Health and health insurance profile for people living in the tribal areas

Report from a cross-sectional study in 262 tribal villages of Andhra Pradesh

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ABBREVIATIONS

AWC: Anganwadicentres

SC: Sub-Centres

PMP: Private Medical Practitioners

TP: Traditional Practitioners

RMP: Registered Medical Practitioners

ITDA: Integrated Tribal Development Authority

Rs: Indian Rupees

Vizag: Visakhapatnam

EXECUTIVE SUMMARY

The spiraling cost of health care expenditure places enormous burden on the poor, marginalized and vulnerable. As reported by the World Bank, 20% of the population in India goes below poverty line with one incident of hospitalisation.

Health insurance has emerged as a protective mechanism for reducing barriers to access healthcare. A healthcare system remains unutilized if the patients do not have the capacity to access it during health crisis and emergencies or if the health system does not have the necessary infrastructure and resources to take care of the health needs. Health insurance steps in to fill this lacuna and enable patients to seek medical care without draining their financial resources and at the same time be able to provide funds to the health system to make it sustainable. In its design, the most important function of health insurance is to ensure better access to health care through a system of premium payment and risk pooling mechanism. In recent times, the importance of extending health insurance coverage to the poor and vulnerable has been recognized as an essential requisite for addressing health disparities and promoting better health.

In the Indian subcontinent, the scheduled tribes (ST's) are one of the most neglected, marginalized and disadvantaged social groups. Health outcomes for the ST's assessed through various health and development indicators reflect their poor health status. Lack of adequate healthcare facilities, poor sanitation, recurring diseases, escalating cost of treatment and limited financial means to seek medical treatment present a challenging situation for the tribals. Given the dismal scenario, health insurance has the potential to play a significant role by providing protection to meet health needs with minimum burden at the time of medical crisis.

In this context, the present Study has explored the health financing needs of the tribal communities residing in remote rural areas of Andhra Pradesh. The Study has been conducted in the tribal villages of Khammam, Adilabad and Visakhapatnam - the 3 districts that have a high population density of the scheduled tribes. The report begins with a review of the existing body of the literature on tribal health and results of experiments of community based health insurance for vulnerable communities, especially the tribals and adivasis. In the subsequent sections, disease patterns and healthcare needs of the scheduled tribes of the selected sample group have been studied. Assessment of health seeking behaviour, demographic profile, health expenditure pattern and existing mechanisms for meeting health care needs have been explored from the lens of assessing health insurance requirements. Simultaneously, awareness, access and utilization of existing health insurance schemes have been studied. At the end, the Study has investigated on the keenness of the tribal population on availing and utilizing health insurance, premium payment preference and affordability.

The critical health conditions that require majority of the hospitalization cases have been found to be infectious diseases, musculoskeletal problem, cancer and ulcer treatments and accidents. Infectious diseases topped the list. The percentage of institutional delivery was found to be significantly less and among the deliveries that took place most of them took place in government hospitals. The Study has highlighted the enormous burden of “out of pocket” expenditure incurred by the tribals for meeting inpatient and outpatient costs of treatment. Analysis of the current coping mechanisms shows that most households either consumed their savings, or took a loan at high interest rates to meet the healthcare expenses.

A major emphasis of the Study was to assess the awareness level of the villagers on insurance in general and health insurance in particular. Among the insurances about which villagers had knowledge, awareness levels about health insurance were abysmally low. Perception of the villagers about health insurance schemes came out as a key factor. An important lesson was from the ground level implementation of Rajiv Arogyashri Community Health Insurance scheme; despite majority of villagers being aware and having enrolled in the scheme, very few actually used it as most did not perceive it as a health insurance policy and did not know how to utilize it.

As indicated by the Study, majority of the tribal population were keen about taking health insurance for themselves and their families. Analysis of premium preference and affordability suggests that most patients wanted to pay premium either on a quarterly or on an annual basis. The most preferable month for making premium payment was January and February as this was the time for harvesting and most of them work as laborers in the field.

The Report concludes with some key recommendations that have been a result of this research endeavor. As evident from the research, firstly, awareness generation on health insurance and its implication on health and reduction of financial burden on the household must be emphasized and knowledge disseminated. The present scenario provides a scope for widespread awareness generation and information about health insurance. Secondly, the health insurance product must include within its scope the specific diseases that are widespread among the scheduled tribes. Without this, the purpose of developing the product becomes defeated. Thirdly, considering that both inpatient and outpatient expenditures impose a financial burden on the tribal families, it is suggested that both categories be included in the insurance coverage. At the end, it is crucial to take into consideration the convenience and affordability of the target group with respect to premium payment.

BACKGROUND

The Scheduled Tribes (STs) are defined as those communities or social groups that generally live in remote inhospitable areas, have their own distinctive culture and religion, are dependent on forest and agriculture for livelihood and have minimal contact with the outside world. As per 2011 Census, the tribal population of India is 104.28 million, larger than that of any other country in the world[1]. The majority of the scheduled tribes live in rural areas[2]. The Constitution of India has recognized the Scheduled Tribes (ST's) as one of the socially disadvantaged groups due to their extreme social, educational and economic backwardness that results from dependence on primitive agricultural practices, lack of infrastructure facilities and geographical isolation. Even during the pre - Independence era, they were referred to as "depressed classes" in the Indian subcontinent. Post-independence, although the country has witnessed rapid economic development and advancements in the fields of technology and industrialization, the scheduled tribes have been away from benefits of development.

Scheduled Tribes – Definition:

Article 366 (25) of the Constitution of India refers to Scheduled Tribes as those communities, who are scheduled in accordance with Article 342 of the Constitution. This Article says that only those communities who have been declared as such by the President through an initial public notification or through a subsequent amending Act of Parliament will be considered to be Scheduled Tribes. [3]

The list of Scheduled Tribes is State/ UT specific and a community declared as a Scheduled Tribe in a State need not be so in another State. The inclusion of a community as a Scheduled Tribe is an ongoing process. The essential characteristics, first laid down by the Lokur Committee, for a community to be identified as Scheduled Tribes are [3]–

- Geographical isolation - they live in clustered, exclusive, remote and inhospitable areas such as hills and forests.

- Backwardness - their livelihood is based on primitive agriculture, a low-value closed economy with a low level of technology that leads to their poverty. They have low levels of literacy and health.
- Distinctive culture, language and religion - communities have developed their own distinctive culture, language and religion.
- Shyness of contact – they have a marginal degree of contact with other cultures and people.

Tribal Groups in Andhra Pradesh

Andhra Pradesh is home to 35 communities officially designated as scheduled tribes (STs). They numbered 59,18,073 in 2011 and 50, 24,104 in the 2001 Census registering a growth rate of 17.79%[4]. The STs of Andhra Pradesh constitute 5.67% [5]of India's tribal population. Although the State's STs comprise only 7% of the state's population, they account for the largest tribal concentration in southern India.

The scheduled areas of Andhra Pradesh covered by the Tribal Sub plan areas are spread over 31,485 sq km in the districts of Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari, Warangal, Khammam, Adilabad and Kurnool. This zone forms the traditional habitat of 30 tribal communities. The other three tribal groups i.e. Lambada, Yerukala and Yanadi mostly live outside the scheduled areas.

In some districts, tribal population is spread thinly and they live along with non-tribal communities. The indigenous tribes are mostly concentrated in contiguous tracts of the above districts that have been designated as scheduled areas administered by the Integrated Tribal Development Agencies (ITDAs)[6]. The 35 reported ST communities are mainly concentrated in nine districts declared as Scheduled Areas by special government order in 1950[6]. Among the 23 districts, Khammam has the highest ST population (26.47%), followed by Adilabad (16.74%), Visakhapatnam (14.55%), Warangal (14.10%) and Nalgonda (10.55%). This zone forms the traditional habitat of 32 tribal communities in Scheduled Areas (sprawling 30,030 sq km) and the rest outside[1].

Tribal Health

Health is a pre-requisite for human development and is an essential component for the well being of mankind. The health problems of any community are influenced by

interplay of various factors including social, economic and political ones. The common beliefs, customs, practices related to health and disease as well as availability of finances, in turn influence the health seeking behavior of the community. There is an agreement that the health status of the tribal population is very poor and worst among the primitive tribes because of their isolation, remoteness and being largely unaffected by the developmental processes going on in the country[6].

Studies undertaken in the country indicate that the primitive tribes have distinct health problems, mainly governed by multi-dimensional factors like their habitat, difficult terrain, ecologically variable niches, illiteracy, poverty, isolation, superstition and deforestation[7].

Tribal health has been a subject of extensive research and discourse. The poor health status of tribal population has been studied with great emphasis highlighting factors and conditions that make them vulnerable to various diseases and illness. Among the factors highlighted by various studies, access to healthcare has been recognized as an important determinant for improving overall health status of the tribal population. Access to quality health care is in itself a broad concept and dependent on various macro and micro level factors. Among them, the financial capacity of the tribal household to meet the cost of medical treatment is crucial. It is well known that despite the advancement in the field of medical science, cost of medical treatment has been spiraling placing a high burden on the poor, excluded and disadvantaged. The scheduled tribes, especially those residing in remote rural parts of the Indian subcontinent are particularly prone to various diseases and illness and recurring cost of medical treatment creates situations of financial stress, insecurity and further poverty.

In view of the high cost of medical treatment, the present research explores the concept of health insurance as a tool that provides financial protection to tribal households in improving their access to quality healthcare. Health insurance as mechanism of providing financial support to meet the rising cost of unforeseen emergencies and medical treatment has become more popular with the privileged sections of the society. In the recent times however, in recognition of the unmet healthcare needs of the poor and marginalized, there has been an increasing interest

to devise and implement health insurance schemes for enabling them access quality healthcare. As a result, various community based and government sponsored health insurance schemes have now been initiated to provide financial protection to disadvantaged families. However, such experiments are by far few in number and lack substantial documentation.

The **National Rural Health Mission** launched by the Government of India in 2005 seeks to provide accessible, affordable and quality health care to the rural population, especially the most vulnerable[8]. The universal goal of the Indian health care system is to ensure adequate access to quality care at a reasonable price. The components of this goal include access, quality and price and each of these factors cannot be dealt in isolation. Though the price of the health facility among the tribal population is very poor, effective accessibility of these services has not been yet achieved in tribal areas even after nearly five decades of health planning. This resulted in under utilization of health services in some tribal areas. Presently, organized primary health care delivery system is unable to fully percolate into all tribal hamlets at all times. Health care needs are in some places still being taken care of by local traditional healers using traditional tribal medicines and faith healers.

The above prevailing health scenario in tribal area warrant a system that improves access to health facilities and enhance their health seeking behaviour. With active community involvement and participation, and with an ultimate objective of dependence on their own for minimum health care, and sustainable development in general health, there is need for demand generation in the tribal communities.

Less than 15% of the population in India today has any kind of health-care cover, be it community insurance, employers' expenditure, social insurance etc.[9] Because of the inability to pay for health care amongst tribal households across the country, they either avoid hospitalization or end up going to quacks – the health outcome for the household in both the cases being negative. According to the World Bank Study[10] in four countries - Chile, Costa Rica, Estonia, and the Netherlands:

- More than 40 percent of those hospitalized borrow money or sell assets to cover expenses and

- 25% of hospitalized fall below the poverty line because of the expenses

In the context of tribal communities residing in remote rural areas of the Andhra Pradesh, health insurance is virtually an unexplored terrain. It is critical to understand that tribal communities are characterized by variation in their cultures, modes of living and behavior from the mainstream rural or urban population. Consequently, their healthcare needs would be varied from the mainstream society. Hence any generalization about their health seeking behaviour may lead to an erroneous understanding and undermine the development of relevant health insurance products. Further, there have been very few studies to explore the specific health care requirements of these communities from the perspective of developing healthcare insurance products. In doing so, this Study takes a detailed account of health and demographic profile of the tribal communities, their access to health care facilities and specific health financing requirements. Consequently, the Study also focuses its attention on exploring health insurance delivery mechanism by mapping hospital expenditure patterns of household, aspects of premium affordability and preferences. The Study looks into the existing government sponsored health insurance schemes, its awareness and its utilization by the tribal households.

It is expected that the findings of the Study will create pathways and directions in creation of appropriate healthcare insurance products and its delivery mechanism for fulfilling health-financing requirements of the community.

SECONDARY RESEARCH

Health Status of Scheduled Tribes

Good health is a cornerstone of human development. It is well acknowledged that health is an important determinant of the development process. As healthy individuals live longer, they become more productive and save more. On the other hand, when poor people suffer from prolonged phases of ill health, the entire household suffers from lost income, high health cost, leading to debt and eventually getting entrapped in the downward spiral of poverty cycle.

Despite the tremendous growth of health sector in India, tribal communities are particularly disease prone. The Report of the Steering Committee on Empowering the Scheduled Tribes in the Tenth Five Year Plan (2002-2007) stated that decadal growth of the ST population has been higher than that of the total population (26% in ST areas as against 23.5% in the total population)[2]. However the Report also stated that the tribal population suffers from many chronic diseases. The incidence of water borne diseases is most prevalent due to intake of unsafe drinking water and takes a heavy toll on their health. The Report stated high incidence of infant and maternal mortality, malnutrition, low immunization rate and problems of drug addiction.

Exploring the distinctive nature of tribal health has also been a subject of extensive research. Studies on understanding tribal health arose out of necessity to give special attention to the distinctive health problems faced by the tribal population. These health problems are governed by their habitat, difficult terrains and isolation from mainstream society. As Balgir,RS points out*, "tribal's constitute one of the most vulnerable groups prone to various diseases due to high degree of malnutrition, morbidity and malnutrition"[11].* Balgir also enumerates the high incidence of preventable diseases like tuberculosis, malaria, gastroenteritis, measles, tetanus, whooping cough along with diseases of genetic origin like sickle cell anaemia, alpha- and beta- thalassemia, etc. among the Indian tribal population. Balgir concluded his report by stating *"Unless locality specific, tribe specific and need-based health care system is evolved which should be appropriate, acceptable, accessible, and affordable, the true goal of health for all cannot be achieved in India."*

It is to be noted that health problems of any community are influenced by interplay of various factors including social, economic, cultural and political ones. The common beliefs, customs, practices related to health and disease in turn influence the health seeking behaviour of the community.In his study of "Dimensions of Tribal Health in India", SalilBasu[12] focused on understanding how interaction of certain factors like infant mortality rate, life expectancy, genetic disorders, sexually transmitted diseases, nutritional status, forest ecology, child health and heath practices are generally responsible for determining health status and health behaviour of tribal communities[12]. The Study, which was based on reviewing available literature on (tribal health) highlighted some important factors like high maternal mortality due to unhygienic and primitive practice of parturition, low life expectancy rate of tribal population in general and maternal malnutrition that resulted from excessive workload, decrease in food grain production and lack of access to modern medicine.

Status of Tribal Health in Andhra Pradesh

The health status of tribal population in Andhra Pradesh is nowhere better than the health status of tribal population elsewhere in the country. Rao K Sujatha (1998) stated, "*as compared to the developed parts of the state there was high infant mortality, maternal mortality, incidence of stunting/wasting among children, lower longevity of life and high incidence of TB and malaria among the scheduled tribes of Andhra Pradesh*"[13].

Despite existence of a large body of work in tribal health in general, there are very few micro level studies on health needs and health financing needs of different tribal communities in Andhra Pradesh.

Access to health care

It is universally acknowledged that access to healthcare system is dependent on availability of adequate health care facilities, cost of healthcare and socio-economic condition of the people. Chronic diseases require frequent access to healthcare and hospitalization. The poor and marginalized are particularly dependent on the government health care system. But in India, funded health care services are plagued by problems of overcrowding, lack of manpower, drugs and equipment. This causes

most of the patients to shift to the private sector for health care. The use of the private sector implies incurring out of pocket expenses during times of hospitalization.[14]

Most tribal communities live in very secluded and remote rural areas. Access to healthcare is constrained due to lack of adequate health facilities and hospitals. Moreover, since most scheduled tribes dwelling in rural areas do not have or have limited access to any form of health care financing or risk pooling, they are therefore compelled to borrow money at high rates and pawn or sell whatever assets they own to meet health care needs. In the long term it undermines their ability to break out of the poverty cycle. This is true not only for the tribals but majority of the poor and marginalized in India but more so with the tribal communities. As noted by Milind Deogaonkar, MD (2004)[15], "The number of people who could not seek medical care because of lack of money has increased significantly between 1986 and 1995. The proportion of people unable to afford basic healthcare has doubled in last decade. One in three people who need hospitalization and are paying out of pocket are forced to borrow money or sell assets to cover expenses". The scheduled tribes being one of the most vulnerable groups also fall within this category.

Health Insurance - Mechanism for ensuring access to health care

An alternative option for reducing health burden of the poor and marginalized is to reduce financial barrier through health insurance.

The Insurance Regulatory and Development Authority in India defines health insurance in simple terms. "The term 'health Insurance' relates to the type of insurance that essentially covers your medical expenses. A health insurance policy like other policies is a contract between an insurer and an individual/group in which the insured group agrees to provide specified health insurance coverage at a particular 'premium' subject to terms and conditions specified in the policy[16].

In the Indian context, health insurance is emerging as a tool to manage financial needs of people to seek healthcare services. Presently, the coverage of health insurance is limited to the more privileged sections of the population, mostly employers of formal employment sector. In India, in the year 2009-10 all forms of insurance - both

Government and non-government together covered approximately 302 million individuals or 25 percent of India's population in 2010. And of this, nearly 82 percent are covered by government schemes[17]. However, as a mechanism for ensuring access to health care, health insurance provides a new avenue for reducing financial burden of health care expenses without compromising quality and timely hospitalization.

On the basis of evidence from research[18] across the country, insurance schemes and products can be classified into four categories:

1. Mandatory health insurance, which covers certain population groups whether or not, they contribute to a scheme like Employees State Insurance Schemes.
2. Government sponsored health insurance like Rajiv Arogyashri Scheme, Indira Kranthi Patham, Abhayahastam, Aam Admi Bima Yojana, Janasri Bima Yojana , started by state government in Andhra Pradesh targeted at poor households
3. Voluntary commercial Health insurance schemes, public and private owned by General Insurance companies
4. Community Health Insurance initiated by voluntary non-profit sector.

System characteristic	Health financing structure			
	Public sector	Private health insurance	Social health insurance schemes (ESIS and CGHS)*	Community-based Health Insurance (CBHI) schemes
Source of finance	• General tax (>90%) • User charge (minor, recently started)	Actuarial premiums • Individual risk rated • Community rated (discount)	• Payroll tax (1.75% of pay) • Employer contribution (4.75%) • Government subsidy from general tax	• Hypothecated contribution for - CBHI • Government or donor subsidy
Financial intermediary	• Central Government • State Government • Urban local bodies and PRI**	General Insurance Company (GIC) and intermediaries Private companies encouraged	Employees State Insurance Corporation (for ESIS) Central Government (CGHS)	Community managing the CBHI scheme
Service provision	Government employed doctors and health personnel in rural health centres, district hospitals and tertiary hospitals	Mainly large urban-based private hospitals	• ESI Hospitals and dispensaries • CGHS dispensaries • Empanelled private hospitals for both	Local government and private hospitals
Target group	Universal access for curative services Targeting for special age groups for national health programs	Voluntary enrolment on ability to pay. Mainly urban rich insured	ESIS: factory workers and family with salary less than Rs 10,000. CGHS: Central Government employees and family	Informal sector
Physician payment	Salary as per Central and State Government norms	Mostly FFS***/ sometimes capitation	Government doctors: salary	Variable but mostly FFS
Hospital payment	Paid in kind for drugs/ equipments Budget for other overheads	Mostly FFS***/ sometimes capitation	Government hospital: Paid in kind for drugs/ equipments Budget for other overheads Private: FFS/ Fixed rates	Variable but mostly FFS

*Employees State Insurance Scheme (ESIS) and Central Government Health Scheme (CGHS), **Panchayati Raj Institutions, ***Fee for service

Source: Indian Journal of Community Medicine, July-Sep 2012

It is important to recognize that whether insurance is offered through employment, purchased voluntarily or sponsored by the government for select population, all potentially contribute towards the goal of providing financial risk protection and reducing the financial barriers to quality health care. By pooling funds, insurance offers the opportunity to spread costs across different stakeholders.

Health insurance of tribal communities in Andhra Pradesh

The Government of Andhra Pradesh designed and implemented the Rajiv Aarogyashri Community Health Insurance Scheme for providing financial protection to the poor families requiring hospitalization and surgery. The scheme was initiated to provide financial protection to families living below poverty line (BPL), up to Rs. 2 lakhs in a year for the treatment of major selected ailments. The advantage of the scheme is that it was successful in bringing advanced surgical treatments within the reach of the poor and is helping many an invalid young and elderly patients to resume their livelihood. The Insurance scheme covered 198.25 lakh families out of 229.11 lakh families (87%

families covered) residing in 27,138 villages 1,128 mandals of all districts of the State in five Phases [19].

However the scheme has been criticized for the construction of a new system that supplants the already funded and or underfunded state healthcare system and focuses on alleviating the financial distress associated with only catastrophic illness ignoring the health problems faced by the majority of the poor such as fever and gastrointestinal disorders. The World Bank Report[20]also states that though schemes such as Rajiv Aarogyasri make a credible contribution to the financial protection of BPL beneficiaries for the covered inpatient procedures, they do not cover the frequent ambulatory care episodes. The Report also states that lack of convergence among the various health insurance schemes create a missed opportunity for maximum utilization of resources. The Report recommended need to revisit the benefit package of the scheme and strengthen the enrolment and target mechanism to reach out to the poor and vulnerable.

There is very limited field level data generated on the actual access and utilization of Rajiv Aarogyashri Community health insurance scheme. In “A Rapid Evaluation of the Rajiv Aarogyasri Community Health Insurance Scheme-Andhra Pradesh” Mala Rao and others noted that “Scheduled Castes (SCs) and Scheduled Tribes (STs) beneficiaries were significantly lower than their proportion in the population in the majority of the districts. Cardiac, cancer and neurological interventions made up 65% of all treatments administered by the scheme.” [21] In the context of the present research, hardly any data exists on awareness, access and utilization of the scheme by scheduled tribes and their perception of it as a mechanism for providing them financial protection for accessing health care. Though the scheme was designed to provide financial security to the poor households, its impact on reducing financial burden and liability of the tribal households remains to be explored.

Demonstrated model of success

The past decade has witnessed the voluntary sector in India venturing into Community Health Insurance (CHI) to meet the health financing needs of the poor. Currently there are 20 such schemes operating in the country based on a system of pre-payment and

risk-pooling mechanism, whereby the poor are able to meet their health needs, access health care facilities with minimum burden at the time of use. However, the emergence of insurance mechanism for poor has been a recent phenomenon and there is very little empirical evidence about their performance.

Devadasan and Others (2004) in their study of Action for Community Organization, Rehabilitation and Development (ACCORD) Adivasi Munnetra Sangam (AMS) ASHWANI Community Health Insurance Scheme (CHI) of Gadulurtaluk, Nilgiris district in Tamil Nadu reviewed the performance of the CHI over a period of 11 years[14]. This is one of the most extensively reviewed models of health insurance for the vulnerable and marginalized tribals. The data from the research suggested that health insurance program had enabled the tribals to overcome financial barrier to access hospital care. The study brought into forefront some crucial findings like lower duration of stay of the insured patients compared to non-insured patients (mean=3.92 in case of insured patients as against 4.50 in case of non insured). Secondly, while the initial insurance package was beyond the reach of many poor, negotiations helped in making it affordable and eventually allowed the community to contribute more regularly. Thirdly, the awareness creation by village volunteers about insurance and premium collection created a system that was transparent and the tribals were aware about the purpose of his or her contribution. The lessons learnt from this model are the significance of having an affordable premium, an appropriate benefit package and a minimal administrative process. These lessons are required to be taken as reference for designing community specific health insurance products.

The micro health insurance model of Healing Fields Foundation has been successful in creating a healthcare financing system for the poor[22]. Though the model has been designed to meet the health insurance requirements of the informal sector, it has the potential to be targeted to meet the requirements of the tribal population. The model designed with the objective of creating a healthcare eco-system for the poor has been instrumental in reducing the cost of healthcare expenditure and improving health outcomes of the clients comprising of home based workers, vendors, producers and manual laborers.

Critical Analysis of the various micro health insurance models in India

1. SKDRDP: SampoornaSuraksha Scheme

The Sampoorna Suraksha Scheme was started as an integral part of the tradition of disbursing charity prevalent at a temple trust, an important place of worship in the coastal part of the Karnatakastate which is the Shree Kshetra Dharmasthala Rural Development Project (SKDRDP).

Geographic Spread:

The Scheme is covering nine districts of Karnataka ---members of SKDRDP promoted self help groups are participating in this programme by contributing an annual subscription.

Mechanism:

A part of the total subscription amount is invested in Insurance companies to look after the hospitalization expenses and the remaining amount is used in emergencies like births and deaths, natural calamity.

Membership premium and coverage details:
Premium can be paid on a weekly or monthly basis depending on convenience of the member.
A family of five members can get cashless treatment for a whole year up to the family limit Rs.25,000/- at a contribution of Rs.800 by paying the amount of Rs 20 per week for 40 weeks.
In a single member family, they get cashless treatment to the maximum of Rs 5000/- and as the family size /number of family members increases, coverage also increases by Rs 5000/-per member.
The coverage is on floater basis in multiples of Rs.5000/-per person.

Package:

- Death benefit of 5000/- and Rs. 2000/- in case of natural / accidental death of primary member paid to the nominee as consolation within 24 hours of death.
- In case of accidental death of primary member, Rs 20,000 additional amount paid to the nominee.
- In case of disability of the primary member, Rs.12500/- for partial disability, Rs.25000/- in case permanent full disability.
- Maternity expenses reimbursement of first two deliveries is at Rs.2000/- for normal delivery and Rs.5000/- for caesarean delivery.
- Compensatory allowance for domiciliary treatment at Rs.50/- per day maximum for 30 days is paid to cover the loss of wages due to illnesses.

- In case the dwelling house of the family is damaged due to natural calamities such as cyclone, heavy rainfall etc. consolation amount to a maximum of Rs.1000/- is paid to the family

Prerequisites and conditions to follow for the beneficiaries to get cashless treatment:
Cashless treatment available at network hospital with pre authorization
Facilitation services available by sevanirathas (service coordinators)
SampoornaSuraksha Help desks at network hfor any queries

2. Aarogyasri

The objective of the Rajiv Aarogyasri Health Insurance scheme of the Government of Andhra Pradesh is "social protection, addressing healthcare problems that cause indebtedness and often bring people into devastating financial and physical distress." To improve access of BPL families to quality medical care for treatment of identified diseases involving hospitalization, surgeries and therapies, through an identified network of health care providers.

Eligibility:
All Below poverty line families

Geography:
Andhra Pradesh

Mechanism:
Insurance product subsidized by the State Government. The state already had a mechanism for defining, identifying, and enrolling below poverty line families. Each eligible family is issued a "White Card" (a ration card) to identify them as below poverty line. Aarogyasri uses the "White Card" as a targeting mechanism for its scheme.

Funding:
Hospital bills of the insured persons are paid by the insurance company. The premium for insurance company is completely subsidized by the government. For the first phase of Aarogyasri, the premium was set at Rs.210/- (US$4.50) per household annually.

Benefit Coverage:
The scheme covers 932 therapies in 29 specialties such as cancer, cardiology, poly trauma etc. There are 380 network hospitals serving the patients. The benefit coverage under the scheme over time increased from 166 procedures to 884 procedures.

3. ACCORD

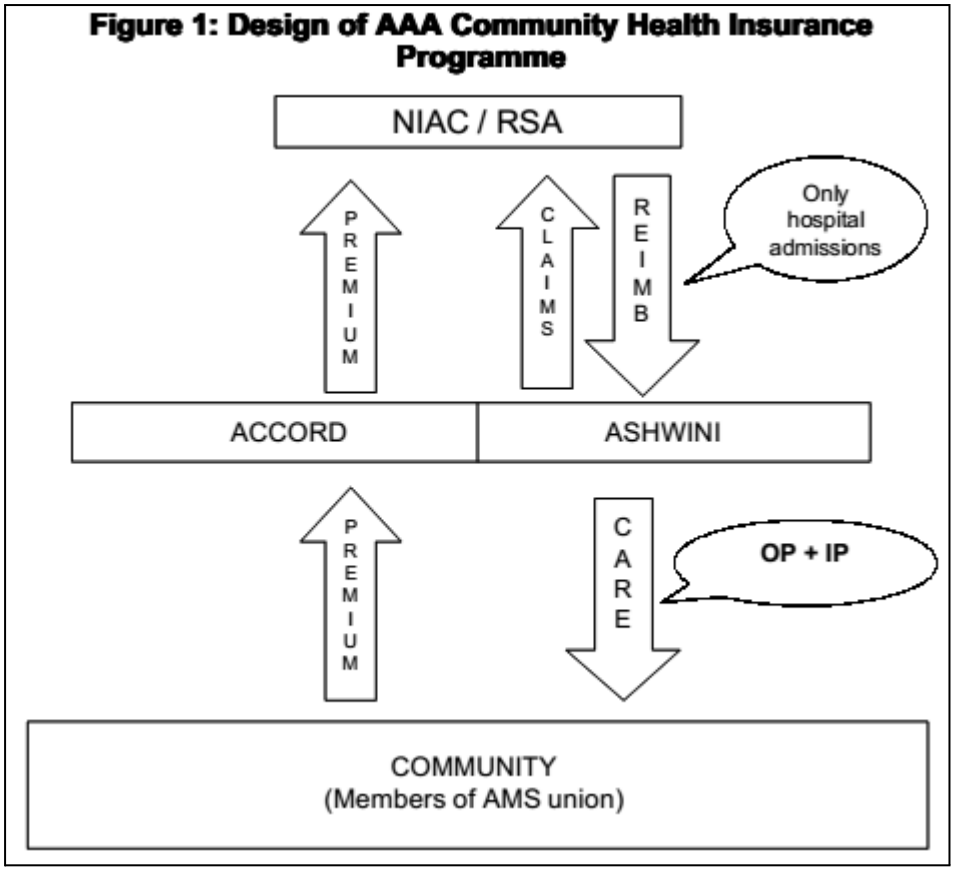
ACCORD is a local non-governmental organisation (NGO) staffed by a group of professionals and adivasi youth. Established in 1986, it works exclusively for indigenous groups, or 'the adivasis', of Gudalurtaluk, Nilgiris district, Tamil Nadu. ACCORD's main objective is to empower the 15,000 plus adivasis of Gudalur to protect their rights. The health programme consists of a two-tier structure – a network of seven health centres, manned by medical assistants and a 20-bed hospital with all basic facilities, including obstetrics and surgery. The health centres provide a mixture of curative and preventive care. Most of the villages also have trained village health workers who provide basic health care to their community. ACCORD initiated and developed the health programme and handed it over to a sister NGO – ASHWINI in 1998. ASHWINI is staffed and managed by adivasi youth.

Eligibility:
Only adivasis are eligible for this scheme

Geography:
GudulurTaluk, Nilgiri District, Tamil Nadu

Mechanism:
The AAA CHI should be seen at two levels – one provided by the New India Assurance Corporation (NIAC) to AAA and the other by AAA to the adivasi community.

Figure 1: Design of AAA Community Health Insurance Programme



Source: N Devadasan, S Manoharan, N Menon, S Menon, M Thekaekara, S Thekaekara, AMS team (2004). Economic and Political Weekly July 10.

The premium:
Premium payable to National Insurance Company is Rs 260 per anum per family. This gives a coverage of Rs 1500 per person.
Premium financing is provided by ACCORD to the families.

The providers:
ASHWINI is the main provider of health care. It has a network of health centres and a hospital. It refers patients to tertiary centres at Kozhikode or Coimbatore when necessary.

Mechanism:
Reimbursement through indeminity insurance mechanism

Package:
Insurance cover provided to a maximum of Rs. 1500 per person per year. This included most common ailments, first two deliveries and family planning operations into the

benefit package but excluded pre-existing and self-inflicted illnesses as well as diseases due to substance abuse.
AAA offered a more comprehensive package to the adivasi community. For those who repaid the premium, outpatient (OP) services (including medicines and diagnostics) at the Adivasi Hospital were provided for a small co-payment of Rs 10 per visit. There were no exclusions for hospitalization, and no upper limits. Also the insured patient did not have to pay anything at the time of discharge.

4. Yeshasvini:

Yeshasvini Cooperative Farmers Health Care Trust is a charitable trust governing a health insurance scheme of the same name. The scheme was launched at the end of the year 2002 and became operational in June 2003. Yeshasvini's goal is to provide quality health care all over the state of Karnataka at affordable prices. The target group are relatively poor farmers organised in cooperative societies

Eligilibility:
Poor farmers organized in cooperative societies

Goegraphy:
Karnataka

Mechanishm:
Cashless admission at networked hospitals facilitation through third party administrators

Benefits:
The scheme covers more than 1,600 surgeries. The Trust and the health care providers have fixed a price for each surgery, including nearly all connected costs. Admission charges, bed charges in a common ward, nursing charges, anesthesia charges, O.T. charges, surgeon's charges are all covered, as well as the costs of consumables and medicines during and after the operative period, post-operative charges and surgery related investigations. Additionally, free OPD consultations are given to clients as well as investigations at a special rate of about 70% of the usual costs (if not connected to surgery). Drugs prescribed in OPD need to be purchased.

Premium Calculation:
The premium for the first year was fixed at Rs. 90, of which Rs. 30 were subsidised by the government and Rs. 60 charged to the client. Due to fewer claims than expected in year one, the premium charged to the clients was kept at Rs. 60 and no additional government subsidy complemented the premium.

5. RashtriyaSwasthyaBimaYojana

The Ministry of Labour and Employment, Government of India launched the Rashtriya Swasthya Bima Yojana (RSBY) for the poor (BPL) families of India. This National Health Insurance Scheme was launched in April 2008 and as of April 2012, the scheme is functioning in twenty five of the twenty eight states. Around 28.6 million households have been enrolled across the country and around 3.4 million people have benefitted so far. Today more than 10,000 hospitals have been empanelled in the scheme and thirteen Insurance Companies (both public and private sector) implement the scheme.

Eligibility:
Initially the scheme targeted BPL population alone. Now it has started expanding its coverage to include other occupational groups. Beneficiaries of the MNREGS scheme, domestic workers, auto-rickshaw drivers, etc. Beneficiaries are expected to enroll in the scheme by paying Rs.30 (approx. US$ 0.5) per family (for five members) for a year, receive a smart card, and then use the benefits when hospitalized in empanelled hospitals.

Geography:
Across India

Mechanism:
• Non-governmental organisations (NGO): NGOs are expected to create awareness among the community especially the eligible groups about the RSBY and mobilize them for enrolment.
• Insurance Companies (both private and public sector companies): The companies compete with each other for covering the eligible families in each State. The company with the lowest bid gets the contract for implementing the scheme in that specific State. Once selected, the company has to appoint smart card agencies, work closely with the State government's Nodal Agency to identify the eligible households, empanel hospitals and contract NGOs to create awareness in the community.
• Third Party administrators (TPA): These are private agencies that help the Insurance Company in implementing the scheme in the field level.
• Smart Card Providers. They provide the technology for this scheme.
• Central government. The Ministry of Labour and Employment launched the scheme and its main responsibility is to develop technical and administrative guidelines and market the scheme to the State governments. The Central government contributes 75% of the premium to the Insurance Company through the Ministry.

Funding:

This scheme is strongly subsidised with public funds coming from both Central and State governments (75% of the premium is paid by the Central government and 25% by the State government). A nominal yearly adherence fee of Rs.30 (approx. US$ 0.5)) per family of five is paid by the BPL household itself.

6. Kalaignar scheme Tamil Nadu:

KalaignarKapeetuThittam (KKT)' or 'Kalaignar Health Insurance Scheme for Life saving Treatment' is one of the innovative health insurance schemes introduced by Tamil Nadu State Government for Below Poverty Line (BPL) families during the year 2009.

Eligibility:

BPL Families

Geography:

Tamil Nadu

Premium:

Premium payable to the insurer is Rs 469 excluding service tax and this is completely subsidized by the State Government

Benefits:

Coverage of Rs 1,00,000 per family for 4 years. Covers treatment procedures for 51 listed illnesses.

Mechanism:

The treatment has been done through only empanelled hospitals. Claim process includes pre-authorisation by medical teams of star insurance based on field information available from hospital, field visit by doctor from star insurance, hospitals claims based on actual provision of treatment, claim case processing by team of validators and medical approvers. Hospitalization of patients is based on proving their identity as BPL category.

7. Healing Fields Foundation – ParivarSurakshaBhima

Healing Fields Foundation is a not-for-profit organization with a vision to make quality healthcare acceptable and affordable to all people in India, especially the poor, under privileged and marginalized.

Healing Fields Foundation was one of the pioneers to implement a micro health insurance program in India. The model was based on a convergence of service

providers, insurers, community based organizations where Healing Fields played the role of Service Integrator taking a holistic approach to micro insurance.

Eligibility:

The target population was the BPL families who were mainly members of the Community Based organizations partnered with.

Geography:

The program had a modular approach and could be scaled up across India. It was implemented in the States of Andhra Pradesh, Karnataka, Kerala, Orissa, Uttar Pradesh and Jharkhand, including some tribal belts in AP, Jharkhand & Orissa.

Premium & Coverage:

The policy is a family floater covering a family of 5, primary member being the women. Dependents could be children, parents and parents in law. The premium varied from Rs 350 to Rs 650 for the family, which gave coverage from Rs 20,000 to Rs 35,000 for health insurance cover. There is an additional personal accident cover for the primary member and spouse.

Benefits:

- Hospitalization cover for a list of illnesses on a DRG model
- Pre and post hospitalization cover
- Wage compensation benefit in even of hospitalization of the primary member
- Transportation benefit for some remote tribal groups
- The personal accident benefit apart from the compensation for loss of life or permanent disability also included education benefit for all children and marriage benefit for girl children. It also included livelihood benefit.
- Maternity cover was included

Mechanism:

Keeping in view the problems faced by other Micro insurance schemes, the project created a healthcare financing and administration “ecosystem” for the poor.

The ecosystem consisted of a community of people unable to afford treatment for “critical/dreaded” diseases, private insurance companies, a group of secondary and tertiary care hospitals (providers), and Community Based Organizations (SHGs, Federations, Labour-nets, Cooperatives) managed by NGOs. The model brought in efficiencies in design and pricing of group health insurance products, identification of hospitals with appropriate infrastructure, claim administration services, improvements in medical practices and building awareness about healthcare financing through risk-pooling by bringing together NGOs, insurance companies, and health service

providers under one umbrella. One of the critical element of this model was the availability of trained facilitators at the networked hospitals to guide the members and the health education provided by them.

Key elements of the model:

- The cover was for a list of illnesses identified based on the needs assessment of the community. It was a DRG (Diagnostic Related Group) based product with pre negotiated rates
- Rating and networking of hospitals
- Facilitators at the hospitals helped the patients with hospital formalities
- Health education and prevention and post hospitalization follow up through the facilitators
- The model was developed based on understanding needs of the diverse communities this model was implemented in. For example in one of the tribal communities of Katukapalli area in Bhadrachalam, AP it was found that the nearest hospital was about 60 kms away and therefore the community dod not go to the hospital unless it was serious illnesses. For the common illnesses they were seeking treatment from quacks or traditional healers. In this area a Nurse manned dispensary was identified and networked for primary treatment and referrals after all the processes and protocols were put in place.

Impact of the model:

- During the three years of the pilot implementation, the loan taking rate to meet health care expenditure was reduced by 70% among the insured population.
- In the last three years of the pilot, the savings made by our members on health care expenditure was more than Rs. 26,000,000.
- The utilization of the networked hospitals increased by 40% due to the availability of the facilitator
- Innovative products were developed to suit the requirements of the community like: migrant labor products, special product for construction workers, DRGs for Nurse manned dispensaries in tribal areas.

RESEARCH METHODOLOGY

Study objectives:

The Study will understand the health and health insurance needs of the tribal community and will develop pathways and directions for creation of appropriate healthcare insurance products and its delivery mechanism for fulfilling health-financing requirements of this community.

The specific objectives of this Study are:

1. To understand health and health insurance needs of the community to develop relevant insurance products.

2. To understand the appropriate insurance delivery mechanism by determining the following:

   - Availability of health care facilities and accessibility
   - Hospital expenditures and source of financing health expenditures
   - Premium affordability – income, expenditure & savings patterns
   - Awareness & accessibility of existing health financing programs

3. To compare the existing health financing products and programs available to the community

Study design:

A community based cross sectional study

Study sample:

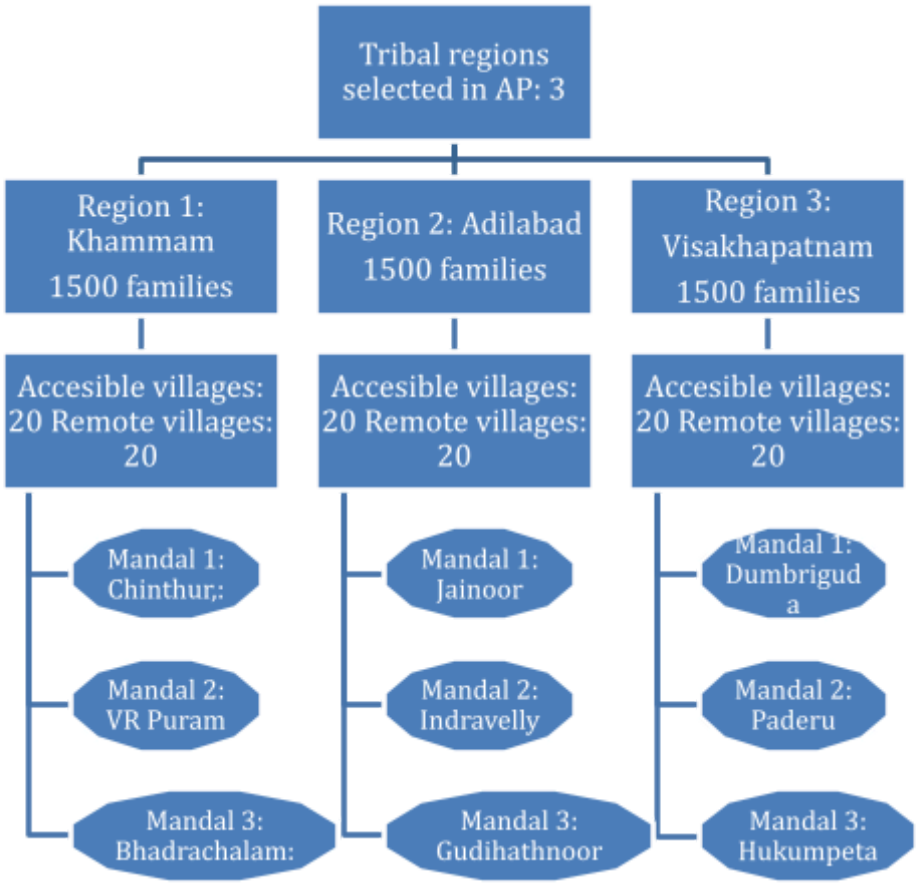
A total of 4500 households in all the study sites

Study population:

Three districts - Khammam, Adilabad and Visakhapatnam were randomly selected from among the five districts (Khammam, Adilabad, Visakhapatnam, Warangal and Nalgonda) with densely populated ST communities in Andhra Pradesh. Three mandals (administrative divisions) per district were further randomly selected from each district. In Visakhapatnam district, Dumbriguda, Paderu and Hukumpetamandals; in Khammam district, Chinthur, VR Puram and Bhadrachalammandals; and in Adilabad district, Jainoor, Indravelly and Gudihathnoor were selected. For each of these mandals, **20 gram panchayat villages** were randomly selected based upon their distance from mandal headquarters. The gram panchayat villages selected were as follows:

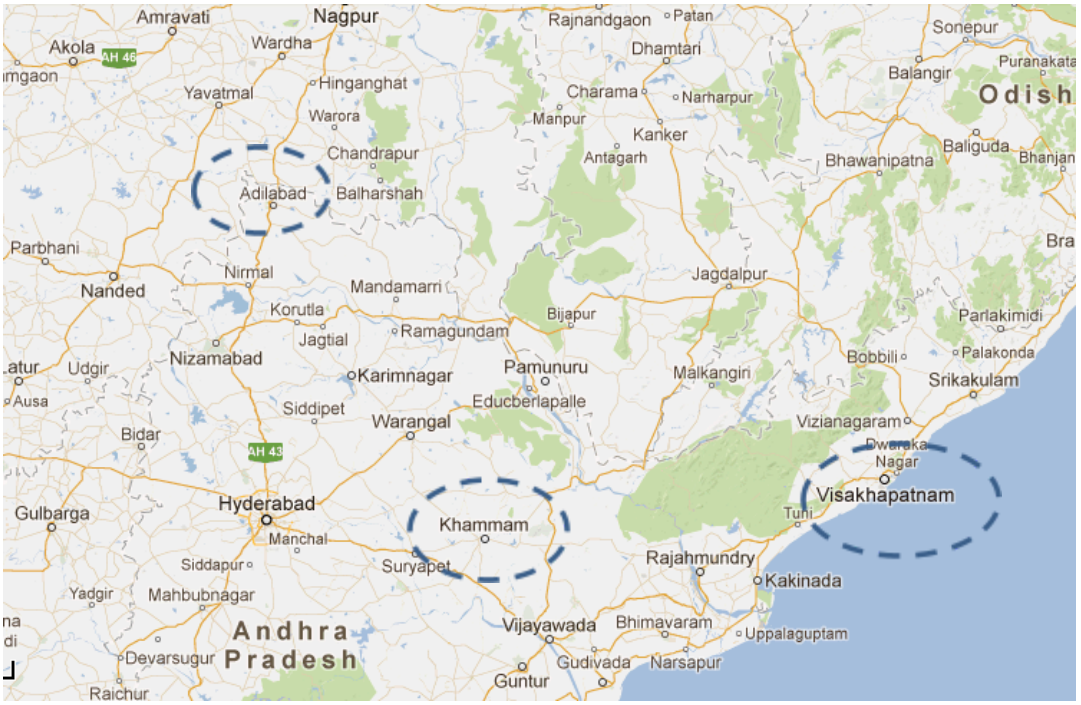
2km to 30 kms = 10 villages (**Accessible village)**

35 kms to 80 kms = 10 villages (**Remote village)**



Although a total of 180 villages were to be recruited for the study but since some of the villages selected had less number of households, the adjacent village in the same gram panchayat area was also included. In total 262 villages (70 villages from Adilabad, 56 from Khammam and 136 from Visakhapatnam) were included in the study. Information from all the residents of 1500 households from each district (750 from accessible villages and 750 from remote villages) was expected to be collected. The actual households covered were 4579; 1536 in Adilabad, 1530 in Khammam and 1513 in Visakhapatnam.

Three regions selected for Study:



Study tool (Questionnaire):

A structured pre-tested questionnaire was used.

Information was collected on the following:

1. Village information- health facility, referral services, water sources
2. Household information- Major tribes, housing conditions, drinking water source, sanitation, electricity, nutrition, and socio-economic status

3. Household member information- Demographic details; socio-economic profile - occupation, income, expenditure patterns, literacy;
4. Infant data- Low birth weight, breast feeding practices, Immunization
5. Geriatric data- Dependency, vision, morbidity
6. Disease profile– common illnesses, seasonal patterns, occupational hazards;
7. Healthcare services data- Availability, accessibility and utilization of health care services/facilities; duration of stay.
8. Health Care expenditure– hospitalization and outpatient expenses;
9. Savings and Loans Information
10. Awareness about health insurance; and affordability for health insurance.

The questions on knowledge and attitudes were administered by interviewers reading out "Do you know about…….?" For which 'Yes' or 'No' responses were sought. 'No' was recorded if the participant was unsure of the response. The entire questionnaire was translated into the local language of Telugu and was back-translated with iterative changes to resolute the discrepancies. The Telugu questionnaire was then tested in the organization by the team members to check if the questions meant what they were supposed to mean. During the training, in case any uncertainties raised about the meaning of questions, they were addressed such that it complied with the original questionnaire definitions and a uniform approach was applied.

Field Testing: The questionnaire was first field tested with a sample of 50 residents in Visakhapatnam. Based on the responses received in the sample survey, the questionnaire was modified accordingly and finalized to be used for data collection in the three stated districts.

Training of Enumerators:

The survey enumerators were selected from each area. The main criteria for selecting the enumerators was experience in collecting data at community level, knowledge of local language and the area.

A training workshop was conducted for the enumerators in each of the area over a period of 3 days. The extensive training covered interviewing protocol, technique of data collection, understanding the questionnaire and the ethical guidelines to be

followed while collecting data. Role plays were done and sample surveys under supervision was done by each enumerator before actual data collection.

In Visakhapatnam, 19 survey enumerators were selected from among those who were extensively trained in project specific interviewing protocol in the training workshop. These enumerators under the close monitoring and supervision of the research team collected the data from 1513 households. The survey was done in the three mandals of Hukumpet, Dumriguda&Paderu under the Paderu ITDA division.

In Khammam district 21 enumerators who were trained in a 3 day training program and under the close monitoring of the research team, conducted survey of 1535 households. The survey was conducted in the mandals of Chinthur and VR Puram under the Bhadrachalam ITDA division.

In Adilabad district, 20 enumerators were trained and the survey was conducted in 1536 households. The mandals covered were Jainoor, Indravelly and Gudihathnoor.

Data Collection:

Field visit:

The field visits to collect the data, were conducted from February 2012 to May 2012.

In each district, a grassroots organization was identified through known sources, to seek help with the local logistics and also for interaction with the community in the local language. They also facilitated the data collection from these villages.

Respondent: Once the interviewer located the household sampled to be interviewed, he/she spoke to the household head. If the head was not present at the time, the interviewer spoke to an adult most knowledgeable about the household. After consent was obtained, the interviewer collected all information in the survey questionnaire starting with the demographic questions.

The data collection plan was given in advance to the enumerators and the progress of data collection was monitored by the junior research fellows.

Ethical Approval and Informed consent

The study was conducted after the Institutional Ethics Committee approval in January 2012. A local health worker read out the consent form to all participants and a thumb

print was obtained if the participant was unable to sign. The study was conducted in line with the declaration of Helsinki and subsequent amendments.

Statistical analysis:

Statistical analysis was carried out using SPSS version 21. All mean/median distribution and measures of prevalence reported are for the households sampled in the study from the three different tribal regions separately and together. Means and proportions are presented with standard errors of the mean (SEM) or with 95% confidence intervals.The data analysis was conducted by the research associate and scrutinized and finalized by the investigators.

RESULTS AND DISCUSSION

Key Findings of the Survey:

- About 80% of the villages/hamlets had access to an Anganwadi centres.
- Private nursing homes or NGO run hospitals were practically nonexistent in these areas.
- Around 76% of the villages/hamlets had access to a Registered Medical Practitioner (RMP)/quack and 57% to Traditional practitioners (TP).
- The mean distance of Government referral services ranged from 10 to 14 kilometres in all three ITDAs.
- Tube well/hand pump was the most common source of protected water (51.1%) for the villages, well was the most common source for unprotected water (63%).
- Nearly 72% of the households in the villages/hamlets used Iodized salt for their cooking purpose
- Primary schools are available in 78.3% of the villages and higher schools are available in 22 villages out of 272 villages and literacy rate is 55.1%.
- The major tribes in these areas were the Koya (26.2%), Gond (23.5%) and the Konda Dora (12.4%)
- Majority of the families were nuclear families (78.1%) and more than half of these families (58.4%) lived in kachcha houses.
- Firewood was the main source of fuel used for cooking in nearly 98% of the households

- Four out of ten households (36%) belonged to below the poverty line and more than halfof them (51.6%) spent less than hundred rupees per month on outpatient expenditure.
- Most of the families defecate in the open (98.8%) and there was no planned sewage distribution in nearly 95% of the households.
- More than 87% of the households had electricity in their houses.
- Majority of the households sleep indoors (94.8%), however among them only 20.6% used bed nets.
- The Government Health worker was the first person the families (57.4%) would approach in case of any minor illness, whereas it was the Qualified Private Practitioner (58.3%) who was approached in case of major illness.
- Average household family size is 4.29; 31% of the population is below 15 years and 1.4% of the population is above 65 years.
- Early marriage (<18 years) was more prevalent among the people of Visakhapatnam (60.8%) compared with Khammam (39%) and Adilabad(36.5%).
- The dependency ratio is highest for Adilabad (56.49%) followed Visakhapatnam(44.20%) and Khammam (40.67%).
- Around 45.5 % of the population were married
- More than a third (35.4%) were daily labourers and 23% owned land on which they cultivated and earned income. About 31% of the total population were students.
- Tobacco smoking (18.9%) followed by consumption of alcohol (18.6%) were more common among the males and among females tobacco chewing followed by tobacco smoking were most common habbits
- Around 1.3% had some form of mental disability and 0.2% had physical disability.
- Acute Infectious diseases (31.1%) were the most common morbidity in all the three regions.
- There were a total of 399 infants among the 19654 tribal population studied giving a crude birth rate (CBR) of 20.3/1000 population.
- More than half of the deliveries (53.6%) were home deliveries and more than a third of the deliveries (35.8%) took place in Government hospitals.
- The prevalence of low birth weight was 21.8%, though for more than one-fifth (21.3%) the birth weight was not known.
- Breast-feeding was initiated within 4 hours of delivery for more than 90% of the babies and exclusive breast-feeding meaning only breast milk and nothing else was given to 91% of the babies.
- Complete immunization among 9 – 12 year old infants is 85.6% where as partial immunization is 14 %.

- Decreased vision is observed in 30 – 40 % of geriatric people
- Nearly 60% of the married reproductive women in Khammam (62%) and Vishakhapatnam (58%) practiced some form of family planning method which was more compared with Adilabad (42%).
- Acute infectious disease was the main reason for hospitalization (55.2%), followed by musculoskeletal problem (10.5%) and surgical conditions (10.3%).
- A slightly higher percent went to private hospitals (52.7%) for admission compared to Government hospitals (47.4%).
- However, there seemed to be a variation with the type of hospitalization preferred. While in Visakhapatnam, majority of those hospitalized preferred going to government run hospitals, in Adilabad and Khammam, majority preferred going to private run hospitals.
- More than one-third (33.7%) stayed an average of 2-5 days and nearly a fourth (24.6%) stayed for 6-10 days in the hospital.
- More than 41% had to travel a distance ranging from 11-50 kilometres for their hospitalization purposes
- The median direct cost for hospital expenditure was Rs. 1100. Higher proportion (35.9%) were spending around Rupees 1001-5000 for the direct costs of treatment which included the hospital bills, medicines and diagnostics.
- While 54% used their savings for the hospitalization expenses, nearly 43% borrowed money in the form of a loan.
- For the loan amount taken, about 27.6% paid an interest ranging from 3-5% and 18.5% paid an interest ranging from 6-10%.
- Self help groups were the main source of savings for a major proportion of the savers (82.3%) followed by bank (9.1%).
- Fifty eight percent of households had taken some sort of loan in the past one year. The main purposes of taking the loan were towards agriculture (47.7%), health (20%) and construction of their house (17%).
- Nearly a fourth (24.6%) took a loan amount ranging from 5001 to 10,000 rupees.
- A major proportion (68%) were taking loans for a duration ranging from three to twelve months.
- Source of the Loan for health related expenditure was friends/relatives, bank for agricultural loans and self help groups are main source for the house construction loans.
- Nearly 60% of the households were not aware of insurance; among those aware most were aware (88.1%) about Life Insurance, followed by Accident Insurance (19.8%) and Health Insurance (18.3%).

- Among those who were aware, 61.5% were actually using some form of insurance in their life.
- The main reason given by the households for taking insurance was for future needs.
- A high proportion of households expressed interest in taking insurance (78.8%).
- The affordable annual premium which could be paid by majority (40.3%) was rupees 200 or below followed by those (39.1%) who wished to pay a premium of rupees 201 to 500.
- More than 40% want to be insured for an amount ranging from rupees 30,001 to 50,000 and more than 20% want to be insured for a sum ranging from rupees 10,001 to 30,000.
- 84.1% of the respondents who wanted health insurance did not require premium financing.
- Although a vast majority (95.2%) of the surveyed population were enrolled in Arogyasri program, only a very miniscule percentage (5.2%) of the respondents utilized the insurance.

DETAILED ANALYSIS

The results are discussed in detail under the following headings

1. **Village Information**
    A. Availability of Health services
    B. Referral Services
    C. Source of water for villages
    D. Iodized salt supply
    E. Educational Institutions
2. **Household Information**
    A. Types of Tribes
    B. Housing conditions
    C. Drinking water
    D. Sanitation facilities
    E. Electricity
    F. Sleeping habits
3. **Household – Health seeking behaviour**
    First Approach in sickness
        -Major Illness
        -Minor Illness
4. **Household members information**
    A. Socio-demographic profile
    B. Occupation
    C. Literacy status
    D. Habits
    E. Migration
    F. Disability
    G. Morbidity
5. **Infants Data**
    A. Crude Birth rate
    B. Place of delivery
    C. Low Birth weight
    D. Breast feeding practices

E. Immunization

6. **Geriatric Data**
   A. Financial dependency
   B. Vision
   C. Geriatric Illness
   D. Sickness care by family/relative
7. **Family Welfare**
   A. Pregnancy data
   B. Family Planning
8. **Nutrition of Household members**
   A. Cooking Practices
   B. Vegetarian Food Consumption
   C. Non-Vegetarian Food consumption
9. **Hospitalization data**
   A. Reasons for hospitalization
   B. Type of Hospital admitted
   C. Duration of stay
   D. Distance travelled for hospitalization
   E. Outcome of Hospitalization
   F. Hospital expenditure
   G. Source of expenditure
10. **Savings and Loans Information**
    A. Savings
    B. Loan Information
       - Source of Loan
       - Amount of Loan
       - Tenure of Loan
       - Rate of interest
       - Purpose of Loan Vs Source of Loan
11. **Insurance details**
    A. Awareness about insurance
    B. Practice of insurance

- Name of insurance company used
- Premium of Insurance
- Reasons for taking Insurance

12. Health Insurance

A. Arogyashri
B. Health Insurance seeking behaviour
C. Premium for insurance
D. Insurance instalments
E. Sum Insured

1. VILLAGE INFORMATION

1. A Availability of Health services

All the regions

Most of the villages or hamlets had one or other Government health facility located in their vicinity. About 80% of the villages/hamlets had access to an Anganwadi centres. While private nursing homes or NGO run hospitals were practically nonexistent in these areas, around 76% of the villages/hamlets had access to a Registered Medical Practitioner (RMP)/quack and 57% to Traditional practitioners (TP). These being remotely located areas and the traditional belief in local RMPs and TP could have been one of the reasons for a higher percent of these practitioners in these areas.(Table 1.1)

Table1.1: Availability of health services

Variables	Adilabad (n=70)	Khammam (n=56)	Vizag (n=136)
Government			
AWC	56 (80)	54 (96.4)	98 (72.0)
SC	14 (20.0)	20 (35.7)	24 (17.6)
PHC	1 (1.4)	6 (10.7)	0 (0)
AH	0 (0)	0 (0)	0 (0)
AYUSH	0 (0)	0 (0)	0 (0)
Private			

	NH	0 (0)	0 (0)	0 (0)
	PMP	0 (0)	8 (14.2)	0 (0)
	RMP/quac k	53 (75.7)	44 (78.5)	102 (75.0)
	TP	38 (54.2)	26 (46.4)	86 (63.2)
NGO				
	Hosp	0 (0)	0 (0)	0 (0)
	FAC	0 (0)	0 (0)	0 (0)

Region wise

Adilabad: Anganwadi centres (AWC) were available in 80% and Sub-Centres (SC) only in 20% of the hamlets/villages. No private nursing homes or Private Medical Practitioners (PMP) were available in any of the hamlets/villages. However, Registered Medical Practitioners (RMP) were available in more than 75% and Traditional Practitioners (TP) in more than 54% of these hamlets/villages.

Khammam: The best picture among the 3 regions surveyed regarding availability of health services emerged here. More than 96% had an AWC in their hamlet/village and nearly 36% had a sub center located. Although no private nursing home was present here, PMPs were seen in 14%, RMPs in 78% and TPs in 46% of the villages and hamlets.

Visakhapatnam: Seventy-two (72%)percent had an AWC and only around 17% had a SC located in their hamlet/village. No private nursing homes or Private Medical Practitioners (PMP) were available. RMPs were present in 75% and TPs in 63% of the hamlets/villages

1.B Referral services

Information to where the patients were referred to in case of any health problem and distance of these health centres and the usual mode of transport for these referral cases are covered in this section.

All the regions

Though both Government and Private referral services were available, a higher proportion of these were located at a distance of more than 10 kilometres(kms). Travel by locally available auto [1]was the usual mode of transport by most (95%), followed by

1

bus (40.5%) or walk (36.6%). The mean distance of Government referral services was rangeding from 10 to 14 kilometres in all three ITDAs. (Table 1.2)

Table 1.2: Referral Services			
Variables	**Adilabad (n=70)**	**Khammam (n=56)**	**Vizag (n=136)**
Referral Services			
Government	70 (100)	56 (100)	76 (55.8)
Private	69 (98.5)	54 (96.4)	130 (95.5)
Government Referral services			
Distance in kilometers			
Mean distance	10.3 kms	12.8 kms	13.4 kms
Minimum distance	0 kms	0 kms	4 kms
Maximum distance	32 kms	45 kms	45 kms
Private Referral services			
Distance in kilometres			
Mean distance	43.07 kms	34.4 kms	30.2 kms
Minimum distance	2 kms	4 kms	3 kms
Maximum distance	82 kms	90 kms	45 kms
Mode of transport			
Cart	0 (0)	2 (3.5)	2 (1.4)
Auto	69 (98.5)	54 (96.4)	126 (92.6)
Bus	12 (17.2)	36 (64.2)	58 (42.6)
Rafter	0 (0)	0 (0)	1 (0.7)
Foot	44 (62.8)	8 (14.2)	44 (32.3)

Region wise

Adilabad: The Government referral centres were available in all the hamlets/villages and private referral centres available in about 98.5%. The mean distance for the Government centre was 10.3 Kilometres with a range from 0-32 kilometres. For the Private referral hospitals the mean distance was more than 43 kilometres with a range from 0-82 kilometres (kms). The most used mode of transport was the auto (98.5%)

followed by on foot (62.8%). Lack of adequate public transport system may have made many travel either by auto or foot.

Khammam: Similar picture emerged here too with all hamlets/villages having access to Government referral centres and almost all (96.4%%) to Private hospitals. Government hospitals were more accessible with an average distance being 12.8 kms compared to private hospitals whose average distance was 34.4 kms. The usual mode of transport was auto (96.4%) followed by bus (64.2%).

Visakhapatnam: The trend is slightly reversed here. Nearly 96% had access to private referral hospitals whereas only 55.8% had access to Government hospital. While the mean distance for the Government referral hospital was 13.2 kms it was 30.2 kms for the private hospitals. Here too, like Khammam, the most frequent mode of transport was auto (92.6%) followed by bus (42.6%).(Table 1.2)

1.C Source Of Water For Villages

All the regions

Protected Water: Protected water source is defined as one that, by nature of its construction or through active intervention, is likely to be protected from outside contamination, in particular from contamination with faecal matter.

More than one-fourth of the villages had no access to protected water. All the villages however had access to unprotected water. While tube well/hand pump was the most common source of protected water (51.1%) for the villages, the well was the most common source for unprotected water (63%). (Table 1.3)

Table 1.3: Source of water for villages

Variables	Adilabad (n=70)	Khammam (n=56)	Vizag (n=136)
Source of Water			
Protected	21 (30)	54 (96.4)	12 (8.8)
Unprotected	1 (1.4)	2 (3.6)	75 (55.1)
Both	48 (68.6)	0 (0)	49 (36)

Iodised salt supply			
No	68 (97.1)	6 (10.7)	0 (0)
Yes	2 (2.9)	50 (89.3)	136 (100)
Government Educational Institutions			
Primary	65 (92.8)	58 (103.5)	90 (66.2)
Higher	6 (8.5)	10 (17.8)	6 (4.4)
College	0 (0)	0 (0)	1 (0)
Private Educational Institutions			
Primary	1 (1.4)	2 (3.5)	4 (2.9)
Higher	0 (0)	0 (0)	0 (0)
College	0 (0)	0 (0)	0 (0)

Region wise

While Adilabad and Khammam had a higher percent of protected water or both, Visakhapatnam had a higher percent of villages with access to only unprotected water. (Table 1.3)

1.D Iodized Salt Supply

Iodine Deficiency is the causative factor for endemic goitre and is also the leading cause of preventable mental retardation. Consuming salt iodised with potassium iodate is the most economic and easiest means of its prevention and control in a population.

Nearly 72% of the households in the villages/hamlets used Iodized salt for their cooking purpose.

All the hamlets/villages in Vishakhapatnam and more than 89% in Khammam had access to iodized salt. However, in Adilabad district, less than 3% of the hamlets/villages had iodized salt. (Table 1.3)

1.E Educational Institutions

Government Primary schools were available in all the hamlets/villages in Khammam and in nearly 93% of the villages/hamlets in Adilabad, whereas only two third villages in Vishakhapatnam had a primary school. Higher secondary schools were much less available in all the three areas though proportionately Khammam had a higher percent

(17.8%) compared to the others. No college was found in any of the hamlet/village in any of the three areas.

Private schools present were very few in number. (Table 1.3)

2. HOUSEHOLD INFORMATION

2.A Types of Scheduled Tribes

All the regions: The information is from the data collected from 4579 households in the three regions studied.

The major tribes in these areas were the Koya (26.2%), Gond (23.5%) and the Konda Dora (12.4%).

Region wise

Adilabad: Gond (69.5%) followed by Lambada (10.3%) and Aandh (4.6%) were the predominant tribes in this area.

Khammam: Koya(78%) followed by Konda Reddy (10.3%) were the most common tribes here.

Visakhapatnam: The important tribes here were the Konda Dora (37.3%) followed by Kotiya (15.4%), Bagatha (13.2%) and Valmiki (12.7%). (Table 2.1)

Table 2.1: Tribal Distribution

Variables	Adilabad (n=1536)	Khammam (n=1530)	Vizag (n=1513)	Total (4579)
Tribes				
Konda Dora	0 (0)	2 (0.1)	564 (37.3)	566 (12.4)
Kotiya	0 (0)	0 (0)	233 (15.4)	233 (5.1)
Bagatha	0 (0)	0 (0)	200 (13.2)	200 (4.4)
Valmiki	0 (0)	0 (0)	192 (12.7)	192 (4.2)
Koya	0 (0)	1193 (78.0)	7 (0.5)	1200 (26.2)
Konda Reddy	0 (0)	158 (10.3)	1 (0.1)	159 (3.5)

Gound	1067 (69.5)	0 (0)	7 (0.5)	1074 (23.4)
Lambada	158 (10.3)	1 (0.1)	1 (0.1)	160 (3.5)
Aandh	70 (4.6)	0 (0)	0 (0)	70 (1.5)
Kondu	0 (0)	0 (0)	118 (7.8)	118 (2.6)
Nooka Dora	0 (0)	0 (0)	84 (5.6)	84 (1.8)
Kammara	1 (0.1)	0 (0)	46 (3.0)	47 (1.0)
Gouda	0 (0)	0 (0)	28 (1.9)	28 (0.6)
Naikpod	48 (3.1)	9 (0.6)	0 (0)	57 (1.2)
Chenchu	0 (0)	4 (0.3)	1 (0.1)	5 (0.1)
Kolam	55 (3.6)	0 (0)	0 (0)	55 (1.2)
Pradhan	58 (3.8)	0 (0)	0 (0)	58 (1.3)
Thoti	11 (0.7)	4 (0.3)	2 (0.1)	17 (0.4)
Poruja	0 (0)	1 (0.1)	16 (1.1)	17 (0.4)
Other tribes (*)	2(0.2)	2 (0.2)	6(0.3)	10(0.51)
Non S.T	66 (4.3)	156 (10.2)	7 (0.5)	229 (5.0)
Predominant Tribes				
	Gound (69.5) Lambada (10.3) Aandh (4.6)	Koya (78.0) Konda Reddy (10.3)	Konda Dora (37.3) Kotiya (15.4) Bagatha (13.2) Valmiki (12.7)	

*** ekalavya, gadaba, yandi, mali, manedora**

2.B Housing condition

All the regions: Majority of the families were nuclear families (78.1%) and more than half of these families (58.4%) lived in kachcha houses.

Firewood was the main source of fuel used for cooking in nearly 98% of the households which is higher than the corresponding census data for Andhra Pradesh state (83%) and All India. While comparing with the census data for India 2011, firewood was the main fuel used in 78.4% of ST households throughout India and for Andhra Pradesh the corresponding figure was around 83%.

Overcrowding was present in more than 72% of the households surveyed.

Region wise:

Type of family

In Vishakhapatnam more than a fifth (21.9%) of the households also lived as joint families compared to 13.9% in Adilabad and 5.7% in Khammam. (Table 2.2)

Housing

Most of the houses were Kachcha houses in Khammam (82%) and nearly 60% were kachcha in Vishakhapatnam too. However, in Adilabad a higher percent of houses were semi pucca (59.4%). (Table 2.2)

National level data on housing shows that only 24.4% of ST households possess permanent houses and 51.4% have semi permanent houses whereas the rest 24.2% live in temporary structures. In these temporary structures, while 60.5% are serviceable structures in which wall is made of mud, wood, etc., 39.5% are non-serviceable structures in which wall is made of grass, thatch, bamboo, etc. [27]

Fuel Used

In all the three regions, wood was the most common source of fuel, which was used for cooking. (Table 2.2)

A large number of tribal populations in rural areas are still dependent on forests for their livelihood and provisions for basic necessities like food, fuel, housing material, etc. are made from the forest produce.

Overcrowding

It was present in most of the households in all the regions. (Table 2.2)

Socio-economic status

Poverty is defined as the total per capita expenditure of the lowest expenditure class, which consumed 2400 kcal/ day in rural and 2100 kcal/ day in urban areas with an attempt to provide comprehensive package of essential goods and services to people. This according to the Planning Commission of India, is when the per capita income per day is less than Rs.15/-. Anything below this is known as Below the Poverty line (BPL).
All regions: Nearly 36% of the household belonged to below the poverty line and more than half of them (51.6%) spent less than hundred Rupees per month on outpatient expenditure. About 21% spent an average of Rupees 200-500 on this.

Region wise: Nearly two-third of the families in Vishakhapatnam (72%) were living below poverty line as defined by the income criteria formulated by Planning Commission of India and the same decreased in Khammam (26%) and in Adilabad (10.3). However the results have to be interpreted with caution as it is based on the self reported income of the family that is not based on an objective assessment. (Table 2.2)

As per the Planning commission of India, 47.3 percent of ST population in India lived below the poverty line in 2004-05[2].

Table 2.2: Housing conditions

Variables	Adilabad (n=1536)	Khammam (n=1530)	Vizag (n=1513)	Total (4579)
Type of Family				
Extended	166 (10.8)	94 (6.1)	112 (7.4)	372 (8.1)
Joint	214 (13.9)	87 (5.7)	331 (21.9)	632 (13.8)
Nuclear	1156 (75.3)	1349 (88.2)	1070 (70.7)	3575 (78.1)
Housing				
Kucha	538 (35.0)	1254 (82.0)	882 (58.3)	2674 (58.4)

Pucca	86 (5.6)	154 (10.1)	145 (9.6)	385 (8.4)
Semipucca	912 (59.4)	122 (8.0)	486 (32.1)	1520 (33.2)
Fuel used				
Wood	1522 (99.1)	1494 (97.6)	1459 (96.4)	4475 (97.7)
LPG	13 (0.8)	19 (1.2)	28 (1.9)	60 (1.3)
Kerosene	0 (0)	12 (0.8)	4 (0.3)	16 (0.3)
Electricity	1 (0.1)	5 (0.3)	2 (0.1)	8 (0.2)
Others	0 (0)	0 (0)	20 (1.3)	20 (0.4)
Overcrowding				
Absent	360 (23.4)	537 (35.1)	355 (23.7)	1252 (27.4)
present	1176 (76.6)	993 (64.9)	1145 (76.3)	3314 (72.6)
Socio-conomictatus*				
APL	1378 (89.7)	1113 (72.7)	412 (27.2)	2903 (63.4
BPL	158 (10.3)	400 (26.1)	1088 (71.9)	1646 (35.9)
NA	0 (0)	17 (1.1)	13 (0.9)	30 (0.7)
Average monthly health expenditure				
<100	642 (41.8)	1168 (76.3)	551 (36.4)	2361 (51.6)
100-200	398 (25.9)	126 (8.2)	280 (18.5)	804 (17.6)
200-500	312 (20.3)	146 (9.5)	485 (32.1)	943 (20.6)
500-1000	115 (7.5)	61 (4.0)	144 (9.5)	320 (7.0)
>1000	69 (4.5)	28 (1.8)	26 (1.7)	101 (2.2)
Missing	0 (0)	1 (0.1)	27 (1.8)	28 (0.6)

2. C Drinking water

All regions

At the household level, about 57% had access to protected water, but still a large percent (43%) had access to only unprotected water. Tube well/hand pump was the most frequent source of obtaining water (53.1%) which is consistent with the census of India 2011 data which states that around 47% of the ST population depend on tubewell/handpump as their main source of drinking water. However, most (78.2%) did not use any method to purify the water they used for drinking purpose. (Table 2.3)

Region wise

While more than three- fourth of the households in both Adilabad and Khammam regions had access to protected water supply, the reverse was true for Vishakhapatnam where more than 79% had access to only unprotected water. (Table 2.3)

Type of water source

Tube well/Hand pumps were the major source of water in Adilabad (71.4%) and Khamman (71.2%) regions. In Vishakhapatnam region it was a Pucca well (59.4%) followed by Tubewell/handpump (16.8%) and tap (9.4%). (Table 2.3)

The most used source of drinking water by STs is tubewell/handpumps followed by tap and well (both protected and unprotected) as per the national data in the NSSO report[28].

Water Purification

In Adilabad and Khammam regions most of the households did not use any means to purify their drinking water. In Vishakhapatnam more than half of the households boiled their drinking water before consumption(56%). (Table 2.3)

Table 2.3: Drinking Water				
Variables	Adilabad (n=1536)	Khammam (n=1530)	Vizag (n=1513)	Total (4579)

Drinking water source				
Protected	1158 (75.4)	1151 (75.2)	300 (19.8)	2609 (57.0)
Unprotected	378 (24.6)	379 (24.8)	1207 (79.6)	1970 (43.0)
Type of water source				
Tap	25 (1.6)	52 (3.4)	142 (9.4)	219 (4.8)
Tube-well/hand pump	1096 (71.4)	1089 (71.2)	254 (16.8)	2439 (53.3)
Pucca Well (Nuyi, Vuta)	404 (26.3)	11 (0.8)	899 (59.4)	1314 (28.7)
Tank/pond reserved for drinking (Kundi)	11 (0.7)	8 (0.5)	110 (7.3)	129 (2.8)
River/canal	0 (0)	365 (23.9)	93 (6.1)	458 (10.0)
Municipal	0 (0)	2 (0.1)	1 (0.1)	3 (0.1)
Others specify	0 (0)	1 (0.1)	5 (0.3)	6 (0.1)
Missing	0 (0)	2 (0.1)	9 (0.6)	11 (0.2)
Water purification				
Boiling	22 (1.4)	56 (3.7)	847 (56.0)	925 (20.2)
Fluorination	2 (0.1)	7 (0.5)	7 (0.5)	16 (0.3)
Chlorination	23 (1.5)	2 (0.1)	31 (2.0)	56 (1.2)
None	1489 (96.9)	1465 (95.8)	628 (41.5)	3582 (78.2)

2. D Sanitation facilities

All Regions: Majority defecate in the open (98.8%) and there was no planned sewage distribution available tonearly 95% of the households. As per Ccensus 2011, more than 87% of ST population goes for open-air defecation in Andhra Pradesh.[1]

Also as per the NSSO survey, proportion of rural households having no latrine facility is highest for ST Households (75% percent). In the present study, the figures of households with no latrine are much higher. (Table 2.4)

Region wise: By & large most of the households in the 3 regions had no latrines and practiced open air defecation . There was no planned sewage disposal system either for most of them. In Khammam only around 11% of the households had a planned sewage disposal system. (Table 2.4)

2.E Electricity

All Regions: More than 87% of the households had electricity in their houses which is in line with the Andhra Pradesh state data similar to the figures (as quoted by Census of India 2011) for Andhra Pradesh.[1]

However, as per the available NSSO data on availability of electricity facility for domestic use, it is seen that inequality among different social groups was wider in rural and urban areas compared to tribal areas.[28] In both rural and urban areas, proportion of ST households who had electricity for domestic use was the lowest among the social groups. In rural areas, nearly 57 percent of ST households had electricity for domestic use and in urban areas; nearly 92 percent of ST households had electricity for domestic use compared to 98% in the others category who had electricity[28].

Compared to the above facilities, electricity was more widely available in the tribal hamlets/villages of Andhra Pradesh.

Region wise: As mentioned above, majority of the households had electricity; with Adilabad having the highest percentage(94.1%) followed by Vishakhapatnam (86%) and lastly in Khammam (81.6%). (Table 2.4)

Table 2.4: Sanitation Facilities

Variables	Adilabad (n=1536)	Khammam (n=1530)	Vizag (n=1513)	Total (4579)
Defecation				
Community latrine	0 (0)	0 (0)	22 (1.5)	22 (0.5)
Out door	1534 (99.9)	1508 (98.6)	1481 (97.9)	4523 (98.8)
Sanitary latrine	2 (0.1)	22 (1.4)	10 (0.7)	34 (0.7)

Sewage disposal				
Planned	45 (2.9)	164 (10.7)	26 (1.7)	235 (5.1)
Unplanned	1491 (97.1)	1366 (89.3)	1487 (98.3)	4344 (94.9)
Electricity supply				
No	91 (5.9)	282 (18.4)	212 (14.0)	585 (12.8)
Yes	1445 (94.1)	1248 (81.6)	1301 (86.0)	3994 (87.2)
Sleeping Habits				
Indoor using bed net	40 (2.6)	779 (50.9)	125 (8.3)	944 (20.6)
Indoor not using bed net	1440 (93.8)	570 (37.3)	1386 (91.6)	3396 (74.2)
Outdoor using bed net	3 (0.2)	8 (0.5)	1 (0.1)	12 (0.3)
Outdoor not using bed net	53 (3.5)	173 (11.3)	1 (0.1)	227 (5.0)

2.F Sleeping habits

All Regions: Most of the households slept indoors (94.8%), however among them only 20.6% used bed nets.

Region wise: Among those who slept outdoors a miniscule percent (0.3%) used bed nets.

In Adilabad and Vishakhapatnam, the highest percent of households slept indoors without using a bed net (93.8% and 91.6% respectively). In Khammam more than half (50.9%) slept indoors using bed nets and another 37% slept indoors without using bednets. (Table 2.4)

3. HEALTH SEEKING BEHAVIOUR

3.A First approach in sickness

All the regions: The Government Health worker was the first person the families (57.4%) would approach in case of any minor illness, whereas it was the Qualified

Private Practitioner (58.3%) who was approached in case of major illness. Nearly a fourth went to a quack in case of a minor illness. (Table 3)

3.B Major Illness

Adilabad: The Government Health worker was accessed first by 68% of the households in case of any major illness. This was followed by households approaching the Qualified Private Practitioner (27.5%) and next a RMP/Quack (3.3%).

Khammam: Nearly three-fourth of the households first approached the Qualified Private Practitioner in case of any major illness in the family(72%), followed by a Government health worker (15.2%) and next a RMP/Quack (10.7%).

Vishakhapatnam: Here more than two third households first approached the Qualified Private Practitioner (75.7%) for a major illness, whereas only a small percentage first went to a RMP/quack (9.1%) followed by a traditional practitioner (5.6%) and next Government Health worker (5.2%).(Table 3)

3.C Minor Illness

Adilabad: In the case of minor illness, nearly 59% went to the RMP/Quack for treatment and only 29% went to the Government Health worker

Khammam: Majority went to the Government health worker first (83.2%) in case of any minor illness and only 5% went to the RMP/quack.

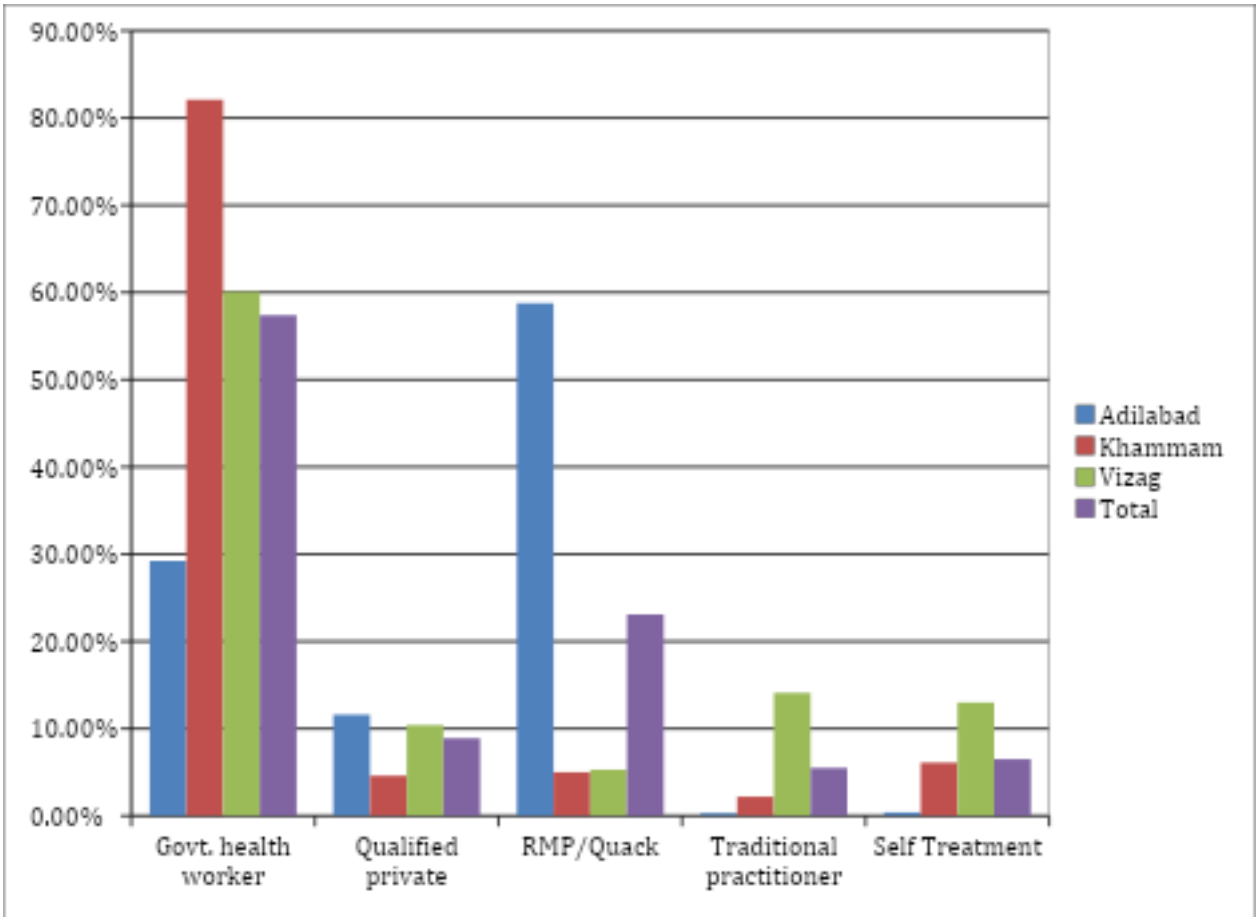
Vishakhapatnam: Sixty percent went to the Government health worker first in case of any minor illness and 14% went to the Traditional Practitioner. (Table 3)

Table 3: Health Seeking Behaviour

Variables	Adilabad (n=1536)	Khammam (n=1530)	Vizag (n=1513)	Total (4579)
Minor Illness				
Govt. health worker	448 (29.2)	1273 (83.2)	909 (60.1)	2630 (57.4)
Qualified private	178 (11.6)	70 (4.6)	158 (10.4)	406 (8.9)

RMP/Quack	903 (58.8)	77 (5.0)	80 (5.3)	1060 (23.1)
Traditional practitioner	5 (0.3)	34 (2.2)	213 (14.1)	252 (5.5)
Self Treatment	6 (0.4)	94 (6.1)	196 (13.0)	296 (6.5)
Major illness				
Govt. health worker	1045 (68.0)	232 (15.2)	79 (5.2)	1356 (29.6)
Qualified private	422 (27.5)	1104 (72.2)	1145 (75.7)	2671 (58.3)
RMP/Quack	51 (3.3)	163 (10.7)	138 (9.1)	352 (7.7)
Traditional practitioner	7 (0.5)	2 (0.1)	84 (5.6)	93 (2.0)
Self Treatment	3 (0.2)	7 (0.5)	32 (2.1)	42 (0.9)

Chart 1: Health seeking behavior in minor illnesses



4. HOUSEHOLD MEMBERS INFORMATION

4.A Socio-demographic Profile

All Regions: Among the 4579 households, there were 19654 family members giving an average household **family size of 4.29**.

Nearly 31% of the population are below 15 years of age which is close to the India national figures of 29.1% as per 2011 census. Only 1.4% is above 65 years of age and this is far below the national figures which is around 5%, thereby implying that many in the tribal communities do not have the average life expectancy of Indians and die much younger. (Table 4.1)

Region wise: Family size

Adilabad: The number of individuals living in 1536 households in Adilabad was 7354 giving an **average family size of 4.78.**

Khammam: Average family size here was 3.75 with 5743 individuals living in 1530 sample households **.**

Vishakhapatnam: The number of individuals living in 1513 households in Vishakhapatnam was 6566 giving an **average family size of 4.34.**

So, the largest family size was in Adilabad followed by Vishakhapatnam and then Khammam. (Table 4.1)

Age groups:

The proportion of children below 15 years of age was considerably higher in Adilabad (34.9%) as compared to Vishakhapatnam (29%) and Khammam (28.2%). The proportion of elderly over 65 years was lowest in Khammam (1%) followed by Adilabad (1.2%) and Vishakhapatnam (1.9%).(Table 4.1)

Dependency ratio:

The ratio of the combined age groups 0-14 years plus 65 years and above to the 15-65 years age group is referred to as the total dependency ratio. It is also referred to as the **societal dependency ratio** and reflects the need for a society to provide for their younger and older population groups.

The dependency ratio for the tribal community surveyed is 47.7% which is much below the dependency ratio of India which stands around 59.6% (as per 2011 census) as well as of Andhra Pradesh which is 65.7%.

The dependency ratio is highest for Adilabad (56.49%) followed by Vishakhapatnam (44.20%) and then Khammam (40.67%).

Sex

A slightly higher proportion of females (50.9%) were there compared to males in the study area.

A slightly higher female to male ratio was seen in both Vishakhapatnam(51.4%) and Khammam(51.9%)whereas the reverse was seen in Adilabad(49.6%). (Table 4.1)

The sex ratio of above 1000 among ST population was found in the five contiguous districts namely, Srikakulam (1009), Vizianagaram (1025), Visakhapatnam (1003), East

Godavari (1011) and West Godavari (1018). In the remaining 18 districts the sex ratio varies between 994 (Nizamabad) and 921 (Nalgonda) [27].

Marital status

Marital status is one of the important determinants of fertility and growth of a population.

All Regions: Less than half of the adults/population were married (45.5%) and nearly 5% were widowed.

The Study data is consistent with the Census data for Andhra Pradesh. The 2001 Census data on marital status shows that 48.7 % persons among the STs of Andhra Pradesh are "never married". The "currently married" constitute 46.9 %, while 4 % are "widowed" and only 0.5 % are "divorced and separated".[27] This is consistent with our survey data.

Region wise: Among all the three regions, percentage of married population was highest at Vishakhapatnam (48.8%) and lowest at Adilabad (43.1%). The percent of people widowed was highest in Khammam (6.5%) compared to the other regions (Vishakhapatnam-4.7% and Adilabad- 3.7%). Polygamous relationships were more common in Vishakhapatnam (1.3%) compared to the other two regions. .(Table 4.1)

Table 4.1: Socio-demographic profile of the Population

Variables	Adilabad(n=7345)	Khammam (n=5743)	Vizag (n=6566)	Total (19654)
Age groups				
≤ 1 Yr	159 (2.2)	110 (1.9)	171 (2.6)	440 (2.2)
1-5 yrs	572 (7.8)	449 (7.8)	502 (7.6)	1523 (7.7)
6-15 yrs	1827 (24.9)	1065 (18.5)	1235 (18.8)	4127 (21.0)
16-25 yrs	1854 (25.2)	1505 (26.2)	1574 (24.0)	4933 (25.1)
26-35 yrs	1226 (16.7)	1061 (18.5)	1083 (16.5)	3370 (17.1)
35-45 yrs	871 (11.9)	808 (14.1)	919 (14.0)	2598 (13.2)
45-55 yrs	497 (6.8)	454 (7.9)	544 (8.3)	1495 (7.6)

55-65 yrs	251 (3.4)	234 (4.1)	415 (6.3)	900 (4.6)
> 65 yrs	88 (1.2)	57 (1.0)	123 (1.9)	268 (1.4)
Sex				
Male	3704 (50.4)	2764 (48.1)	3188 (48.6)	9656 (49.1)
Female	3641 (49.6)	2979 (51.9)	3378 (51.4)	9998 (50.9)
Marital status				
Single	3858 (52.5)	2757 (48.0)	2881 (43.9)	9496 (48.3)
Married	3169 (43.1)	2561 (44.6)	3206 (48.8)	8936 (45.5)
Widow/er	274 (3.7)	375 (6.5)	309 (4.7)	958 (4.9)
Divorce	22 (0.3)	26 (0.5)	34 (0.5)	82 (0.4)
Live in relation	0 (0)	14 (0.2)	31 (0.5)	45 (0.2)
Others (Polyandry /polygamy)	22 (0.3)	10 (0.2)	83 (1.3)	115 (0.6)
NA	0 (0)	0 (0)	22 (0.3)	22 (0.1)

4.B Occupation

The economy and livelihood practices of the tribals are closely associated with the ecological factors and habitats, which they inhabit. The tribes live in forests and use forestland for cultivation. They collect forest produce that varies from forest to forest to supplement what they grow on land. Land is used for living and livelihood. The lives of the tribes are influenced by their habitat, level of traditional and ancient knowledge, and the skills they posses in using the resources that are available. Land is the main stay of the tribal people. Any discussion on the lives of tribals, irrespective of what aspect is being discussed is incomplete when the issue of land is left out. Not only their economies and livelihoods, but also their social relations, respective role of men and women, nature of struggles, their relationship with the state, with non-tribals, their

religious rituals, are all closely related to land issues - particularly the land in and around forests.

4.C Literacy status

Literacy and level of education are two basic indicators of the level of development achieved by a group/society. Literacy results in higher awareness besides contributing to the overall improvement of health, hygiene and other social conditions.

Table 4.2: Occupation

Variables	Adilabad(n =7345)	Khammam (n=5743)	Vizag (n=6566)	Total (19654)
Occupation				
Unemployed	204 (2.8)	94 (1.6)	125 (1.9)	423 (2.2)
Home maker	191 (2.6)	176 (3.1)	445 (6.8)	812 (4.1)
Laborer	1797 (2.6)	1986 (3.1)	2361 (6.8)	6144 (4.1)
Land owner	1859 (24.5)	1318 (22.9)	819 (12.5)	3996 (20.3)
Business	18 (0.2)	17 (0.3)	21 (0.3)	56 (0.3)
Employee	92 (1.3)	96 (1.7)	94 (1.4)	282 (1.4)
Student	747 (10.2)	848 (14.8)	1266 (19.3)	2861 (14.6)
Others	54 (0.7)	55 (1.0)	139 (2.1)	248 (1.3)
NA	2383 (32.4)	1153 (20.1)	1296 (19.7)	4832 (24.6)

Literacy Rate (LR) is defined as percentage of literates among the population aged seven years and above. [27]

A literate person is one who can read and write with understanding and who is aged 7 years and above.

Literacy rate for the 3 surveyed regions was 55.1%. which was slightly better than the literacy rate for ST population of Andhra Pradesh state (48.3%) but lower than All India level (61.6%) [29]., Nearly 6% of the surveyed population were graduates and nearly 2% received non-formal education. (Table 4.3)

Table 4.3: Literacy Status

Variables	Adilabad(n=7345)	Khammam (n=5743)	Vizag (n=6566)	Total (19654)
Literacy				
Illiterate	2884 (39.3)	3120 (54.3)	3066 (46.7)	9070 (46.1)
Non formal	152 (2.1)	145 (2.5)	74 (1.1)	371 (1.9)
Primary	1760 (24.0)	910 (15.8)	1089 (16.6)	3759 (19.1)
Secondary	1468 (20.0)	1026 (17.9)	1114 (17.0)	3608 (18.4)
Intermediate	493 (6.7)	309 (5.4)	486 (7.4)	1288 (6.6)
Graduate &above	281 (3.8)	233 (4.1)	523 (8.0)	1037 (5.3)
NA	307 (4.2)	0 (0)	214 (3.3)	521 (2.7)

4.D Habits

Tobacco chewing and smoking seems to be the most common habit among the tribal population.

Tobacco smoking (18.9%) followed by consumption of alcohol (18.6%) were more common among the males.

In females surveyed, it was found that Tobacco chewing was most common (12.5%) followed by tobacco smoking (11.4%).

Adilabad: Tobacco chewing was the most common habit among individuals in this region (25.3%).

Khammam: Tobacco smoking (19.2%) followed by alcohol consumption (11.8%) were the more frequent habits here.

Vishakhapatnam: Here too like in Khammam ,tobacco smoking (23%) followed by alcohol consumption (21.4%)were the more common habits practiced. (Table 4.4)

While comparing with the NFHS 3 survey, among the ST population, use of tobacco in any form (71.2%) was the most common habit followed by alcohol consumption (4.9%) and tobacco smoking (36.7%) among the males; the same order was also noticed in the females though the percent was much less [30].

4.E Migration

Data shows that about 1.3% of the tribal population in these three regions migrated during the past one year.

The highest percent of Migrants were in Vishakhapatnam (2.5%) followed by Khammam (1.3%) and Adilabad (0.3%).(Table 4.4)

The reason for migration may have been due to marriage, or due to the migration of the parent/earning member of the family or in search of better employment.

As per the NSSO Report, the overall migration of the ST population in India was 238/1000 population and it was 9 times more common among the females (440/1000) than the males (47/1000) [31.

4.F Disability

Around 1.3% of the sample population had some form of mental disability and 0.2% had physical disability.

The highest percent of physical disability was seen in Vishakhapatnam (1.8%).(Table 4.4)

Table 4. 4: Habits, Migration and Disability

Variables	Adilabad(n=7345)	Khammam (n=5743)	Vizag (n=6566)	Total (19654
Disability				
No disability	7232 (98.5)	5696 (99.2)	6431 (97.9)	19359 (98.5)
Physical disability	97 (1.3)	41 (0.7)	119 (1.8)	257 (1.3)
Mental disability	16 (0.2)	6 (0.1)	16 (0.2)	38 (0.2
Ever hospitalised in last year				
Yes	664 (9.0)	383 (6.7)	837 (12.7)	1884 (9.6)
No	6681 (91.0)	5360 (93.3)	5729 (87.3)	17770 (90.4)
Migrated for at least a year				
Yes	25 (0.3)	72 (1.3)	167 (2.5)	264 (1.3)

No	7320 (99.7)	5671 (98.7)	6399 (97.5)	19390 (98.7)
Habits				
Alcohol	331 (4.5)	677 (11.8)	1406 (21.4)	2414 (12.3)
Tobacco smoking	357 (4.8)	1105 (19.2)	1507 (23.0)	2969 (15.1)
Tobacco chewing	1859 (25.3)	404 (7.0)	471 (7.2)	2734 (13.9)
Ganja smoking	8 (0.1)	8 (0.1)	3 (0.04)	19 (0.1
Others	1 (0.01)	30 (0.5)	21 (0.3)	52 (0.3

4.G Morbidity

Acute Infectious diseases (31.1%) was the most common morbidity in all the three regions. This was followed by other medical conditions (3.7%) and musculoskeletal problems (3.1%). Surgical conditions (2.2%) was the next most common reason for morbidity.

In all the ITDAs, more than 50% of the study population had been hospitalized for acute infectious disease like malaria, typhoid, acute GE, Fever, Dengue, Chickungunya, Pneumonia, etc).

Surgical conditions like acute abdomen, cancer, wounds, ulcers, acid peptic disease, appendicitis, kidney problem etc. was another important reason for hospitalization which was comparatively higher in Adilabad (13.5%) than Vishakhapatnam (9%) and Khammam (7.9%).

Medical conditions like asthma, hypertension, stroke, heart problems, anaemia, diabetes, epilepsy etc as a reason for hospitalization was more in Vishakhapatnam (9.2%) when compared to Khammam (8.2%) and Adilabad (8%).

Table 4. 5: Morbidity Data

Variables	Adilabad(n=7345)	Khammam (n=5743)	Vizag (n=6566)	Total (19654)
Nature of the problem				
Acute infectious diseases	3148 (42.9)	1429 (24.9)	1544 (23.5)	6121 (31.1)

Surgical conditions	249 (3.4)	102 (1.8)	91 (1.4)	442 (2.2)
Musculoskeletal problems	257 (3.5)	197 (3.4)	149 (2.3)	603 (3.1)
Medical conditions	235 (3.2)	236 (4.1)	257 (3.9)	728 (3.7)
Delivery, abortion, pregnancy	17 (0.2)	1 (0.0)	10 (0.2)	28 (0.1)
Accidents	6 (0.1)	5 (0.1)	16 (0.2)	27 (0.1)
ENT problems	6 (0.1)	11 (0.2)	23 (0.4)	40 (0.2)
Eye problems	14 (0.2)	16 (0.3)	7 (0.1)	37 (0.2)
Skin/STD problems	39 (0.5)	17 (0.3)	110 (1.7)	166 (0.8)
Others	8 (0.1)	0 (0)	4 (0.1)	12 (0.1)
Overall Morbidity	**3979 (54.2)**	**2014 (35.1)**	**2211 (33.7)**	**8204 (41.7)**

About 3-4% of the population was hospitalized due to accidents like snake bite, dog bite, bear attack, fall, burns, poisoning etc in all the ITDAs.

About 60% of the people with morbid conditions were hospitalized in Government hospitals in Vishakhapatnam ITDA where as in Khammam and Adilabad 60-65% were hospitalized in Private hospitals.

More than 70% of the hospitalized people stayed in hospital from 2 to 20 days in all the ITDAs. (Table 4.5)

Chart 2: Morbidity pattern of the 4 most prevalent health problems

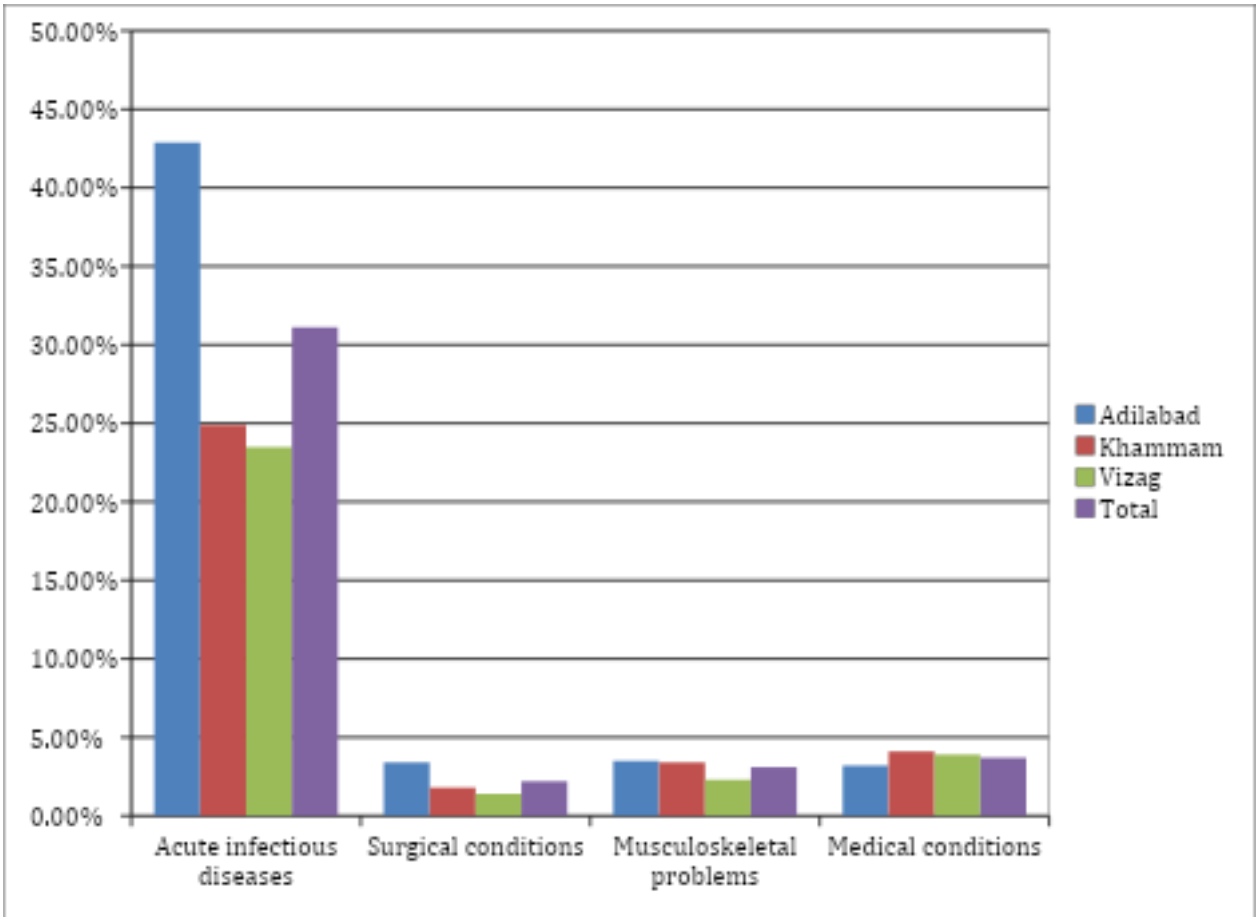
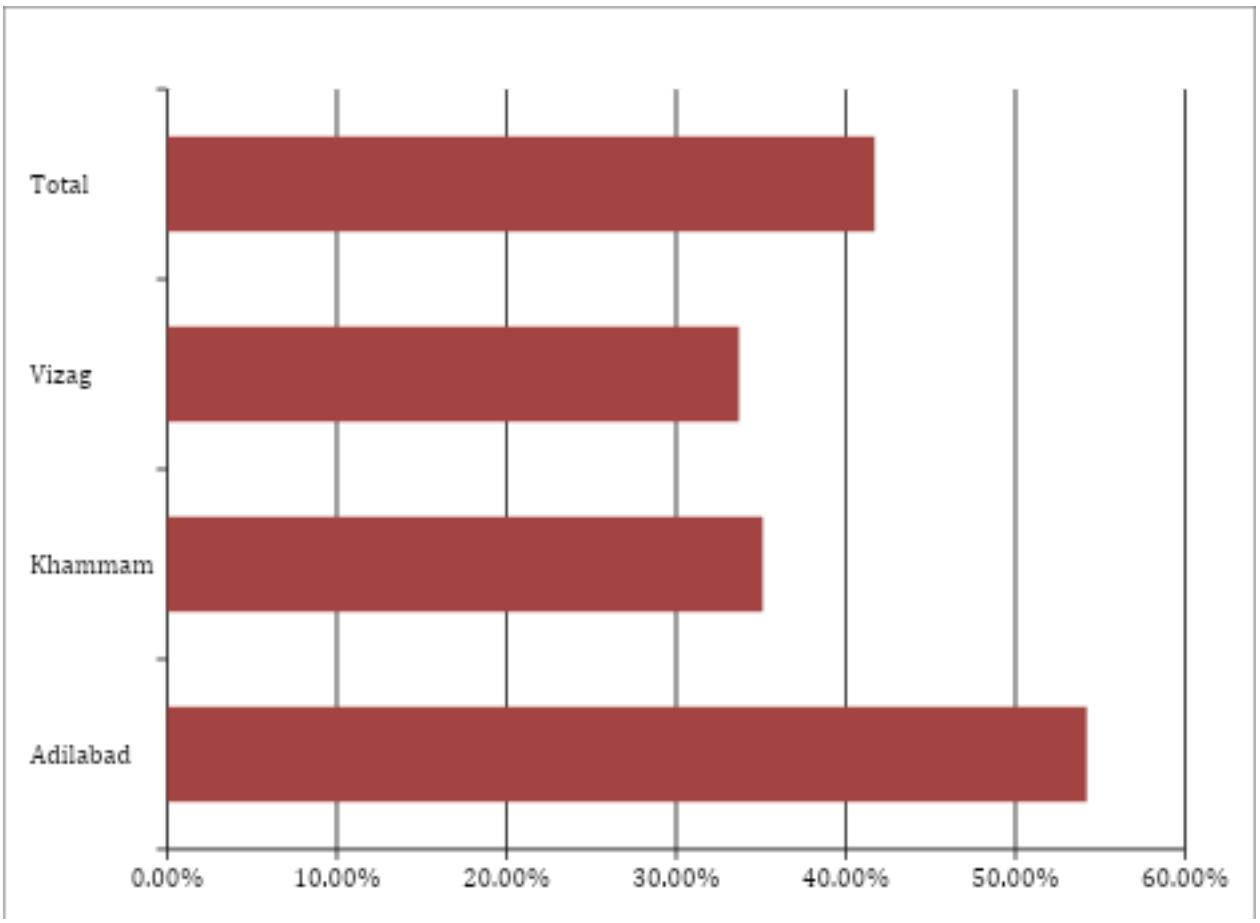


Chart 3: Overall Morbidity Regionwise



5. INFANT DATA

5.A Crude Birth Rate

There were a total of 399 infants among the 19654 tribal population studied giving a**crude birth rate (CBR)** of 20.3/1000 population which is more or less close to the national CBR (21 in 2011 as per World Bank statistics).

District	Population surveyed	No of Births	Crude Birth rate
Adilabad	7345	136	18.5/1000
Khammam	5743	98	17.06/1000
Vizag	6566	165	25.14/1000

5.B Place of Delivery

More than half the deliveries (53.6%) were home deliveries and more than a third of the deliveries (35.8%) took place in Government hospitals.

Adilabad: Data here is in line with the all regions data with Delivery at home (49.3%) and at Government Centre (35.3%) being the trend here. A small percent went to the private hospital (15.4%)

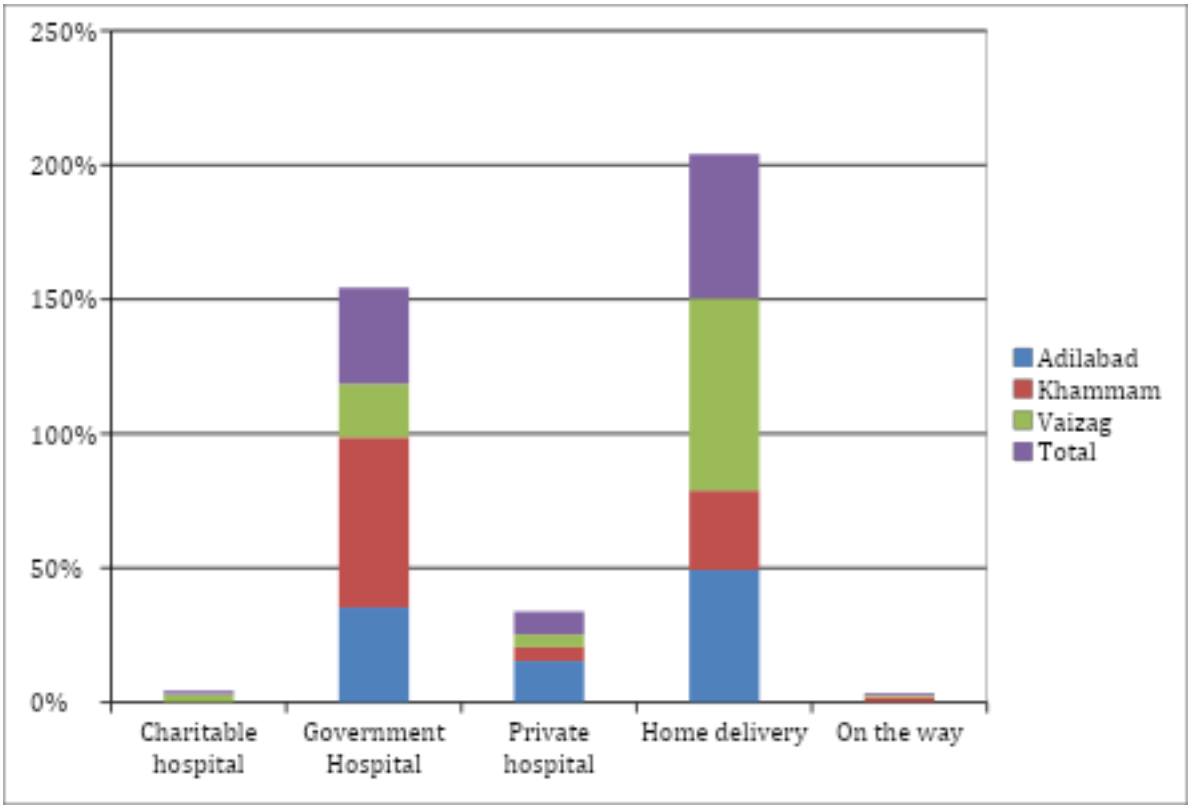
Khammam: In this region, the situation was reverse . Highest percent of women went to the Government hospital (63.3%) for delivery and less than one third had home delivery (29.6%).

Vishakhapatnam: The highest percent of deliveries were home deliveries here (71.5%) whereas only one fifth had deliveries at Government Hospitals (20%).

Thus, in Adilabad and Vishakhapatnam home deliveries were more common whereas in Khammam deliveries in the Government Hospitals were more common. (Table 5.1)

As per the NSSO Report, the most common place of deliveries for the ST population was own Home (70.9%) followed by a health facility (17.7%) [30].

Chart 4: Place of delivery district wise



5.C Low birth weight:

The prevalence of low birth weight was 21.8%, though for more than one-fifth (21.3%) the birth weight was not known. This has to be interpreted with caution as it is self reported birth weight which is prone for recall bias.

While the prevalence of low birth weight babies was highest in Khammam (29.6%) and lowest in Adilabad (16.9%), not much can be conluded from this information since a high percent especially in Vishakhapatnam did not know the birth weight of the infant. (Table 5.1)

5.D Breast feeding practices:

Breast-feeding was initiated within 4 hours of delivery for more than 90% of the babies and exclusive breast-feeding meaning only breast milk and nothing else was given to 91% of the babies.

Almost all the mothers in both Khammam (98%)and Vishakhapatnam (93.9%) initiated breast feeding at an early stage wheras in Adilabad nearly 20% of the mothers initiated breast feeding after 4 hours for their new born. (Table 5.1)

5.E Exclusive breast feeding

Exclusive breast-feeding implies giving new born infants no food or drink other than breast milk (including milk expressed or from wet nurse). It allows the infant to receive drops, syrups (vitamins and minerals, medicines). It does not allow the infant to receive anything else [32]. One-week recall of the practice of exclusivity of breast feeding was asked to the mothers where in nearly 90% of all the mothers practiced exclusive breast feeding in all the ITDAs. (Table 5.1)

Table 5. 1: Infants Information

Variables	Adilabad (n=136)	Khammam (n=98)	Vizag (n=165)	Total (943)
Age in months				
< 1 month	0 (0)	0 (0)	3 (1.8)	3 (0.7)
1 - 6 months	77 (56.6)	56 (57.1)	102 (61.8)	235 (58.9)
7- 12 months	59 (43.3)	42 (42.9)	60 (36.3)	161 (40.4)
Place of delivery				
Charitable hospital	0 (0)	0 (0)	5 (3.0)	5 (1.3)
Government Hospital	48 (35.3)	62 (63.3)	33 (20.0)	143 (35.8)
Private hospital	21 (15.4)	5 (5.1)	8 (4.8)	34 (8.5)
Home delivery	67 (49.3)	29 (29.6)	118 (71.5)	214 (53.6)
On the way	0 (0)	2 (2.0)	1 (0.6)	3 (0.8)
Birth weight				
Low birth wt	23 (16.9)	29 (29.6)	35 (21.2)	87 (21.8)
Normal birth wt	98 (72.1)	63 (64.3)	66 (40.0)	227 (56.9)
Don't know	15 (11.0)	6 (6.1)	64 (38.8)	85 (21.3)
Early initiation of breast feeding				
No	27 (19.9)	2 (2.0)	10 (6.1)	39 (9.8)
Yes	109 (80.1)	96 (98.0)	155 (93.9)	360 (90.2)

Exclusive breast feeding				
No	15 (11.0)	8 (8.2)	13 (7.9)	36 (9.0)
Yes	121 (89.0)	90 (91.8)	152 (92.1)	363 (91.0)

5.F Immunization

BCG immunization was given to 92% of the infants.

The immunization status was asked for infants in the age group of 9-12 months. Majority (85.6%) were completely immunized and around 14% were either partially immunized or not immunized. The main reason given for missing dose/doses was the non-availability of the local health worker (Anganwadi Worker). (Table 5.2)

BCG: The percent of children immunized ranged from a high of 95.6% in Adilabad to 87.9% in Vishakhapatnam which is considerably higher than the national level coverage. For ST population India wise the coverage was (71.7% as per NHFS 3 survey)[30].

The highest percent of completely immunized children was seen at Khammam (95.8%). The children who were either partially immunized or not immunized was higher at Adilabad (18.2%) and Vishakhapatnam (17.5%).

The most common reason given for either partial or non-immunization was the non-availability of the ANM. (Table 5.2)

As per NFHS 3 Report, about 11.5% of children aged 12-23 months in India did not receive any vaccination and only 31.3% received all the basic vaccinations [30].

Table 5.2: Infant immunization

Variables	Adilabad (n=136)	Khammam (n=98)	Vizag (n=165)	Total (943)
BCG immunization				
No	6 (4.4)	6 (6.1)	20 (12.1)	32 (8.0)
Yes	130 (95.6)	92 (93.9)	145 (87.9)	367 (92.0)

Immunization status (9-12 mth infants)	Vizag (n=40)	Khammam (n=24)	Adilabad (n=33)	Total (97)
Complete	27 (81.8)	23 (95.8)	33 (82.5)	83 (85.6)
Partial	6 (18.2)	1 (4.2)	6 (15.0)	13 (13.4)
Not immunized	0 (0)	0 (0)	1 (2.5)	1 (1.0)
Reasons for incomplete immunization	**Vizag (n=07)**	**Khammam (n=01)**	**Adilabad (n=06)**	**Total (14)**
ANM not come	4 (66.6)	1 (100.0)	5 (71.4)	10 (71.4)
No facilities	1 (16.6)	0 (0)	2 (28.6)	3 (21.4)
Out of village	1 (16.6)	0 (0)	0 (0)	1 (7.2)

6. GERIATRIC DATA

Geriatric population above 60 years make up 4.8% of the population and above 65 years make up 1.4% of the tribal population.

Spouse status: For more than one fourth (27.1%) of the tribal geriatric population, the spouses were dead. In Adilabad, for more than a 40% of the tribal geriatric population, their spouses were dead, the highest among the three regions. (Table 6.1)

6.A Financial Dependency:

More than half of the households (52.6%) depended on others like family and government pension for their financial needs and had no source of their own income. The financial dependency on others was seen more in Adilabad (61.8%) and Khammam (61.7%) as compared to Vishakhapatnam (42%). (Table 6.1)

6.B Vision:

More than half of all the geriatric people in all the ITDAs had normal vision. However, 30-40% of the geriatric people in all three ITDAs had decreased vision. But in

Khammam ITDA, 11% of them were blind which was higher than Vishakhapatnam (5.7%) and Adilabad (3.4%).(Table 6.1)

Cataract: Forty five percent of the geriatric population had no cataracts. Among those who had cataract, 78.2% had not got it operated till date. The highest percent of non-operated cases were in Khammam. (Table 6.1)

Table 6.1: Geriatric information

Variables	Adilabad (n=262)	Khammam (n=243)	Vizag (n=438)	Total (943)
Spouse				
Dead	105 (40.1)	81 (33.3)	70 (16.0)	256 (27.1)
Live	154 (58.8)	160 (65.8)	366 (83.6)	680 (72.1)
Separated	3 (1.1)	2 (0.8)	2 (0.5)	7 (0.7)
Source of Income				
Dependent	162 (61.8)	150 (61.7)	184 (42.0)	496 (52.6)
Independent	100 (38.2)	93 (38.3)	254 (58.0)	447 (47.4)
Vision				
Normal	138 (52.7)	136 (56.0)	207 (47.3)	481 (51.0)
Blind	9 (3.4)	27 (11.1)	25 (5.7)	61 (6.5)
Partial	115 (43.9)	80 (32.9)	206 (47.0)	401 (42.5)
Cataract				
Normal vision	132 (50.4)	89 (36.6)	203 (46.3)	424 (45.0)
Yes not operated	86 (32.8)	113 (46.5)	207 (47.3)	406 (43.1)
Yes operated	44 (16.8)	41 (16.9)	28 (6.4)	113 (12.0)
Memory				
Bad	8 (3.1)	14 (5.8)	18 (4.1)	40 (4.2)

Good	181 (69.1)	197 (81.1)	254 (58.0)	632 (67.0)
Low	73 (27.9)	32 (13.2)	166 (37.9)	271 (28.7)

6.C Geriatric Illness

Musculoskeletal problems were the major illness which 46.6% of the tribal geriatric population suffered with. The prevalence of hypertension and diabetes was only among 2% and 1.6% respectively. The low prevalence of both hypertension and diabetes compared to rest of the population both in Andhra Pradesh and India may have been the lack of awareness among the tribal community about the need to undergo regular screening test to detect hypertension or diabetes.

Musculoskeletal problems were the major illness in all the three regions. This was followed by heart problems and hypertension. The prevalence of infectious disease was low.

Musculoskeletal problems like back pain, joint pains, body pains etc were more in geriatric people of Khammam (61.7%) compared with Adilabad (53%) and Vishakhapatnam (34%). The proportion of geriatric people suffering from diabetes was similar in all the ITDAs ranging from 1.2% in Khammam to 1.8% in Vishakhapatnam whereas those suffering from hypertension was more in Khammam (2.5%) and Vishakhapatnam (2.1%) compared to Adilabad (1.5%). The Vishakhapatnam geriatric people had higher proportion of heart problems (4.1%) compared to other ITDAs. The event of stroke was more among Khammam geriatric people (2.1%) compared to other ITDAs.

Adilabad and Khammam, had higher geriatric population suffering from chronic obstructive pulmonary disease (8% and 5.8% respectively) than Vishakhapatnam (0.7%). About 31% of the geriatric people in Adilabad complained of generalised weakness which was more compared to other ITDAs . On the other hand, those having suffering from eye problems and skin problems was comparatively more in Khammam ITDA.

It is important to note that the above conditions are self reported by the people. Therefore, the above results must be interpreted with caution where in the results represent only the small part of tip of the iceberg. (Table 6.2)

6.D Sickness care by Family/Relative

All Regions: During time of sickness or any ill health, more than half of the geriatric population were looked after by their family members(56.1%). The health facility most visited by them during sickness was the Government health facility (79.9%) followed by the charitable hospitals (17.3%).

Region wise: About 72% of the geriatric population in Khammam were looked after by their family or relative when they were sick ,where as more than 50% were looked after both in Adilabad and Vishakhapatnam.

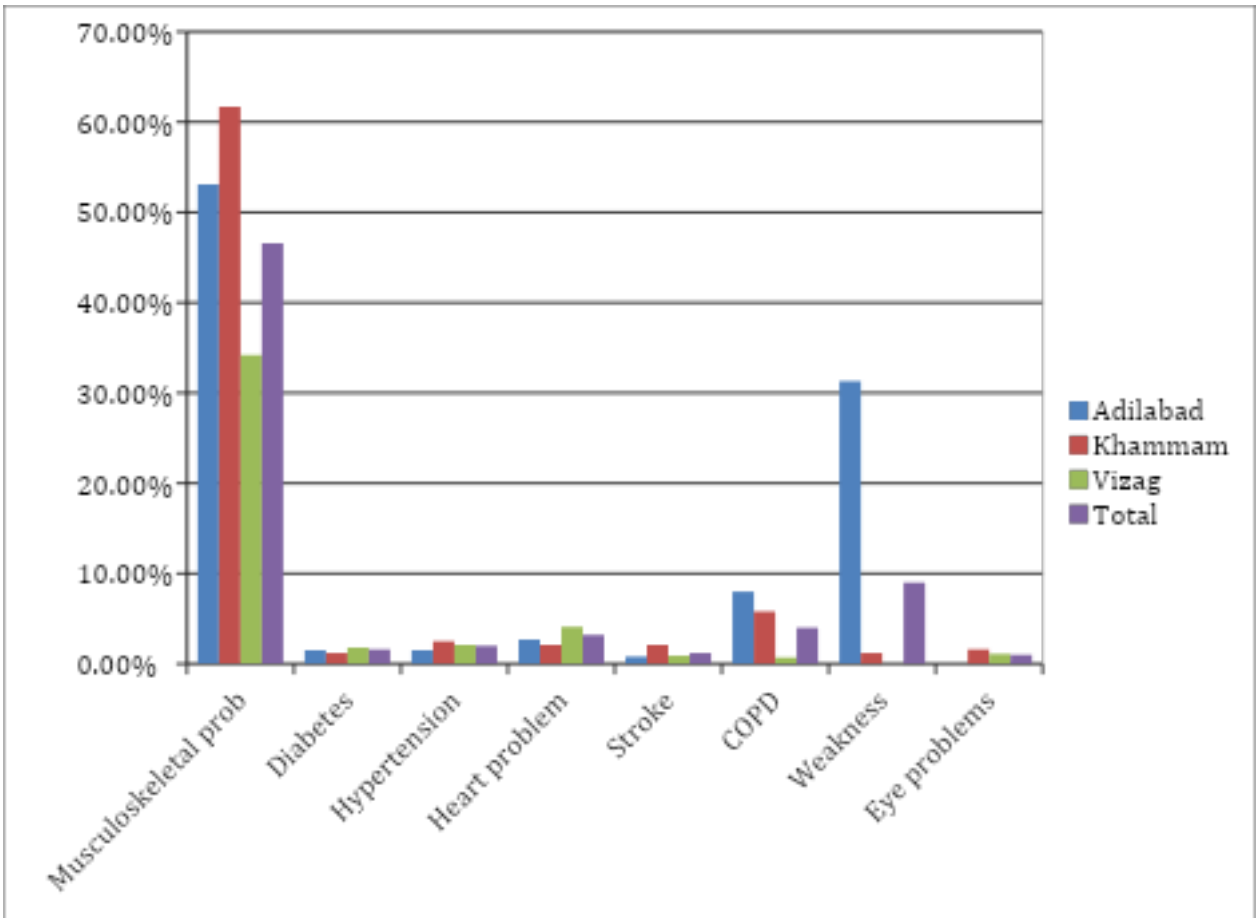
Most of the geriatric people availed Government health services for their illness in Visakhapatnam (83.6%) and Khammam (87.7%) compared to Adilabad (65.4%). About 34.6% of them in Adilabad availed health services from Charitable health facility. (Table 6.2)

Table 6.2: Geriatric morbidity patterns*

Variables	Adilabad (n=262)	Khammam (n=243)	Vizag (n=438)	Total (943)
Non communicable iseases				
Musculoskeletal prob	139 (53.1)	150 (61.7)	150 (34.2)	439 (46.6)
Diabetes	4 (1.5)	3 (1.2)	8 (1.8)	15 (1.6)
Hypertension	4 (1.5)	6 (2.5)	9 (2.1)	19 (2.0)
Heart problem	7 (2.7)	5 (2.1)	18 (4.1)	30 (3.2)
Stroke	2 (0.8)	5 (2.1)	4 (0.9)	11 (1.2)
Communicable diseases				

Infectious diseases	1 (0.4)	3 (1.2)	1 (0.2)	5 (0.5)
Leprosy	1 (0.4)	0 (0)	0 (0)	1 (0.1)
Chronic conditions				
COPD	21 (8.0)	14 (5.8)	3 (0.7)	38 (4.0)
Weakness	82 (31.3)	3 (1.2)	0 (0)	85 (9.0)
Ear problems	1 (0.4)	0 (0)	3 (0.7)	4 (0.4)
Eye problems	0 (0)	4 (1.6)	5 (1.1)	9 (1.0)
Skin problems	0 (0)	4 (1.6)	3 (0.7)	7 (0.7)
Surgical conditions	1 (0.4)	2 (0.8)	3 (0.7)	6 (0.6)
others	0 (0)	0 (0)	18 (4.1)	18 (1.9)
Sickness care by amily/Relative				
No	129 (49.2)	68 (28.0)	217 (49.5)	414 (43.9)
Yes	133 (50.8)	175 (72.0)	221 (50.5)	529 (56.1)
Health care facility availed				
Government	166 (65.4)	213 (87.7)	366 (83.6)	745 (79.7)
Private	0 (0)	0 (0)	9 (2.1)	9 (1.0)
Charitable	88 (34.6)	28 (11.5)	39 (8.9)	155 (16.6)
Others	0 (0)	2 (0.8)	24 (5.5)	26 (2.8)

Chart 5: Morbidity patterns of the most common problems in the geriatric population surveyed



7. FAMILY WELFARE

7.A Pregnancy Data

Early marriage (<18 years) was much more prevalent among the people of Vishakhapatnam (60.8%) compared with Khammam (39%) and Adilabad (36.5%). The pregnancy rate was comparatively more in the married reproductive women of Khammam (9.1%) than in Adilabad (7.8%) and Vishakhapatnam (7.7%). Among the pregnant women,almost one half of them across all three regions did not seek antenatal care from the health personnel.(Table 7.1)

Table 7. 1: Pregnancy data

Variables	Adilabad	Khammam	Vizag	Total
Age at marriage				
<18 Yrs	539 (36.5)	482 (39.0)	928 (60.8)	1949 (46.0)

>18 yrs	936 (63.5)	753 (61.0)	582 (38.1)	2271 (53.6)
Missing	0 (0)	0 (0)	16 (1.0)	16 (0.4)
Total married reproductive women	**1475 (100)**	**1235 (100)**	**1526 (100)**	**4236 (100)**
Now Pregnant				
Yes	115 (7.8)	112 (9.1)	118 (7.7)	345 (8.1)
No	1360 (92.2)	1123 (90.9)	1408 (92.3)	3891 (91.9)
Total married reproductive women	**1475 (100)**	**1235 (100)**	**1526 (100)**	**4236 (100)**
Antenatal care				
Yes	60 (52.2)	49 (43.7)	62 (52.5)	171 (49.5)
No	55 (47.8)	63 (56.3)	56 (47.5)	174 (50.5)
Total pregnant women	**115 (100)**	**112 (100)**	**118 (100)**	**345 (100)**

7.B Family Planning

62.4% of the married reproductive women in Khammam and 58.0% in Vishakhapatnam practiced some form of family planning method which was more than Adilabad (42%).

Among the married reproductive women, the most commonly adopted family planning method in Khammam (87.9%) and Adilabad (82.1%) was tubectomy unlike Vishakhapatnam where only 42.4% women adopted this method. In Vishakhapatnam, for more than 50%, vasectomy was the most preferred method of family planning which was minimal in Khammam (3.8%) and Adilabad (0.3%).

However, usage of oral contraceptive pills as a method of family planning was practiced comparatively more in Adilabad (7%). The practice of intrauterine device and condom was negligible in all the three regions. (Table 7.2)

Table 7.2: Family planning data				
Variables	**Adilabad**	**Khammam**	**Vizag**	**Total**
Practicing Family planning				
Yes	633 (42.9)	771 (62.4)	885 (58.0)	2289 (54.0)
No	842 (57.1)	464 (37.6)	641 (42.0)	1947 (46.0)
Total married reproductive women	**1475 (100)**	**1235 (100)**	**1526 (100)**	**4236 (100)**
Type of contraception				
OCP	45 (7.1)	15 (1.9)	17 (1.9)	77 (3.4)
IUD	0 (0)	3 (0.4)	3 (0.3)	6 (0.3)
Partner condom	6 (0.9)	1 (0.1)	2 (0.2)	9 (0.4)
Tubectomy	520 (82.1)	678 (87.9)	375 (42.4)	1573 (68.8)
Vasectomy	2 (0.3)	29 (3.8)	447 (50.5)	478 (20.9)
Others_NatuMandhu	57 (9.0)	45 (5.8)	35 (3.9)	137 (6.0)
Total no. practicing FP	**633 (100)**	**771 (100)**	**885 (100)**	**2289 (100)**
Adoption				
yes	5 (0.3)	1 (0.1)	9 (0.6)	15 (0.4)
No	1470 (99.7)	1234 (99.9)	1517 (99.4)	4221 (99.6)
Total married reproductive women	**1475 (100)**	**1235 (100)**	**1526 (100)**	**4236 (100)**
Reasons				
Relatives don't have child	5 (100)	1 (100)	4 (44.4)	10 (66.6)
Financial problems	0 (0)	0 (0)	4 (44.4)	4 (26.6)
son not well	0 (0)	0 (0)	1 (11.1)	1 (6.6)

Total adopted	**5 (100)**	**1 (100)**	**9 (100)**	**15 (100)**

8. NUTRITION DATA

8 A Cooking Practices

When asked while cooking rice whether starch was removed by straining the rice, more than three-fourth of the respondents (78.8%) replied in the affirmative.

No special diet for pregnant women was followed by 81.3% of the households.(Table 8.1)

Table 8.1: Cooking practices

Variables	Adilabad(n=1536)	Khammam (n=1530)	Vizag (n=1513)	Total (4579)
Starch removal				
Yes	579 (37.7)	1519 (99.3)	1512 (99.9)	3610 (78.8)
No	957 (62.3)	11 (0.7)	1 (0.1)	969 (21.2)
Food taken by pregnant women				
Special diet	176 (11.5)	571 (37.3)	76 (5.0)	823 (18.0)
Normal diet	1326 (86.3)	959 (62.7)	1437 (95.0)	3722 (81.3)
Don't know	34 (2.2)	0 (0)	0 (0)	34 (0.7)

8 B Vegetarian Food

Almost all the families consumed vegetables although the frequency of consumption varied from place to place. Pulses were consumed by mostand in Adilabad a very large proportion (93.2%) consumed them more than three times a week; in the other two regions the frequency of consumption varied.

There is not much difference in the dietary patterns of consuming plant foods such as vegetables, fruits and green leafy vegetables among the people of all the three regions, where in more than 95% of them consumed all plant foods; in Vishakhapatnam lesser percentage consumed fruits (81.6%) than the other two regions.

The frequency of consumption of vegetables (> 3times in a week) was highest among the households of Khammam ITDA (60.6%) whereas the frequency of consumption of pulses (> 3times in a week) was much higher among the households of Adilabad (93.2%).

The households in Adilabad consumed fruits more frequently than in other ITDAs. The frequency of consuming green leafy vegetables was almost similar among all the ITDA population. (Table 8.2)

Table 8.2: Dietary patterns :Vegetarian Food Consumption

Variables	Adilabad (n=1536)	Khammam (n=1530)	Vizag (n=1513)	Total (4579)
Consume Vegetables				
Yes	1531 (99.7)	1522 (99.5)	1507 (99.6)	4560 (99.6)
No	5 (0.3)	8 (0.5)	6 (0.4)	19 (0.4)
Vegetables consumption Frequency/week				
Once	128 (8.3)	50 (3.3)	197 (13.0)	375 (8.2)
Twice	596 (38.8)	180 (11.8)	449 (29.7)	1225 (26.8)
Thric e	186 (12.1)	365 (23.9)	418 (27.6)	969 (21.2)
> 3 times	621 (40.4)	927 (60.6)	443 (29.3)	1991 (43.5)
NA	5 (0.3)	8 (0.5)	6 (0.4)	19 (0.4)
Consume Pulses				
Yes	1532 (99.7)	1522 (99.5)	1509 (99.7)	4563 (99.7)
No	4 (0.3)	8 (0.5)	4 (0.3)	16 (0.3)

Pulses consumption Frequency/week				
Once	16 (1.0)	144 (9.4)	227 (15.0)	387 (8.5)
Twice	49 (3.2)	522 (34.1)	473 (31.3)	1044 (22.8)
Thrice	35 (2.3)	532 (34.8)	377 (24.9)	944 (20.6)
> 3 times	1432 (93.2)	324 (21.2)	432 (28.6)	2188 (47.8)
NA	4 (0.3)	8 (0.5)	4 (0.3)	16 (0.3)
Consume Fruits				
Yes	1503 (97.9)	1455 (95.1)	1234 (81.6)	4192 (91.5)
No	33 (2.1)	75 (4.9)	279 (18.4)	387 (8.5)
Fruits consumption Frequency/week				
Once	990 (64.5)	750 (49.0)	891 (58.9)	2631 (57.5)
Twice	454 (29.6)	482 (31.5)	277 (18.3)	1213 (26.5)
Thrice	38 (2.5)	191 (12.5)	51 (3.4)	280 (6.1)
> 3 times	21 (1.4)	32 (2.1)	16 (1.1)	69 (1.5)
NA	33 (2.1)	75 (4.9)	278 (18.4)	386 (8.4)
Consume Green leafy vegetables				
Yes	1528 (99.5)	1471 (96.1)	1482 (98.0)	4481 (97.9)
No	8 (0.5)	59 (3.9)	31 (2.0)	98 (2.1)
GLV Consumption Frequency/week				
Once	749 (48.8)	649 (42.4)	674 (44.5)	2072 (45.3)
Twice	659 (42.9)	652 (42.6)	506 (33.4)	1817 (39.7)
Thrice	57 (3.7)	93 (6.1)	158 (10.4)	308 (6.7)

> 3 times	63 (4.1)	77 (5.0)	144 (9.5)	284 (6.2)
NA	8 (0.5)	59 (3.9)	31 (2.0)	98 (2.1)

8.C Non- Vegetarian Food

In all the three regions, most people consumed meat, fish, egg either once, twice or thrice a week. On the other hand, Milk was consumed by less than half the population across all three areas.

There is not much difference in the dietary patterns of consuming animal foods such as meat/fish, eggs and milk among the people where in more than 90% of them consumed meat/fish and eggs except for the people in Vishakhapatnam who consumed egg lesser than the other ITDA population.

The consumption of milk was slightly higher among the households of Vishakhapatnam (45%) as compared to the Khammam (41.8%) and Adilabad (39.8%).

There were small differences in the frequency of consumption of animal foods among the different ITDA population where in the members in the households of Khammam had slightly higher frequency of consuming meat/fish and egg in comparison to other two ITDAs' population. (Table 8.3)

Table 8.3: Dietary patterns :Non-Vegetarian Food Consumption

Variables	Adilabad(n=1536)	Khammam (n=1530)	Vizag (n=1513)	Total (4579)
Consume Meat/Fish				
Yes	1435 (93.4)	1514 (99.0)	1415 (93.5)	4364 (95.3)
No	101 (6.6)	16 (1.0)	98 (6.5)	215 (4.7)
Meat/Fish consumption Frequency/month				
Once	211 (13.7)	351 (22.9)	477 (31.5)	1039 (22.7)
Twice	625 (40.7)	429 (28.0)	593 (39.2)	1647 (26.3)
Thrice	288 (18.8)	647 (42.3)	270 (17.8)	1205 (26.3)

> 3 times				
s	310 (20.2)	87 (5.7)	75 (5.0)	472 (10.3)
NA	102 (6.6)	16 (1.0)	98 (6.5)	216 (4.7)
Consume Milk				
Yes	612 (39.8)	640 (41.8)	679 (44.9)	1931 (42.2)
No	924 (60.2)	890 (58.2)	834 (55.1)	2648 (57.8)
Milk consumption Frequency/week				
Once	119 (7.7)	172 (11.2)	388 (25.6)	679 (14.8)
Twice	111 (7.2)	83 (5.4)	162 (10.7)	356 (7.8)
Thrice	47 (3.1)	57 (3.7)	55 (3.6)	159 (3.5)
> 3 times				
s	335 (21.8)	327 (21.4)	74 (4.9)	736 (16.1)
NA	924 (60.2)	891 (58.2)	834 (55.1)	2649 (57.9)
Consume Egg				
Yes	1408 (91.7)	1448 (94.6)	1334 (88.2)	4190 (91.5)
No	128 (8.3)	82 (5.4)	179 (11.8)	389 (8.5)
Egg consumption Frequency/week				
Once	734 (47.8)	561 (36.7)	832 (55.0)	2127 (46.5)
Twice	543 (35.4)	692 (45.2)	421 (27.8)	1656 (36.2)
Thrice	91 (5.9)	159 (10.4)	68 (4.5)	318 (6.9)
> 3 times				
s	40 (2.6)	35 (2.3)	13 (0.9)	88 (1.9)
NA	128 (8.3)	83 (5.4)	179 (11.8)	390 (8.5)

9. HOSPITALIZATION DATA

Nearly 10% of the total sample population reported having hospitalized for any illness.

The highest percent was seen in Vishakhapatnam (12.7%) followed by Adilabad (9%) and Khammam (6.7%) respectively.

9.A Reasons for hospitalization:

All Regions: Among the sample population,a total of 1900 hospitalization was documented. Acute infectious disease was the main reason for hospitalization (55.2%), followed by musculoskeletal problem (10.5%) and surgical conditions (10.3%).

Region wise: In all the three regions, more than half of the study population had been hospitalized for acute infectious disease like malaria, typhoid, acute GE, Fever, Dengue, Chickengunya, Pneumonia, etc.

Surgical conditions like acute abdomen, cancer, wounds, ulcers, acid peptic disease, appendicitis, kidney problem etc. was another important reason for hospitalization which was highest in Adilabad (13.5%) followed by Visakhapatnam (9%) and Khammam (7.9%).

Medical conditions like asthma, hypertension, stroke, heart problems, anaemia, diabetes, epilepsy etc as a reason for hospitalization was more in Visakhapatnam (9.2%) when compared to Khammam (8.2%) and Adilabad (8%).

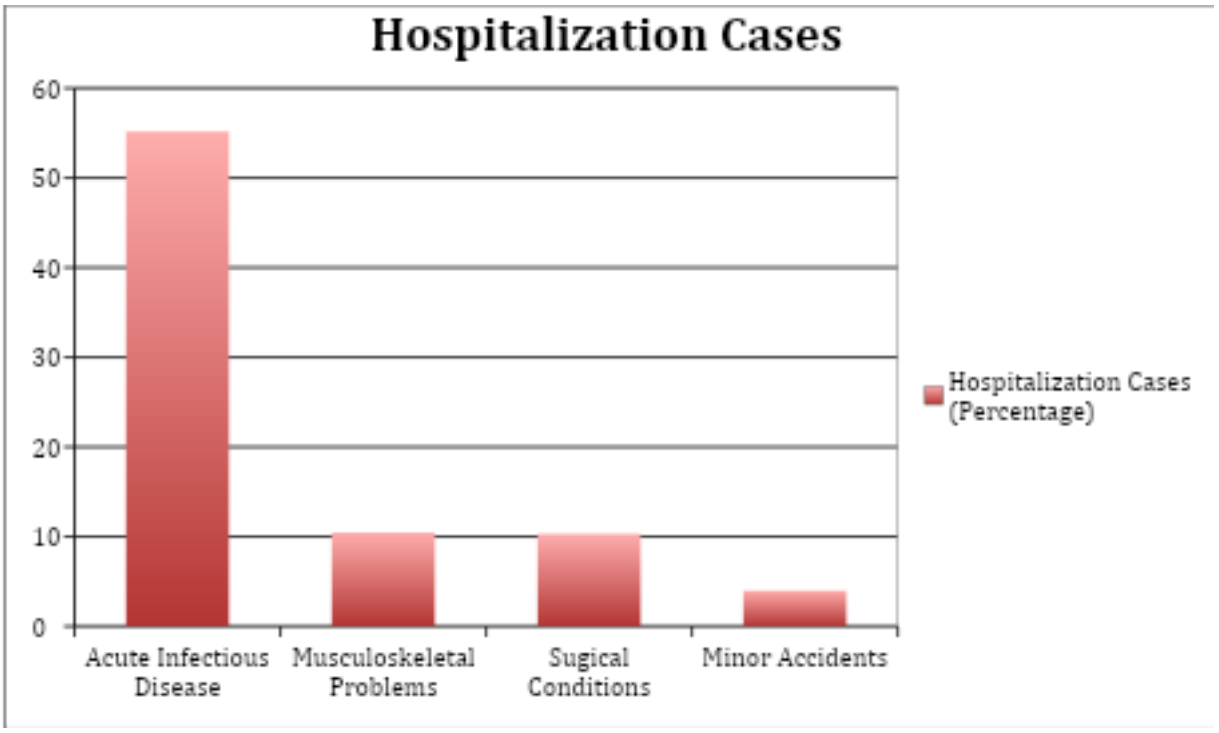
About 3-4% of the population was hospitalized due to minor accidents like snake bite, dog bite, bear attack, fall, burns, poisoning etc across all three ITDAs. (Table 9.1)

Table 9.1: Hospitalization details

Variables	Adilabad	Khammam	Vizag	Total
Reasons for hospitalization*				
Acute infectious diseases	360 (55.7)	222 (60.5)	467 (53.1)	1049 (55.4)
Surgical conditions	87 (13.5)	29 (7.9)	79 (9.0)	195 (10.3)
Musculoskeletal problems	60 (9.3)	39 (10.6)	100 (11.4)	199 (10.5)
Medical conditions	52 (8.0)	30 (8.2)	81 (9.2)	163 (8.6)
Delivery, abortion, pregnancy	29 (4.5)	10 (2.7)	24 (2.7)	63 (3.3)

Accidents	26 (4.0)	13 (3.5)	32 (3.6)	71 (3.8)
ENT problems	10 (1.5)	13 (3.5)	35 (4.0)	58 (3.1)
Eye problems	16 (2.5)	8 (2.2)	18 (2.0)	42 (2.2)
Skin/STD problems	5 (0.8)	1 (0.3)	40 (4.5)	46 (2.4)
Others	1 (0.2)	2 (0.5)	4 (0.5)	7 (0.4)
Don't know	0 (0)	0 (0)	5 (0.6)	5 (0.3)
Total hospitalized	**649 (100)**	**362 (100)**	**882 (100)**	**1900 (100)**
Type of Hospital admitted				
Govt hospital	222 (34.4)	143 (38.9)	536 (60.5)	901 (47.4)
Private hospital	421 (65.2)	226 (61.6)	355 (40.1)	1002 (52.7)
Charitable Hosp	6 (0.9)	1 (0.3)	21 (2.4)	28 (1.5)
Traditional Practnr	0 (0)	0 (0)	2 (0.2)	2 (0.1)
others	0 (0)	0 (0)	1 (0.1)	1 (0.1)
Total hospitalized	**649 (100)**	**362 (100)**	**882 (100)**	**1900 (100)**
Duration of hospital stay				
≤ 1 day	134 (20.7)	39 (10.6)	37 (4.2)	210 (11.1)
2 - 5 days	304 (47.1)	140 (38.1)	197 (22.2)	641 (33.7)
6 - 10 days	106 (16.4)	99 (27.0)	262 (29.5)	467 (24.6)
11 - 20 days	47 (7.3)	47 (12.8)	212 (23.9)	306 (16.1)
> 20 days	55 (8.5)	42 (11.4)	179 (20.2)	276 (14.5)
Total hospitalized	**649 (100)**	**362 (100)**	**882 (100)**	**1900 (100)**

Chart 7: Reasons for hospitalization in the surveyed population

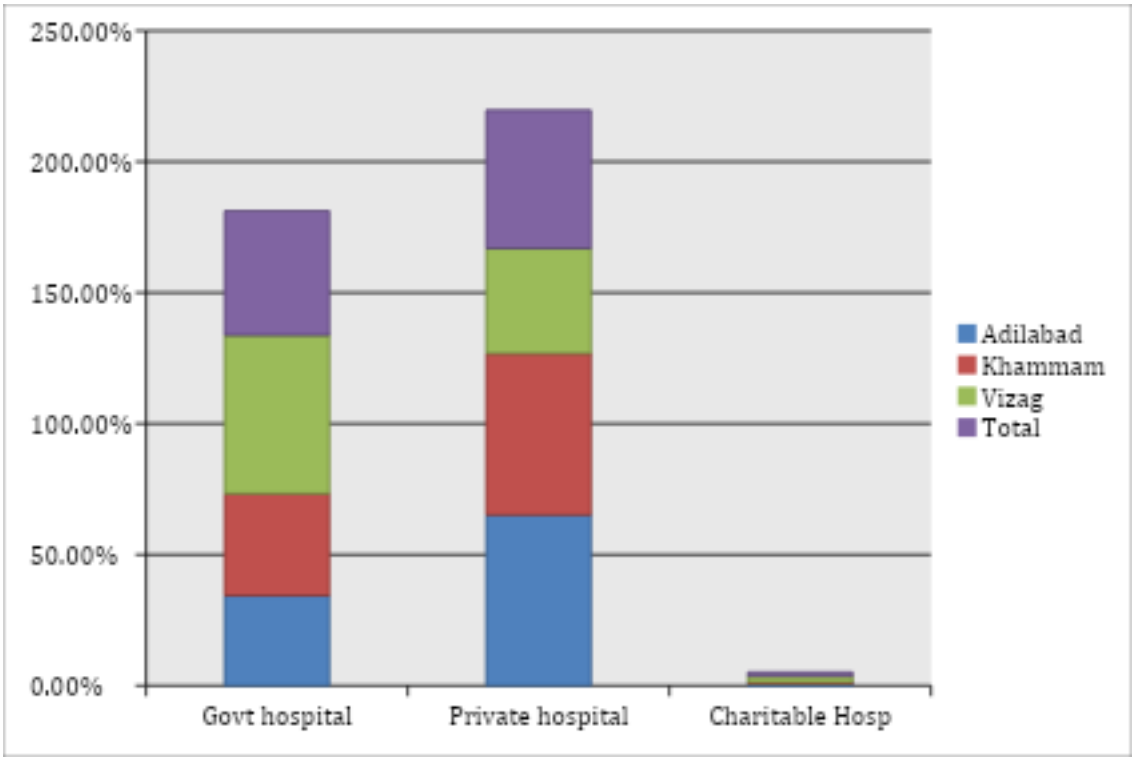


9.B Type of hospital Patients admitted:

A slightly higher percent went to private hospitals (52.7%) for admission compared to Government hospitals (47.4%).

About 60% of the people with morbid conditions were hospitalized in Government hospitals in Visakhapatnam where as in Khammam and Adilabad 60-65% were hospitalized in Private hospitals. (Table 9.1)

Chart 8: Type of hospital admitted to region wise



9.C Duration of stay:

Around one-third (33.7%) stayed an average of 2-5 days and nearly a fourth (24.6%) stayed for 6-10 days in the hospital.

While 2-5 days were the average duration of stay for the highest percent of hospitalized patients in Khammam (38.1%)and Adilabad (48.1%), it was 6-10 days for patients in Vishakhapatnam (29.5%). (Table 9.1).Median duration of hospital stay was 7 days.

9.D Distance travelled for hospitalization:

More than 41% had to travel a distance ranging from 11-50 kilometres for their hospitalization purposes and the most frequent mode of transport was the auto-rickshaw(48.8%) followed by the bus (38.7%).(Table 9.2)

9.E Outcome of Hospitalization:

Nearly 80% of the patients reported having got completely cured of their illness, where as a little more than 13% were partially cured. Among the 1900 hospitalization episodes, death was reported in only 2 cases. (Table 9.2)

Table 9.2: Hospitalization details (ctd)

Variables	Adilabad	Khammam	Vizag	Total
Distance travelled in kilometers				
≤ 1 kms	17 (2.6)	18 (4.9)	8 (0.9)	43 (2.3)
2 - 5 kms	133 (20.6)	39 (10.6)	205 (23.1)	377 (19.8)
6 - 10 kms	171 (26.5)	76 (20.7)	103 (11.6)	350 (18.4)
11 - 50 kms	235 (36.4)	141 (38.4)	421 (47.5)	797 (41.9)
> 50 kms	90 (13.9)	93 (25.3)	150 (16.9)	333 (17.5)
Total hospitalized	**649 (100)**	**362 (100)**	**882 (100)**	**1900 (100)**
Out come				
Cured	574 (88.9)	283 (77.1)	649 (73.2)	1506 (79.3)
Partially cured	47 (7.3)	64 (17.4)	142 (16.0)	253 (13.3)
Not Cured	11 (1.7)	17 (4.6)	82 (9.2)	110 (5.8)
Worsened	13 (2.0)	3 (0.8)	13 (1.5)	29 (1.5)
Dead	1 (0.2)	0 (0)	1 (0.1)	2 (0.1)
Total hospitalized	**649 (100)**	**362 (100)**	**882 (100)**	**1900 (100)**

9.F Hospital expenditure details:

The median direct cost for hospital expenditure was Rs. 1100. Higher proportion (35.9%) were spending around Rs 1001-5000 for the direct costs of treatment which included the hospital bills, medicines and diagnostics. Nearly 6.5% spent an amount of more than Rs.10,000 on their treatment.

The median indirect cost for hospital expenditure was Rs. 550. Even for the indirect costs which included food, transport, attendees etc, the highest proportion (27.8%) were spending an amount ranging from Rs. 1001 to 5000.

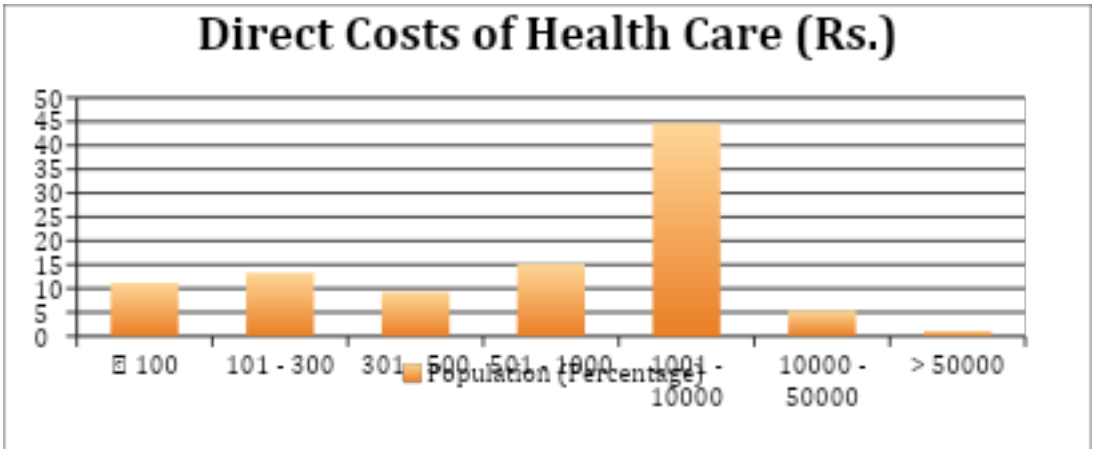
Direct costs in the range of Rs.1000-Rs10000/- was incurred by more people in Khammam (54%) as compared to Vishakhapatnam (45%) and Adilabad (38%). Similarly, indirect costs in the range of Rs. 1000 – Rs. 10000 was incurred in nearly 30% of all the cases in all the ITDAs. (Table 9.3)

Table 9.3: Hospital expenditure

Variables	Adilabad	Khammam	Vizag	Total
Direct costs in Rupees				
≤ 100	79 (12.2)	52 (14.2)	82 (9.2)	213 (11.2)
101 – 300	54 (8.4)	11 (3.0)	188 (21.1)	253 (13.3)
301 – 500	78 (12.1)	18 (4.9)	81 (9.1)	177 (9.3)
501 – 1000	134 (20.7)	48 (13.2)	104 (11.7)	286 (15.1)
1001 – 10000	249 (38.5)	197 (54.0)	402 (45.2)	848 (44.6)
10000 - 50000	38 (5.9)	32 (8.8)	32 (3.6)	102 (5.4)
> 50000	14 (2.2)	7 (1.9)	0 (0)	21 (1.1)
Total hospitalized	**646 (100)**	**365 (100)**	**889 (100)**	**1900 (100)**
Indirect costs in Rupees				
≤ 100	109 (16.9)	38 (10.4)	115 (12.9)	262 (13.8)
101 - 300	152 (23.5)	97 (26.6)	164 (18.4)	413 (21.7)

301 - 500	95 (14.7)	46 (12.6)	121 (13.6)	262 (13.8)
501 - 1000	86 (13.3)	74 (20.3)	187 (21.0)	347 (18.3)
1001 - 10000	188 (29.1)	104 (28.5)	298 (33.5)	590 (31.1)
10000 - 50000	16 (2.5)	6 (1.6)	4 (0.4)	26 (1.4)
Total hospitalized	**646 (100)**	**365 (100)**	**889 (100)**	**1900 (100)**

Chart 9: Direct costs during hospitalization



9.G Hospital expenditure- Source of Hospital expenses

All Regions: As is evident from Table 9.4, 54% used their savings for the hospitalization expenses and nearly 43% borrowed money in the form of a loan. Only 0.1% had some form of insurance and used it to meet their expenses. Friends or relatives were the major providers of loans to more than 58%, whereas about 28% took the loan from money lenders. Self-help group came to the aid for about 7.9% of the hospitalization cases.

Region wise: Savings as source of hospital expenses was more in Khammam (66%) than Adilabad (51%) and Vishakhapatnam (50%) whereas taking loans to meet

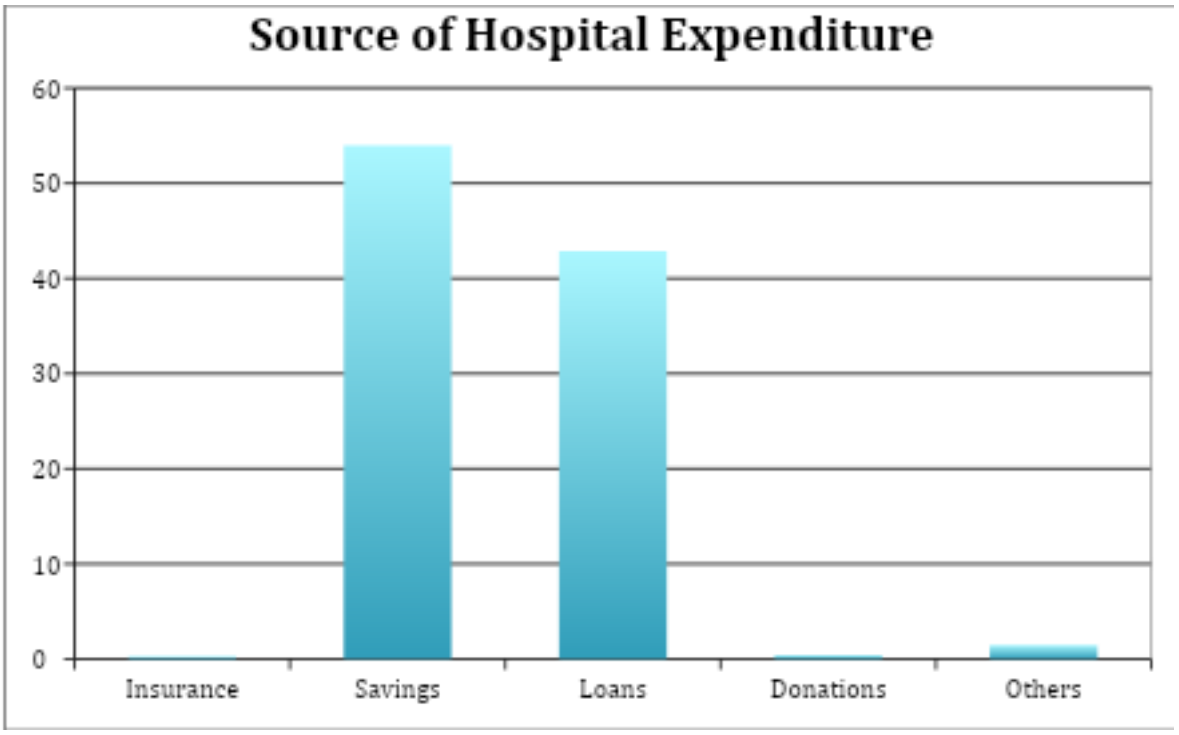
hospital expenses was more in Adilabad (49%) and Vishakhapatnam (45%) when compared with Khammam (29%). As far as source of loan is concerned , maximum households in Khammam and Vishakhapatnam, borrowed from friends / families (71.7% and 63.4% respectively). In comparison, availing loan from money lender was more in Adilabad (49%) than in other regions. (Table 9.4)

Table 9.4: Source of Hospital expenditure

Variables	Adilabad	Khammam	Vizag	Total
Source of Hospital expenses				
Insurance	0 (0)	0 (0)	2 (0.3)	2 (0.1)
Savings	231 (51.2)	209 (65.9)	376 (50.5)	816 (54.0)
Loans	221 (49.0)	92 (29.0)	336 (45.2)	649 (42.9)
Donations	5 (1.1)	0 (0)	1 (0.1)	6 (0.4)
Others	0 (0)	22 (6.9)	0 (0)	22 (1.5)
Total	**451 (100)**	**317 (100)**	**744 (100)**	**1512 (100)**
Source of Loans				
Friends/relatives	100 (45.2)	66 (71.7)	213 (63.4)	379 (58.4)
Bank	5 (2.3)	7 (7.6)	16 (4.8)	28 (4.3)
Money lender	109 (49.3)	15 (16.3)	62 (18.5)	186 (28.7)
SHG	5 (2.3)	1 (1.1)	45 (13.4)	51 (7.9)
Microfinance	1 (0.5)	4 (4.3)	2 (0.6)	7 (1.1)
Others	1 (0.5)	3 (3.3)	3 (0.9)	7 (1.1)

Total loan availed	**221 (100)**	**92 (100)**	**336 (100)**	**649 (100)**

Chart 10: Source of hospital expenditure



9.H Rate of Interest:

For the loan amount taken, about 27.6% paid an interest ranging from 3-5% and 18.5% paid an interest ranging from 6-10%. An interest above 10% was paid by about 3.5% of those who took the loan.

Adilabad: The highest percent (39.8%) were paying an interest of 3-5% followed by 0% (24%).

Khammam: The highest percent (52.2%) were paying an interest of 0% followed by 3-5% (15.2%).

Vishakhapatnam: The highest percent (30.7%) were paying an interest of 0% followed by 6-10% (26.5%).(Table 9.4)

Rate of interest/month	**Adilabad**	**Khammam**	**Vizag**	**Total**

0%	53 (24.0)	48 (52.2)	103 (30.7)	204 (31.4)
1%	14 (6.3)	12 (13.0)	74 (22.0)	100 (15.4)
1 - 2 %	36 (16.3)	11 (12.0)	26 (7.7)	73 (11.2)
3 - 5 %	88 (39.8)	14 (15.2)	67 (19.9)	169 (26.0)
6 - 10 %	25 (11.3)	6 (6.5)	89 (26.5)	120 (18.5)
> 10%	5 (2.3)	1 (1.1)	17 (5.1)	23 (3.5)
Total loan availed	**221 (100)**	**92 (100)**	**336 (100)**	**649 (100)**

10. SAVINGS AND LOAN INFORMATION:

10.A Savings

All Regions: A surprisingly high percent of the households (85.7%) had some sort of savings. More than a fourth (25.6%) were saving an amount ranging from 2001 to 5000 rupees and about 16.% were saving between 5,000- 10,000 rupees. However around 36% were saving less than one thousand rupees. (Table 10.1)

The median sum of amount saved in Vishakhapatnam household was Rs. 2000/month, Khammam household saved - Rs. 1200 /month and in Adilabad households it was Rs. 2000/month.

***Place of savings*:**Self help group was the main source of savings for a major proportion of the savers (82.3%) followed by bank (9.1%).

Region wise: Seventy five percent in Vishakhapatnam had some sort of savings. In Khammam and Adilabad more than 50% had savings.

Adilabad: Nearly a third were saving an average of 201 to 800 rupees and another 27.8% were saving an amount of rupees 2001 to 5000. More than 93% were saving with the self help group located in their area.

Khammam: Around 28% were saving between rupees 201 to 800 and 21.2% between 2001 to 5000 rupees. About 55% were depositing their savings with the self help groups and another 24% were keeping it safe in the bank.

Vishakhapatnam: Nearly a third were saving an average of 2001 to 5000 rupees and another 24.28% were saving an amount of rupees 1001 to 2000. Ninety three percent were saving with the self help group. (Table 10.1)

Table 10. 1: Savings Information

Variables	Adilabad	Khammam	Vizag	Total
Savings				
Yes	805 (52.4)	775 (50.7)	1135 (75.0)	2715 (59.3)
No	731 (47.6)	755 (49.3)	378 (25.0)	1864 (40.7)
Total no. of households	1536 (100)	1530 (100)	1513 (100)	4579 (100)
Amount saved				
≤200	21 (2.6)	74 (9.5)	84 (7.4)	179 (6.6)
201 - 800	271 (33.7)	218 (28.1)	111 (9.8)	600 (22.1)
801 – 1000	34 (4.2)	53 (6.8)	122 (10.7)	209 (7.7)
1001 - 2000	88 (10.9)	64 (8.3)	275 (24.2)	427 (15.7)
2001 - 5000	156 (19.4)	164 (21.2)	375 (33.0)	695 (25.6)
5001 - 10,000	224 (27.8)	123 (15.9)	109 (9.6)	456 (16.8)
10,000 AND ABOVE	9 (1.1)	18 (2.3)	37 (3.3)	64 (2.4)
Missing	2 (0.2)	61 (7.9)	22 (1.9)	85 (3.1)
Total household with savings	805 (100)	775 (100)	1135 (100)	2715 (100)
Place of savings*				
Friends	2 (0.2)	92 (11.9)	1 (0.1)	95 (3.5)
Bank	24 (3.0)	185 (23.9)	37 (3.3)	246 (9.1)

Post office	0 (0)	7 (0.9)	0 (0)	7 (0.3)
Chits	22 (2.7)	47 (6.1)	17 (1.5)	86 (3.2)
SHG	750 (93.2)	428 (55.2)	1056 (93.0)	2234 (82.3)
Home	0 (0)	0 (0)	9 (0.8)	9 (0.3)
Youth association	5 (0.6)	0 (0)	1 (0.1)	6 (0.2)
Others	2 (0.2)	3 (0.4)	9 (0.8)	14 (0.5)
Missing	0 (0)	5 (0.6)	14 (1.2)	19 (0.7)

10.B Loan Information

All Regions:

Fifty eight percent of households reported having taken some sort of loan in the past one year. The main **purposes** of taking the loan were towards agriculture (47.7%), health (20%) and construction of their house (17%).(Table 10.2)

Source of Loan: Bank was the main source of loan (30.9%), followed by Money lenders (25.4%) and friends/relatives (19.1%).(Table 10.2)

Amount of loan: Nearly a fourth (24.6%) took a loan amount ranging from 5001 to 10,000 rupees, more than a fifth (21.8%) took a loan ranging from 2001 to 5,000 rupees and another fifth (19.2%) took a loan ranging from 10,001 to 20,000 rupees. Overall the median amount of loan was rupees. 10000/-.(Table 10.2)

Tenure of loan: A major proportion (68%) were taking loans for a duration ranging from three to twelve months where in the median tenure of loan repayment was 12 months. (Table 10.2)

Rate of Interest: More than a fourth was paying an interest of 2% (25.6%), another fourth an interest of 5% and above (25.1%) and another fourth an interest of 1% (24.5%).(Table 10.2)

Region wise:

Adilabad: More than half the households (53.1%) had taken some sort of a loan. The main purpose of the loan was towards agriculture (81.1%) followed by health (13.7%).

The main sources of loan were the Moneylenders (49.6%) followed by Banks (30%), and self help groups (9.7%). Most of the households had taken a loan of more than 10,000 rupees. The tenure of the loan, for highest percent of households, was for a period ranging from 3 to 12 months. Forty five percent of the population had taken it on an interest rate of 2%. The median loan availed in Adilabad was Rs. 20,000.

Khammam: More than three-fourths (76.1%) had not taken any loan. Among those who had taken, it was for agriculture (48.9%) and health (27%) purposes. The main sources of loans were Banks (50.5%) followed by Friends (24.9%). The maximum households had taken a loan amount below 10,000 rupees. The tenure of the loan was for a period ranging from 3 to 12 months for the highest percent of households. Maximum households (41.3%) paid no interest for the loan taken since they have taken it from friends or relatives, followed by 1% interest (30.1%). The median loan availed in Khammam was Rs. 5000.

Vishakhapatnam: More than half of the households here did not take any loan (56.6%). Among those who took, it was for House construction (37.3%), and Health (30.6%).The sources of loans were friends (33.5%) and Self help groups (33.4%). Here too, the maximum households had loans below Rs. 10,000. The tenure of the loan was for a period ranging from 3 to 12 months for the highest percent of households. Forty five percent of the population had taken it on an interest rate of 1%. However the median loan availed in Vishakhapatnam was Rs. 6000. (Table 10.2)

Table 10.2: Loan information

Variables	Adilabad	Khammam	Vizag	Total
Loan				
Yes	816 (53.1)	366 (23.9)	656 (43.4)	1838 (40.1)
No	720 (46.9)	1164 (76.1)	857 (56.6)	2741 (59.9)
Total no. of households	**1536 (100)**	**1530 (100)**	**1513 (100)**	**4579 (100)**
Purpose of loan				
Health	112 (13.7)	99 (27.0)	201 (30.6)	412 (22.4)

Agriculture	662 (81.1)	179 (48.9)	35 (5.3)	876 (47.7)
Child education	5 (0.6)	7 (1.9)	58 (8.8)	70 (3.8)
House construction	35 (4.3)	32 (8.7)	245 (37.3)	312 (17.0)
Family	17 (2.1)	21 (5.7)	31 (4.7)	69 (3.8)
Marriage	14 (1.7)	18 (4.9)	23 (3.5)	55 (3.0)
Delivery	0 (0)	0 (0)	4 (0.6)	4 (0.2)
Cattle	1 (0.1)	1 (0.3)	63 (9.6)	65 (3.5)
Funeral	0 (0)	0 (0)	3 (0.5)	3 (0.2)
Business	8 (1.0)	3 (0.8)	35 (5.3)	46 (2.5)
Others	2 (0.2)	11 (3.0)	14 (2.1)	27 (1.5)
Total households availed loan	**816 (100)**	**366 (100)**	**656 (100)**	**1838 (100)**
Source of loan				
Friends	40 (4.9)	91 (24.9)	220 (33.5)	351 (19.1)
Bank	245 (30.0)	185 (50.5)	138 (21.0)	568 (30.9)
Money lender	405 (49.6)	17 (4.6)	45 (6.9)	467 (25.4)
SHG	79 (9.7)	25 (6.8)	219 (33.4)	323 (17.6)
Microfinance	31 (3.8)	36 (9.8)	32 (4.9)	99 (5.4)
Others	26 (3.2)	13 (3.6)	15 (2.3)	54 (2.9)
Total households availed loan	**816 (100)**	**366 (100)**	**656 (100)**	**1838 (100)**
Amount of loan				
< 2000	20 (2.5)	83 (22.7)	97 (14.8)	200 (10.9)
2001 – 5000	74 (9.1)	119 (32.5)	207 (31.6)	400 (21.8)
5001 – 10,000	154 (18.9)	91 (24.9)	208 (31.7)	453 (24.6)

10,001 – 20,000	233 (28.6)	35 (9.6)	85 (13.0)	353 (19.2)
20,001 – 30,000	102 (12.5)	17 (4.6)	35 (5.3)	154 (8.4)
>30,000	233 (28.6)	21 (5.7)	24 (3.7)	278 (15.1)
Total households availed loan	**816 (100)**	**366 (100)**	**656 (100)**	**1838 (100)**
Tenure				
<3 MONTHS	64 (7.8)	117 (32.0)	97 (14.8)	278 (15.1)
3 - 12 MONTHS	728 (89.2)	176 (48.1)	346 (52.7)	1250 (68.0)
13 – 24 MONTHS	21 (2.6)	49 (13.4)	131 (20.0)	201 (10.9)
25 – 36 MONTHS	1 (0.1)	19 (5.2)	64 (9.8)	84 (4.6)
37 – 60 MONTHS	1 (0.1)	4 (1.1)	17 (2.6)	22 (1.2)
> 60 months	1 (0.1)	1 (0.3)	1 (0.2)	3 (0.2)
Total households availed loan	**816 (100)**	**366 (100)**	**656 (100)**	**1838 (100)**
Rate of Interest				
0%	19 (2.3)	151 (41.3)	107 (16.3)	277 (15.1)
< 1 %	5 (0.6)	0 (0)	0 (0)	5 (0.3)
1%	45 (5.5)	110 (30.1)	295 (45.0)	450 (24.5)
2%	367 (45.0)	30 (8.2)	74 (11.3)	471 (25.6)
2.50%	92 (11.3)	0 (0)	0 (0)	92(5.0)
3%	44 (5.4)	21 (5.7)	14 (2.1)	79 (4.3)
4%	2 (0.2)	1 (0.3)	0 (0)	3 (0.2)
5%	165 (20.2)	16 (4.4)	85 (13.0)	266 (14.5)
> 5 %	77 (9.4)	37 (10.1)	81 (12.3)	195 (10.6)
Total households availed loan	**816 (100)**	**366 (100)**	**656 (100)**	**1838 (100)**

10.C Purpose of Loan Vs Source of Loan

An interesting trend emerged here. If the loan was taken for health purposes, then it was taken mostly from friends/relatives (41.6%) followed by money lender (25.8%).

If the loan was for agricultural purposes, then the main source of loan was the Bank (42.2%) followed by money lender (37.8%).

For house construction, the loan was taken first from self help group (31.4%) followed by bank (25.6%).

For personal loan for the family, the main source of loan was friends/relatives (26.3%) followed but self help group (24.2%). (Table 10.3)

Table 10.3: Purpose of loan Vs Source of Loan

Source of loan	**Purpose of loan**			
	Health (367)	**Agriculture (876)**	**House construction (312)**	**Family (194)***
Friends/relatives	153 (41.6)	42 (4.7)	79 (25.3)	51 (26.3)
Bank	49 (13.4)	370 (42.2)	80 (25.6)	45 (23.2)
Money lender	95 (25.8)	332 (37.8)	23 (7.3)	35 (18.0)
Self help group	57 (15.5)	79 (9.0)	98 (31.4)	47 (24.2)
Mircofinance	13 (3.5)	45 (5.1)	25 (8.0)	14 (7.2)
Others	12 (3.2)	18 (2.1)	9 (2.8)	6 (3.1)

11. INSURANCE DETAILS

11.A Awareness and practice of Insurance

From Table 11.1, it is evident that nearly 60% of the households were not aware of insurance and what it stood for. Among those who were aware, most were aware about Life Insurance(88.1%), followed by Accident Insurance (19.8%) and Health Insurance (18.3%).)

Adilabad: A higher percent were not aware of insurance (63.9%).Those aware knew about life insurance (91.3%)and accident insurance (11.5%). Only 1.9% were aware about health insurance. Among those who were aware, more than half were using insurance in some way.

Khammam: Nearly half were aware about insurance. Out of those aware about insurance 94% were aware about life insurance,,39.4% about health and 29.3% about accident insurances. More than 67% were using someform of insurance.

Vishakhapatnam: Nearly 65% were not aware about insurance. Those who were aware heard about life (76.3%), accident (15.1%) and crop insurance (7.8%). Only 5.3% were aware of health insurance. Nearly 65% of those who were aware were using insurances.

Overall the households of Khammam were much better aware of insurance and different types of insurances when compared with other two regions. (Table 11.1)

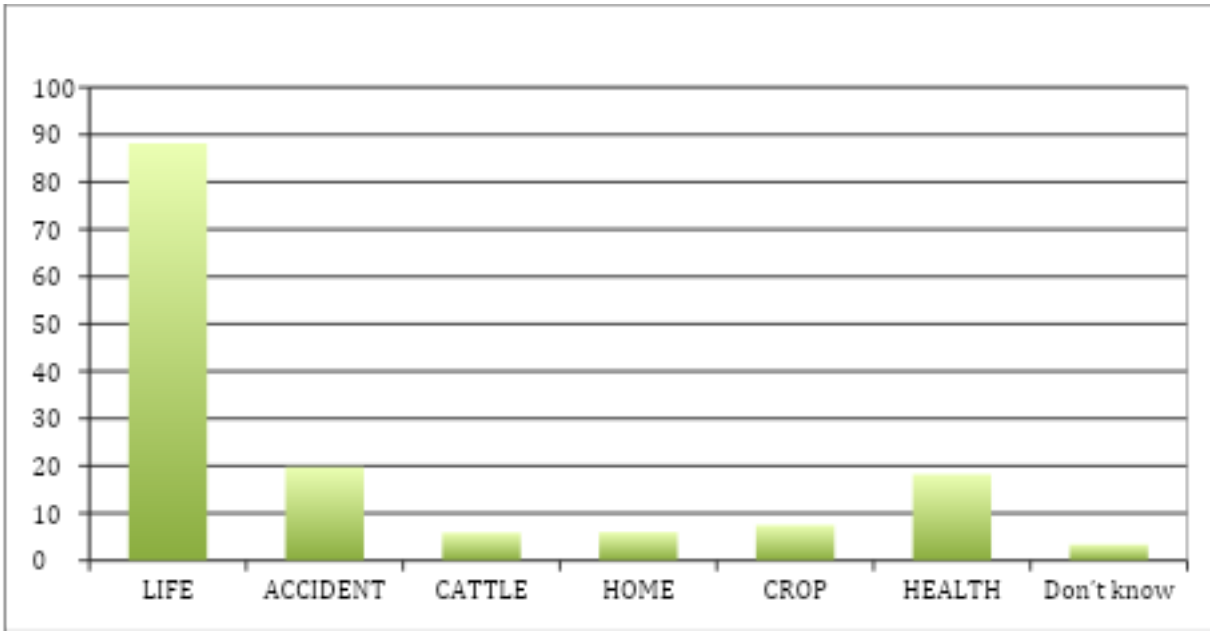
Currently using insurance

The insurance coverage for any type of insurance was 33% among the households of Khammam which was a little higher than Vishakhapatnam (23%) and Adilabad (18%).(Table 11.1)

Table 11.1: Awareness about insurance				
Variables	**Adilabad (1535)**	**Khammam (n=1530)**	**Vizag (n=1513)**	**Total (4579)**
Awareness about insurance				

Yes	554 (36.1)	754 (49.2)	538 (35.5)	1846 (40.3)
No	983 (63.9)	776 (50.8)	975 (64.5)	2733 (59.7)
Total households	**1536 (100)**	**1530 (100)**	**1513 (100)**	**4579 (100)**
Awareness about type of insurance *				
LIFE	506 (91.3)	709 (94.0)	411 (76.3)	1626 (88.2)
ACCIDENT	64 (11.5)	221 (29.3)	81 (15.1)	366 (19.8)
CATTLE	5 (0.9)	74 (9.8)	29 (5.3)	108 (5.9)
HOME	1 (0.1)	103 (13.7)	6 (1.1)	110 (6.0)
CROP	2 (0.3)	94 (12.5)	42 (7.8)	138 (7.5)
HEALTH	11 (1.9)	297 (39.4)	29 (5.3)	337 (18.3)
OTHERS	1 (0.2)	0 (0)	4 (0.7)	5 (0.3)
Don’t know	24 (4.3)	0 (0)	39 (7.2)	63 (3.4)
Currently using insurance				
Yes	281 (18.3)	507 (33.1)	348 (23.0)	1136 (24.8)
No	273 (81.7)	1023(66.9)	1165 (77.0)	3443 (75.2)
Total households	**1536 (100)**	**1530 (100)**	**1513 (100)**	**4579 (100)**

Chart 11: Awareness about different forms of insurance



11.B Practice of Insurance

All Regions

Among those who were aware, about 61.5% were actually using some form of insurance in their life. Most of them had Life Insurance (87.7%). Only about 4.5% had health insurance and 7.5% had accident insurance. (Table 11.2)

Name of Insurance Company Used

LIC was the most popular insurance company used by 74.9% of the households. (Table 11.2)

Premium for Insurance

A premium ranging from 2001 to 4000 rupees was paid by 28.3% of the households and a premium ranging from 1001 to 2000 was paid by 26.5% of the households. The overall median premium of insurance was Rs. 2000/-. (Table 11.2)

Reasons for taking Insurance

The main reason given by the households for taking insurance was for future needs (84.3%).(Table 11.2)

Region wise

The insurance coverage for any type of insurance was 33% among the households of Khammam which was a little higher when compared with Vishakhapatnam (23%) and Adilabad (18%).

Adilabad: Among the households who were aware, more than halfwere currently using insurance. Most had life insurance (81.5%) and accident insurance (7.5%). Only 2% had health insurance. Most (80.5%) were insured with Life Insurance Corporation of India. Nearly 50% had paid a premium ranging from 1000 to 4000 rupees. The main reason for taking an insurance policy was for future needs (79.4%).

Khammam: More than two-thirds of the households who were aware were currently using some form of insurance. Life insurance (93.1%) followed by health (5.7%) insurance were the most common types of insurances taken. Most (81.8%) were insured with Life Insurance Corporation of India. More than 67% paid a premium ranging from 1000 to 4000 rupees. The main reason for taking an insurance policy was for future needs (84.8%). Some of the predominant insurance companies offering insurance in Khammam were : LIC (81.8%), Agrigold (3.9%), Postal insurance (3.4%) and private groups (3.4%)

Vishakhapatnam: Nearly 65% of those who were aware were at present using some form of insurance cover. Most had life insurance (84.7%) and a few had accident insurance (17.8%). Only 4.5% had health insurance. Nearly two-thirds (63.7%) had LIC policy and 12.6% had an Agrigold policy. More than 43% paid a premium of 500 rupees or less and 40% paid a premium ranging from 1000 to 4000 rupees. Future needs (92.5%) were the main reason for taking insurance. Some of the predominant insurance companies offering insurance in Vishakhapatnam were : LIC (84.7%), Agrigold (17.8%) , other welfare schemes (11.4%) and Abayahastham (Government of AP initiative) (9.4%). (Table 11.2)

Table 11.2: Practice of Insurance

Variables	Adilabad	Khammam	Vizag	T

Currently using insurance				
Yes	281 (50.7)	507 (67.2)	348 (64.6)	1 (6
No	273 (49.2)	247 (32.8)	190 (35.3)	7 (3
Total households aware of insurance	**554 (100)**	**754 (100)**	**538 (100)**	**1 (1**
Type of insurance used *				
LIFE	229 (81.5)	472 (93.1)	295 (84.7)	9 (8
ACCIDENT	21 (7.5)	2 (0.3)	62 (17.8)	85
CATTLE	0 (0)	0 (0)	5 (1.4)	5 (
HOME	0 (0)	0 (0)	4 (1.1)	4 (
CROP	0 (0)	0 (0)	0 (0)	0
HEALTH	6 (2.1)	29 (5.7)	16 (4.5)	51
OTHERS	12 (4.3)	12 (2.3)	13 (3.7)	37
Don’t know	0 (0)	0 (0)	0 (0)	15
Name of the insurance company *				
LIC	226 (80.5)	418 (82.3)	227 (65.1)	8 (7
Agrigold	0 (0)	20 (3.9)	44 (12.6)	64
Welfare	0 (0)	0 (0)	40 (11.4)	40
Abhyahastham	2 (0.7)	5 (1.0)	33 (9.4)	39
Postal	7 (2.5)	17 (3.4)	11 (3.1)	35
Corporate Companies	2 (0.7)	2 (0.3)	4 (1.1)	8 (
Private groups	8 (2.8)	17 (3.4)	0 (0)	25
Health insurance	0 (0)	15 (3.0)	3 (0.8)	18
Others	5 (1.8)	2 (0.3)	14 (4.0)	21
Don’t know	36 (12.8)	19 (3.7)	1 (0.2)	56
Premium paid in Rs/annum				
≤200	21 (7.5)	16 (3.2)	64 (18.3)	101 1
201 – 500	23 (8.2)	39 (7.6)	85 (24.4)	(1
501 – 1000	17 (6.0)	30 (5.9)	14 (4.0)	61

12. HEALTH INSURANCE

1001 – 2000	81 (28.8)	139 (27.4)	81 (23.2)	3 (2
2001 – 4000	59 (21.0)	202 (39.8)	60 (17.2)	3 (2
4001 - 5000	17 (6.0)	19 (3.7)	10 (2.8)	46
>5000	33 (11.7)	44 (8.6)	34 (9.7)	111
Don't know	30 (10.7)	17 (3.4)	0 (0)	48
Reasons *				
FUTURE NEEDS	223 (79.4)	430 (84.8)	322 (92.5)	9 (8
SAVINGS	2 (0.7)	55 (10.8)	39 (11.2)	79
Health	0 (0)	20 (3.9)	0 (0)	20
Others	2 (0.7)	3 (0.6)	1 (0.2)	6 (
Don't know	55 (19.6)	0 (0)	1 (0.2)	56

Awareness about health insurance

Awareness: Only 20% were actually aware about health insurance and its benefits.

12.A Arogyashri

Awareness about Arogyashri: Regarding Arogyashri, which is a Government sponsored health insurance scheme in Andhra Pradesh state, more than 81% were aware of it. However, among those who were aware of this scheme, only 25% knew about the hospitals which were empanelled for this scheme. (Table 12.1)

Enrolment for Arogyashri: Most of the households were enrolled for this scheme (95.2%).Among those who were not enrolled, the main reason given for non-enrolment was that they did not possess the BPL (Below Poverty Line) card (29.2%)or they were not eligible due to some other reason (11.2%). (Table 12.1)

Use of Arogyashri: Among those enrolled for this scheme, only a miniscule proportion (5.2%) actually used it for any of their health problem. They mostly used it for Surgical conditions (38.8%) followed by Infectious disease condition (21.3%) and for Medical Emergencies (19.1%). (Table 12.1)

Region wise:

Adilabad: More than 85% were not aware about any health insurance schemes.Though more than 61% had heard about Arogyashri, they did not perceive it as a health insurance scheme. Among those who were aware, only 19% were aware about the

hospitals where one could avail treatment under Arogyashri. Ninety four percent of those who were aware had enrolled with the scheme. Majority of those who did not enrol, gave no specific answer.

A very low percent (2.1%) actually availed this scheme. Surgical conditions (44.4%) followed by infectious disease conditions (16.7%) were the main reasons for admission in the hospitals under the Arogyashri scheme.

Khammam: While more than two-third were not aware of health insurance, more than 94% had heard about Arogyashri. Awareness about Arogyashri hospital was low but among those who were aware more than 94% were enrolled under this scheme. The main reason given for non-enrolment was the absence of the white ration card which is given to those who are below the poverty line.

Only 6% availed the benefits of this scheme; surgical conditions (38.5%) followed by Infectious disease conditions (25.3%) were the main reasons for admission under this scheme.

Visakhapatnam: Only 13% had heard about health insurance and 88.7% had heard about Arogyashri. Among those aware of Arogyashri, only 22.8% were aware of the hospitals where one could get free treatment under this scheme. Nearly 97% were enrolled under this scheme.

Only 6.3% availed the benefits of this scheme and surgical conditions (37.8%) followed by emergencies (24.4%) were the main reasons for admission under this scheme.

(Table 12.1)

Table 12.1: Awareness and Practice of Arogyashri Health Insurance

Variables	Adilabad	Khammam	Vizag	Total
Heard about Arogyashri				
Yes	942 (61.4)	1444 (94.4)	1342 (88.7)	3728 (81.4)
No	594 (38.6)	86 (5.6)	171 (11.3)	851 (18.6)
Total households	**1536 (100)**	**1530 (100)**	**1513 (100)**	**4579 (100)**
Aware of hospitals with Arogyashri				

Yes	179 (19.0)	445 (30.8)	307 (22.8)	931 (25.0)
No	763 (81.0)	999 (69.2)	1035 (77.1)	2797 (75.0)
Total households aware of Arogyashri	**942 (100)**	**1444 (100)**	**1342 (100)**	**3728 (100)**
Arogyashri enrollment				
Yes	886 (94.1)	1366 (94.5)	1298 (96.7)	3550 (95.2)
No	56 (5.9)	78 (5.5)	44 (3.3)	178 (4.8)
Total households aware of Arogyashri	**942 (100)**	**1444 (100)**	**1342 (100)**	**3728 (100)**
Reasons for non enrollment				
No BPL card	0 (0)	41 (52.5)	11 (25.0)	52 (29.2)
Not eligible	2 (3.6)	13 (16.6)	5 (11.3)	20 (11.2)
Unaware	9 (16.1)	1.2)	7 (16.0)	17 (9.6)
Did not giv	2 (3.6)	0 (0)	0 (0)	2 (1.1)
Not in village	0 (0)	15 (19.2)	2 (4.5)	17 (9.6)
Others	43 (76.8)	8 (10.3)	19 (43.2)	70 (39.3)
Total households not enrolled	**56 (100)**	**78 (100)**	**44 (100)**	**178 (100)**
Arogyashri used				
Yes	18 (2.1)	83 (6.1)	82 (6.3)	183 (5.2)
No	868 (97.9)	1283 (93.9)	1216 (93.4)	3367 (94.8)
Total households enrolled	**886 (100)**	**1366 (100)**	**1298 (100)**	**3550 (100)**
Disease/health condition for which availed				
Infectious disease	3 (16.7)	21 (25.3)	15 (18.3)	39 (21.3)
Surgical conditions	8 (44.4)	32 (38.5)	31 (37.8)	71 (38.8)
Musculoskeletal conditions	2 (11.1)	9 (10.8)	10 (12.2)	21 (11.5)

Medical emergencies	2 (11.1)	13 (15.7)	20 (24.4)	35 (19.1)
Delivery purpose	1 (5.6)	3 (3.6)	5 (6.1)	9 (4.9)
Others	2 (11.1)	5 (6.0)	1 (1.2)	8 (4.4)
No of households availed arogyshri	**18 (100)**	**83 (100)**	**82 (100)**	**183 (100)**

12.B Health Insurance seeking behaviour

All Regions

A high proportion of households seemed interested about taking insurance (78.8%). Among those not interested, the main reasons given were that they had no income source to pay the premium (56.9%), they were just not interested (19.2%) or they had no faith that they would get any benefits from these schemes (17.5%).

Nearly 70% wanted to take the insurance for their families including themselves, wife and children and another 17.7% wanted insurance for their family including parents. Most of them (94.5%) wanted the health insurance to cover both the inpatient and outpatient services.

While 44.1% wanted to pay the premium for the health insurance every three months, around 41.4% wanted to pay it as a one time premium. January (80.2%) followed by February (39.2%) were seen as the suitable months for paying the premium. (Table 12.2)

Region wise

Adilabad: Nearly 80% expressed an interest in taking Health insurance. Among those who were not interested, the main reasons given were that they had no faith and did not believe that it would fetch them any returns (37.9%), some were just not interested (27.3%) and others had no source of income to fund the premiums(24.4%). Most (81.8%) preferred to include their entire immediate family under the insurance coverage and nearly all wanted coverage for both inpatient and outpatient services.

Khammam: Sixty five percent were interested in taking insurance and the main reason given by others who showed no interest in taking insurance was that they had no

source of income to finance the premiums (69.5%). Most wanted it for the family including their parents and wanted it both for inpatient and outpatient facilities.

Vishakhapatnam: Nearly 92% were interested in taking insurance. No income source (83.3%) was the main reason among those not interested to take insurance. Most wanted it for the family including their parents and both for inpatient and outpatient facilities. (Table 12.2)

12.C Premium for Insurance

Low- The affordable annual premium which could be paid by majority (40.3%) was rupees 200 and below followed by (39.1%) who wished to pay a premium of rupees 201 to 500. The median annual premium was rupees. 400/-

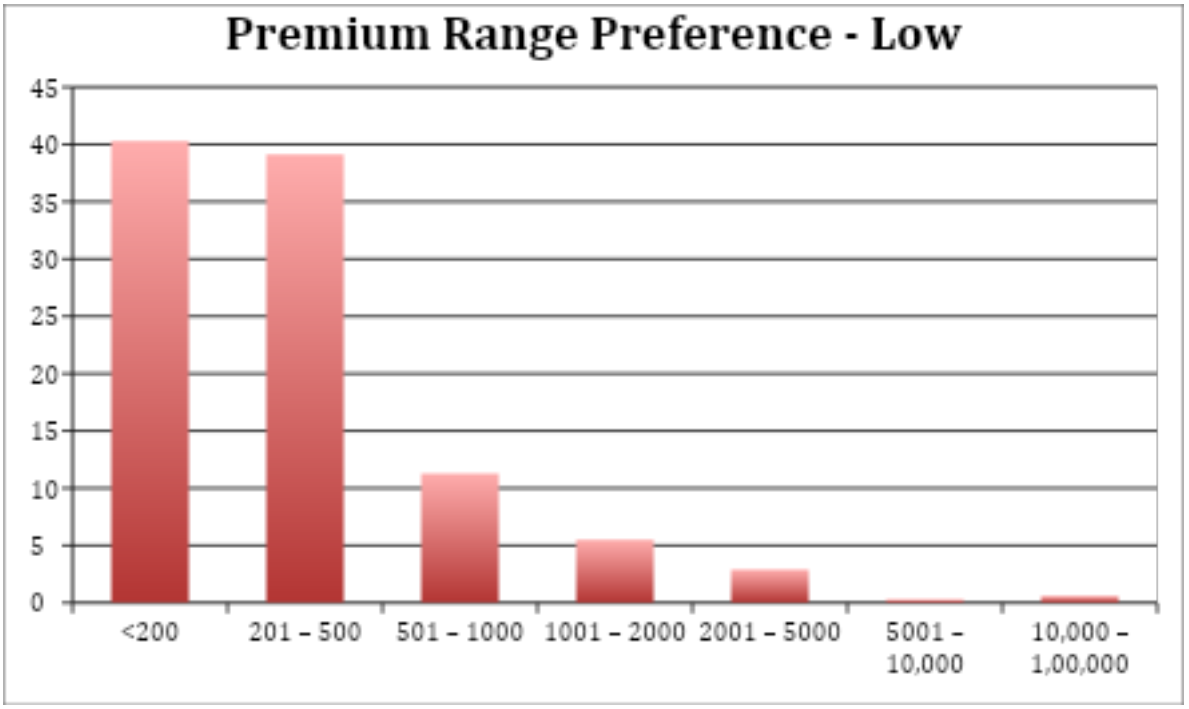
High- About 31.6% wanted to pay premium of rupees 501 to 1000 and 23.1% wanted to pay a premium ranging from rupees 210 to 500. The median annual premium was Rs. 600/-. (Table 12.3.1)

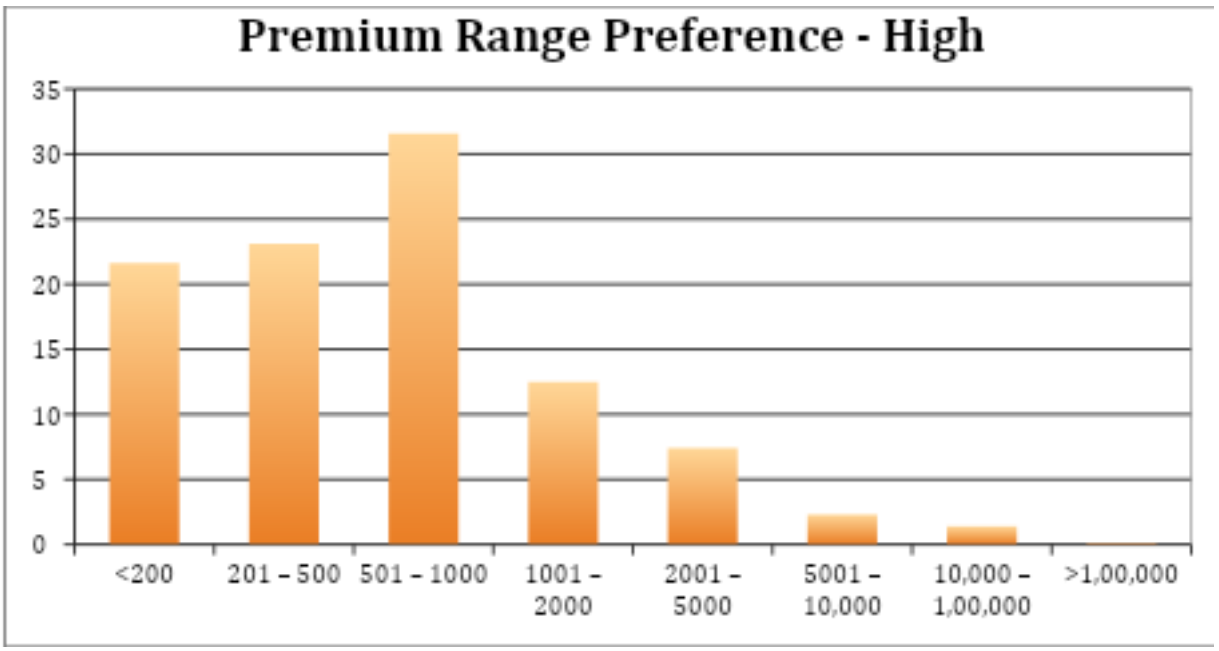
Table 12.3.1: Premium for Insurance

Annual premium					
	LOW			HIGH	
Premium in Rupees	NUMBER	%	Premium in Rupees	NUMBER	%
<200	1453	40.3	<200	780	21.6
201 – 500	1410	39.1	201 – 500	833	23.1
501 – 1000	408	11.3	501 – 1000	1141	31.6
1001 – 2000	198	5.5	1001 – 2000	451	12.5

2001 – 5000	104	2.9	2001 – 5000	267	7.42
5001 – 10,000	11	0.3	5001 – 10,000	82	2.31
10,000 – 1,00,000	22	0.6	10,000 – 1,00,000	49	1.40
>1,00,000	0	0.0	>1,00,000	3	0.1
Total households interested in insurance	**3606**	**100.0**	**Total households interested in insurance**	**3606**	**100.0**

Chart 12: Premium Preferance– Low& High





Premium financing details:

All Regions: A higher proportion (84.1%) did not want any financing for the premium they needed to pay for their insurance. Among those who wanted financing, banks were seen as the right source to finance their premium (85.5%). Regarding payment of the premium, 34% wanted to pay it on a yearly basis and 29% wanted to pay it quarterly. Nearly half of them (48.4%) did not want co-payment. (Table 12.3.2)

Table 12.3.2: Premium Financing Details

Variables	Adilabad	Khammam	Vizag	Total
Premium financing required				
Yes	265 (21.7)	178 (17.9)	131 (9.4)	574 (15.9)
No	959 (78.3)	817 (82.1)	1256 (90.6)	3032 (84.1)

Total households interested in insurance	**1224 (100)**	**995 (100)**	**1387 (100)**	**3606 (100)**
Affordable extent of co-payment				
50%	0 (0)	57 (5.7)	411 (29.6)	468 (13.0)
25%	5 (0.4)	158 (15.9)	331 (23.9)	494 (13.7)
10%	164 (13.4)	157 (15.8)	563 (40.6)	884 (24.5)
Nothing	1055 (86.2)	623 (62.6)	82 (5.9)	1760 (48.8)
Total households interested in insurance	**1224 (100)**	**995 (100)**	**1387 (100)**	**3606 (100)**
Premium financing source				
Bank	256 (96.6)	143 (80.3)	92 (70.2)	491 (85.5)
NGO	7 (2.6)	20 (11.2)	15 (11.5)	42 (7.3)
Others	2 (0.8)	15 (8.4)	24 (18.3)	41 (7.1)
Total households who require premium financing	**265 (100)**	**178 (100)**	**131 (100)**	**574 (100)**
Premium payment				
Monthly	17 (6.4)	34 (19.1)	6 (4.6)	57 (9.9)
Quarterly	33 (12.5)	98 (55.1)	39 (29.8)	170 (29.6)

Half yearly	20 (7.5)	46 (25.8)	86 (65.6)	152 (26.5)
Yearly	195 (73.6)	0 (0)	0 (0)	195 (34.0)
Total households who require premium financing	**265 (100)**	**178 (100)**	**131 (100)**	**574 (100)**

Region wise

Adilabad: More than 78% did not want their premium to be financed by others and 86% did not want co-payment to be an option. Among those who wanted financing for their premium amount, most preferred banks (96.6%).

Khammam: Eighty two percent did not want any premium financing and nearly two-thirds did not want any co-payment. Banks (80.3%) were the preferred source of funding for premium payment.

Vishakhapatnam: More than 90% did not want their premium to be financed by others and 40.6% wanted to pay 10% as their part in the co-payment. Among those who wanted financing for their premium amount, most preferred banks (70.2%). (Table 12.3.2)

Table 12.2: Insurance Seeking Behaviour

Variables	Adilabad	Khammam	Vizag	Total
Interested in health Insurance				
Yes	1224 (79.7)	995 (65.0)	1387 (91.7)	3606 (78.8)
No	312 (20.3)	535 (35.0)	126 (8.3)	973 (21.2)
Total households	**1536 (100)**	**1530 (100)**	**1513 (100)**	**4579 (100)**
Reasons for not having interest				

Don’t have income source	76 (24.4)	372 (69.5)	105 (83.3)	553(56.9)
Not interested	85 (27.3)	82 (15.3)	20 (15.9)	187 (19.2)
No faith/ No returns	118 (37.9)	52 (9.7)	0 (0)	170 (17.5)
Already have insurance	17 (5.5)	23 (4.3)	1 (0.8)	41 (4.2)
Others	15 (4.8)	6 (1.1)	0 (0)	21 (2.2)
Total households not interested in insurance	**311 (100.0)**	**535 (100.0)**	**126 (100.0)**	**972 (100.0)**
If family who would you include				
Self & spouse	66 (5.4)	136 (13.7)	133 (9.6)	335 (9.3)
Self, spouse & children	1002 (81.8)	734 (73.7)	821 (59.2)	2557 (70.9)
Self, spouse, children & parents	129 (10.5)	113 (11.4)	404 (29.1)	646 (17.9)
Self, spouse, children & extended family	27 (2.2)	12 (1.2)	29 (2.1)	68 (1.9)
Total households interested in insurance	**1224 (100.0)**	**995 (100.0)**	**1387 (100.0)**	**3606 (100.0)**
Areas to be covered				
Inpatient	3 (0.2)	54 (5.4)	120 (8,7)	177 (4.9)
Outpatient	3 (0.2)	15 (1.5)	4 (0.3)	22 (0.6)
Both	1218 (99.5)	926 (93.1)	1263 (91.1)	3407 (94.5)
Total households interested in insurance	**1224 (100.0)**	**995 (100.0)**	**1387 (100.0)**	**3606**

	(100 .0)

12.D Insurance Installments

Adilabad: Most (84.7%) wanted to pay the instalments once a year and the most preferred month was January, probably it being the month of harvest and they would have the requisite finance to pay the premium for the insurance.

Khammam: More than 45% wanted to pay their instalment once a year and 30% twice a year,preferred months being January and February.

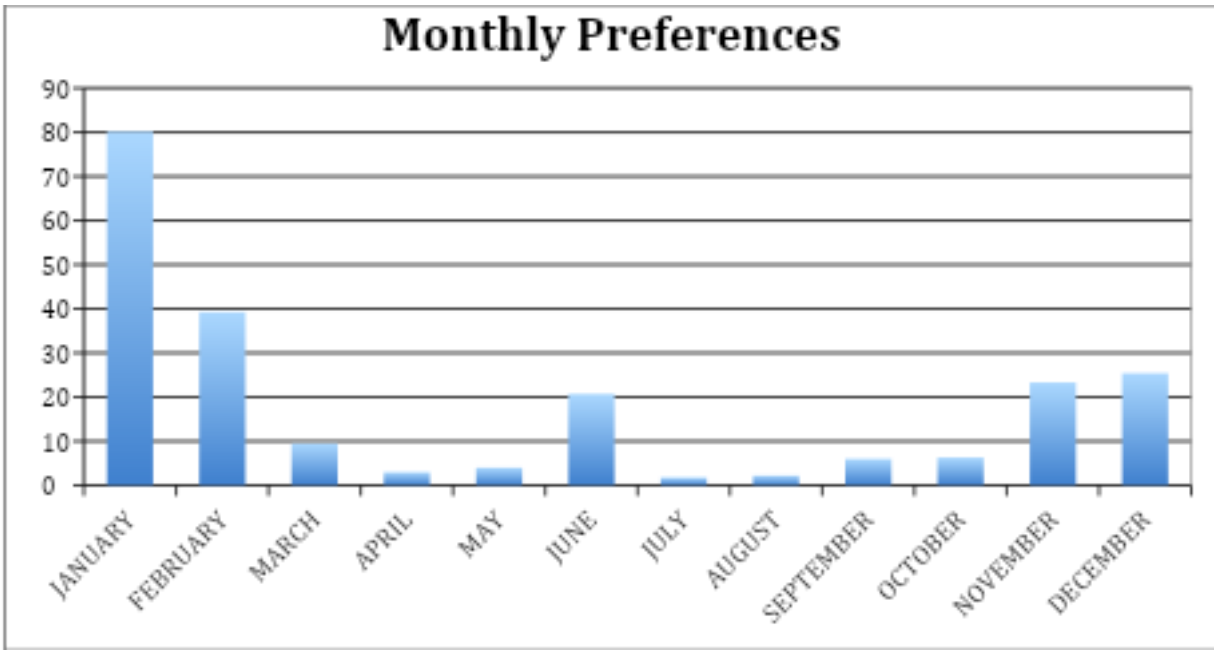
Vishakhapatnam: Almost all (97.4%) wanted to pay the installment on a quarterly basis. Preferred months were January and February. (Table 12.4)

Table 12.4 Insurance Installments

Variables	Adilabad	Khammam	Vizag	Total
Installment				
Yearly	1037 (84.7)	451 (45.3)	6 (0.4)	1494 (41.4)
Weekly	1 (0.1)	2 (0.2)	0 (0)	3 (0.1)
Monthly	16 (1.3)	40 (4.0)	29 (2.1)	85 (2.4)
Quarterly	37 (3.0)	203 (20.4)	1351 (97.4)	1591 (44.1)
6 Monthly	133 (10.9)	299 (30.1)	1 (0.1)	433 (12.0)
Total households interested in insurance	**1224 (100.0)**	**995 (100.0)**	**1387 (100.0)**	**3606 (100.0)**
Suitable month for payment *				
JANUARY	1168 (95.4)	671 (67.4)	1053 (75.9)	2892 (80.2)
FEBRUARY	173 (14.1)	530 (53.3)	709 (51.1)	1412 (39.2)
MARCH	38 (3.1)	185 (18.6)	120 (8.7)	343 (9.5)
APRIL	9 (0.7)	77 (7.7)	22 (1.6)	108 (3.0)

MAY	6 (0.5)	107 (10.8)	30 (2.2)	143 (4.0)
JUNE	128 (10.5)	445 (44.7)	172 (12.4)	745 (20.7)
JULY	7 (0.6)	34 (3.4)	24 (1.7)	65 (1.8)
AUGUST	7 (0.6)	36 (3.6)	38 (2.7)	81 (2.2)
SEPTEMBER	37 (3.0)	141 (14.2)	39 (2.8)	217 (6.0)
OCTOBER	133 (10.9)	45 (4.5)	49 (3.5)	227 (6.3)
NOVEMBER	761 (62.2)	23 (2.3)	57 (4.1)	841 (23.3)
DECEMBER	152 (12.4)	353 (35.5)	411 (29.6)	916 (25.4)
Total households interested in insurance	**1224 (100.0)**	**995 (100.0)**	**1387 (100.0)**	**3606 (100.0)**

Chart 13: Prefernce of month for paying insurance premium



12.E Sum Insured

Low- More than 40% wanted to be insured for an amount ranging from rupees 30,001 to 50,000 and more than 20% wanted to be insured for a sum ranging from rupees 10,001 to 30,000.

High- Nearly 56% wanted to be insured for an amount ranging from rupees 40,001 to 1,00,000. (Table 12.5)

Table 12.5: Sum Insured Amount

LOW			HIGH		
Insured amount in rupees	**Number**	**%**	**Insured amount in rupees**	**Number**	**%**
<200	3	0.1	<20000	192	5.37
201 – 1000	104	2.9	20001 – 40000	267	7.455
1001 – 10,000	498	13.8	40001 – 100000	2015	55.921
10001 - 30000	738	20.5	100001 – 200000	779	21.67
30001 – 50000	1473	40.8	200001 – 400000	281	7.81
50001 – 100000	526	14.6	400001 – 1000000	65	1.80
>1,00,000	264	7.3	>1,00,0000	7	0.2
Total households interested	**3606**	**100.0**	**Total households interested in insurance**	**3606**	**100.0**

in insurance	

Conclusion

A well designed health insurance product must take into cognizance the specific health requirements of the target group. In the present context, identifying the types of diseases most prevalent among the tribal population and those that cause most hospitalizations is important. Firstly, as indicated by the Study, most of the tribal hamlets are characterized by inadequate infrastructure facilities, overcrowded living conditions, poor sanitation and lack of safe drinking water. Access to electricity and presence of basic health care facility are the only positives. The poor living conditions, unhygienic practice of open defecation, lack of proper sewage system along with poverty make these tribal hamlets highly vulnerable to various diseases and illness. As emerging from the Study, more than 50% of the population studied had been hospitalized for acute infectious diseases making this the most important reason for hospitalization. This finding is in line with most studies that indicate high incidence of infectious diseases among the tribal population.

The second reason for hospitalization, musculoskeletal problems, contributed to 10.5% of households being hospitalized. Musculoskeletal problems were most common with the geriatric population with the majority of them being hospitalized for ailments related to back pain, joint pains, body pain etc.

The third reason for hospitalization is for cancer and ulcer treatment. This is due to the fact that certain habits like consumption of tobacco and alcohol makes the tribal population prone to ulcers and cancers, leading to surgical condition.

Apart from these three reasons, as indicated by the Study, only a small percentage of the population has been hospitalized due to accidents like snake bites, dog bites, bear attacks, falls, burns, poisoning, etc.

In assessment of data related to hospitalization, the aspect of institutional delivery was also considered. The Study reveals that more than half of child deliveries were at home and only 35.5% of the deliveries took place in Government hospitals. Preference for deliveries in private hospitals was quite low suggesting a possibility that high expenditure of child birth at private hospitals may constitute a reason for preferring government run hospitals.

Another major conclusion that can be drawn from this Study is regarding the health practices and behaviour of the tribal communities studied. High prevalence of home deliveries at 53.6% for the entire group, with the highest being in Visakhapatnam area at 71.5%. More than one fifth of the respondents did not even know the birth weight of their babies. 78.8% of the respondents removed starch from the rice. 98.8% of the families practiced open defecation. This brings out the strong need for creating health awareness and access to health services and facilities like toilets and protected water for these communities.

Health seeking behaviour of the target population determines the willingness to get medical treatment. An analysis of health seeking behaviour of the tribal population reveals that it was the government health worker who was approached first in case of a minor illness; in case of a major illness, the preference was for qualified private medical practitioners. The only exception was Adilabad in which the preference was the government health worker for treatment of any major illness. Data indicated that for the treatment of any major illness, most of the tribal population got hospitalized. However, there seemed to be a variation with the type of hospitalization preferred. In Visakhapatnam, majority of those hospitalized preferred going to government run hospitals whereas in Adilabad and Khammam, majority of those hospitalized preferred going to private run hospitals.

While eagerness to be hospitalized for any major illness has a positive implication on use of health insurance, a lot is also dependent on the actual existence of a health facility and its access. While it was found that most tribal hamlets had basic health care facility, distance was indeed a barrier for seeking referral services and hospitalization. In general, as found in the case of Khammam and Adilabad, the

government health centres were nearer and therefore more accessible compared to private hospitals.

A large body of research exists about the burden of “out of pocket expenditure” of the scheduled tribes on healthcare (J. Yellaiah, 2013). The data on health care expenditure indicates that the median direct cost for hospital expenditure was Rs. 1100. A higher proportion of the population was spending around Rs. 1001 to Rs. 5000 for the direct costs of treatment which included the hospital bills, medicines and diagnostics. Only a small percentage of the households had spent an amount of more than Rs. 10,000 on their medical treatment. Apart from direct cost of health treatment incurred for hospitalization, the present research has also looked into the aspect of out-patient expenditure. As results point out, a large section of the population spent less than Rs.100 per month on out-patient expenditure followed by those who spent an average of Rs. 200 to Rs. 500 on the same.

Considering the burden of health expenses, the present study also investigated the current coping mechanisms of the tribal population for meeting health expenditure. As indicated by other studies also, most households either consumed their savings or took a loan to meet the healthcare expenses. The usage of health insurance to meet healthcare expenses was significantly low.

In view of the high cost of medical treatment, the Study has probed into the awareness level of the tribal population about insurance, access and usage of the existing health insurance and finally understanding the keenness of the tribal population for using health insurance. One of the significant findings of the Study was the low levels of awareness about insurance in general and health insurance in particular. Among those who were aware, knowledge about other types of insurance like life insurance and accident insurance was more compared to health insurance. Overall, the tribal households of Khammam were better aware of insurance and different types of insurances when compared to the other two regions. In general, awareness about health insurance was low and even among the ones who were aware of it, only 4.5% were actually using it. Here it is to be noted that except in the case of health insurance, for all the other types of insurance, majority of those who knew about the

other types of insurance were also using those. This point is crucial as it indicates that with greater awareness of the importance and benefits of health insurance, more people would opt for it.

The Study has also reviewed the usage of the existing government health insurance schemes by the tribal community. As enumerated in the review of secondary research of the study, the Rajiv Aarogyashri Community health insurance scheme has a limited reach out to the scheduled tribes to fulfil their healthcare financing needs. The present Study also confirmed the same. What is interesting to note is that despite the fact that the majority of the households had knowledge about this government health insurance scheme and even enrolled for it, only a minuscule section actually perceived it as a health insurance scheme and used it.

To conclude, the Study has brought into forefront health insurance requirements as directly reported by the tribal populations. Most households were interested in taking health insurance and an overwhelming majority of those interested wanted the health insurance to cover both the inpatient and outpatient service. Among those not interested to take health insurance, the main reasons given were that they had no income source to pay the premium, lack of interest and lack of faith about getting any benefits. As mentioned before, lack of awareness and specific information about health insurance can be a potential reason for the lack of motivation and faith. This situation is however an opportunity and presents a scope for awareness generation on health insurance.

The demand for health insurance depends, to a substantial degree, on the premium and benefits package. As per the research, a majority of the households wanted to pay the premium for the health insurance either every three months or as a onetime premium. The month of January followed by February were seen as the suitable months for paying the premium by the respondents. Most preferred paying premium in January as it is the month of harvest and households would have the finance to pay the premium amount.

For the success of any insurance product, it is important that it can be afforded by the targeted group. If it is priced beyond their financial means, it is impossible to meet the

health financing needs of the group. The Study has categorized insurance products into two groups based on the premium amount. For the group selecting the lower annual premium (between Rupees 30,001 and 50,000), the premium amount preferred was up to Rupees 200. Conversely, for the group selecting the higher annual premium (between Rupees 40,001 and 1,00,000), the premium preferred was between Rupees 501 to 1000.

An attempt has been made to study the health insurance requirements of rural tribal communities by breaking them into the steps as mentioned above. This will serve as an important reference to develop an appropriate healthcare product specifically tailored for these tribal communities, the recommendations for which have been mentioned in the next section.

Recommendations

The results of the Study bring into light the following as the critical needs of the tribal population:

- Need for creating health awareness in a sustained manner
- Access to health services
- Availability of basic sanitation facilities like toilets and protected water supply
- Need based health financing
- Referrals and linkages to existing services and programs

The following are some of the recommendations for development of health insurance products and its delivery mechanism based on the outcomes of the research findings:

- This Study clearly highlights the low awareness levels regarding health among the tribal population.
- As indicated by the findings of the Study, infectious diseases, musculoskeletal problems, cancer and ulcers are the main reasons for hospitalization of the tribal population. Consequently, a health insurance product for the tribal population must cover these diseases. There is also scope for inclusion of maternity coverage within the health insurance policy as it might lead to increased institutional delivery. Additionally, there could be policies customized for different age groups. For example, the policy for the older section of the population must cover musculoskeletal problems whereas the policies for the other age groups may not.
- The Study has brought into forefront the low levels of awareness among the tribal population about health insurance. It is recommended that health insurance delivery mechanism must take into recognition this crucial fact and prioritize awareness generation. As learned from the experience of Rajiv Aarogyashri Community health insurance scheme, most tribal villagers did not perceive this as a health insurance scheme. Hence, the awareness generation must begin building inroads by making the population understand the meaning of insurance in general, importance of health insurance, benefits assured to the insurance holder, coverage of diseases, collection of premium and its renewal. The research has highlighted the key role of the village health worker as an important stakeholder and first point

of contact in the healthcare delivery mechanism. The worker can play a key role in the awareness generation process. Information, Education and Communication (IEC) materials can be developed for wide spread awareness generation at the community level.

- In the context of tribal communities residing in remote villages, the burden of health care expense includes both inpatient and outpatient expenditure. As reported by most respondents willing to take health insurance, the coverage of the insurance policy should include both inpatient as well as outpatient expenditure.
- The widespread use of health insurance by tribal population can only be a reality if insurance policy is based on affordable premium collection, flexible payment mechanism and convenience of the insurance holder. As indicated by the Study, premium collection can be done during the month of January and February as these have been pointed as months when tribal households have financial capacity to pay premium. Flexibility of payment either on an annual or quarterly basis can be introduced.

Based on the findings of the Study, a suitable intervention would be one which addresses the varied needs related to health of the tribal population from awareness creation and primary prevention to health financing. Below is a suggested model that may work for these communities:

- Foundation for the intervention should be through health education and awareness creation. This needs to be done on a sustained basis. Some women from the tribal communities can be identified and they can be given intensive health education training. These women can then be the health point persons and facilitators in the community creating awareness in the families and also establishing linkages with the existing Government services.
- Access needs to be created to basic health related products like sanitary napkins, smokeless stoves, etc. The trained women can be used to ensure these products reach the grassroots
- Access to basic facilities like toilets, piped water is a necessity. This can be created by dovetailing into the existing Government programs and subsidies

- Lastly, there is a need for health financing for both out patient as well as in patient expenses. Here a more comprehensive model needs to be developed which combines savings to meet the outpatient needs, topped up with insurance for the admission requirements. The delivery mechanism needs to be innovative considering lack of availability of health providers and services.
- It is very important that any program be designed for these communities after understanding their needs.

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