MORBIDITY PATTERN AND HEALTH SEEKING BEHAVIOUR AMONG THE FARM HOUSE RESIDENTS IN VIJAYAPUR DISTRICT, KARNATAKA.

By

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In

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Under the guidance of

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I,**Dr SANDEEP YANKANCHI**, hereby declare that this dissertation entitled **"MORBIDITY PATTERN AND HEALTH SEEKING BEHAVIOUR AMONG THE FARM HOUSE RESIDENTS IN VIJAYAPUR DISTRICT, KARNATAKA."** is a bonafide and genuine research work carried out by me under the guidance of Dr.**REKHA UDGIRI,** M.D., Professor, Department of Community Medicine, B.L.D.E.(DU) Shri. B. M. Patil .Medical College Hospital and Research Centre, Vijayapura.

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LIST OF ABBREVIATIONS

DLHS   : District Level Household Survey

NFHS   : National family health Survey

SBP   : Systolic blood pressure

DBP   : Diastolic blood pressure

JNC   : Joint National committee

IAP   : Indian Association of paediatrics

BMI   : Body mass index

ASHA   : Accredited Social Health Activist

ANM   : Auxiliary Nurse Midwife

SC   : Sub centre

CHC   : Community health centre

PHC   : Primary health centre

HB   : Hemoglobin

ID-GCMS   : Isotope dilution gas chromatography mass Spectrometry

NIST   : National Institute of standards and technology

HTN   : Hypertension

DM   : Diabetes Mellitus

T2DM   : Type 2 diabetes Mellitus

WHO   : World Health Organization

BMI   : Body Mass Index

NCD   : Non Communicable disease

PSU   : Primary sampling unit

ABSTRACT

INTRODUCTION: Agriculture is essential for good health as it produces food, fibre and materials for shelter along with medicinal plants. It is also an important source of livelihood in many of the middle and lower income countries. Agriculture workers have a multitude of health problems, a fact which is often forgotten because of widespread misconception that occupational health is mainly concerned with industry and industrialized countries. According to the Karnataka Land Revenue (Amendment) Act, 2015:"Farm Buildings" or "Farm house" means a house attached to a farm and constructed in a portion of an agricultural land, used for the residence of the agriculturist or used for the purpose of keeping agricultural equipments and tethering cattle. The house shall be used by farmer for his own use and it shall not be let out for commercial activities to any individual or agency."

The farm house workers are so remotely dispersed in rural area that the health services may not reach them. Data regarding morbidity pattern and health seeking behaviour among farm house dwellers is very sparse. Hence the present study was undertaken to explore health-seeking behaviour among the farm house residents of Vijayapur district.

OBJECTIVE OF THE STUDY:

1. To study the morbidity pattern among farm house residents.

2. To identify the health seeking behavior among them.

MATERIAL AND METHODS: A cross sectional study was conducted in rural areas of Vijayapura district. After obtaining ethical clearance from the institutional ethical committee the study was conducted in Vijayapura district. Geographically vijayapura district has been divided into five talukas namely Vijayapura, Indi, Sindgi, Basavana Bagevadi and Muddebihal .Within each Taluka, the selection of households

is done in different stages considering villages as the primary sampling unit (PSU).[51] Villages where the number of households is less than 5 would not been considered in the selection of samples for rural Vijayapura and removed from the list. Allocation of total sample population of 384(≈400) in farm households is done in proportion to their population. Households have been selected in two stages. PSUs are selected with probability proportional to size (PPS) sampling and at the second stage and 5 households in a selected PSU are selected by random sampling. The List of Households Staying in Farm was taken from the Govt PHC and chits containing head of the family was made. Total 5 chits from each village was selected randomly and included in the study. From each household four participants randomly were interviewed regarding morbidity pattern and health seeking behavior .If any selected household does not contain 4 participants were excluded and new household was selected randomly.

RESULTS: The present study was conducted in the rural areas of vijayapura district. The total number of study subjects were 450. The present morbid Condition observed was as follows – anemia (36.9%) , Respiratory infection (9.3%), Gastrointestinal infection(8.9%), Dental caries (6.4%), fever (4%), arthritis (4%), Accidents (2%), body ache (1.6%), Hypertension (1.5%), Diabetes mellitus (0.6%) and the Past Morbid Condition told by the Participants were dental caries (16%), Respiratory infection(9.3%), Accidents(4.4%), Scorpion bite(6%), Gastrointestinal infection (4.2%), Snakebite(2.7%), Fever (2%), Arthritis (2.7%), Body ache (1.6%), Hypertension (2.9%), Diabetes mellitus (2.6%), Cataract(2%), Skin Disease(2%), Corneal Ulcer(0.7%) ,Hearing Loss(0.7%) .For the present and past health related problems, majority of them took treatment from government facility (21.8%) followed by private practitioner (7.6%) and pharmacist (6.2%).

CONCLUSION: Agriculture is one of the oldest and largest industries in our country because 80 percent of our population lives in the rural areas and the main occupation is agriculture. The findings of the present study among farm dwellers in the rural area of vijayapura District revealed that majority were illiterate belonging to lower socio economic class and are having health problems related to agriculture health hazards like snake bite , scorpion bite , musculosketal disorders , skin disease , injuries, dental caries, Communicable and non-communicable disease. Majority of them seek health care facility from the Government health facility followed by Private clinics when they are sick. Minimum distance travelled by them was 1-5 kms for their health care and spent up to INR 100 for each visits.

Key words: Morbidity pattern, Health seeking behaviour, Farm house

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INTRODUCTION

Agriculture is an art/practice of cultivating land. WHO defines it as an industry comprising of all forms of activities connected with growing, harvesting and primary processing of all types of crops. Any person engaged either temporarily/ permanently in activities related to agriculture is called as agricultural labor. Agriculture sector occupies a key position in our country. It provides employment to about 65% of the working population of India. Agricultural workers constitute by far the largest segment in the unorganized sector. Agriculture workers constitute the most neglected classes in the Indian rural structure. Their income is low and irregular. They do not possess any skill and training and have no alternate employment opportunities. [1]

Agriculture is essential for good health as it produces food, fiber and materials for shelter along withmedicinal plants. It is also an important source of livelihood in many of the middle and lower income countries. [2] Agriculture is one of the oldest and largest industries in our country. Yet; 'occupational health in agriculture' has been rather a new concept. Agriculture as an occupation differs from another occupation in that, workers work in the open fields, exposing themselves to extremes of climates and also there are no 'Labor laws' in practice. [3]Agricultural workers have a multitude of health problems, a fact which is often forgotten because of widespread misconceptions that occupational health is mainly concerned with industry and industrialized countries. The health problems of workers in agricultural field may be accidents (Snake and insect bites), toxic hazards (chemical exposure and insecticide poisoning), physical hazards (extreme conditions and solar radiation) and respiratory problems (farmer's lung and occupational asthma). [4]

According to the Karnataka Land Revenue (Amendment) Act, 2015:

"Farm Buildings" or "Farm house" means a house attached to a farm and constructed in a portion of an agricultural land, used for the residence of the agriculturist or used for the purpose of keeping agricultural equipments and tethering cattle. The house shall be used by a farmer for his own use and it shall not be let out for commercial activities to any individual or agency."Amendment of section 95.-Inside section 95 of the principal Act, - (a) after sub-section (1) state farm building or farm house so erected shall not be more than ten percent of his holding subject to a maximum of such extent of land as may be prescribed. [5]

Health seeking behaviour as defined by Kasl and Cobb is any activity undertaken by individuals who perceive themselves to have a health problem or to be ill for the purpose of finding an appropriate remedy. [6]

Most often a country has a mix of the two health care systems, Public and Private, to ensure equitable distribution of quality medical care. The governments use taxation, social security measures and donations to fund public health care system. Public insurance systems include social security model, publicly funded health care model and the social health insurance models. Health insurance is also provided through Private insurance companies. [1]

The farm house workers are so remotely dispersed in rural area that the health services may not reach them. Data regarding morbidity pattern and health seeking behaviour among farm house dwellers is very sparse. Community based study can only reflect the true picture of morbidity pattern in a given community and what are their preferences in seeking health care services . Hence the present study was undertaken to explore the morbidity pattern and health-seeking behaviour among the farm house residents of Vijayapur district.

OBJECTIVE OF THE STUDY

3. To study the morbidity pattern among farm house residents.

4. To identify the health seeking behaviour among them.

REVIEW OF LITERATURE

'Agriculture is our wisest pursuit, because it will in the end contribute most to real wealth, good morals and happiness.'

- Thomas Jefferson

Agriculture being labor intensive activity musculoskeletal disorders are the leading cause of the occupational ill health. This risk of musculoskeletal disorders is higher in agricultural workers because of the long working hours, practice of lifting heavy weights and inconvenient work posture. There is a poor application of ergonomics principle of agricultural tools. There are no legislations related to health, safety and welfare of agricultural workers. There are no social security schemes for agricultural workers other than crop insurance. There is no act to provide welfare to the workers. Living condition of these people, low educational status and lack of medical facilities in rural areas aggravates their problems. Being in close proximity to animals' agricultural labor also faces the hazards of zoonosis.

Health Care System Models:

The health care systems in different countries are either purely private enterprises following the so called capitalistic model or the public insurance systems which enshrine the fact that health care is a fundamental right of every citizen and a basic responsibility of the government. Most often a country has a mix of the two systems to ensure equitable distribution of quality medical care.

Private Systems:

The purely private enterprises are relatively rare. In some countries where such systems exist, they cater to the requirements of a comparatively economically well-off population subgroup in a developing country. In such places the overall

standard of health care is poor and private enterprises in the form of private clinics or nursing homes meet the requirements of wealthy expatriates. In most countries where the government health care system functions to provide health care, a parallel private system is also allowed to operate.

Public Systems:

The other model is the public insurance system where in the state covers the risks involved substantially. Here the citizens do not pay from their pockets to finance their treatment and most insurance is the medium of payment for health care. In India, the Employees State Insurance Corporation is an amalgamation of the social security model and social health insurance scheme. Some of the other social security models are practiced in organizations such as Defense and Railways. A public health care model works in high-income countries and the small countries where government sources are mobilized to fund for the health care of its population such as in Cuba. Fallout of this model is that the quality of health care is compromised when the governments do not devote adequate resources for health care and private players take over. [1]

Definition of Morbidity:

Morbidity, in its simplest terms, refers to the level of sickness and disability exhibited by a population. The morbidity has been of interest to human societies throughout history as a people have struggled to understand sickness and death. Social commentators have long remarked on the impact of disease on human populations, and the precursors of the modern medical scientists were faced with the responsibility for explaining and managing the sickness characteristic of their respective societies. As morbidity has come to be more reflective of the nature of a society's health problems than mortality. [7]

Global Scenario Related to Morbidity:

A Cross-Sectional, Population-Based, Multi-Country Study Conductedby Gairn N *et al.* showed that Overall morbidity prevalence was high across countries in older adults. Hypertension, cataract, and arthritis were the most prevalent co-morbid conditions. Two or three morbidity patterns were found per country. Several patterns were identified across several countries: "cardio- respiratory" (angina, asthma, and chronic obstructive pulmonary disease), "metabolic" (diabetes, obesity, and hypertension), and "mental- articular" (arthritis and depression). [8]

Jabeen S *et al.,* in Rural Areas of Bangladesh reported that, 98.8% of the respondents had some health problems; among these eye problems (81.7%), musculoskeletal disorders (66.3%), gastrointestinal disorders (52.4%) and sleeping problems (50.4%) were predominant. Females suffered more from eye problems, musculoskeletal disorder, gastrointestinal disorder and sleeping problems. On the other hand, males suffered more from respiratory problems. [9]

In a study conducted by Klintberg B *et al.,* in Gotland, Sweden found that the risk ratio (RR) for ever having asthma and/or allergic rhino conjunctivitis was significantly lower among children of farmers compared to children of non farmers (RR~0.38, confidence interval (CI) 95% 0.19 – 0.77). He indicates that living in a farming population seems to protect against development of respiratory allergic disorders but not against allergic sensitization. [10]

Khanam MA *et al,* in rural Bangladesh showed that the prevalence of pre-hypertension and hypertension was 31.9% and 16.0%, respectively. The men had a higher prevalence (33.6%) of pre-hypertension compared to the women (30.3%). [11]

A study conducted by Bhowmik B *et al*, found that, among the study population,

26.2% had general obesity, 39.8% central obesity, 15.5% hypertension, 28.7% dyslipidemia, 17.6% family history of diabetes, and 15.3% had depression. Physical inactivity and smoking habits were significantly higher in male. [12]

Moor MA *et al,* in a rural colonia (small settlement) in Baja California, Mexico reported that Prevalence of anemia was 22% among women.[13]

Indian Scenario Related to Morbidity:

According to DLHS IV survey Karnataka, reported that the prevalence of morbidity in rural area was mainly injury (3.4%), acute illness (5.7%) and chronic illness (5.3%).[14]

Kulkarni RR *et al,* In a Rural Area Of Belgaum District found that during last one month illness , majority of agriculture workers were having dental caries (25.50%), dental stains (21.75%), followed by musculoskeletal system (21.75%) and respiratory system (19%). [15]

Kansal S *et al,* in Chiraigaon block of Varanasi revealed Respiratory diseases (18.0 percent) followed by Fever (15.4%), GIT diseases (11.4%) and Bone and Joint problems contributed the principle cause of morbidity in the study population. [16]

The findings from the study of Karmakar N *et al.,* showed that the nonspecific generalized weakness was the most common (62.7%) morbidity, followed by gastrointestinal problems (56%) found in the geriatric population. Musculoskeletal problems (low back pain, joint pain, osteoarthritis) were 45%, followed by anemia (42%) and impaired vision (36%). [17]

As reported by Bhat K *et al.,* a study done in a rural area of north Karnataka, the majority of the elderly women with chronic illnesses found arthritis (73.3%), visual

problems (58.8%), dental and chewing difficulty (50.3%). The other morbid conditions seen were hearing difficulties, hypertension, type-2 diabetes mellitus, bronchial asthma and some genitourinary conditions. [18]

Raza W *et al.,* in Rural Bihar and Uttar Pradesh, India found that 20 % and 15 % of individuals report acute and chronic symptoms, respectively .52% of the acute conditions relate to gastrointestinal symptoms (diarrhoea and cholera), followed by respiratory symptoms (20%). While symptoms related to chronic conditions were more difficult to classify, 27% were grouped into the 'other' category, followed by musculoskeletal symptoms (23%), lung/respiratory symptoms (15%) and gastrointestinal symptoms (15%). Ten percent of the sample reports having persistent allergies or infections. [19]

Ravi RP *et al*, conducted a community based study in a rural area of Tamilnadu, India observed that the prevalence rate of reproductive tract infections (RTIs) and STIs was observed to be 14.5% and 8.8%, respectively. [20]

A study done by Rahman SJ *et al,* in a rural block of Jorhat district, Assam revealed that respiratory tract infection (54.25%) was the most common cause of morbidity among farmers followed by musculoskeletal problems (23.25%) and gastrointestinal tract ailments (11.75%). The majority of the farmers preferred the government health facilities (62%) than the private practitioners (17%) for seeking treatment.. [21]

Hammed S *et al.,* reported that Out of 375 elderly participants, Major morbidities of the study population were impaired vision (62.9%) followed by hypertension (56.8%) and joint problems (56%). [22]

Kumar R, *et al.,* conducted a research which found that overall hypertension (52.8%) was the most common morbidity found in the geriatric population, followed by anemia (32.8%) and diabetes (32.3%).[23]

Verma V *et al.,* observed that Overall, most prevalent diseases were related to ocular, musculoskeletal, psychological system, gastrointestinal system, and dental disorder affecting 274 (68.5%), 239 (59.75%), 119 (29.75%), 100 (25%), 94 (23.5%), of elderly population respectively. The prevalence of anemia (43%), under-nutrition (38.5%) and respiratory problems (16%) were more in rural elderly. [24]

Bartwal J, *et al.,* conducted a community based study in a rural area of the Haldwani block in Nainital district of Uttarakhand observed that most common morbidity was ocular (53.6%), followed by CVS (40%) and muscles (34.8%). The respiratory and Genito-urinary system was more involved in elderly males as compared to that of females. [25]

Sharma D *et al.,*in urban and rural areas of Shimla hills in North India observed that the most common morbidity identified among them were musculoskeletal problems (55.0%) followed by hypertension (40.5%). Two third were seeking treatment for their health problems. Among older persons not seeking treatment for their medical condition, most considered these morbidities as an age-related phenomenon. Many perceived that the health services were too far. [26]

Raja TK, *et al*, in rural adults in Kanchipuram district, Tamil Nadu reported that the overall prevalence of hypertension among the study population was 26.2%. Risk among male was greater than female (OR=1.390). [27]

Satheesh BC *et al*, in the rural community of coastal Karnataka revealed that the overall prevalence of hypertension among them was 18% and the proportion of hypertension was more among males, people aged >45 years and illiterates. [28]

Agarwal V *et al,* reported that the prevalence of Diabetes Mellitus in rural Agra was found to be 7% with a diagnostic gap of 37%. Prevalence of Diabetes was observed significantly associated with the age, occupation and socioeconomic status. [29]

Gupta S, *et al,* in Rural Area of Tamil Nadu revealed that Prevalence of diabetes in the studied population was 5.99%. [30]

Bhalerao SD *et al*., reported that the overall prevalence of Type 2 Diabetes Mellitus was 17.7%, ranging from 15.3 - 18.7%. [31]

Kumar KN *et al,* revealed that near about 74 (8.1%) were diagnosed as type -2 diabetes mellitus. The prevalence of Diabetes Mellitus was 16.22% in 30- 40 years age group, 24.32% in 41-50 years age group, 43.34% in 51-60 years age group and 16.2% in 61-70 years age group which shows that Diabetes Mellitus increases with age and the association between age and prevalence of Type 2 Diabetes Mellitus was found to be statistically significant.[32]

Deepathi R *et al*, found that 33 (5.6%) reported to be suffering from diabetes. 29 (4.9%) were newly diagnosed to have diabetes giving an overall prevalence of 10.5%. [33]

Gupta SK, et *al* .,in rural area of Madhya Pradesh found that the prevalence of anemia was 42%. However, the prevalence of anemia was higher in females (82%) compared to males (18%). [34]

Definition of Health Seeking Behaviour:

Health seeking behaviour as defined by Kasl and Cobb is any activity undertaken by individuals who perceive themselves to have a health problem or to be ill for the purpose of finding an appropriate remedy. [6]

Global Scenario Related to Health Seeking Behaviour:

Ahmed SM, et *al*, in rural areas of Bangladesh observed that among the household survey of 966 families, 1136 elderly (>60%) people reported illness in the past 15 days. Most of them treated themselves, while others went to drugstores (17%), allopathic practitioners (21%) and quacks (25%). [35]

A Study done by Akin JS *et al.,* Among the participants reporting a health illness or an injury, 464 (19.10%) chose self-medication and 1883 (77.52%) sought outside assistance, the chosen facility is more likely to be reported in excellent or better condition (100% of Private Western facilities and 88.6% of Minor Public Western facilities) than the bypassed facility (73.0% of Minor Public Western facilities and 85.3% of Private Western facilities). [36]

Anyanwu FC *et al*., in Nigeria revealed the issue of health care-seeking behaviour is central to health systems and the status of people in all society. [37]

Kuuire VZ *et al.,* in Ghana found that 48% of the study participants sought treatment in a health facility during their last illness and 57% of participants indicated a community. The most important finding from this study is that individuals in the poor and poorest wealth Quintiles were less likely to seek treatment in a health facility even though they were enrolled in the National health insurance scheme. [38]

A study done by Bigogo G *et al.,* in rural western Kenya found that 18–38% of participants visited health facilities. Children were more likely than adults to visit health facilities for all symptoms. Among ill persons visiting Lawk Hospital, 45–54% had previously sought care elsewhere, mostly from informal drug sellers, and 11–24% with fever, ARI, or ALRI had already taken an anti malarial tablets or antibiotic. The distance from the participant's home to Lawk Hospital was the most common reason (71%) for ill participants not seeking care there. The likelihood of visiting Lawks decreased with increasing distance of residences. [39]

Indian Studies Global Scenario Related To Health Seeking Behaviour:

A study conducted by Vargese S *et al*, in rural areas of western Maharashtra found that 56.8% households preferred private practitioners and only 23.5% preferred public hospitals for their health problems.[6]

A study done by Savitha S *et al*, in of three districts of Karnataka namely Dakshina Kannada, Uttara Kannada and Gadag, observed that among 371 individuals reported sickness in the last 1 year of which 10 persons did not seek treatment. Of 361 persons who sought treatment, 19 resorted to self-treatment and the remaining 342 individuals availed health care services one or more times, resulting in 429 visits to private and public facilities including homeopathy/Ayurveda treatment. [40]

A study done by Gandhi S, *et al*, Gudalur block of Nilgiris district (Tamil Nadu) in observed that 46.9% of Bettukurumbas and 40.2% of the Paniya prefer hospitals run by NGO" s for hospitalization, whereas 40.5% of kattunayakans, sought care from traditional healers. For the outpatient care, 26.4% of the Bettukurumbas preferred Government hospitals, 45% of the Kattunayakans resorted to traditional healing and 30.8% of Paniya tribes sought care from health facilities run by NGOs. [41]

A study conducted by Chauhan RC, *et al.,* Among 559 study participants, the majority (56.4%) visited public health care facilities for various illnesses. Almost one-third of the study participants visited the private health facilities and another 11.6 percent visited other health facilities including pharmacies. Among various causes, febrile illnesses (39.5%) and pain (20.8%) were the most common reasons for visiting a health care facility. The individual's income was significantly associated with the Health Seeking Behaviour. Availability of services and free of cost services was reported as the most common reason for preferring to the public health facility. On the other hand, private practitioners were preferred due to their better availability and quality of care. [42]

Distance travelled for seeking treatment:

Distance is a crucial feature of health service use and yet its application and utility to health care planning have not been well explored, particularly around the farm houses.

A Study Conducted by Noor AM *et al.,* reported that the analysis of straight-line distances between communities and government health facilities revealed differences between districts with 99% of the population in Greater Kisii, 80% in Bondo, 65% in both Kwale and Makueni within 5 km of the nearest government health facility .The mean distance of access to health facilities was 2.4 km in Greater Kisii, 3.4 km in Bondo, 4.7 km in Kwale and 4.5 km in Makueni The overall distribution of population around health facilities peaked at 2 and 3 km. [43]

Musoke D *et al.,* in rural community of Wakiso district, Uganda found that 89% of the participants were aware that mobile clinics existed in their community; only 28% had received such services in the past month. The majority of participants (84%) did not know whether community health workers existed in their community. The most

significant challenges in utilising health services were regular stock-out of drugs, high cost of services and long distance to health facilities. [44]

Hoeven MVD *et al.,* reported 75.6% of rural participants were of the opinion that, they had sufficient access to health care. Although most urban and rural participants consider their access to health care as sufficient, they still experienced difficulties in receiving the requested care. Consequently, participants from rural communities had a significantly lower available weekly budget, not only for health care itself, but also for transport to the health care facility. Urban participants were more than 5 times more likely to prefer a medical doctor in private practice. [45]

Health Expenditure:

Health expenditure can affect access to health care. This health   expenditure for health illness pushing the farm house residents into below poverty line.

Barik.D *et al.,* described that health expenditure for any morbidity in more developed village was 7.73% of monthly household income and 6.87% in less developed village. [46]

Subha DB *et al.,* Mean expenses incurred on treatment for the under-five illnesses was INR 550±125. . More than half of the households spent 17– 40% of their monthly income in case of an under-five illness. Most expenses were on drugs (71%), followed by transport. [47] Baliga SS *et al.,* in Belgaum city found that the expenditure per month for hypertension was found to be Rs.134.88±11.84 for medication and Rs. 227.64± 18.03 for routine check-up and investigations. [48]

Rahman SJ *et al.,* found that Financial constrains (44%) was observed to be among the most common hurdle in seeking treatment for health problems. [21]

MATERIAL AND METHODS

Study Area: The Study was conducted in Vijayapur district, situated in the northern part of Karnataka. Farming and agriculture related business is the main occupation for many people in the district. The population of the entire district is more than 21 lakh, Around 20% of the people habitation is found in the urban regions and the rest of the 80% are in rural areas.[49]Due to lack of agriculture labour, they stay in farm houses which are convenient to do household work and agricultural work. This study was planned to assess the morbidity pattern and health seeking behaviour of farm house residents in Vijayapur district.

Study Population: Household members staying at the Farm.

Study Design: Cross Sectional Study.

Study Period: June 2017 – May 2018

Study Technique: Interview technique with pretested, semi structured questionnaire

Sample Size Calculation:

Exact Prevalence of Morbidity Pattern and Health Seeking Behaviour of Farm House Residents in Rural areas are not known. Hence Prevalence of morbidity pattern and Health Seeking Behaviour of Farm house residents in rural areas is considered as 50%.

n= z^2pq/d^2

P is anticipated prevalence rate -50%

q=1-p = 50%

d is a margin of error = 5%

Where Z= 1.96

In this study

$$n = [1.96*1.96*50*50] / (5)^2 = 384$$

A sample size of 384 subjects will allow the study to determine the morbidity pattern and Health seeking behaviour of people residing in farm houses with 95% confidence level and margin of error of ±5%.

A round of sample of 384 (≈400) was taken for the study, but the collected sample size was 450.

Exclusion Criteria: People residing in farm houses for less than 6 months.

Distribution of sample

Mean number of person per household (HH) = 4 (on the basis of pilot observation in a nearby village)

Hence, Total number of HH in farm houses = 400/4 = 100

Mean number of HH in farmhouses per village = 4.7 (~ 5) (on the basis of pilot observation in a nearby village)

Total number of PSU (Villages) = 100/4.7 = 21

Distribution of population and number of households to be selected in all Talukas of Vijayapura District

Taluka	Sample Size HH	Population Proportion	PSUs to be selected
Vijayapura	24	0.2350	5
Indi	23	0.2286	5
Sindgi	21	0.2140	4
BasavanaBagevadi	19	0.1883	4
Muddebihal	13	0.1342	3
Vijayapura	100	-	21

Distribution of Selected PSU (villages) all Talukas of Vijayapura District

Taluka	Vijayapura	Indi	Sindgi	Basavana bagevadi	Muddebihal
Villages selected	Siddapur	Ganavalga	Mannapur	Uppaladinni	Bidarkundi
	Gunaki	Golasar	Byakod	Yambatnal	Banoshi
	Karjol	Ballolli	Somajal	Kudgi	Shellagi
	Hittinahalli	Bardol	Chandkavathe	Nidagundi	
	Nagathan	Salotgi			

METHODOLOGY:

After obtaining ethical clearance from the Institutional Ethical Committee the study was conducted in Vijayapura district. Geographically Vijayapura district has been divided into five talukas, namely Vijayapur, Indi, Sindgi, Basavana Bagevadi and Muddebihal. Within each Taluka, the selection of households was done in different stages considering villages as the primary sampling unit (PSU). [50] Villages, where the number of households was less than 5 were not considered in the selection of samples and removed from the list. Allocation of the total sample population of 384 (≈400) in farm households is done in proportion to their population. Households have been selected in two stages. PSUs were selected with probability proportional to size (PPS) sampling and 5 households in a selected PSU were selected by random sampling.

The List of Households Staying in Farm was taken from the Govt Primary Health Centre and chits containing the head of the family were made. Total 5 chits from each village were selected randomly and included in the study.

From each household four participants randomly were interviewed regarding morbidity pattern and health seeking behaviour. If any selected household did not contain 4 participants, was excluded and new household was selected randomly. The Household members were reached with the help of ASHA / Health worker of PHC which helped to develop rapport with people staying in the household. The purpose and overview of the study was explained at the time of the interview and interviewers were informed that their participation was entirely voluntary, their anonymity would be assured and consent was taken.

Statistical analysis:

All characteristics were summarized descriptively. For continuous variables, the summary statistics of Mean and SD were used and for categorical data, the number and percentage were used. Chi-square (χ^2) / Freeman-Halton Fisher exact test was employed to determine the significance of differences between groups for categorical data. If the p-value was < 0.05, then the results were considered to be statistically significant otherwise it was considered as not statistically significant. Data were analyzed using SPSS software v.23.0 and Microsoft Office.

MAP OF VIJAYAPURA DISTRICT
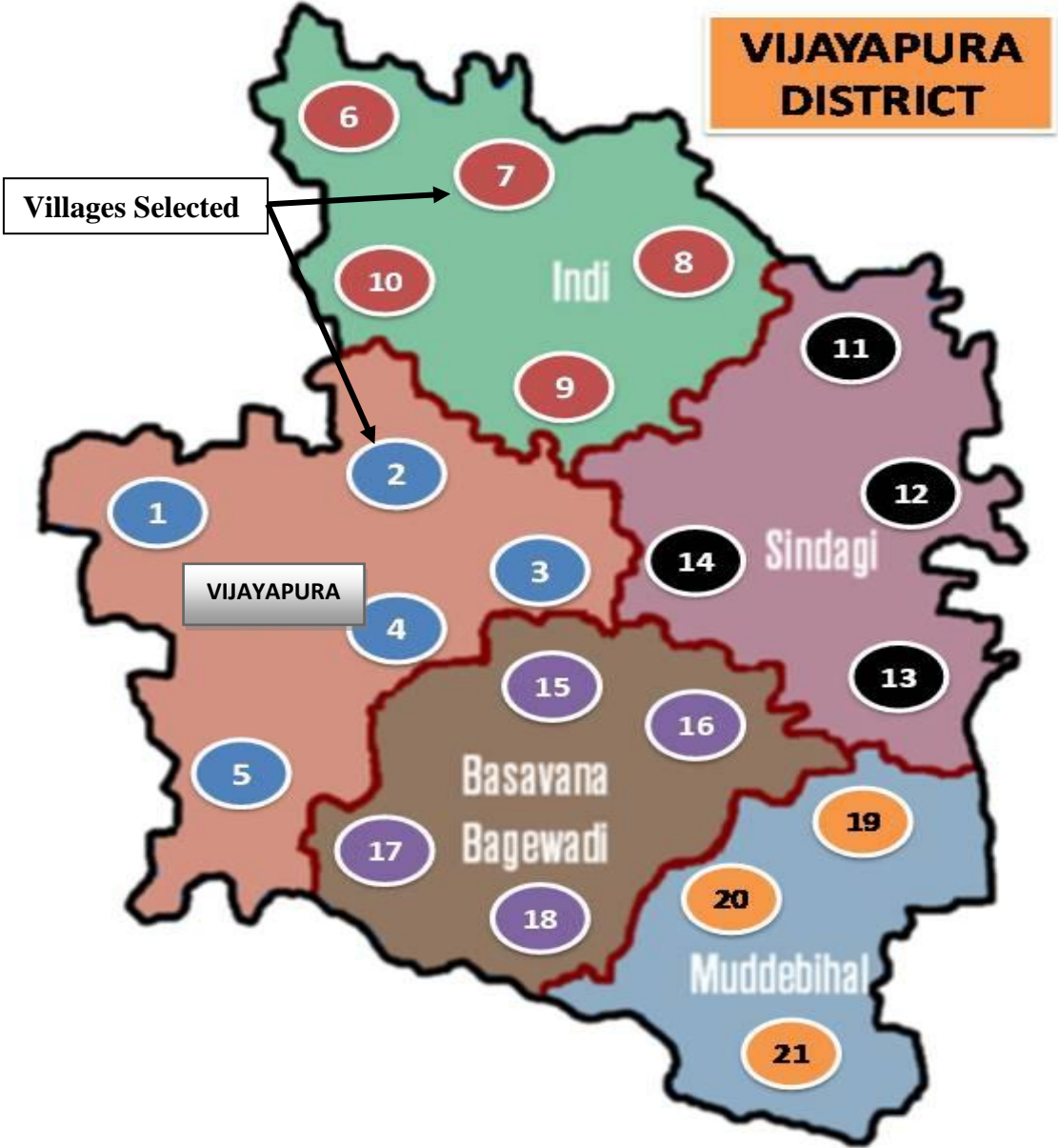
Study variables:

❖ **Age**: Age was recorded in completing years as revealed by the subjects

❖ **Type of family:** [51]

- **Nuclear family**: It consists of a married couple and their children while they are still regarded as dependents.

- **Joint family**: It consists of a number of married couples and their children lives together in the same household. All men are related by blood and women of the household are their wives, unmarried sisters and their family kinsmen.

- **Three Generation family**: It is a family where representatives of three generations are living together. Young married couple continues to stay with their parents and have their own children as well.

❖ **Education**: [51]

- **Illiterate**: Not able to read, write and understand in any language

- **Primary school**: Studied up to 7th standard

- **High school**: Studied from 8th standard to SSLC

- **PUC and Above**: Studied up to PUC and above

❖ **Occupation**:

Student: a person who is studying at a school, college or University

Labor: The person engaged in such activities like agricultural and non agricultural working for wages.

Household Activities: Activities done by respondents to maintain household like cooking, housework, petcare, food preparation, yard care.

Farmer: a person who farms; person who operates a farm or cultivates land.

- **Socio-economic status:**[52] Self- reported per capita monthly income was recorded. Modified BG Prasad's classification was used to assess the social class of the study subjects.

B.G.PRASAD classification of 1961 based on per capita monthly income x correction factor	MODIFIED B.G.PRASAD classification for the month of January 2017	Socio-Economic Status
>100	>6254	I
50-99	3127-6253	II
30-49	1876-3126	III
15-29	938-1875	IV
<15	<938	V

- Current value of consumer price index for January 2017 = 274

- Multification factor (mf) = current value/base value = 274/100= 2.74

- New income value= mf   x old value x 4.63 x 4.93

- The linking factors for 1982 and 2001 were 4.93 and 4.63, respectively

- **Habits:**

- **Tobacco consumption**: Yes/No

- **Yes**: Person who at the time of the data collection smokes/uses tobacco in any form either daily or occasionally for the past one year. (Smoke form – cigarettes, beedis, etc. Smokeless form – plug, loose leaf, pellets, snuff, Tambak, gutkhaetc)

- **No**: Person who at the time of the data collection does not smoke or use tobacco in any form either daily or occasionally for the past one year.

❖ **Alcohol consumption**: Yes/No

- **Yes**: Person who at the time of the data collection consumed any alcoholic beverage daily or occasionally for the past one year. **No**: Person who at the time of the data collection did not consume any alcoholic beverage in the past one year.

❖ **Measurement of height**: [53]

Firstly, a flat, smooth wall with no skirting at the bottom, as close to a vertical reference line as possible, like the corner of a wall was chosen for measurement. Subjects were explained regarding the procedure and assent was confirmed. Subjects were made to remove their footwear and stand with heels touching each other and tease apart and head positioned so that the line of vision was perpendicular to the body (Frankfurt line) against the wall. The arms were hung freely from the sides, with the head, back, buttock and heels in contact with the wall. A wooden scale was brought down to the topmost point on the head and marking was made on the wall. A measurement was taken using measuring tape in centimetres (cm). Height was recorded to the nearest 0.5 cm.

❖ **Measurement of weight:** [53]

The weight was measured in kilograms (kg) using standardized bathroom weighing machine with the study subject standing erect on centre of platform, with the body weight evenly distributed between both the feet together and toes apart bare-feet with accepted clothing and looking straight ahead with the arms held loosely by the side.

The weight was recorded to the nearest 0.5 kg. The instrument was calibrated before using it each time.

Weight for age, Height for age was calculated by comparing observed weight and height with standard expected weight and height for that age and sex (WHO Reference 2007).[54]

❖ **Measurement of blood glucose:** [55]

Preparing to test blood glucose: The following items to carry out the blood glucose test:

- Glucometer
- TheAccu-Chek Active test strips
- A lancing device to obtain blood
- A lancet for the lancing device

Wash the hands thoroughly with soap and warm water and dry them well. This reduces contamination of the puncture site and stimulates blood flow. Prepare the lancing device to obtain blood. Check the use by date on the test strip container .Use only test strips which are within the use by date. Lance the side of a fingertip with your lancing device. Encourage a blood drop to form by gently massaging the finger towards the fingertip. Apply the blood drop to the centre of the green field and then remove your finger from the test strip. As soon as the meter detects the blood, you hear a beep. The test starts. The flashing hourglass symbol indicates that the test is in progress. If the amount of blood you applied is insufficient, after a few seconds an acoustic warning in the form of 3 beeps sounds. You can then apply an additional amount of blood. The test is over in approximately 5 seconds. The test result appears on the display and you hear a beep.

Calibration and traceability:

The system (meter and test strips) is calibrated with blood containing various glucose concentrations. The glucose values used as reference values, and thereby also as accuracy values of this calibration, are obtained using the hexokinase method. The hexokinase method is calibrated using the ID-GCMS method, which is the method of highest metrological quality (order) and is traceable to a primary NIST standard. As the test results obtained using these test strips can be traced back to the NIST standard using a traceability chain, the test results obtained with these test strips for control solutions can also be traced back to the NIST standard. This ensures that the meteorological traceability of the control solutions refers to higher order reference materials/reference methods.

Classification of Random blood sugar levels [56]

RANDOM BLOOD SUGAR LEVELS	
140-199	PRE-DIABETES
200 AND ABOVE	DIABETES

❖ **Measurement of Haemoglobin: [57]**

Principle of Operation for the Methodology: The Haemoglobin Test Cartridge includes a mesh covered sample reaction zone. The specimen is applied to the center of the sample reaction zone. The mesh functions to separate the sample evenly on the entire reaction layer. The reagents on the reagent layer function to haemolyse and release the haemoglobin. The haemoglobin is converted to methemoglobin to cause a colour change on the cartridge. The meter reads the reflection of the cartridge at 525

nm every second until the end point of the reaction is detected. The reflection at the end point is directly proportional to the haemoglobin concentration. The end point is defined as follows: The reflection changes between ±1% in three continuous seconds. Then the reflection at the last second will be read as the end point. The Mission® Plus Haemoglobin (Hb) Testing System provides results in less than 15 seconds. The test only requires a single 10 µL drop of whole blood.

Fingertip Blood Testing:

1. Hold the safety lancet against the puncture site and wash both hands with soap and warm water and disinfect the puncture site with a topical skin antiseptic such as an alcohol swab.

2. Gently press the safety lancet against the puncture site to lance the skin.

3. Gently massage from the surrounding area toward the puncture site to collect the required blood volume.

4. Wipe away the first drop of blood. Apply light pressure to obtain a second drop of blood. Collect 10 µL of capillary blood using a capillary transfer tube.

5. To use a capillary transfer tube, hold the tube slightly downward and touch the tip to the blood specimen. Capillary action will automatically draw the specimen to the fill line and stop. Align the tip of the capillary transfer tube with the center hole of the specimen application area of the test cartridge. Apply the collected drop of blood (approximately 10 µL) to the sample reaction zone.

Quality Control Testing**:** Each lab should use its own standards and procedures to perform quality controls. A test known specimens or controls at each of the following

events, in accordance with local, state and/or federal regulations or accreditation requirements. • Each new day of testing • A new canister of test cartridges is opened • A new operator • Test results seem inaccurate • After performing maintenance or service on the meter If QC tests do not provide expected results, perform the following checks: • Ensure the test cartridges used are not past their expiration date. • Ensure the test cartridges are fresh from a new canister. • Ensure the controls are not past their expiration date. • Repeat the test to ensure no errors were made during previous quality control testing.

WHO CRITERION FOR ANEMIA[58]

	Mild	Moderate	Severe
Males	11-12.9	8-10.9	<8
Females	11-11.9	8-10.9	<8

❖ **Blood Pressure measurement:**[59]

The participant was seated quietly for at least 5 minutes in a chair (rather than on an exam table), with feet on the floor, and arm supported at heart level. Caffeine, exercise, and smoking were avoided for at least 30 minutes prior to measurement. Measurement of BP in the standing position was indicated for those at risk for postural hypotension and in those who reported symptoms consistent with reduced BP upon standing. An appropriately sized cuff (cuff bladder encircling at least 80% of the arm) was used to ensure accuracy. For manual determinations, palpated radial pulse obliteration pressure was used to estimate SBP—the cuff was then inflated 20–30 mmHg above this level for the auscultator determinations. The cuff deflation rate for auscultator readings was 2 mmHg per second. SBP is the point at which the first of

two or more Korotkoff sounds is heard (onset of phase 1), and DBP is the point at which there is a disappearance of Korotkoff sound (onset of phase 5). Two measurements were taken and the average was recorded and considered for analysis.

Diagnostic criteria were based on JNC VII guidelines, Systolic blood pressure $\geq$ 140mmHg and/or Diastolic blood pressure $\geq$ 90mmHg.The instruments was calibrated before using it each time.

Classification of Hypertension (JNC VII guidelines) [59]

CATEGORY	SBP	DBP
NORMAL	<120	<80
PRE-HYPERTENSION	120-139	80-89
HYPERTENSION		
STAGE-1	140-159	90-99
STAGE-2	$\geq$160	$\geq$100

IAP Classification for Weight for Age of children under five years [60]

IAP Classification For Weight For Age(0-5years)	
>80	NORMAL
71-80	GRADE 1
61-70	GRADE 2
51-60	GRADE 3
<50	GRADE 4

WHO Classification for BMI for age (Girls and boys) for 5-10 years [54]

Overweight	>+1SD
Obesity	>+2SD
Thinness	<-2SD
Severe thinness	<-1SD

Classification of BMI [61]

Classification	BMI
<18.5	Underweight
18.5 -24.9	Normal
25-29.9	Overweight
≥30	Obese

RESULTS

Table 1: Distribution of study population according to the place of residence

Talukha	Village	No. of Households	No. Of Persons Interviewed
Sindgi	1	5	21
	2	5	21
	3	5	21
	4	5	20
Muddebihal	1	5	20
	2	5	20
	3	5	20
BasavanaBagewadi	1	5	23
	2	5	24
	3	5	24
	4	5	23
Indi	1	5	22
	2	5	23
	3	5	20
	4	5	21
	5	5	21
Vijayapur	1	5	25
	2	5	20
	3	5	20
	4	5	21
	5	5	20
Total	**21**	**105**	**450**

This table shows the distribution of the study population, according to area. As per sample size requirement from each household four participants were interviewed regarding health seeking behaviour and morbidity pattern. In some households 5 to 6 residents were interviewed based on availability. Total 450 residents of farm house were interviewed in 5 Talukas of Vijayapura district.

Figure 1: Distribution of participants according to age groups
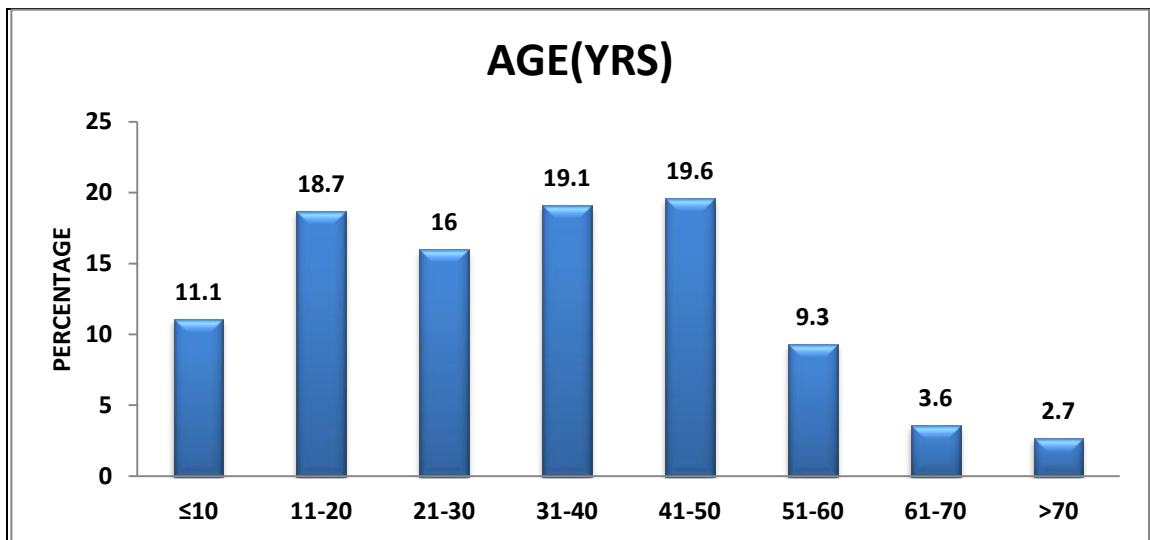
The above graph describes that majority of the participants were in the age group of 31-50 years (38.7%) followed by 11-20 years (18.7%). Mean age of participants was 33.1 ± 17.6.

Figure 2: Distributions of participants according to sex
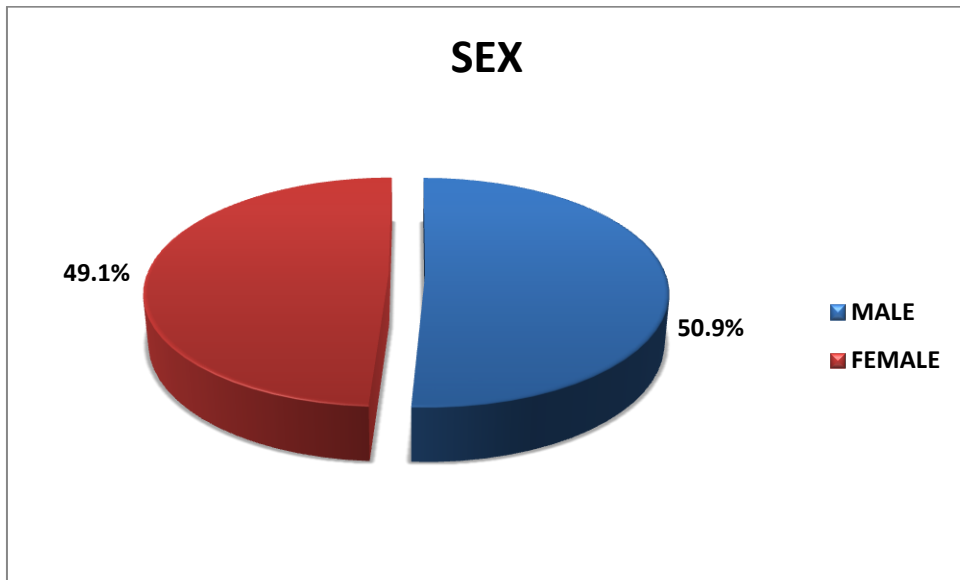
The graph shows the distribution of male and female participants in the present study were equal in proportion i.e (50%).

Figure 3: Distributions of participants according to type of family
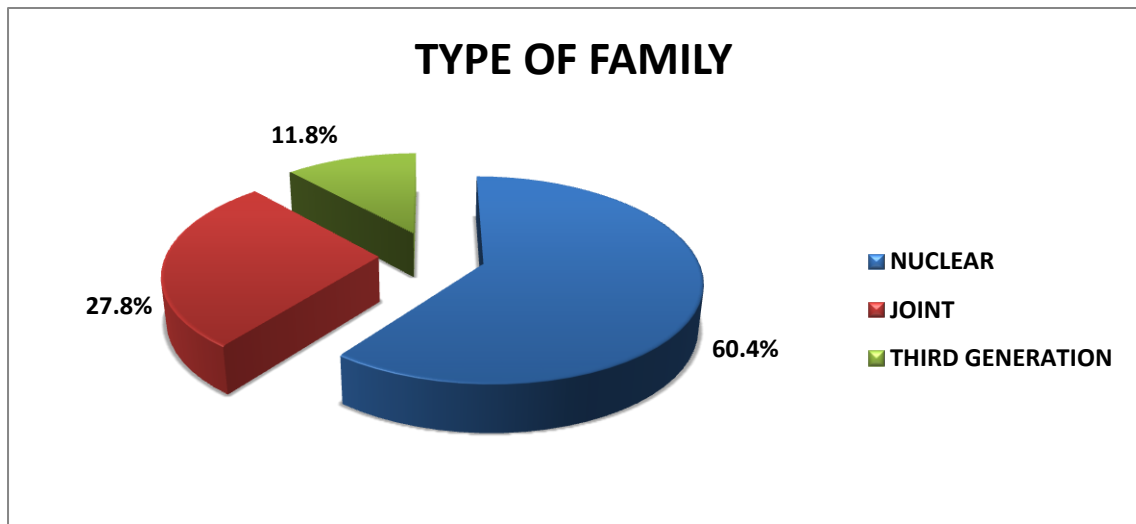
The above graph shows that the Major proportion of participants were belonging to nuclear family (60.4%) followed by the joint family (27.8%).

Figure 4: Distributions of participants according to socioeconomic status
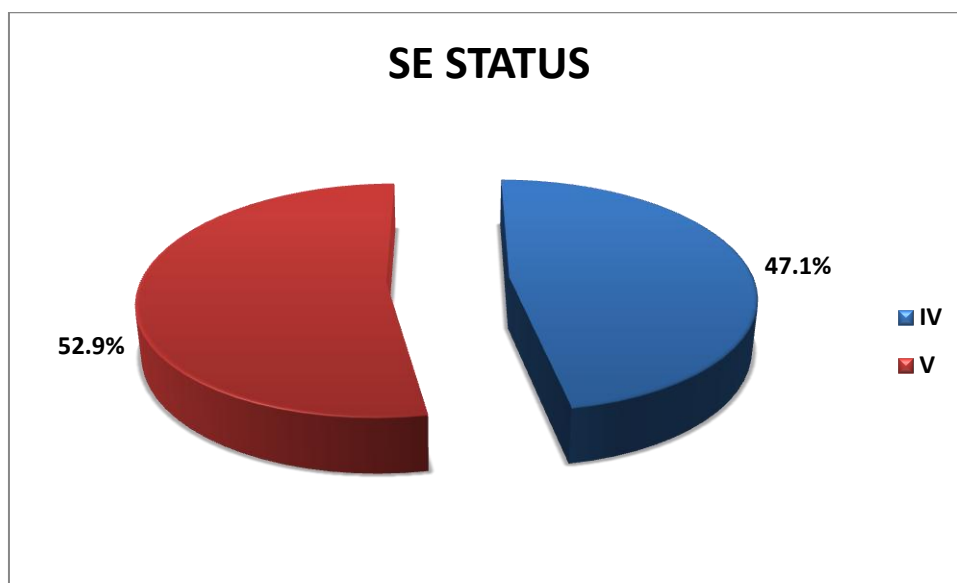
The Graph shows that the majority of participants were belonging To Class V (52.9%) Followed By Class IV (47.1%) According to Modified B. G. Prasad Classification. It is disheartening to say that none of the participants belong To Class I, II and Class III Socio-economic Status.

Table 2: Distribution of respondents according to socio-demographic variables

PARAMETERS		Male		Female		Total	
		N	%	N	%	N	%
AGE	≤10	19	8.3	31	14.0	50	11.1
	11-20	36	15.7	**48**	21.7	84	18.7
	21-30	41	17.9	31	14.0	72	16.0
	31-40	40	17.5	46	20.8	86	19.1
	41-50	**49**	21.4	39	17.6	88	19.6
	51-60	23	10.0	19	8.6	42	9.3
	61-70	9	3.9	7	3.2	16	3.6
	>70	12	5.2	0	0.0	12	2.7
Religion	Hindus	224	**97.8**	214	**96.8**	438	97.3
	Muslims	5	2.2	7	3.2	12	2.7
Type of family	Nuclear	**133**	58.1	**139**	62.9	272	60.4
	Joint	68	29.7	57	25.8	125	27.8
	Three Generation	28	12.2	25	11.3	53	11.8
Educational Status	Illiterate	**114**	49.8	**108**	48.9	222	49.3
	Primary	81	35.4	80	36.2	161	35.8
	Secondary	31	13.5	30	13.6	61	13.6
	PUC And Above	3	1.3	3	1.4	6	1.3
Occupation	Student	43	18.8	69	31.2	112	24.9
	Labour	10	4.4	9	4.1	19	4.2
	Household Activities	6	2.6	18	8.1	24	5.3
	Farmer	**170**	74.2	**125**	56.6	295	65.6
SES	Class Iv	111	48.5	101	45.7	212	47.1
	Class V	**118**	51.5	**120**	54.3	238	52.9
Total		229	100.0	221	100.0	450	100.0

The above table shows that the majority of male participants belonged to age group of 41-50 (21.4%) years and female participants belonged to age group of 11-20 (21.7%) years. The major proportion of males (97.8%) and female participants (96.8%) belonged to Hindu religion. 58.1% of male and 62.9% female participants belonged to nuclear family followed by 29.7% male and 25.8% female participants belonged to joint family. The majority of male (49.8%) and female (48.9%) participants were illiterates. More than 50% of the participants belonged to class V Socioeconomic status.

Figure 5: Distribution of present morbid status of the respondents
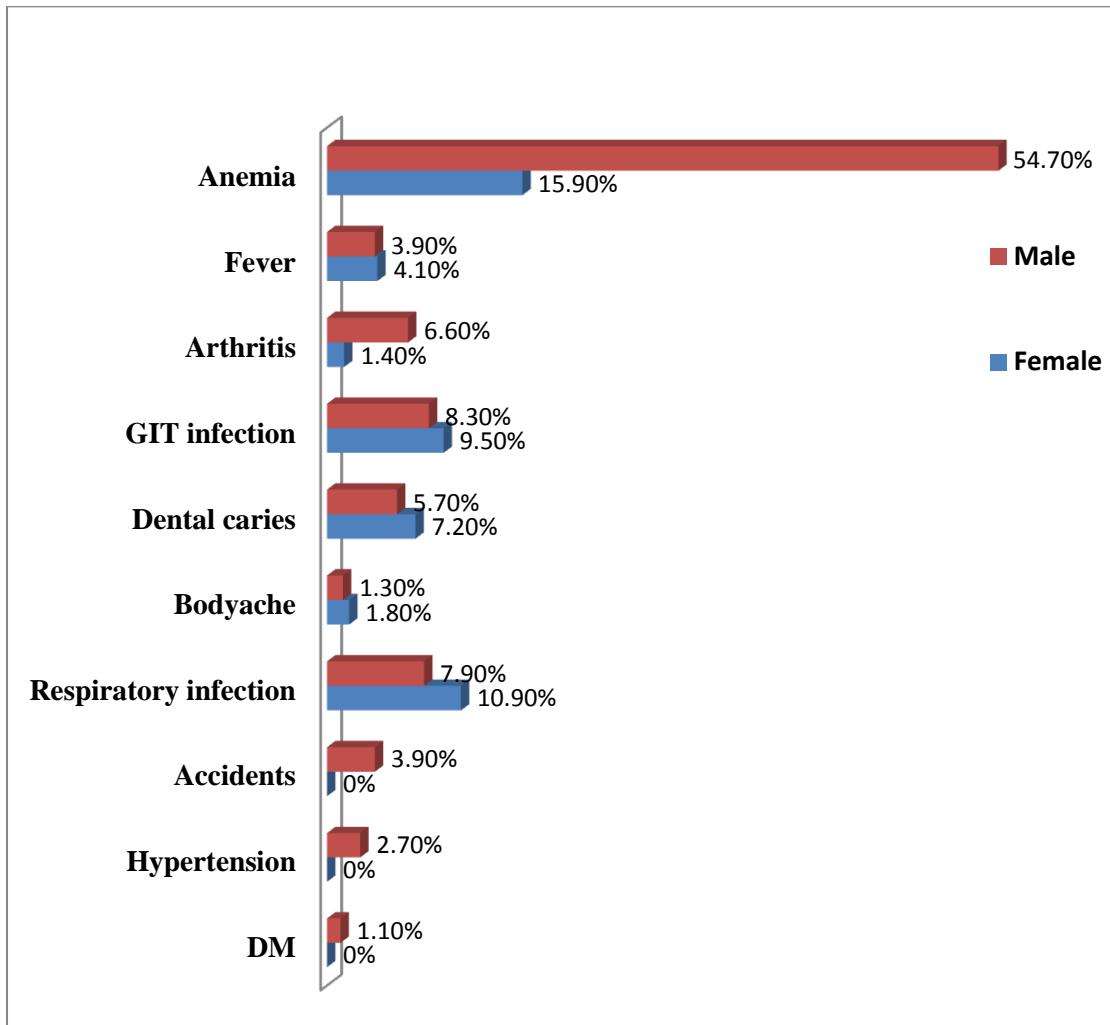
It is shown from the above table that 54.7% of male participants and 15.9% of female participants were diagnosed as anemia. 7.9% and 10.9 % of male and female participants has complained about Respiratory infection. Presently 8.3% of male participants and 9.5% of female participants were suffering from Gastro-intestinal infection. Accidents were reported among 3.9% of male participants only.

Figure 6: Distribution of past (in last six months) morbid status of the respondents
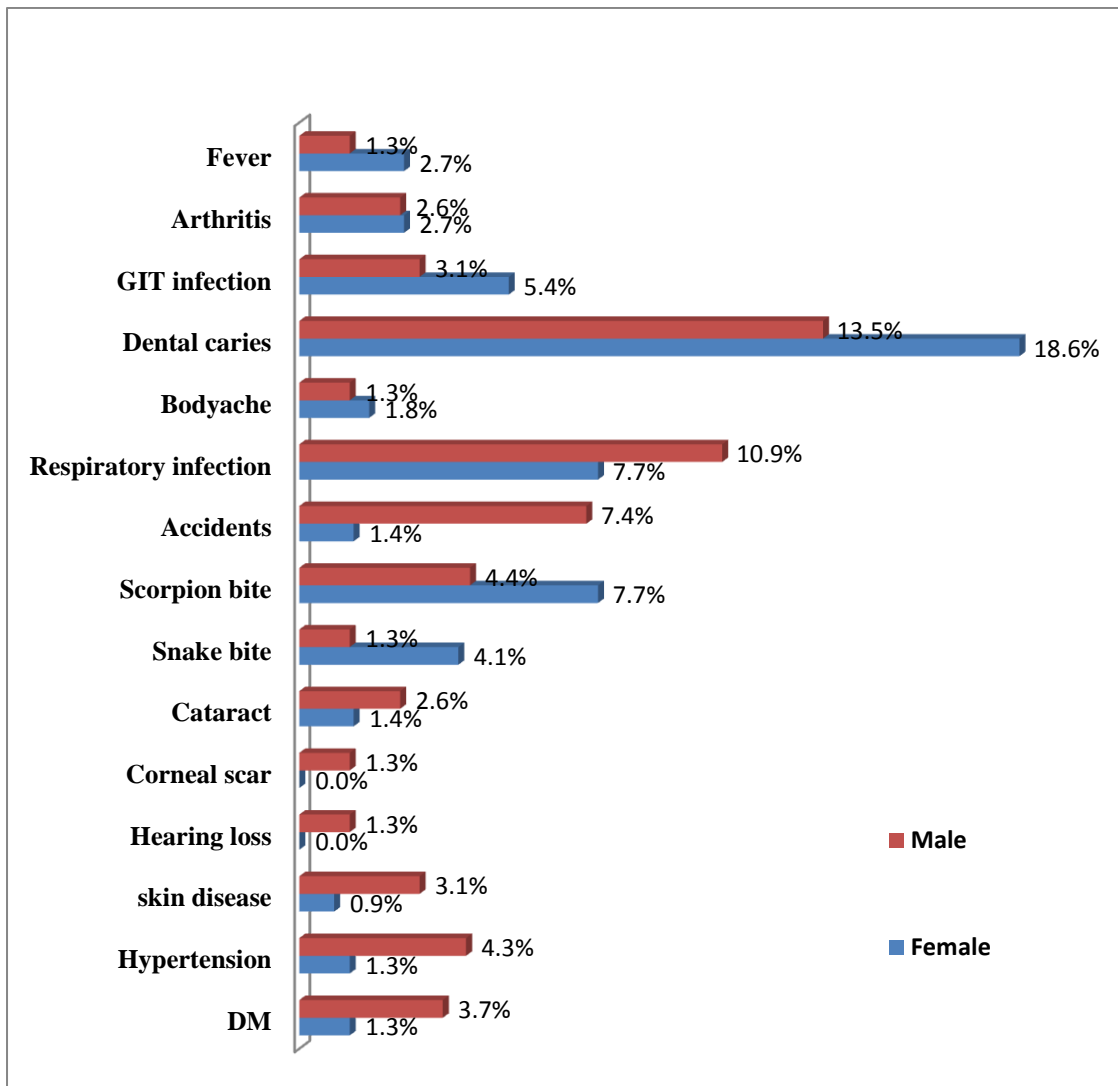
It highlights from the above table that 13.5% of male and 18.6 % of female participants reported Dental caries. H/o known case of Hypertension was present among 4.3% and 1.3% of male and female participants respectively. Similarly H/o of Diabetes mellitus was present among 3.7% and 1.3% of male and female participants. Scorpion bite (7.7%) and Snake bite (4.1%) reported more among females compared to male participants.

Figure 7: Distributions of participants according to health facility available
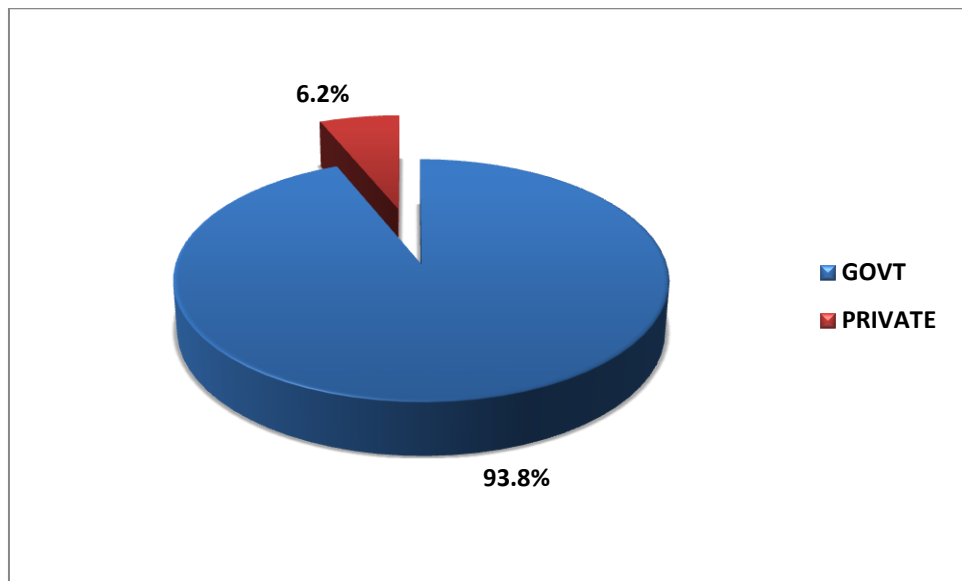
It is good to know from the present study that, Availability of government health facility constitute about (93.8%) compared to private (6.2%).

Figure 8: Treatment seeking behaviour among the respondents
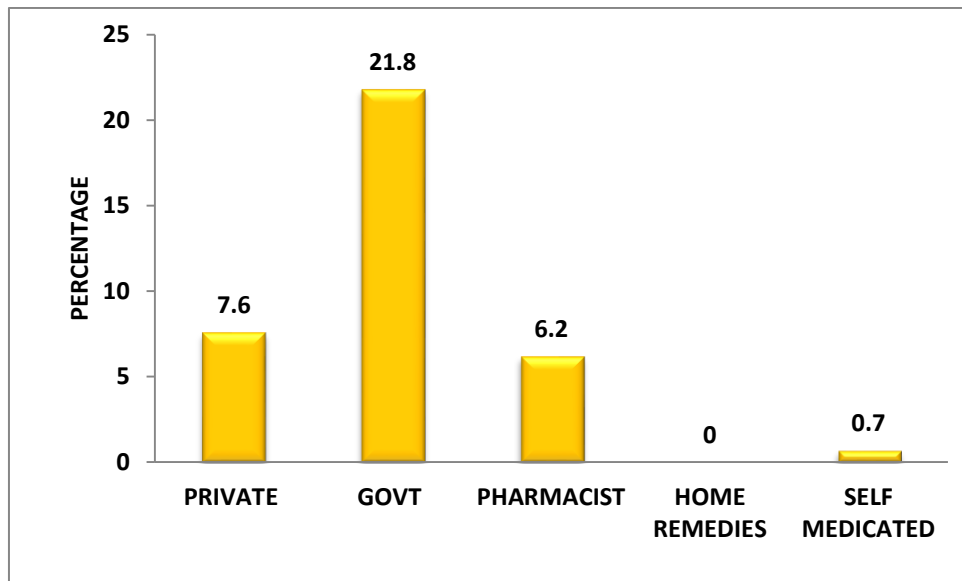
The above figure shows that, Majority of the participants took treatment from government hospital (21.8%) followed by private practitioner (7.6%) when they are sick.

Figure 9: Distribution of participants according to treatment taken in last six months
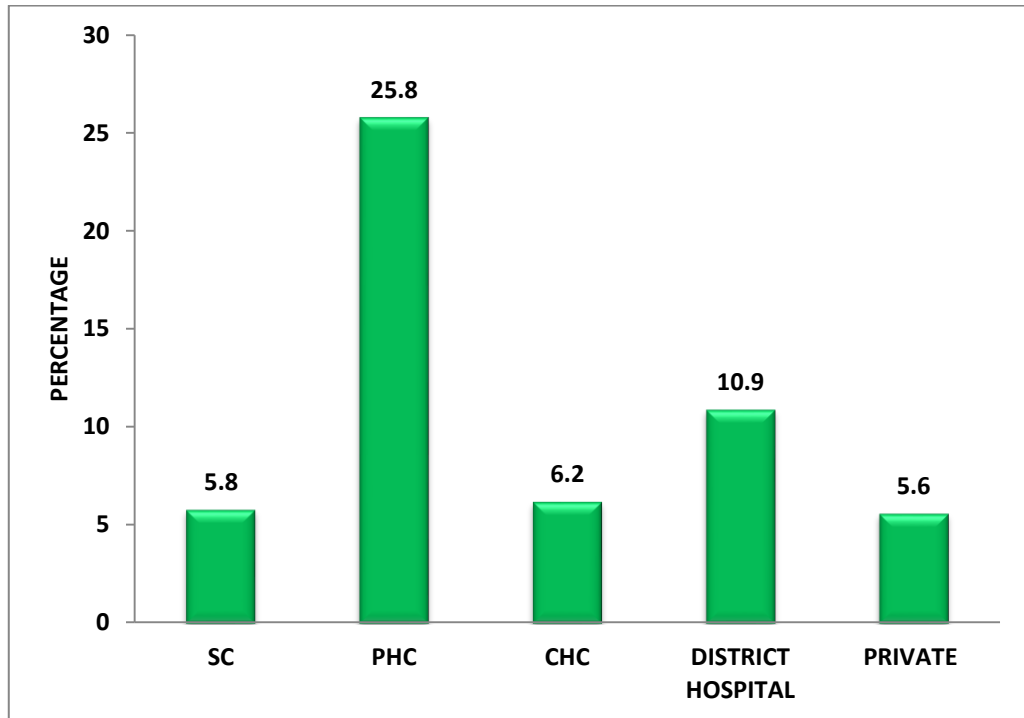
Majority of the participants in the present study took treatment from Government health facilities for their past health related problems.

Figure10: Pattern of health services received at door steps by the respondents
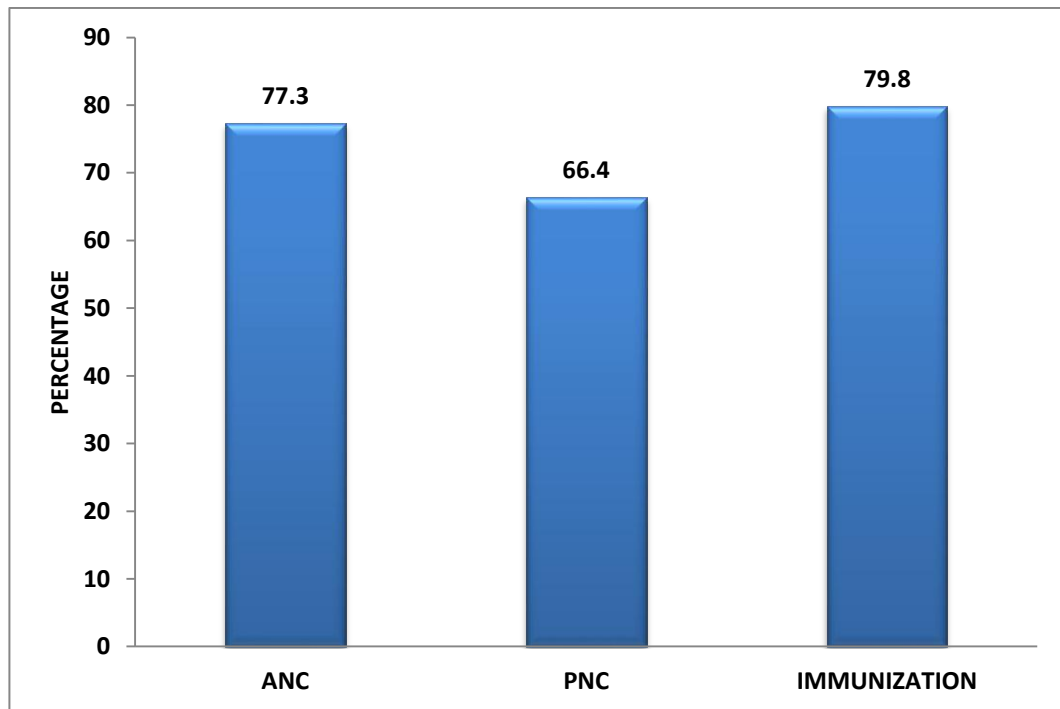
*Multiple answers

The above figure shows that the majority of respondents said they received immunization services (79.8%) at door step by the government health facilities followed by Antenatal Services (77.3%) and Postnatal services (66.4%).

Figure 11: Health services provider at door steps
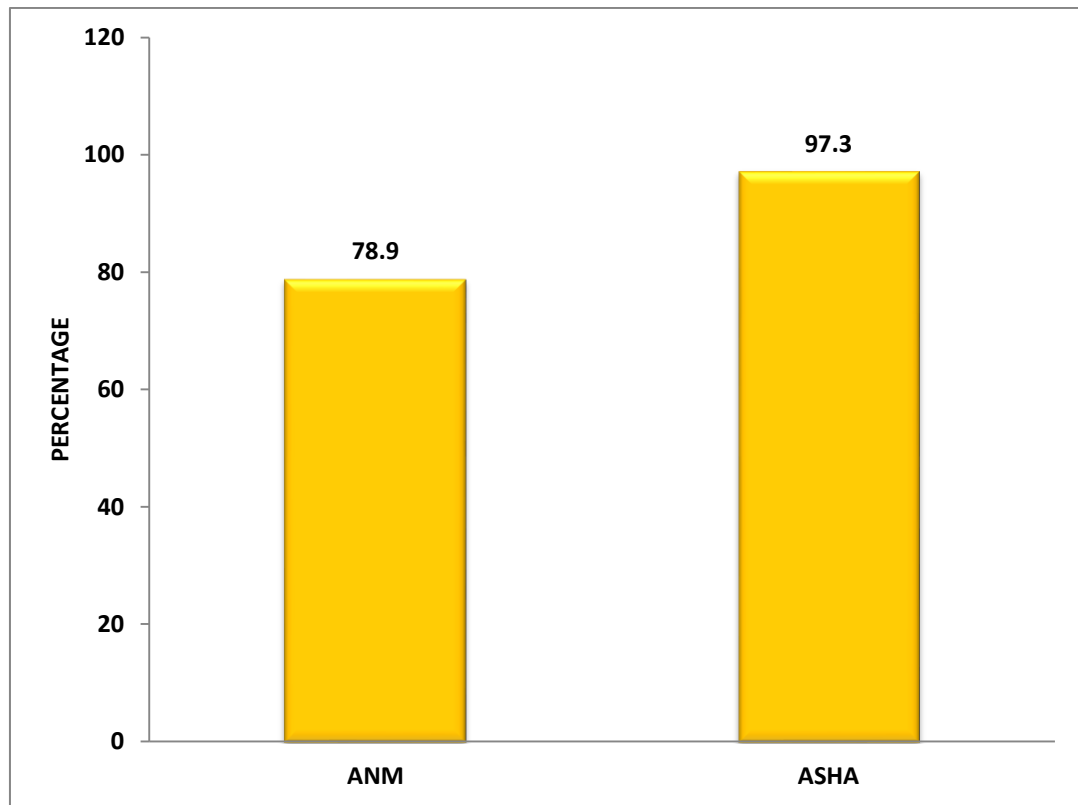
*Multiple answers

Maximum number of study subjects said that ASHA were more involved in providing health service at the door steps.

Figure 12: Distance travelled for health services
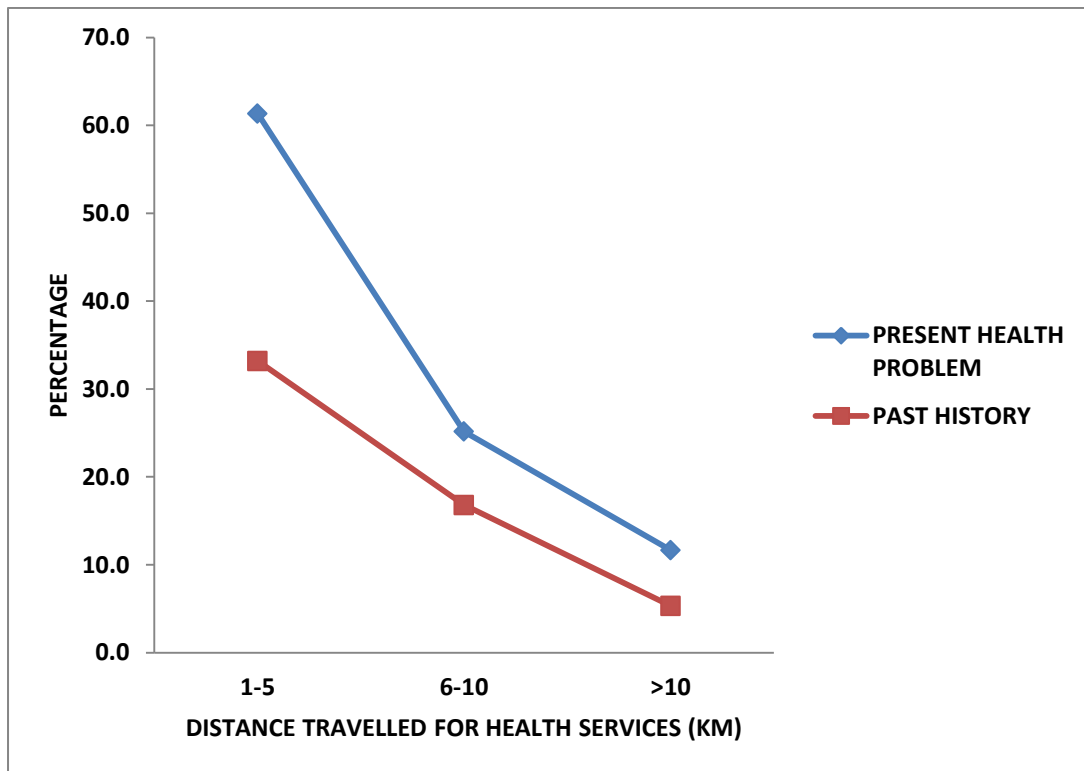
The Graph shows that Majority of participants travelled between 1-5km for their present health related problems (61.3%) and for the past illness it was (33.2%). Very few (11.7%, 5.3%) travelled more >10kms for their both present and past health related problems.

Figure 13: Health expenditure for health related problems
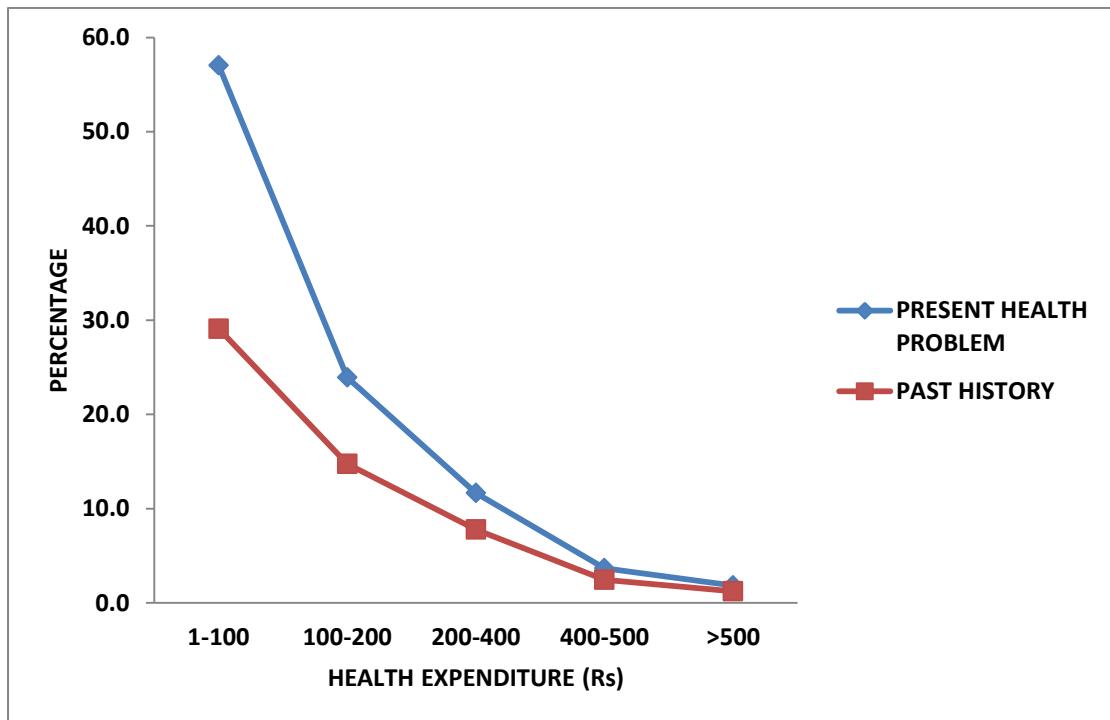
In total approximately maximum no. of participants had spent a minimum up to INR 100 for treatment purpose both for present and past health related problems.

Habits among the participants:

❖ Classification of participants according to the habits and duration showed the Majority of participants had a habit of consuming Alcohol (5.8%), Tobacco chewing (2%) and smoking (1.6%). Among them, 03 (0.7%) were habituated for < 5 years, 11 (2.4%) for 6-10 years and 28 (6.2%) had habits for > 10 years.

General physical examination of the participants:

❖ General physical examination of the participants showed that 3 (0.7%) of them had both corneal ulcers and hearing loss and Majority 26 (5.8%) of them had dental caries problems.

Table 3: Distribution of participants according to body mass index [BMI]

BMI STATUS	MALES		FEMALES	
	N	%	N	%
UNDERWEIGHT	51	24.3	22	11.6
NORMAL	149	71.0	142	74.7
OVERWEIGHT	9	4.3	24	12.6
OBESE	1	0.5	2	1.1
TOTAL	210	100.0	190	100.0

It was observed that more than 70% of male and female participants were within the normal range. The majority of the male participants were underweight (24.3%) compared to female participants (11.6%). Among the participants, the majority of the females were overweight (12.6%) and obese (1.1%) compared to males (4.3%, 0.5%).

Table 4: Nutritional status among children age group of 0-5years and 5-10 years

NUTRITIONAL STATUS BY WEIGHT FOR AGE (IAP)0-5years	N	%
GRADE II	01	05
NORMAL	19	95
Total	20	100

Among the children examined only one child 1 (5%) was found undernourished were as remaining children were having normal weight for their age as per IAP classification.

According to who classification of BMI for age (boys and girls), children of age group of 5-10 years were having normal BMI for their age and sex.

TABLE 5: Association of socio-demographic variables with present morbid conditions (in numbers)

PARAMETERS		Fever	Arthritis	Gastro-ntestinal	Dental Carries	Body Ache	Respiratory	Accidents	Hypertension	DM	Anemia	P value
Age	≤10	3	0	6	0	0	10	3	0	0	0	<0.001*
	11-20	6	0	3	2	3	13	0	0	0	11	
	21-30	2	0	7	6	0	6	0	0	0	24	
	31-40	0	3	5	11	4	7	3	0	0	23	
	41-50	4	6	7	9	0	3	3	4	0	33	
	51-60	3	6	9	1	0	0	0	1	1	16	
	61-70	0	3	0	0	0	0	0	0	0	9	
	>70	0	0	3	0	0	3	0	0	1	11	
Sex	Male	9	15	19	13	3	18	9	5	1	102	0.049*
	Female	9	3	21	16	4	24	0	0	1	25	
Religion	Hindus	16	18	36	29	7	41	9	5	2	124	0.64
	Muslims	2	0	4	0	0	1	0	0	0	3	
Type of Family	Nuclear	12	11	23	19	6	28	3	2	0	65	0.019*
	Joint	6	1	17	7	1	7	3	1	2	47	
	Third Generation	0	6	0	3	0	7	3	2	0	15	
Education	Illiterate	12	12	34	3	4	28	3	3	2	78	<0.001*
	Primary	6	6	3	21	3	0	6	2	0	39	
	Secondary	0	0	3	5	0	14	0	0	0	7	
	Puc And Above	0	0	0	0	0	0	0	0	0	3	
Occupation	Student	3	0	9	2	0	23	3	0	0	4	<0.001*
	Labour	3	0	6	0	0	3	0	1	0	7	
	Household Activities	3	0	0	0	3	2	0	0	0	2	
	Farmer	9	18	25	27	4	14	6	4	2	114	
Se Status	Class Iv	15	3	19	12	6	20	6	2	1	55	0.006*
	Class V	3	15	21	17	1	22	3	3	1	72	
	TOTAL	18	18	40	29	7	42	9	5	2	127	

Note: * significant at 5% level of significance (p<0.05)

The maximum proportion of participants had anemia (127) followed by Respiratory infection (42), Gastro-intestinal infection (40), Dental caries (29), fever (18), arthritis (18), Accidents (9), body ache (7), Hypertension (5), Diabetes mellitus (2). Anemia was the commonest condition associated with the participants of 41-50 years age group who were illiterate and lived in nuclear families.

Age distribution shows that majority of the participant's reported anemia were in the age group of 41-50 years , belonged to Hindu religion and65 of them belonged to nuclear family .Maximum of them (78) were illiterates and 114 of the participants were farmers. Majority of them belongs to Class V socioecomic status and maximum number of males diagnosed with anemia compared to female participants respectively.

Respiratory infection was found more in the group of 11-20 years, belonged to Hindu religion (41) and 28 of them belonged to nuclear family. Maximum of them (28) were illiterates and 23 of the participants were students. Major proportion of them belongs to Class V socio-ecomicstatus. Maximum number of females suffered from Respiratory infection compared to males participants respectively

This statistically significant association was observed between morbid conditions and age, sex, type of family, educational status, occupation and socioeconomic status.

TABLE6 (A): Association of socio-demographic variables with past morbid conditions (in numbers)

PARAMETERS		Fever	Arthritis	Gastrointestinal	Dental Carries	Body Ache	Respiratory	Accidents	Scorpion Bite	Snake Bite
Age	≤10	0	0	3	0	0	11	6	4	0
	11-20	6	0	3	8	0	14	8	5	0
	21-30	2	0	7	11	0	4	0	3	2
	31-40	0	3	0	19	7	10	3	6	7
	41-50	1	0	3	27	0	3	3	6	3
	51-60	0	3	3	4	0	0	0	0	0
	61-70	0	6	0	3	0	0	0	0	0
	>70	0	0	0	0	0	0	0	3	0
Sex	Male	3	6	7	31	3	25	17	10	3
	Female	6	6	12	41	4	17	3	17	9
Religion	Hindus	7	12	19	69	7	42	20	27	12
	Muslims	2	0	0	3	0	0	0	0	0
Type of Family	Nuclear	6	3	12	45	3	32	14	17	12
	Joint	3	6	7	21	1	5	3	10	0
	Third Generation	0	3	0	6	3	5	3	0	0
Educational status	Illiterate	6	12	16	27	7	24	3	12	6
	Primary	3	0	0	30	0	5	9	15	6
	Secondary	0	0	3	12	0	13	8	0	0
	Puc And Above	0	0	0	3	0	0	0	0	0
Occupation	Student	0	0	6	8	0	25	14	9	0
	Labour	3	0	3	3	0	3	0	0	0
	Household Activities	3	0	0	2	0	0	0	3	6
	Farmer	3	12	10	59	7	14	6	15	6
SE Status	Class Iv	9	6	7	22	3	24	15	15	12
	Class V	0	6	12	50	4	18	5	12	0
TOTAL		9	12	19	72	7	42	20	27	12

TABLE 6(B): Association of socio-demographic variables with past morbid conditions (in numbers)

Parameters		Cataract	Corneal Scar	Hearing Loss	Skin Disease	Hyper Tension	DM	p value
Age	≤10	0	0	0	0	0	0	<0.001*
	11-20	0	0	0	0	0	0	
	21-30	0	0	0	0	0	0	
	31-40	0	3	0	3	2	1	
	41-50	0	0	3	0	5	6	
	51-60	3	0	0	6	0	2	
	61-70	0	0	0	0	2	0	
	>70	6	0	0	0	1	0	
Sex	Male	6	3	3	7	8	7	0.0013*
	Female	3	0	0	2	2	2	
Religion	Hindus	9	3	3	7	10	9	0.0041*
	Muslims	0	0	0	2	0	0	
Type Of Family	Nuclear	2	2	0	6	6	7	<0.001*
	Joint	5	1	0	3	3	0	
	Third Generation	2	0	3	0	1	2	
Educational status	Illiterate	9	3	0	6	8	8	<0.001*
	Primary	0	0	3	3	2	1	
	Secondary	0	0	0	0	0	0	
	Puc And Above	0	0	0	0	0	0	
Occupation	Student	0	0	0	0	0	0	<0.001*
	Labour	0	0	0	0	0	0	
	Household Activities	0	0	0	0	0	0	
	Farmer	9	3	3	9	10	9	
SE Status	Class IV	3	3	0	3	7	4	<0.001*
	Class V	6	0	3	6	3	5	
Total		9	3	3	9	10	9	

Note: * significant at 5% level of significance (p<0.05)

During last six months morbid condition, the majority of participants had Dental caries (72) followed by Respiratory infection (42), Accidents (20), Scorpion bite (27), Gastro-intestinal infection (19), Snake bite (12), fever (9), arthritis (12), body ache (7), Hypertension (10), Diabetes mellitus (9), cataract (9), skin disease (9), corneal ulcer (3), hearing loss (3).

Dental caries were the commonest condition associated with the participants of 41-50 years of age group who had primary level schooling and were farmers living in nuclear families and maximum number of females suffered from dental caries compared to males participants.

Respiratory infection was found more in the group of 11-20 years, belonged to Hindu religion (42) and 32 of them belonged to nuclear family. Maximum of them (24) were illiterates and 25 of the participants were students. Major proportion of them belongs to Class IV socio-economic status. Maximum number of males suffered from Respiratory infection compared to female participants respectively.

 Scorpion bite was reported more in the 31-50 years of age group who had primary level schooling and were farmers living in nuclear families and maximum number of females reported scorpion bite compared to males participants respectively.

 This statistically significant association was observed between last six months morbid conditions and their socio- demographic profile

Table 7: Association between socio-demographic variables and utilization of health services

Parameters		Males				χ2 value	p value	Females				χ2 value	p value
		Govt		Private				Govt		Private			
		N	%	N	%			N	%	N	%		
Age	≤10	19	8.8	0	0.0	9.5	0.216	28	13.6	3	20.0	18.52	0.005*
	11-20	33	15.3	3	23.1			45	21.8	3	20.0		
	21-30	39	18.1	2	15.4			31	15.0	0	0.0		
	31-40	40	18.5	0	0.0			43	20.9	3	20.0		
	41-50	44	20.4	5	38.5			36	17.5	3	20.0		
	51-60	20	9.3	3	23.1			19	9.2	0	0.0		
	61-70	9	4.2	0	0.0			4	1.9	3	20.0		
	>70	12	5.6	0	0.0			0	0.0	0	0.0		
Religion	Hindus	211	97.7	13	100.0	0.3	0.579	199	96.6	15	100.0	0.52	0.468
	Muslims	5	2.3	0	0.0			7	3.4	0	0.0		
Type of family	Nuclear	125	57.9	8	61.5	2.07	0.355	131	63.6	8	53.3	0.64	0.724
	Joint	63	29.2	5	38.5			52	25.2	5	33.3		
	ThirdGeneration	28	13.0	0	0.0			23	11.2	2	13.3		
Educational Status	Illiterate	104	48.1	10	76.9	8.02	0.046*	99	48.1	9	60.0	2.2	0.516
	Primary	81	37.5	0	0.0			77	37.4	3	20.0		
	Secondary	28	13.0	3	23.1			27	13.1	3	20.0		
	Puc And Above	3	1.4	0	0.0			3	1.5	0	0.0		
Occupation	Student	40	18.5	3	23.1	1.1	0.774	63	30.6	6	40.0	2.3	0.494
	Labour	10	4.6	0	0.0			9	4.4	0	0.0		
	Household Activities	6	2.8	0	0.0			18	8.7	0	0.0		
	Farmer	160	74.1	10	76.9			116	56.3	9	60.0		
Socio-economic status	Class Iv	102	47.2	9	69.2	2.3	0.123	95	46.1	6	40.0	0.21	0.646
	Class V	114	52.8	4	30.8			111	53.9	9	60.0		
Total		216	100.0	13	100.0			206	100.0	15	100.0		

In the present study, majority of Male Participants were Utilizing Government health facilities are in the age group of 41-50 years (20.4%). Most of the Female Participants were Utilizing Government health facilities were in the age group of 11-20years (21.8%) and this was statistically significant (<0.005). The majority of the Participants who Utilized Government health facilities compared to private facilities were Hindus by religion (males 97.7%, females 96.6%) but no statistical significance was observed in relation to religion.

Both the Participants who were illiterate have Utilized Government health facility compared to private facility. An association was found between male participants Utilizing health facility in relation literacy starts at a p value (0.046).

Around 74% male and 56.3% female participants were farmers who have Utilized Government health facility compared to private. More than 50% of Participants belonged to class v socioeconomic status has Utilized Government health facility compared to private.

Table 8: Association between BMI and Age

AGE (YRS)	Underweight		Normal		Overweight		Obese		p value
	N	%	N	%	N	%	N	%	
11-20	39	53.4	42	14.4	2	6.1	1	33.3	
21-30	5	6.8	57	19.6	9	27.3	1	33.3	
31-40	11	15.1	68	23.4	7	21.2	0	0.0	
41-50	9	12.3	71	24.4	8	24.2	0	0.0	**<0.001***
51-60	1	1.4	36	12.4	4	12.1	1	33.3	
61-70	2	2.7	11	3.8	3	9.1	0	0.0	
>70	6	8.2	6	2.1	0	0.0	0	0.0	
Total	73	100.0	291	100.0	33	100.0	3	100.0	

Note: * significant at 5% level of significance (p<0.05)

In the present study, 73 of the participants were underweight and majority of them were in the age group of 11-20years. 33 of the participants were overweight and belonging to the age group of 21-30years.This association between age and BMI was found to be statistically significant.

Table 9: Distribution of participants according to blood sugar level

Diabetes Mellitus	Male		Female		Total		p value
	N	%	N	%	N	%	
NORMAL	157	84.4	128	81.0	285	82.8	0.039*
PRE DIABETIC	20	10.8	28	17.7	48	14.0	
DIABETIC	9	4.8	2	1.3	**11**	3.2	
Total	186	100.0	158	100.0	344	100.0	

Note: * significant at 5% level of significance (p<0.05)

After Random blood sugar investigation. It was found that 3.2% of participants showed diabetic mellitus. The majority of male participants (4.8%) are diagnosed with diabetes mellitus compared to female participants (1.3%). This Association was found statistically significant.

Table 10: Distribution of participants according to blood pressure level

BLOOD PRESSURE	Male		Female		Total		p value
	N	%	N	%	N	%	
NORMAL(<120)	110	59.1	79	50.0	189	54.9	
PRE HYPERTENSION (120-139)	63	33.9	79	50.0	142	41.3	0.001*
GRADE I HYPERTENSION (140-159)	**13**	7.0	**2**	1.3	**15**	4.4	
Total	186	100.0	160	101.3	346	100.6	

Note: * significant at 5% level of significance (p<0.05)

After Blood Pressure Examination, it was found that 4.4% of participants showed Grade 1 Hypertension. Majority of male Participants 13 (7%) are having Grade I Hypertension Compared To female Participants 2 (1.3%). This Association Was Found Statistically Significant (P<0.001).

Table11: Distribution of participants according to their haemoglobin levels

HB	Male		Female		Total		p value
	N	%	N	%	N	%	
MILD	90	48.3	14	8.9	104	30.2	
MODERATE	12	6.4	11	7.0	23	6.7	<0.001*
NORMAL	84	45.2	133	84.2	217	63.1	
Total	186	100.0	158	100.0	344	100.0	

Note: * significant at 5% level of significance (p<0.05)

When Haemoglobin estimation was done, the majority of the participants (63.1%) were having normal haemoglobin level but surprisingly majority of male participants (48.3%) were having mild anemia compared to females. However, none of them were having severe anemia. This Association was found to be statistically significant. Haemoglobin estimation of children and adolescent who were not willing was not done.

TABLE12: Immunization status of the children according to age group

AGE (YRS)	NOT IMMUNIZED		PARTIALLY IMMUNIZED		FULLY IMMUNIZED		p value
	N	%	N	%	N	%	
1-2	0	0	0	0	4	25	
2-3	0	0	0	0	1	6.25	
3-4	0	0	4	100	6	37.5	0.172
4-5	0	0	0	0	5	31.25	
Total	0	0	4	100	16	100	

The overall limmunization status is found to be good and only 4 children in the age group of 3-4 years were found to be partially immunized..No significant association was found between age and immunization status.

DISCUSSION

Socio-demographic Profile of the study population:

Age group

In the present study, majority of the participants were in the age group of 31-50 years (38.7%) followed by 11-20 years (18.7%). Mean age of participants was 33.1 ± 17.6 years. Similar findings were observed in a study done by Kulkarni R et *al.,*where, the mean age was30-45years (39%). [15]

Religion

In the present study, majority of the participants (97.3%) belonged to Hindu religion. Similar findings were observed in a study done by Rehman SJ et *al.,*where (66.25%) were Hindus compared to others (33.75%). [21]and according to NFHS 4 report , 84% belong to Hindu religion compared to other religion.[62]

Type of family

In this study 60.4% of the participants belonged to nuclear type of family which is similar to study conducted by Kulkerni R *et al.,[15]* This could be because of lack of basic amenities like electricity, drinking water supply, availability of grocery when needed.

Literacy status

Our study revealed that (49.3%) of them were illiterates. Similar findings were observed in a study done by Hammed S *et al.,*where (62.9%) were illiterates. [22]

It may be due to non accessibility of school where they are staying.

Type of Occupation

The present study showed that maximum number of male and female participants in farm resident areas were Farmers (65.6%) followed by household activities (5.3%) and labours (4.2%). The study done by Verma V *et al.,* in rural areas of Allahabad district found that 22.5% of participants were Agriculturist, 8.5% were labours. [24]

This was probably due to fact that our study was conducted in farm house.

Socio economic status

In the present study majority of Participants belonged to class IV (47.1) and class V (52.9%) socioeconomic status. Vargese S *et al*., in rural areas of western Maharashtra reported that Majority of participants belonging to Class V And Class IV (84.2%) socio-economic status.[6] This reflects that middle class families living in farm houses dependent upon agriculture only as source of income,unfortunately due to scarcity of water, decreased production of crops and variation of crop prices leads to lower socio economic status.

Addictive habits

The present study highlighted that among the majority of participants were Alcoholic (5.8%), Tobacco chewers (2%) and smokers (1.6%).

According to DLHS IV report shows that, in rural area of Vijayapura, Majority of participants were alcoholic (23.5%) and smokers (18.8%). [14]

Karmakar N et al., expressed that Commonest form of addiction in rural area was smoking (31.2 %), while 13.8% of them use non- smoke tobacco (chewable form such as khaini, gutkha etc.) and 12.7% addicted to alcohol. [17]

The decrease in the addictive habits in our study compared to above studies may be due to lack of availability of alcohol in near by location andlower socio economic condition.

Immunization status:

In the present study, 80% children were fully immunized. Similarly 85% ofchildren were fully immunized according to report of DLHS IV of rural areas of Vijayapura.[14]

Body mass index

The present study highlights that majority of the male participants in the age group of 11-20years were underweight (24.3%) compared to female participants (11.6%).Among participants, majority of the females were overweight (12.6%) and obese (1.1%) compared to males (4.3%, 0.5%) and only (5%) of under five children were found to be undernourished.

According to NFHS 4 (Karnataka) report,Majority of the female participants were underweight (24.3%) compared to male participants (17.6%). Among participants, majority of the males were overweight and obese (17.1%) compared to females (16.6 %) and 35% of children ofunder five age group are underweight. [62]

This difference in present study compared to other study may be due to change in the life style, ignorance and lack of knowledge about nutritional status among the participants in farm houses.

Morbidity pattern:

In this Study, Maximum proportion of participants had anaemia (36.9%) followed by Respiratory infection (9.3%), Gastrointestinal infection (8.9%), Dental caries (6.4%),

fever (4%), arthritis (4%), Accidents (2%), body ache (1.6%), Hypertension (1.5%), Diabetes mellitus (0.6%).Majority of male participants (54.7%) reported with Anaemia compared to female participants (15.9%) andmaximum number of females suffered from Respiratory infection compared to males participants respectively. Accidents were reported among 3.9% of male participants only.

Verma V, et al., in rural area of Allahabad district of Uttar pradesh observed that Overall, most prevalent diseases were linked to ocular, musculoskeletal, psychological system, gastrointestinal system, and dental disorder affecting 274 (68.5%), 239 (59.75%), 119 (29.75%), 100 (25%), 94 (23.5%), of elderly respectively. The prevalence of anemia (43%), under-nutrition (38.5%) and respiratory problems (16%) were more in rural aged.[24]

Sharma D et al., in rural area of north India reported the morbid condition likemusculoskeletal problems(56.5%) ,hypertension(25%0, cataract(37%) ,dental problems (33%), asthma (4%) ,corneal opacity (1.5%) and a significantly higher proportion of women suffered from musculoskeletal problems (females: 66.7% vs. males: 42.7%), hypertension (females: 48% vs. males: 32.7%), diabetes (females: 7.8% vs. males: 3.6%), while chronic obstructive pulmonary disease (males: 14.3% vs. .females: 0.4%) was observed more in men.[26]

.According to DLHS IV survey Karnataka, reported that prevalence of morbidity in rural area was mainly injury (3.4%), acute illness (5.7%) and chronic illness (5.3%). [14]

Gupta SK *et al,* in rural area of Madhya Pradesh found that the prevalence of anaemia was 42%. However, the prevalence of anaemia was high in females (82%) compared to males (18%).[34]

The proportion of health illness was lesser in the present study compared to other studies due to fresh environmental conditions in farms and involved in more physical activities.

The proportion of anemia was more in males compared to female participants probably due to walking barefoot in field area may leads to worm infestations.

The percentage of females suffering from Respiratory infection was more compared to male participants would be due to use of smoke forming chullhas in farm house.

Accidents were reported among the male participants probably due to use of farming tools & machineries.

Among Last six months morbidity condition, majority of participants had Dental caries(16%) followed by Respiratory infection (9.3%), Accidents (4.4%), Scorpion bite (6%), Gastrointestinal infection (4.2%), Snake bite (2.7%), fever (2%), arthritis (2.7%), body ache (1.6%), Hypertension (2.9%), Diabetes mellitus (2.6%), cataract (2%), skin disease (2%), corneal ulcer (0.7%), hearing loss (0.7%).

A study done byRahman SJ et al, in a rural block of Jorhat district, Assam revealed that, (54.25%) of the farmers suffering fromrespiratory tract infectionsfollowed by musculoskeletal problems (23.25%) and gastrointestinal tract ailments (11.75%).[21]

According to HameedS et al., Study reported that the proportion of arthritis, anaemia and obesity were significantly higher among females than among male participants.[22]

Ahmeed SM et al., in his study showed, there was significant association found between fever, skin, eye, ear problems with Age and Gender. [35]

A study done by Kulkarni RR *et al*, in a rural area of Belgaum district observed majority of agriculture workers were having dental caries (25.50%), dental stains (21.75%), followed by musculoskeletal system (21.75%) and respiratory system (19%). [15]

Kansal S *et al*, in rural community of Eastern Uttar Pradesh revealed that Respiratory diseases (18%) followed by Fever (15.4%), GIT diseases (11.4%) , Bone and Joint problems contributed the principle cause of morbidity in the study population.[16]

The proportion of health illness was lesser in the present study compared to other studies due to staying in fresh environmental conditions in farm house and involved in more physical activities.

The present study found that 3.2% of participants had diabetic mellitus. Majority of male participants (4.8%) were having diabetes mellitus compared to female participants (1.3%) and 4.4% Of Participants Showed Grade 1 Hypertension. Majority of Male Participants 13(7%) WereHaving Grade I Hypertension Compared To Female Participants 2(1.3%).Agarwal V *et al* reported that the prevalence of Diabetes Mellitus in rural Agra was found to be 7%. Prevalence of Diabetes was observed significantly associated with the age, occupation and socioeconomic status.[29] Gupta S *et al,* in Rural Area of Tamil Nadu revealed that Prevalence of diabetes in studied population was 5.99%.[30]Deepathi R *et al,* found that Thirty three (5.6%) reported to be suffering from diabetes. Twenty nine (4.9%) were newly diagnosed to have diabetes giving an overall prevalence of 10.5%. [33]. Similar findings were found in Satheesh BC et al, in rural community of coastal Karnataka revealed that the overall prevalence of hypertension among them was 18% and the proportion of hypertension was more among males (26.4%) compared to females (11.4%). [28] Raja TK *et al,* in rural adults of Kanchipuram district, Tamil Nadu

reported that the overall prevalence of hypertension among the study population was 26.2%. Risk among male was greater than female (OR=1.390). [27]

The difference in the present study findings and other studies could be due to Stress free environment and farmers are hard workers and involved more in physical activities.

Health Seeking Behaviour pattern:

In the present Study majority of respondents for both present and past health illness took treatment from government facility (21.8%) followed by private practitioner (7.6%) and pharmacist (6.2%).Maximum no of study subjects said that ASHA were more involved in providing health services (97.3%).

A study conducted by Chauhan RC *et al*., Among 559 study participants, majority (56.4%) visited public health care facilities for various illnesses. Almost one-third of the study participants visited the private health facilities and another 11.6 percent visited other health facilities including pharmacies.[42] Ager *et al*., found that Majority of Agriculture workers had treatment from governmental hospital (48%) and ANM (20%).[63]

Similar findings were observed in a study by Kulkerni R *et al.,*found that out of 400 agricultural workers, home remedies were sought by 67% and 33% visited a health care provider for the treatment. Overall, government doctors were opted by 48.75%, 28% opted private doctor, 12.25% anganwadi worker, 10% auxiliary nurse midwives, and 1% opted for pharmacist as the first priority health care provider for their illnesses. Among those cases where illness was not cured or the treatment given by the first health care provider was not satisfactory, 18.25% opted government doctor and 35.75% preferred private or Ayush practitioners. [15]

Free availability of treatment may be the reason for utilizing Government health facility.

Distance travelled for seeking treatment:

The present study revealed that majority of participants travelled 1-5km for their present (61.3%) and past health related problems (33.2%). Similar findings were found in a study conducted by Noor AM *et al*., reported that the analysis of straight-line distances between communities and government health facilities revealed differences between districts with 99% of the population in Greater Kisii, 80% in Bondo, 65% in both Kwale and Makueni within 5 km of the nearest government health facility. The mean distance of access to health facilities was 2.4 km in Greater Kisii, 3.4 km in Bondo, 4.7 km in Kwale and 4.5 km in Makueni. [43] Muller I *et al*., reported that the distance travelled for availing health services was less than 3.5km for health related problems . [64]

HEALTH EXPENDITURE

The present study shows that majority of the participants avail health services for their heath related problem (Present And Past) spent up to INR100 (86.2%) followed by INR 100-200 (38.7%).

Barik D*et al.* described that health expenditure for any morbidity in more developed village was 7.73% of monthly household income and 6.87% in less developed village. [46] A study done by Subha DB *et al.,* Mean expenses incurred on treatment for the under-five illnesses was INR 550±125. More than half of the households spent 17–40% of their monthly income in case of an under-five illness. Most expenses were on drugs (71%), followed by transport. [47] Baliga SS *et al*., In Belgaum city found that

the expenditure per month for hypertension was found to be rs.134.88±11.84 for medication and Rs 227.64± 18.03 for routine check up and investigations.[48] Compared to other studies, morbid condition were less in the present study may be the reason for less expenditure.

SUMMARY

❖ The present study was conducted in the rural areas of Vijayapura district. The total numbers of study subjects were 450.

❖ Maximum number of Participants belonging to age group 41-50 years, among them majority were Hindu (97.3%) by religion, 60.4% of them stay in nuclear type of family & 49.3% of the participants were illiterate. About 65.6% of the participants were farmers & 4.2% of the participants were laborers. More than one third of the participants belonged to Class-V Socio-Economic Status.

❖ Majority of participants had habit of consuming Alcohol (5.8%), Tobacco chewing (2%) and smoking (1.6%).

❖ In the present study 80% of children were fully immunized and 24.3% of boys are underweight and 12.6% of girls were overweight.

❖ The present morbid Condition observed was as follows – anemia (36.9%), Respiratory infections (9.3%), Gastrointestinal infection(8.9%), Dental caries (6.4%), fever (4%), arthritis (4%), Accidents (2%), body ache (1.6%), Hypertension (1.5%), Diabetes mellitus (0.6%).

❖ The Past Morbid Condition told by the participants were Dental Caries (16%), Respiratory infections (9.3%), Accidents (4.4%), Scorpion bite (6%), Gastrointestinal infection (4.2%), Snakebite (2.7%), Fever (2%), Arthritis (2.7%), Bodyache (1.6%), Hypertension (2.9%), Diabetes mellitus (2.6%), Cataract(2%), Skin Disease (2%), Corneal Ulcer (0.7%), Hearing Loss (0.7%).

❖ After Random blood sugar estimation and Blood Pressure checkup, it was found that prevalence of Diabetes mellitus and hypertension was 3.2% and 4.4%. Majority of male participants (4.8% vs 7%) were having diabetes mellitus and Hypertension compared to female participants (1.3% vs 1.3%).

❖ After Hb estimation, it was found that Majority of male participants (54.7%) reported with Anemia compared to female participants (15.9%).

❖ For the present and past health related problems, majority of them took treatment from government facility (21.8%) followed by private practitioner (7.6%) and pharmacist (6.2%).

❖ It was observed that maximum Utilization of Government health facilities belonging to the age group of 41-50 years (20.4%) and among female participants utilizing Government health facilities were in the age group of 11-20years (21.8%).

❖ Majority of Male (48.1%) and female (48.1%) Participants who Utilized Government health facility compared to private facility were illiterate.

❖ Health services providers at door steps by government health facilities were ASHA (97.3%) and ANM (78.9%). Among them visit by ASHA was more frequent than ANM.

❖ Maximum number of participants travelled between 1-5km for their present (61.3%) and past illness (33.2%).

❖ Majority of the participants spent up to INR 100 (86.2%) for their present and past health related problems for each visit.

CONCLUSION

Agriculture is one of the oldest and largest industries in our country because 80 percent of our population lives in the rural areas and the main occupation is agriculture. Poverty, illiteracy, poor standard of living, lack of knowledge, ignorance, traditional culture, blind beliefs are the factors affecting the rural population.

The farm house workers are a special group, who are remotely dispersed in rural areas which makes that the health services may not accessible to them. Realistic data regarding morbidity pattern and health seeking behaviour among farm house dwellers is very less in the scientific literature.

The findings of the present study among farm dwellers in the rural area of vijayapura District revealed that majority were illiterate belonging to lower socio economic class and are having health problems like musculoskeletal disorders, skin disease, injuries, dental caries, snake bite, scorpion bite, Communicable and non-communicable disease. Majority of them seek health care facility from the Government health facility followed by Private clinics when they are sick. Minimum distance travelled by them was 1-5kms for their health care and spent up to INR 100 for each visit.

It is worth mentioning that the during our study period we discussed with the farm house residents regarding the common causes of health related problems, first aid treatment and to decrease the stress and stigma, lifestyle modification and to seek immediate treatment when they are sick. The study also highlights that there is need for improvement in the overall environmental sanitation measures.

RECOMMENDATIONS

Based on the finding of the present study, the following are the recommendations:

❖ Farmers should be advised regarding use of protective measures like using masks for protection from hazards of fertilizers and pesticides, by wearing gloves while handling manure, by wearing long boots while walking in the fields.

❖ Training for the use of agricultural equipment, as per instruction manuals.

❖ Health education related to environmental sanitation and educating regarding use of footwear.

❖ Strengthening of the present public health infrastructure by providing resource like money, manpower, materials and provision of screening and diagnostic laboratory facilities at the sub centre to reach the unreached population.

❖ Provision of dental services at the primary health centre.

❖ During training sessions for health care staff, special emphasis should be given on development of communication skills in order to establish rapport with the patients.

❖ Local representatives like Gram panchayat members are to be entrusted with responsibility to promote existing health infrastructure.

❖ Strengthening of monitoring and supervision mechanism in health care units to detect lacunae in the present functioning system must be initiated so that appropriate measures can be undertaken for improving the health care facilities.

❖ Enhancement of agriculture policy and health insurance

❖ Night school should be encouraged to improve the literacy rate.

❖ Feedback should be collected by the community. This can be used to monitor quality of care and patient satisfaction on a regular basis.

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ANNEXURES

ETHICAL CLEARANCE CERTIFICATE

B.L.D.E. UNIVERSITY'S
SHRI.B.M.PATIL MEDICAL COLLEGE, BIJAPUR-586 103
INSTITUTIONAL ETHICAL COMMITTEE

INSTITUTIONAL ETHICAL CLEARANCE CERTIFICATE

The Ethical Committee of this college met on __04|10|2016__ at __3-00pm__ to scrutinize the Synopsis of Postgraduate Students of this college from Ethical Clearance point of view. After scrutiny the following original/corrected & revised version synopsis of the Thesis has been accorded Ethical Clearance.

Title __Morbidity pattern and health seeking behaviour among the farm house residents__

Name of P.G. student __Sandeep Yanranchi__
__Dapt of community medicine__

Name of Guide/Co-investigator Dr __Recha Udgiri__
__Professor in community medicine__

DR.TEJASWINI. VALLABHA
CHAIRMAN
INSTITUTIONAL ETHICAL COMMITTEE
BLDEU'S, SHRI.B.M.PATIL.
MEDICAL COLLEGE, BIJAPUR.

Following documents were placed before E.C for Scrutinization
!) Copy of Synopsis/Research project.
2) Copy of informed consent form
3) Any other relevant documents.

PROFORMA

General information:

Demographic characteristics

1). Name of the head of household:

2). Address:

3). Religion:

4.) Caste: a) general b) SC C) ST D) others

5) socio-economic class

6) Landlord / labourer/Tenant

7) Family composition:

8) Type of family: Nuclear/ Joint/ Extended

AVAILABILITY OF HEALTH CARE SERVICES

1. Are any health facilities in and around your farm houses?

   Yes/No

If yes, which are they?

a) private sectors: i) Traditional healers ii) Ayush iii) RMP IV) Quacks

b) Government sectors: i) Sub centre ii) Primary health centre iii) Community health

centre iv) Auxiliary nurse midwife(ANM) v) AWW

Govt /Private	Government preferences		Private preferences	
	1st preference	2nd preference	1st preference	2nd preference
	i) Sub centre	i) Sub centre	i)Traditional healers	i)Traditional healers
	ii)Primary health centre	ii)Primary health centre	ii) Ayush	ii) Ayush
	iii)Community health centre	iii)Community health centre	iii) RMP	iii) RMP
	iv) ANM	iv) ANM	IV) Quacks	IV) Quacks
	v) AWW	v) AWW		

2. Are any health services provided at your door steps?

   Yes/No

I) If yes, a) which types of services are provided by them?

         i) Antenatal care ii) Postnatal care iii) Immunization iv) others

      b) Who are health services providers   i) Health workers(ANM, AWW,

ASHA) ii)

         Workers of the   Voluntary health organization iii)   Others

specify_____

3. i) Distance between health services and your home:

   ii) FROM ---------TO--------------

Individuals   health record

1) Name

2) Age

3) sex- M/F

4) Education-illiterate/primary/secondary/puc/higher

5) occupation-student/labour/ Household activities /others

I) Any health problem of present:

A) Treatment taken:

 If Yes/No:

 a) Yes: Private/government/ Pharmacist/ Home remedies/ Self medicated

 b) No : Reasons

B) Distance   travelled for availing health services :

C) Health expenditure (Travel expenditure +treatment expenditure)

II) Past history of illness (during last 6 months) :   If Yes/No   No-Reasons

SI.NO	Name of the disease	Treatment taken	Source of treatment	Outcome(cured/not cured)

III). Personal habits : i) Smoking ii) Alcohol iii) chewing iv) others

IV) General physical examination

 a) Eye: j) **RBS-**

 b) Ear: k) **Hb-**

 c) Teeth: l) **Blood pressure-**

 d) Icterus:

 e) Skin infection:

 f) edema:

g) Pulse:

h) Height:

i) Weight:

V) Systemic examination:

CVS :

RS :

CNS:

PA :

PAEDIATRIC   PROFERMA

AVAILABILITY OF HEALTH CARE SERVICES

1. Are any health facilities in and around your farm houses?

   Yes/No

If yes, which are they?

a) private sectors: i) Traditional healers ii) Ayush iii) RMP IV) Quacks

b) Government sectors: i) Subcentre   ii)   Primary health centre   iii) Community

health centre iv) Auxillary nurse midwife(ANM) v) AWW

Govt /Private	Government preferences		Private preferences	
	1st preference	2nd preference	1st preference	2nd preference
	i) Sub centre	i) Sub centre	i)Traditional healers	i)Traditional healers
	ii)Primary health centre	ii)Primary health centre	ii) Ayush	ii) Ayush
	iii)Community health centre	iii)Community health centre	iii) RMP	iii) RMP
	iv) ANM	iv) ANM	IV) Quacks	IV) Quacks
	v) AWW	v) AWW		

2. Are any health services provided at your door steps?

   Yes/No

 If yes, a) which type of services are provided by them?

        i) Antenatal care ii) Postnatal care iii) Immunization iv) others

         b) Who are health services providers   i) Health workers (ANM, AWW,

ASHA) ii)

        Workers of the Voluntary health organization iii)   others

specify_____

3. i) Distance between health services and your home:

   ii) FROM ---------TO--------------

HEALTH PROFILE (PAEDIATRIC)

1. Name of the child:

2. Name of the father:

3. Name of the mother:

4. Age:

5. sex:

6**. Immunization status:**

7. **PERSONAL HYGINE:**

   Hairs-Clean/unclean
    Teeth- Clean/unclean
   Nails- trimmed/not trimmed

   Cloth-clean/unclean
   Bath-Regular/irregular
   Footwear-using/not using

8) Behaviour Disorders:
    Bed wetting –Present / Absent

    Nail biting – Present /Absent

    Thumb sucking- Present/Absent

9) HISTORY OF PAST ILLNESS:

SI.NO	Name of disease	Episodes of sickness	source of treatment	duration of treatment

10) GENERAL PHYSICAL EXAMINATION:

Anthropometry: HT: WT:

11) SYSTEMIC EXAMINATION:

CVS: RS: CNS: PA

INFORMED CONSENT FORM

Title of topic:Morbidity Pattern and Health Seeking Behaviour amongthe Farm House Residents in Vijayapur District.

KARNATAKA

GUIDE   **:** DR.REKHA UDGIRI

PG STUDENT   **:** DR.SANDEEP YANKANCHI

PURPOSE OF RESEARCH:

I have been informed that this study will help to assess morbidity pattern and health seeking behavior among the farm house residents in Vijayapur district, Karnataka.

PROCEDURE : It is a cross-sectional study. Study group will be comprised of farm house residents. Interview technique with pretested, semi structured questionnaire about the morbidity pattern and health seeking behaviour of farm house residents, supplemented by physical examination and investigations.

RISK AND DISCOMFORTS:

I understand that I may experience some discomfort during this procedure. The procedures of this study are not expected to exaggerate these feelings which are associated with the usual course of study.

BENEFITS:

I understand that my participation in the study as one of the study subjects will help the researcher to analysemorbidity pattern and health seeking behaviour among the farm house residents in Vijayapur district, Karnataka.

CONFIDENTIALITY:

Your answers are kept secret. Your name and contact information will never be identified to anyone outside the study.

REQUEST FOR MORE INFORMATION:

I understand that I may ask more questions about the study at any time to Dr Sandeep Yankanchi at the department of community medicine to answer my questions or concerns. I understand that I will be informed of any significant new findings discovered during the course of the study, which might influence my continued participation. A copy of this consent form will be given to me to keep for careful reading.

REFUSAL OR WITHDRAWAL OF PARTICIPATION:

I understand that my participation is voluntary and that I may refuse to participate or may withdraw consent and discontinue participation in the study at any time without prejudice. I also understand that Dr Sandeep Yankanchi may terminate my participation in the study at any time after he has explained the reasons for doing so.

(Guide / Principle Investigator)   (Date)

(Investigator)   (Date)

STUDY SUBJECT CONSENT STATEMENT:

     I confirm that Dr Sandeep Yankanchi has explained to me the purpose of research, the study procedure that I will undergo & the possible discomfort as well as benefits that I may experience in my own language. I have been explained all the above in detail in my language and understand the same.

Therefore, I agree to give consent to participate as a subject in this research project.

 Participant   Date:

PHOTOGRAPHS

GLUCOMETER & HEMOGLOBINOMETER

DATA COLLECTION

ANNEXURE V - GANTT CHART

Activity	2016							2017												2018								
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Topic selection	■	■																										
Synopsis preparation and submission			■	■	■																							
Review of literature					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Preparation of Proforma					■	■																						
Glucometer and Hb kit ordered							■	■	■																			
Analysis and instrument modification									■	■	■	■																
Data collection													■	■	■	■	■	■	■									
Data analysis																				■	■	■	■	■				
Dissertation writing																								■	■	■	■	
Dissertation submission																												■