by respondents

It could be seen from the table 9 and figure that, majority (63.37%) had partially adopted the health and nutritional practices, whereas, 36.63% of the respondents were fully adopted the health and nutritional practices. The reasons for majority in the partial adoption category might be their medium level of knowledge, less social participation, less exposure to mass media, less participation in extension activities. All these factors might have contributed for this kind of trend.

This finding is in conformation with the results reported by Kiran kumari (1991) and Rajalakshmi (1995), that most of the rural women were having partial adoption level.

Knowledge is the pre-requisite to do anything. Lack of insufficient knowledge about any idea prevents an individual in availing benefits. Full knowledge of a practice help an individual to relate it to his needs in terms of benefits. This is true even in case of adoption of health and nutritional practices. Hence rural women need sufficient knowledge for adoption of improved agricultural practices.

5.3.1 Adoption level of rural women about selected health and nutrition practices

5.3.1.1 Adoption level of detailed health practices of the respondents

The data presented in table 10, reveals that, the adoption detailed health practices of children, immunization is must for health of the child (67%), bathing g the child daily (100%), giving the child enough safe water (100%), washing hands before holding and feeding the baby is necessary (44%), regular health check up of the body every month in baby clinic or health centres is needed (23%). And the knowledge level of respondents about health practices for adults it is revealed that keeping the house clean by sweeping and swabbing daily is necessary(55%), the diseases caused by mosquitoes, bed bugs, house flies etc., can be prevented by keeping surroundings clean without water stagnation(47%), trimming nails reduces many food borne diseases(27%), taking boiling or filtered water prevents many water borne diseases(20%), keeping the food articles or items covered will protect food from flies and dirt(47%), washing vegetables before cutting them is good for health (47%). And the washing of utensils, hands and plates before cooking and taking meals is good (38%).

The reasons for above findings might be due to illiteracy, and less participation in extension activities, less exposure to mass media, low economic status. More over, still the elder people in rural areas are traditionally oriented to believe that the cause of illness is the curse of god or evil spirit. So they might not have felt the importance of scientific knowledge regarding health and nutrition aspects to improve their health condition as well as their family members.

The similar findings were reported by Kiran Kumari (1990) and Rajalaksmi (1995).

The remaining percent of each statement shows that the respondents had the adopted the health practices. The reasons for the findings might be due to, 28.00 per cent of the respondents were had up to high school education and majority of the respondents were young. Usually women of young age have more interest to know the new things due to their educational status.

5.3.1.2 Adoption level of detailed nutritional practices of the respondents

The same table 10 also reveals that, the adoption of respondents about nutritional practices about detailed nutritional practices of children ,colostrums should be given to new born baby (53%), breast feeding for infants is must(100%), introducing solid foods like kichri/rice dal/soaked chapattis has to be given seven month old children(36.67%), daily

consumption of combination of rice, dal and vegetables is beneficial for growing children(55%), introducing small quantities of soups, juices, kheer etc. to baby's diet at 3 month stage is good for child health(28.67%), introducing milk , milk products egg and its products is good for growing child(42%). And the adoption about the nutritional practices of adults reveals that, green leafy vegetables must be included in the diet(40.67%), sprouted pulses are more nutritious (36.67%), including cereal-pulse combination(dal chapatti, dal-rice) in regular diet is nutritious for the body(33.33%), consumption of milk and curd strengthen bones (56%), using the jaggery often in the diet reduces iron deficiency (38%), fruits provide vitamins and mineral(23%), drinking of 2 liters of water maintain the good hygiene(33.33%), mixing Soya bean with jowar and wheat during grinding makes food more nutritious (20%).

The reasons for the above findings might be due to the low level of knowledge of the health and nutritional practices. Another reason might be that low economic- status of the family.

The partial adoption about the nutritional practices of children, colostrums should be given to new born baby (42%), breast feeding for infants is must (100%), introducing solid foods like kichri/rice dal/soaked chapattis has to be given seven month old children (37.33%), daily consumption of combination of rice, dal and vegetables is beneficial for growing children (36.67%), introducing small quantities of soups, juices, kheer etc. to baby's diet at 3 month stage is good for child health (28.67%), introducing milk , milk products egg and its products is good for growing child (42%) of adults reveals that, green leafy vegetables must be included in the diet(30%), sprouted pulses are more nutritious (44.67%), including cereal-pulse combination (dal chapatti, dal-rice) in regular diet is nutritious for the body(67.67%), consumption of milk and curd strengthen bones (44%), using the jaggery often in the diet reduces iron deficiency (48.67%), fruits provide vitamins and mineral(45.33%), mixing Soya bean with jowar and wheat during grinding makes food more nutritious (37.33 %).

The possible reasons for the findings might be that, the respondents have knowledge about the importance of health and nutritional practices in order to get good health condition.

The findings were in line with the findings of Kiran Kumari (1991) and Rajalakshmi (1995)

5.4. Relationship between selected characteristics of the respondents and their Knowledge and adoption level of the respondents.

5.4.1 Knowledge with selected independent variables

5.4.1.1. Age and knowledge

The results from the table 8, that there was a negative and non significant relationship between age and knowledge level of rural women. The possible reason for finding a non significant relationship between the age and knowledge level, as age was not an important factor in stimulating rural women to further action. This means the irrespective of their age; rural women had knowledge about health and nutritional practices, the other factors that might have contributed for increase in knowledge level could be education, better socio-economic conditions etc.

The results in relation to non-significant association between the age and knowledge level was supported by Hosamani (1993) and Rajalakshmi (1995). It is important that the government should emphasis on the children and youth education to gain more knowledge on health and nutritional practices.

5.4.1.2. Education and knowledge

Education was positively and significantly related to the knowledge level of the rural women. The possible reason is a known fact that formal education widens the horizons of knowledge of an individual. Formal education of the respondents might have helped them to a greater extent in understanding the importance of health and nutrition, to know more and more about the health and nutritional practices.

The finding was in confirmation with the findings of Naidu (1971) Hosamani (1995) and Rajalakshmi (1995). The results were in contradictory with the result of Kadian (1992).

This suggests that formal education is instrumental in enhancing the knowledge of the rural women on health and nutritional practices

5.4.1.3 Caste and knowledge

Caste was found to be significant at 5 percent level of probability the reasons could be generally higher caste higher caste people have better type of house and a good source of livelihood. Usually they have better contacts with the high status people, better socio-economic status, and more accessibility to education and also greater exposure to mass media and other sources would be more. These factors might have contributed for possessing more knowledge and thus resulted in significant association with the knowledge.

The findings were in confirmation with the findings of Hosamani (1995) and Rajalakshmi (1995).

5.4.1.4 Family type and knowledge

There was a non-significant relationship between the family type and knowledge level of rural women. As the knowledge is concerned the rural women possessed knowledge irrespective of the family type. Since, the nuclear families possess more knowledge as they found more time than the joint families. Another reason might be that, in the joint families the elders were more traditional oriented.

The finding was in line with the findings of the Kiran Kumari (1991) Hosamani(1993) and Rajalakshmi (1995).

5.4.1.5 Family size and knowledge

It was found that, the relation ship between the family size and knowledge level of the respondents was non-significant at both 1 per cent and 5 per cent level of probability.

This trend might be due to that, irrespective of their size of the family, rural women had knowledge about health and nutritional practices. These may be certain other factors which contribute for increase in knowledge level like education, better socio-economic conditions etc.

The finding was in line with the findings of the Kiran Kumari (1991) Hosamani (1993) and Rajalakshmi (1995).

5.4.1.6 Land holding and knowledge

The relationship between land holding and knowledge level was significant at 1 per cent level of probability.

The reasons could be generally individual having small land holding have less formal education and less exposure to mass media. The individuals having big land holding have better socio-economic status, opportunities for having formal education and their exposure to the new things by the mass media or other sources could be more. These facts might be the reasons for findings a significant relationship between land holding and knowledge level of the respondents.

The findings was in confirmation with the findings of Hosamani (1995) and Rajalakshmi (1995).

5.4.1.7 Annual income and Knowledge

The relationship between land holding and knowledge level was significant at 1 per cent level of probability.

The possible reasons could be that the annual income plays an important role in getting the formal education, purchasing the nutritional diet and also made the respondents to know the new things regarding health and nutritional practices. Therefore, the women from higher income group usually possess radio and television and news papers which in turn results to greater exposure to the new things and they are accessible to the education. These facts might have motivated the higher income group women to seek more information about health and nutritional practices results in the significant relation with the knowledge.

The findings was in confirmation with the findings of Naidu (1971) Hosamani (1995) and Rajalakshmi (1995)

5.4.1.8 Source of information and knowledge

The results in the table 8 found that, significant relation with the knowledge level of the respondents. The reasons for the result might be due to less utilization of the mass media and also the formal sources due to majority of the respondents belonged to small and marginal land holding, low income groups, illiteracy and disinterest.

The above have got support from the studies of Rajalakshmi (1995) kiran kumari (1991). The results were contradictory with the result of Hosamani (1993). It suggests that the primary health centres staff and the voluntary organization should come forth to give the information about the health and nutritional practices, importance of the health and nutrition in one's life and the mass media utilization to get the latest information about the health and nutritional practices.

5.4.1.9 Social participation and knowledge

There was a significant relationship between social participation and knowledge level of the rural women. So it could be observed that, as the participation of the women in social organization is increased the knowledge level will also increase. Also, it is possible that interaction with other members more frequently helped them to share ideas and information among themselves.

The findings are in agreement with the Ningappa (1988), Ratnakar and Reddy (1993) and Vijay Kumar (1997). However, contradictory results were also reported by Kadian (1992) and Srinivasa Reddy (1995). Thus, it is clear that more the social participation more will be the knowledge. It is therefore suggested that extension agencies work towards organizing co-operative, youth club, self help groups and mahila mandals to facilitate effective interaction among them.

5.4.1.10 Extension participation and knowledge

The extension participation was positively and significantly related to the knowledge level of the rural women. It is natural that the extension activities like fairs and festivals, meetings, film shows, demonstrations had direct effect on the knowledge level of the respondents.

The finding is in agreement with the findings of Kiran kumari (1991), Malathi (1988), ningappa (1988). The result suggests that the extension worker, P.H.C. staff should motivate the people to take active participation in the extension activities to gain more knowledge on the health and nutritional practices.

5.4.2. Adoption with the selected independent variables

5.4.2.1 Age and adoption

It is evident from the table-9 that, age was negatively and non-significantly related with the adoption level of the respondents. It was observed that the respondents in the category of illiteracy, higher age group secured low adoption score than that of the literate, middle and young age group of the respondents.

This could be because the younger and middle aged women had more education and also due to their higher participation in the extension activities such as meetings and demonstrations and higher contact with the extension personnel such as staff of primary health centre and anganwadi workers. And this could be also because, the young and middle aged women might be more enthusiastic in adopting the new and useful practices and also because women in the young age are liable to change their concepts as they are not too rigid like the old.

The finding was in line with then findings of Malathi (1985), Ningappa (1988), Kiran Kumari (1991), Hosamani (1993). This finding was not support by the findings of Vijay Kumar (1997).therefore, it is suggested that department of family welfare and department of social welfare may take confidence of the older rural women also to bring about greater adoption level of the health and nutritional practices.

5.4.2.2 Education and adoption

There was a positive and significant relationship between the education and adoption level of the rural women. Education being means for higher knowledge which widens the vision and minds of the people to out side world and the utilization of print media like news paper, literates, regarding health and nutritional practices might have increase their knowledge level regarding better health nutrition practices resulted in the higher adoption.

The finding was in line with then findings of Malathi (1985), Ningappa (1988), kiran kumari (1991), Hosamani (1993).

5.4.2.3 Caste and adoption

There was a significant association between the caste and adoption of nutritional practices. it can be observed that, the adoption of health and nutritional practices was more in case of forward and backward caste which are economically sound.

In general, the higher caste people had higher contact with the high status people and also will have more accessible to education. And the low caste people having low educational level might have adopted less practice.

The finding was in line with the findings of Malathi (1985), Ningappa (1988), kiran kumari (1991), and Hosamani (1993).

5.4.2.4 Family type and adoption

There was a non-significant relationship between the family type and adoption. It was observed that in the nuclear families the adoption of practices was found more and less adoption was found in case of joint families. It could be because, in case of the joint families the decisions were taken by the elders of the family, so others had less scope for adopting new practices.

5.4.2.5 Family size and adoption

There was non significant relation was found between the family size and adoption level of the rural women about health and nutritional practices. The possible reason might be that, as it was the individual interest in adoption and non adoption of the practices and it also depends upon the socio economic condition of the respondents.

The finding was in line with the findings of Raghunandan (2004) and Venkatesh Gandhi (2002).

5.4.2.6 Land holding and adoption

There was a significant relationship between the land holding and adoption level of the respondents. it is obvious that land holding was significantly related to adoption as it indirectly focused on the income of the individual or family. This leads the less or not taking the nutrional diet and not showing interest in the gaining the information regarding health and nutritional practices.

The finding was in line with then findings of Malathi (1985), Ningappa (1988), kiran kumari (1991), Hosamani (1993) and Rajalakshmi (1995).

5.4.2.7 Annual income and adoption

The annual income and adoption level of health and nutritional practices had positively and significantly related. It can be observed that the income level increase, the adoption of health and nutritional practices and the adoption level also increases.

Generally, individuals having more income, accessible to education and media and also having more purchasing power and adopted more practices and hence the adoption level was found more in case of the respondents belong to the families having higher income level. Women having low income may not be in a position to purchase the sufficient nutritious food such as milk, pulses vegetables.

The finding was in line with then findings of Malathi (1985), Ningappa (1988), Kiran kumari (1991), Hosamani (1993).

5.4.2.8 Source of information and adoption

The source information was significantly associated with the adoption level of all the respondents.

Women involved in mass communication contact like reading new paper, magazines and listening radio and viewing television to the programmes and lessons related to the health and nutritional practices and getting the information through consulting the formal and informal sources must have certainly helped the rural women to gain more knowledge and to adopt more number of practices of health and nutrition.

The finding was in line with then findings of Malathi (1985), Ningappa (1988), Kiran Kumari (1991).

5.4.2.9 Social participation and adoption

There was a positive and significant relationship between social participation and adoption level of the respondents. so it could be observed that the participation in the organizations is increased the adoption level will also increase.

The finding was in line with then findings of Malathi (1985), Ningappa (1988), Hosamani (1993). The result was in contradictory to the findings of Vijay Kumar (1997). Thus it is suggested that the women should become a member or office bearer and participated in the meetings which would help them in gaining more knowledge.

5.4.2.10 Extension participation and adoption

There was a positive and significant relation ship with the adoption level of the respondents. it was observed that as the participation of the women in extension activities increased the adoption of the health and nutritional practices also increased.

The reasons could be tat, the participation in extension activities such as meetings, exhibitions and educational tours regarding the health and nutritional aspects might have enriched the knowledge of the respondents and resulted in the adoption of nutritional practices. This was in the adoption of health and nutritional practices.

The finding was in line with then findings of Malathi (1985), Ningappa (1988), Kiran Kumari (1991).

5.5. Suggestions of the respondents about health and nutrition practices

The results in the table 10 indicated that, 73.33 percent of the respondents suggested conducting more number of educational programmes on health and nutritional aspects. 72.67 percent of the respondents suggested that use of audio visual aids in educational programmes for effective learning, 67.33 percent of the respondents expressed that proper provision health facilities should be made by the government in the primary health centres.70.00 percent of the rural women suggested that the educational programmes should be frequently conducted by the government or NGO, 96.67 percent of the respondents suggested that Hygienic conditions should be maintained in the local health centres or local hospitals, 80.67 per cent of the respondents expressed that provision of the proper drinking water facilities in the hospitals and villages, the same percent (80.67 %) of the respondents suggested that village should be kept clean by developing drainages and dust bins, 80.67 percent of the respondents expressed that proper guidance or training should be given to village or rural women regarding kitchen gardening to meet the nutritional requirement, 94.00 percent of the respondents expressed that safe disposal of non-degraded and health hazardous products from the village, and 82.00 per cent of the rural women, anganwadi workers and PHC staff expressed that proper mobility should be given to them.

So there is a need to extend their hands in conducting the education programmes and motivate the women to get the information and increase the adoption level of the health and nutritional practices women are the prime producers of necessities of life and the society heavily depends on women for economic support and family health care.

6. SUMMARY

One of the foremost objectives of our nation building activity is the maintenance, sustenance and improvement of the health and nutritional status of the people. If a country is to be healthy, community or society should be healthy. The latest news reported in the India is in lack of the nutrition status. So it is needed that to conduct the educational programmes on health and nutritional aspects But the society heavily depends on women for its economic support and family health care.

Looking at the importance of health in our day to day life and he role of women in that the present study was conducted to explore the knowledge level of rural women about the health and nutritional practices and their consultation behaviour. An attempt was also made to know the problems encountered by rural women in maintaining health and hygiene. The specific objectives of the study are

1. To study the profile of the rural women.
2. To study the knowledge of rural women regarding health nutritional aspects.
3. To study the adoption of rural women regarding health nutritional aspects.
4. To find out the relationship between the personal and socio-economic characteristics with their knowledge and adoption of health and nutritional practices.
5. To obtain the suggestions of rural women for the improved health and nutritional practices.

The study was conducted during 2006-2007 in Belgaum district of north Karnataka, which stands first among the districts of north Karnataka with regard to number of primary health centres and third in the state as a whole. Belgaum and Gokak taluk were selected among the ten taluks of the district were selected. Totally ten villages from the both taluks had selected for the study. From each of these villages 15 women were selected randomly. Thus a total of 150 respondents constituted sample for the study. The data were collected by using structured, pre tested interview schedule by conducting the respondents personally in an informal atmosphere. The data were tabulated and analyzed using statistical measures like frequency, mean, standard deviation, correlation co-efficient.

Major findings of the study

6.1 Profile of the rural women in study area

- Majority (48.00%) of the respondents belonged to young age group, 36.67percent were middle age and only 15.33 percent belonged to the old age group.
- Regarding education level, 28.00 per cent of the respondents studied upto high school level, followed by 23.33 per cent of them with primary level.
- Majority of the respondents (43.33%) were belonged to the backward caste, followed by 38.67 per cent of the respondents were belonged to the forward caste and 18.00 per cent of the respondents were belonged to the SC's/ST's group.
- Majority of the respondents (61.33%) were from nuclear family, whereas 38.67 percent of the respondents were from joint type of family.
- Majority of the respondents(31.00 per cent) were having small land holding(2.6 to 5 acres), 25 per cent were marginal farmers(<2.5 acres) 16,67 per cent of the respondents were land less farmers 13.00 per cent of the respondents were semi medium land holding (5.1 to 10 acres) 8.33 per cent of the respondents were belonged to the medium size land holding (10.1 to 25 acres) and less per cent of the farmers having big land holding(>10 acres).
- Regarding annual income majority (61.33%) of the families of the respondents had an annual income below 17,000, 32.67 percent had annual income of 17,000 to 34,000 nearly equal parts of the respondents had an annual income 34,000 to 51,000and above 50,000 per annum respectively.

- Majority of the respondents consulted the formal informal sources of information. Among the informal sources, majority of the respondents consulted family members and friends 82 percent and 50.67 percent respectively. And 47.33 percent of the respondents consulted the neighbours occasionally. Among the formal sources 59.33 per cent of the respondents consulted medical officers regularly. Majority of the respondents 58.00% consulted auxiliary nurse regularly and 52.67 of the respondents consulted the local doctors regularly. Only 10.67 per cent of the respondents consulted the NGO occasionally. Mass media was less utilized by the respondents.

6.2 Overall knowledge and adoption level of the rural women about health and nutritional practices

- 31.33 percent of the respondents had high, 49.34 percent had medium and the remaining 19.33 percent had low knowledge level regarding health and nutritional practices.
- Majority (42.67%)had partially adopted the health and nutritional practices, whereas, 36.67 per cent and 20.67 per cent of the respondents were not adopted and fully adopted the health and nutritional practices, respectively.

6.3. Relationship between the knowledge and adoption with the independent variables

- The variables namely, education, caste, land holding, annual income, sources of information, social participation and extension participation had positive and significant relationship with the knowledge level of the rural women about health and nutritional practices, and the age had negative and non-significant relationship with the knowledge level, family type had non significant relationship with the knowledge.
- The variables namely, education, caste, land holding, annual income, sources of information, social participation and extension participation had positive and significant relationship with the adoption level of the rural women about health and nutritional practices, and the age had negative and non-significant relationship with the knowledge level, family type had non significant relationship with the adoption level of the respondents.

IMPLICATIONS AND RECOMMENDATIONS

- Majority of the respondents had medium knowledge level about health and nutritional practices it calls for intensification of the educational efforts by local health agents so as to increase the knowledge about the practices on health and nutrition.
- Majority of the respondents were in the partial adoption category. So the efforts could be made to motivate the women in adopting the health and nutritional practices by conducting the educational programmes with effective use of audio visual aids.
- Informal sources and formal sources were consulted by almost all the respondents. So these sources can be better utilized for credible and quick dissemination of knowledge and adoption of health and nutritional practices among the rural women.
- In general mass media were less utilized. So efforts could be made to chalk out effective programmes on health and nutritional aspects in order to increase the knowledge of rural women.
- Anganwadi workers and primary health centres staff should be provided with the vehicles for mobility, so as to increase the accessibility.

- It was evident from the results that a very few used fruits and milk frequently. So more number of exhibitions, meetings, lectures etc. have to be organized about the importance of fruits and milk and milk products in the one's health.

SUGGESTIONS FOR THE FUTURE STUDY

- As knowledge of an innovation is requisite for its successful adoption, studies emphasizing an assessment of knowledge about health and nutritional aspects as well as studies throwing light on adoption pattern of that particular health and nutrition aspects would be of much help to draw valid inference.
- Since the present study was conducted with regarded to health and nutritional practices there is a need to study the specific areas in detail at macro as well as micro level so as to draw some useful and valid generalizations.
- There is a need to conduct a study to evaluate the impact of the health centres in improving the health and nutritional status of the people.
- It is necessary to look into the functioning of the health centres and through studies to suggest changes in their institutional set up and role structure of personal and for evolving new norms of health services.

7. REFERENCES

Abdad, A., Roy, J and Sahu, K., 2006, Maternal and Child health care of Tribal. J. Family welfare.52 (1) : 52-54.

Amtul Waris., 2004, Utilization of information sources by rural women in arid Rajasthan. Ind. J. Exten. Edu.40 (1&2) : 67-68.

Anupama, A., 2001, Indigenous knowledge system used for health care of people in Shimoga district, Karnataka. Kar. J. Agric. Sci. 23 (1&2) : 283-284.

Avinash Kumar Singh., Gajendra Pratap Singh and Baldeo Singh., 2002, Adoption behaviour of improved chickpea Production Technology. Ind. J. Exten. Edu. 38 (3&4) : 162-164.

Banerjee, G.D., 2002, Evaluation study on self help groups financing agriculture-in House. J. Agric. Fin.34 (2) : 38-42.

Bhattacharya, N., 1990, Immunization: parental knowledge and attitude in relations to low income and literacy. Ind. J. Pub. Health. 34 (4) : 20.

Chandra, K. Singh., 2006, Health problems in rural Haryana. Rural India, Dec pp. 234-356.

Chandra Charan., 2003, a profile of sujala watershed project beneficiary farmers in Dharwad district. *M.Sc. (Agri) Thesis*, Uni. Agric. Sci. Dharwad. (India).

Dasgupta, D and Sengupta, D., 1998, Community wise involvement of farm women in Indian agriculture. Paper presented in: Int. Conference on Appropriate Agric. Tech. for Farm Women, ICAR, New Delhi. pp. 70-79.

Darling, B. Suji and Vasanthkumar, J., 2004, Knowledge and Adoption of botanical pesticides. J. Exten. Edu. 15 (2&3) : 3655-3658.

Deepak, M.P., 2003, A study on perception of beneficiaries and non-beneficiaries towards WYTEP programme in Dharwad district. *M.Sc. (Agri.) Thesis*, Uni. Agril. Sci., Dharwad. India.

Deshpande P.V., Anupama V. Wasu and Mujumdar S. D., 1994, Knowledge level about Health practices among rural women, Mah. J. Exten. Edu. 18 : 311-312.

Dhanesekharan, G., 2005, Knowledge, Attitude, Practice and Maintenance regarding Sanitary latrines. j. Exten. Res.7 (1&2) : 8.

Dipti Bharathi,., Kamble, R.M and Dhumal., 2000, awareness of rural housewives regarding soyabean consumption in Kolhapur district. Mah. J. Exten. Edu. 19 : 171-177.

English, H.B. and English, A.C., 1958, A comparative dictionary of psycho analytical terms. *LONGERMONS*, greens and Co., New York.

Gautum, M and Tripathi, H., 2001, Women in goat husbandry. Man in India, 18(4) : 313-320.

Geeta, M., Meera, R., Bhavani, K and Sunanda, k., 1999, Karnataka woolen blanket weavers, Ind. J. Small Ruminant.5 (1) : 39-42.

Govinda Gowda, V, Lakshminarayana, M and Chandra shekar, S.V., 2000, Knowledge of farmers on dryland farming practices in groundnut cultivation. J.Exten.Edu.11 (1) : 2651-2655.

Guldan, G.S., FanHeng Chun., Ma-Xiao., Ni-ZongZan., Xiang-Xia and Tang-MingZhen., 2000, Culturally appropriate nutrition education improves infant feeding and growth in rural Sichuan, China. J. Nut. 30 (5) : 1204-1211.

Gupta, S. K and Sandhu, A. N., 1995, IRDP in Hilly areas: a case in J&K. J. Rural Deve.14 (1) : 53-54.

Gupta, J. N., 1996, Consumption pattern of dairy products in Chandigarh. Indian Dairyman. 47 (6) : 34-37.

Gunasekharan, S and Devi, P., 2006, Study on Impact of antenatal care on pregnancy outcome. Agric. Exten. Rev.15 (1-4) : 30-32.

Hemalatha Prasad, C and Omprakash., 1997, Sustainable employment for women- Mahila Chetana Manch shows the way. Gramin Vikas Newslett. 13 (6) : 13-25.

Hosamani, V. S., 1993, Study on Knowledge of general health practices of rural women and their communication behaviour, Bailongal, Karnataka. *M.Sc. (Agri.) Thesis,* Uni. Agric. Sci. Dharwad. (India).

Jogender Singh., Chahal, V.P and Vidyulata., 2003, Media use profile of framers in Hissar and Sonepet districts, Haryana. Ind. J. Exten. Edu. 38 (3&4) : 134-137.

Kanavi, V.P., 2000, A study on Knowledge and Adoption behaviour of sugarcane growers in Belgaum district, Karnataka. *M.Sc. (Agri) Thesis*, Uni. Agric. Sci. Dharwad.(India).

Karpagam, C., 2000 A study on Knowledge and Adoption behaviour of turmeric growers in Erode district of Tamil Nadu state. *M.Sc. (Agri) Thesis*, Uni. Agric. Sci. Dharwad. (India).

Kiran kumari, N. S., 1991, A Study on Knowledge and Adoption of Nutritional practices by the rural Beneficiaries of Integrated child development scheme in Dharwad district, Karnataka. *M.Sc. (Agri) Thesis*, Uni. Agric. Sci. Dharwad. (India).

Kumari, B.S and Sharada, D., 2001, Nutrition knowledge, attitude and practices of vegetable growers and non-vegetable grower families. J. Res. ANGRAU. 28 (1/2) : 69-72.

Kumaran, K. P., 1997, SHG's- An alternative to institutional credit to the poor- A case study ion Andhra Pradesh. J. Rural Dev. 16 (3) : 515-530.

Lakshmamma, T. and Reddy, B.P., 1991, Knowledge and Practices of Family Planning in Ongole taluk of Prakasam district, Andhra Pradesh. 37 (1) : 48-58.

Mahapatra, B.C., Das, B.K and Mohanti,B. P.,1997, Agriculture and Social Development in Jagannathapur village, Orissa- a case study. J. Rural Dev. 16 (3) : 531-539.

Mahadik ,R.P., Palkar, V.A. and Tawaade, N.D., 2006, Personal and socio-economic profile of PRI's in Ratnagiri district. Rural India. April : pp. 72-75.

Malathi, V., 1985., a study on knowledge, attitude and practices of rural mother trained by Anganwadi workers. *M.H.Sc Thesis,* Uni. Agric. Sci. Banglore (India).

Mangasri, K., 1999, Empowerment of DWACRA group in Rangareddy district of Andhra Pradesh. *Ph.D. Thesis*, ANGRAU, Hyd, A.P (India).

Manay, S. and Farzana,C., 2000, Socio-economic Characteristics of Rural Family. Mah. J. Exten. Edn.19 : 325-328.

Manisha kale., Dapukar S. N., and Asha ., 1998, Adoption of Personal hygiene Practices and nutritional status of tribal children, Mah. J. Exten. Edu.17 : 370 -373.

Manohar, K.N., Sobha, V. and Rao, B.J., 1981, Women construction workers of Warangal. *Econ. Pol. Weekly*, 16 (4) : 97-99.

Maraddi, G.N., 1999, a study on the cotton production technologies – constraints analysis. *M.sc. (Agri) Thesis*, Uni. Agric. Sci. Dharwad (India).

Mayuri, K., 1998, Television and Women empowerment. Soc. Welfare. 45 (20) : 15-17.

Meeran, N and Prince Jayaseelan, M.J., 2002, Socio-personal, Socio-economic and Socio-psychological profile of shrimp faremers. J. Exten. Edu. 10 (2) : 2445-2448.

Mehta and Laharia, S.N.,1991, Knowledge of rural women about child immunization, grain storage and clothing and textiles. Har. Agric. Uni. J. Res. 21 (4) : 302-306.

Mohan Rao, M. J and Siva ram, P., 2001, Rural Programmes and people Participation. Watershed Comprehensive Development. B. S Publications, 4-4-309, Sultan Bazaar, Hyderabad.

Mohini Devi, A and Saroda, D., 1997, Nutritional Educational Intervention through Participatory Development Planning. Ind. J. Exten. Edu. 33 : 139-1445.

Moulasab, I., 2004, A study on knowledge and adoption of improved cultivation practices by mango growers in north Karnataka. *M.Sc. (Agri.) Thesis*, Uni. Agric. Sci. Dharwad. (India).

Murugan, K. R and Dharnalingam, B., 2000, SHG's- New Women's movement in Tamil Nadu, J. Soc. Welfare.47 (45) : 9-12.

Nagaratna Biradar and Sundaraswamy, B., 1998, Factors associated with nutritional knowledge retained by rural women through different teaching methods. Kar. J. Agric. Sci. 11 (3) : 717-720.

Naidu, N.V., 1971, Knowledge and approval of family planning among rural respondents. *J. of Family Welfare*, 18 (1) : 74-85.

Narasalangi, M.M., 1990, Study on the profile of Mahila Mandals in Dharwad taluk of Dharwad district. *M.Sc. (Agri.) Thesis*, Uni. Agril. Sci., Dharwad. India.

Ningappa, N., 1988, Analysis of the impact of the dairy development programme of KMF on farm women in Bidar district, Karnataka. *M.Sc. (Agri.) Thesis*, Uni. Agric. Sci. Dharwad. (India)

Pandian, S., Dibyanshu Shekar and Rathokrishnan, J., 2002, Impact of video education on Knowledge Retention on Layer farming in Madhurai, Tamil Nadu. Ind. J. Extn. Edu.38 (3&4) : 155-157.

Pankaj Dwiedi and Sharma, S. K., 2004, Sources consulted by rural women about health practices. Int. J. Family and H. Sci. 2 (2) : 45-47.

Patil, V.F., 1990, a critical Analysis of gap and constraints in the adoption of improved rice cultivation practices in Konkan region, Mharashtra. Ph.D thesis, Uni.Agric.Sci. Dharwad (India).

Patnam, V., Vasekar, J and Kingonkar, S., 1990, Infant immunization practices adopted by rural agriculture labourers. Mah. J. Exten.Edu. 9 : 124-126.

Poonam Srivastava, Priyanka Jainand Prakash Singh., 2004, Mass media effect on Adoption of Nutrition Practices. Ind. J. Nut & Dietics 44 : 115-117.

Prameel A, K and Ravichandran, V., 2004, Study on use of Interpersonal and Mass communication channels by rural women of Kanyakumari district. Ind. J. Nut & Dietics.44 : 67-68.

Prasad, C.H., 1998, Implementation process of Women Development Programme (IFAD) – An experimental model J. Rural Development 17 (4) : 779-791.

Puhazendi, V., 2000, Evaluation study of self help groups in Tamil Nadu. NABARD Mumbai.

Puhazendi, V and Jayaraman, B., 1999, Increasing women participation and employment generation among rural poor- An approach through informal groups. National bank, 15 (4) : 55-62.

Purushotham, P., 2004, Marketing support to the Self Help Groups. Kurukshetra. 56 (4) : 23-28.

Rabinderjit Mahindra and Navdeep Kaur., 2003, Extent of awareness of Farm Women regarding residuals in Milk and Milk products. Agric. Exten. Rev. 15 (1-4) 60-63.

Raghavendra, K., 2000, SHG linkage banking-challenges of training – Role played by National Centre. J. Land Bank. 41 (94) : 72-76.

Raghuprasad, K.D., Umamahesh,A.B and Mohan P.N., 2004, SHG's: Strengths and constraints in introducing agro based enterprises, Paper presented In. *Nat. sem. on Contemporary Challenges for Indian Agric. and Rural Development*, UAS, Dharwad, Jan 2004.

Raghavendhra, M.R., 2004, a study on Knowledge and Adoption level of the post harvest technology by Redgram cultivators in Gulburga district, Karnataka. *M.sc. (Agri) Thesis*, Uni. Agric. Sci. Dharwad (India).

Raghunandan, H.C., 2004, A study on Knowledge and Adoption level of soil and water conservation practices by farmers in Northern Karnataka. *M.Sc. (Agri) Thesis*, Uni. Agric. Sci. Dharwad (India).

Rajalakshmi, B., 1995, A study on rural mother's Knowledge, Opinion and Adoption of immunization practices, Kudligi taluk, Karnataka. *M.Sc. (Agri) Thesis*, Uni. Agric. Sci. Dharwad (India).

Raju., 2001, Constraints and Suggestions for effective implementation of farm women development programmes. Manage Exten. Res. Rev. July-Dec. 19 : 41-42.

Ranjana Dwivedi., Neelima Kunwar and Singh, R.P., 2006, Utilization pattern of Communication sources and their effectiveness regarding adoption of various Child Development Practices. Int. J. Family and H. Sci. 2 (2) : 95-96.

Rangi, P.S., Sindhu, A.S and Harit Singh., 2002, Economic Empowerment of rural women through self help groups- A case study of Fategarh sahib district, Punjab. Man and Development. 24 (3) : 65-78.

Reddy, C.V. and Ratnakar, R.,1993, adoption of recommended practices in Mango. *Mysore J. of Agril. Sci*., 27 : 186-188.

Rehana merchant., 1998, Study on Knowledge and Adoption of Weaning practices among rural women in Akola. Mah. J. Exten.Edu. 17 (1&2) : 37-38.

Ritu jain, Kushawaha, R.K and Srivasthav, A.K., 2003, Socio-economic impact through SHG's. Yojana. 47 (7) : 11-12.

Savita, N and Aruna Narayan, A.C., 2006, Food consumption pattern and nutrient intake contribution of fast foods in school and college going girls. Ind. J. Nut .and Dietics 44 : 189-191.

Sashidhar, K.K., 2003, A study on Social Economic profile of drip irrigation farmers in Shimoga and Davangere districts of Karnataka. *M.Sc. (Agri) Thesis*, Uni. Agric. Sci. Dharwad (India).

Sharma, A.K and Ram kuber., 1991, Seasonal variation in Consumtion pattern of weaker sections households with special reference to milk and milk products in Saharanpur. Ind J. Dairy Sciences .44 (8) : 474-478.

Shashikala, S., 1990, A study on the activities performed and time spent of them by farm women of rain fed and irrigated areas of Dharwad district, *M.Sc.(Agri.) Thesis,* Dharwad(India).

Singh, K. J and Kang, S., 1993, Adoption of immunization programmes by rural mothers in Punjab. Rural India. 56 (3) : 33-36.

Sivanarayana, G., Reddy, S.J and Reddy, G.R., (1999), Relationship between personal, socio-economic factors and information output pattern of ICDS and non-ICDS rural women, U.P. J. Res. ANGRAU. 27 (4) : 100-103.

Srinivasa Reddy, M.V., 1995, A study on knowledge and adoption of recommended mango cultivation practices among farmers of Kolar district. *M.Sc. (Agri.) Thesis*, Uni. Agric. Sci., Dharwad. India.

Subhash, C.W., 1999a, Sustainable Micro Credit model for poverty alleviation and empowerment Financing Agric. Special, Millennium Issue. 31 (3) : 84-111.

Subhashini, B and Tyagarajan, S., 2002, Adoption behaviour of tapioca farmers in Vallalar district, Tamil Nadu. Ind. J. Exten.Edu. 37 (1&2) : 2002.

Sudharani, K., 2002, Self Help Groups, Microcredit and empowerment. *J. of Social Welfare*, 49 (11) : 22-23.

Sudharani, K and Srilatha kishore, K.,2006, Knowledge, Attitude and Practice of reproductive health among Neo-literate women. Rural India, June-July pp. 142-145.

Suriakanthi, A., 2000, Literacy- Essential for SHG. Social Welfare. 50 (2) : 33-34.

Susheela, B., 1991, A study on knowledge and adoption of improved dairy practices by Bidar district, Karnataka, *M.Sc.(Agri.) Thesis*, Uni. Agric. Sci. Dharwad (India).

Sweta suman, Usha Malagi, Rama K. Naik and Hasabi, I.S., 2007, Clinical health status prevailing complications among cronic renal failure patients. The Ind. J. Nut. Dietics. 44 : 236 – 243.

Tandon, B.N., Gandhi and Nutrition and Integrated Child Development Service consultants ., 1992, Immunization coverage in India for areas served by the ICDS programme . Bull.WHO.70 (4) : 461-465.

Tripathi, R.S., (1989), Family planning among kolas of Manikpur block Uttar Pradesh, J. Family Welfare. 35 (4) : 55-60.

Vandana Gupta and Neelam Kochhar., 2006, Survey on Food and Nutrition to study diet awareness among adolescent girls. Int. J. H. Sci. 2 (1) : 69-73.

Vanetha, K.P., 2006, The characteristics of farm women participating in Development Programmes, Theni dist. Tamil Nadu. Rural India April: 70-71.

Vasudevrao, D.M 2003, Self Help Groups and Social change. J. Social Welfare. 50 (2) : 33-34.

Venkataramulu, M., 2003, A study on Knowledge and level, Adoption and Marketing behaviour of chilli growers in Guntur district, Andhra Pradesh. *M.Sc. (Agri) Thesis*, Uni. Agric. Sci. Dharwad (India).

Venkatesh Prasad, G and Siddaramaiah, B.S., 2000, A study on Adoption level of plant protection measures in Paddy and Groundnut growers. Kar. J.Agric.Sci. 13 (4) : 901-907.

Venkatesh Gandhi, R., 2002., Knowledge level and adoption behaviour of vegetable growers with respect to integrated pest management of tomato crop in Kolar district. *M.Sc. (Agri.) Thesis,* Uni. Agric Sci. Dharwad. (India)

Vikaykumar, A.C., 1997, Adoption of improved cultivation practices among rose growers. *J. of Extn. Edn*., 10 : 2331-2334.

Yashpal Kaur and Salil Sehgal., 1995, Impact of Nutritional Education And Knowledge Practice of rural women. Ind. J. Exten. Edu. 21(1-4) : 80-81.

A STUDY ON KNOWLEDGE AND ADOPTION OF SELECTED HEALTH AND NUTRITIONAL PRACTICES BY RURAL WOMEN IN BELGAUM DISTRICT, KARNATAKA

INTERVIEW SCHEDULE

I. General information :

Name of the Respondent :

Name of the village :

Distance from the nearest town/city :

1. Age :

2. Education: Illiterate/ Primary school

High school/ Graduation

3. Caste:

4. Type of family: Nuclear/Joint:

5. Size of the family: Male:

Female:

Children:

Total:

6. Land holding:

Type of land holding	Area owned(acres)
Dry land	
Irrigated	
TOTAL	

7. Annual Income:

a) From main occupation (Rs.): _____

b) From subsidiary occupation (Rs.): _____

Total (Rs.): _____

8. Sources of information:

Sl.No.	Sources		Regular	Occasionally	Never
1	Informal Sources	Family members			
		Friends			
		Neighbors			
2	Formal sources	Medical Officers			
		Auxiliary Nurse			
		NGO			
		Local doctors			
3	Mass Media	News paper			
		Radio			
		Television			

9. Social Participation:

Institution/ Organization	Member		Office bearer		Extent of participation					
					Regular		occasional		Never	
	F	P	F	P	F	P	F	P	F	P
Village panchayat										
Cooperatives										
Mahila mandals										
SHG's										

10. Extension Participation:

Sl.No	Activities	Participation		
		Regular	Occasionally	Never
1.	Demonstration			
2.	Meetings			
3.	Field days			
4.	Exhibition			
5.	Film shows			

I) Statements to measure Knowledge of rural women regarding health practices

A. Information regarding health practices for the maintenance of child health / hygiene (0-3 years)

1. Immunization is must for good health of the child (Yes/No)

2. Bathing the child daily is good for health (Yes/No)

3. Giving the child enough safe water for drinking regularly (Yes/No)

4. Washing the hands before holding and feeding the baby is Neccessary (Yes/No)

5. Regular health check-up of baby every month in baby clinic/health center is needed (Yes/No)

B. Information regarding health practices for maintenance of personal hygiene

1. Keeping the house clean by sweeping and swabbing daily is neccessary (Yes/No)

2. The diseases caused by mosquitoes, bed bugs, house flies etc. can be prevented by keeping surroundings clean without water stagnation (Yes/No)

3. Keeping nails clean reduces many food borne diseases. (Yes/No)

4. Taking boiling/filtered water prevents many water borne diseases (Yes/No)

5. Keeping the food articles/items covered will protect from flies and dirt (Yes/No)

6. Washing vegetables before cutting them is good for health (Yes/No)

7. Washing hands before preparing cooking and taking meals is good. (Yes/No)

II. Statements to measure knowledge of rural women regarding Nutritional practices

A. Information regarding nutrition practices for child health (0-3 years)

1. Colostrum should be given to new born baby (Yes/No)

2. Breast feeding for infant/baby is must (Yes/No)

3. Introducing solid foods like (Khichri/ricedal/ soaked chapaties) has to be given to 7 month age old child (Yes/No)

4. Daily consumption of rice, dal and vegetables is beneficial for growing child (Yes/No)

5. Introducing small quantities of soup, juices, kheer etc., to baby's diet at 3 month stage (Yes/No)

6. Introducing milk and milk products or egg and egg products is good for growing child (Yes/No)

B. Information regarding nutrition practices for adults

1. Green leafy vegetables must be included ion the diet (Yes/No)

2. Sprouted pulses are more nutritious (Yes/No)

3. Including cereal-pulse combination (dal-chapati, dal-rice) in regular diet is nutritious for the body (Yes/No)

4. Consumption of milk and curds strengthen bones (Yes/No)

5. Using jaggery often in the diet reduces the iron deficiency (Yes/No)

6. Fruits provide vitamins and minerals good for health (Yes/No)

7. Drinking 2 liters (8 glasses) of water maintain the good hygiene (Yes/No)

8. Mixing of soyabean with jowar and wheat during grinding makes food more nutritious (Yes/No)

I) Statements to measure adoption of rural women regarding health practices

A. Information regarding health practices for the maintenance of child health / hygiene (0-3 years)

1. Immunization is must for good health of the child (Yes/No)

2. Bathing the child daily is good for health (Yes/No)

3. Giving the child enough safe water for drinking regularly (Yes/No)

4. Washing the hands before holding and feeding the baby is Neccessary (Yes/No)

5. Regular health check-up of baby every month in baby clinic/health center is needed (Yes/No)

B. Information regarding health practices for maintenance of personal hygiene

1. Keeping the house clean by sweeping and swabbing daily is neccessary (Yes/No)

2. The diseases caused by mosquitoes, bed bugs, house flies etc. can be prevented by keeping surroundings clean without water stagnation (Yes/No)

3. Keeping nails clean reduces many food borne diseases. (Yes/No)

4. Taking boiling/filtered water prevents many water borne diseases (Yes/No)

5. Keeping the food articles/items covered will protect from flies and dirt (Yes/No)

6. Washing vegetables before cutting them is good for health (Yes/No)

7. Washing hands before preparing cooking and taking meals is good. (Yes/No)

II. Statements to measure adoption of rural women regarding Nutritional practices

A. Information regarding nutrition practices for child health (0-3 years)

1. Colostrum should be given to new born baby (Yes/No)

2. Breast feeding for infant/baby is must (Yes/No)

3. Introducing solid foods like (Khichri/ricedal/ soaked chapaties) has to be given to 7 month age old child (Yes/No)

4. Daily consumption of rice, dal and vegetables is beneficial for growing child (Yes/No)

5. Introducing small quantities of soup, juices, kheer etc., to baby's diet at 3 month stage (Yes/No)

6. Introducing milk and milk products or egg and egg products is good for growing child (Yes/No)

B. Information regarding nutrition practices for adults

1. Green leafy vegetables must be included ion the diet (Yes/No)

2. Sprouted pulses are more nutritious (Yes/No)

3. Including cereal-pulse combination (dal-chapati, dal-rice) in regular diet is nutritious for the body (Yes/No)

4. Consumption of milk and curds strengthen bones (Yes/No)

5. Using jaggery often in the diet reduces the iron deficiency (Yes/No)

6. Fruits provide vitamins and minerals good for health (Yes/No)

7. Drinking 2 liters (8 glasses) of water maintain the good hygiene (Yes/No)

8. Mixing of soyabean with jowar and wheat during grinding makes food more nutritious (Yes/No)

(Score: Yes-1; No-2)

Suggestions of rural women for improved health and nutrition practices

Sl.No	Suggestions	Frequency	Percent
1.	Conduct more number of educational programmes on health and nutrition aspects.		
2.	Use of Audio-visual aids in educational programmes.		
3.	Proper provision should be made available in the PHCs by the government.		
4.	Educational programmes should be frequently conducted		
5.	Hygienic conditions should be maintained in the local health centres or local hospitals.		
6.	Villages should be kept clean by developing drainages and dust bins		
7.	Safe disposal of non-degraded and health hazardous products from the village		
8.	Training should be given to the rural women on kitchen garden to met the nutritional requirement.		
9.	Mobility services should be provided to the angan wadi workers.		

F= frequency; P=Percentage

A STUDY ON KNOWLEDGE AND ADOPTION OF SELECTED HEALTH AND NUTRITIONAL PRACTICES BY RURAL WOMEN IN BELGAUM DISTRICT, KARNATAKA

KIRAN VANI. P **2007** **R.L.V.HIREVENKANGOUDAR**
MAJOR ADVISOR

ABSTRACT

The study was conducted in Belgaum and Gokak taluks of Belgaum district of Karnataka state during the year of 2006-2007. The district and taluks were purposively selected because they were having highest number of Primary Health Centers (P.H.C). Since the study was related to health and nutritional practices, villages having Primary Health Centers (P.H.C) were considered for the study. Five villages were selected randomly from each taluk for the study. Fifteen women were selected randomly as respondents from the selected villages. Thus a total of one 150 respondents were taken for the study.

Majority (49.34%) of the respondents had medium level of knowledge. Whereas, 19.33 percent and 31.33 percent of the respondents had low and high level of knowledge, respectively about health and nutritional practices. Majority (63.37%) had partially adopted the health and nutritional practices, whereas, 36.63% of the respondents were fully adopted the health and nutritional practices. This might be due to the less social participation, less exposure to mass media, less participation in extension activities.

The socio economic profile of the respondents revealed that majority of the respondents had high level of education (46.00%), nuclear family (61.33%), annual income had upto 17,000 (61.33%), land holding 2.5 to 5 acre (31.00%), low to medium participation in social organizations (40.00%), low extension participation (14.67%), less exposure to mass media (7.33%), medium to high information seeking behaviour through formal and informal sources (59.00%).

Knowledge and Adoption showed a significant relationship with education, caste, land holding, annual income, and sources of information, social participation and extension participation had positive and significant relationship with the knowledge level of the rural women about health and nutritional practice. The age a d family size showed non significant relationship with the knowledge and adoption level of the respondents.