

**A STUDY ON HEALTH-SEEKING BEHAVIOR AMONG
MOTHERS OF UNDER-FIVE CHILDREN WITH
ACUTE RESPIRATORY INFECTIONS IN
A RURAL AREA OF COIMBATORE**

DISSERTATION SUBMITTED FOR

M.D. COMMUNITY MEDICINE

THE TAMILNADU Dr. M.G.R. MEDICAL UNIVERSITY, CHENNAI



DEPARTMENT OF COMMUNITY MEDICINE

PSG INSTITUTE OF MEDICAL SCIENCES & RESEARCH

PEELAMEDU, COIMBATORE -641004

TAMILNADU, INDIA

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DECLARATION

I hereby declare that this dissertation “**A STUDY ON HEALTH SEEKING BEHAVIOR AMONG MOTHERS WITH ACUTE RESPIRATORY INFECTIONS IN UNDER-FIVE CHILDREN IN A RURAL AREA OF COIMBATORE**” was prepared by me under the guidance and supervision of **Dr. M.Sivamani** (Guide) Professor and **Dr.Punithakumary** (Co-guide) Assistant Professor, Department of Community Medicine, PSG Institute of Medical Sciences and Research, Coimbatore.

This dissertation is submitted to The Tamilnadu Dr.M.G.R.Medical University in partial fulfillment of the University regulations for the award of M.D. Degree in Community Medicine.

Place: Coimbatore

Date:

Dr. M. VIJAYA KUMAR
Post-Graduate Student

CERTIFICATE

PSG INSTITUTE OF MEDICAL SCIENCES & RESEARCH

Coimbatore

This is to certify that the Dissertation work entitled “**A STUDY ON HEALTH SEEKING BEHAVIOR AMONG MOTHERS WITH ACUTE RESPIRATORY INFECTIONS IN UNDER-FIVE CHILDREN IN A RURAL AREA OF COIMBATORE**” is the bonafide work of **Dr. M.VIJAYAKUMAR** done by him in the Department of Community Medicine, PSG Institute of Medical Sciences and Research , Coimbatore in partial fulfillment of the regulations for the award of the degree of M.D. Degree in Community Medicine.

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LIST OF ABBREVIATIONS

ARI	Acute Upper R espiratory I nfections
AURI	Acute U pper R espiratory I nfections
ALRI	Acute L ower R espiratory I nfections
CI	Confidence I nterval
CPI	Consumer P rice I ndex
ICDS	Integrated C hild D evelopment S ervice
IHEC	Institutional H uman E thics C ommittee
IMCI	Integrated M anagement of C hildhood i llnesses
IMNCI	Integrated M anagement of N eonatal and C hildhood i llnesses
MDG	Millennium D evelopment G oals
NFHS	National F amily H ealth S urvey
PSGIMSR	P SG Institute of M edical S ciences & R esearch
RHTC	Rural H ealth T raining C entre
SES	Socio E conomic S tatus
UIP	Universal I mmunization P rogram
UNICEF	United N ations I nternational C hildren's E mergency F und
WHO	World H ealth O rganization

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**A STUDY ON HEALTH-SEEKING BEHAVIOR AMONG
MOTHERS OF UNDER-FIVE CHILDREN WITH
ACUTE RESPIRATORY INFECTIONS IN A
RURAL AREA OF COIMBATORE**

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Background

Acute respiratory tract infection is a major cause of morbidity and mortality in under-five children both in developing and developed countries. Mothers play a pivotal role in managing childhood illness. Health seeking behavior among mothers in recognizing the sick child, seeking appropriate care and prompt treatment could reduce child deaths. World health organization estimates that seeking prompt and appropriate care could reduce child deaths due to acute respiratory infections by 30%. Early recognition of danger signals by mothers at home and their health seeking behavior in appearance of danger signs were the key strategies to prevent severe life-threatening complications.

There is paucity of studies determining the factors influencing the health seeking behavior among mothers of under-five children using conceptual framework.

Objectives

1. To assess the health seeking behavior among mothers of children aged 0-5 years with acute respiratory infections in the field practice area of RHTC, Vedapatti attached to PSGIMS & R, Coimbatore.
2. To determine the factors influencing health seeking behavior among mothers of children aged 0-5 years with acute respiratory infections in the field practice area of RHTC, Vedapatti attached to PSGIMS & R, Coimbatore.

Methodology

A cross sectional study was conducted in the field practice area of the Rural Health Training Centre (RHTC), attached to the Department of Community Medicine, PSGIMS R. In the field practice area of RHTC, Vedapatti attached to PSGIMS & R, there are 14 villages, caters the health needs of 23841 Population. All mothers of under-five children and their respective residential address were obtained from the household survey data Total number of under-five children in this area was 1702.

The study was started after getting approval from the Institutional Human Ethics Committee (IHEC). Sample size was calculated based on the proportion of mothers of under-five children who had sought appropriate and prompt care. All the individual households were visited and children with symptoms of ARI in the preceding one month were included and consent was

obtained from the Mothers of under-five children (0-59 months). Pretested Questionnaire was used to obtain details regarding health seeking behavior in terms of appropriate and prompt care and its determinants such as predisposing factors, enabling factors and need factors.

Data entry was made in the Microsoft Excel software and analysis was done with SPSS-19 computer package. Prevalence of health seeking behavior is expressed in percentage with 95% Confidence interval (CI). The associations between independent variables and Health seeking behavior in terms of appropriate and prompt care sought or not were tested for statistical significance using chi square test and odds ratio was estimated. The variables which were found to be statistically significant by univariate analysis was further subjected to logistic regression analysis. P value <0.05 was considered as statistically significant.

Results

Our study revealed an overall appropriate and prompt health seeking behavior as 52%. In univariate analysis, factors like age of the child (0-12 months), Male child, Mother's education (High school and above), Husband's education (High school and above), Husband Occupation (semiprofessionals and above), Caste other than Schedule caste, those belonging to higher socioeconomic status (Class I,II & III), Age of mother at the time of first child's birth(>21 years), Place of delivery(Private), Birth weight(>2.5), autonomy in Decision making, Mass media exposure to ARI and its treatment

facility, Type of Health facility utilized(Private), Mode of transport(Own Vehicle), Holding health insurance card, Illness factors such as number of symptoms(>2 symptoms), Presence of Fever, Perception of severity of illness, and those who recognized danger signals in children with acute respiratory infections and appropriate and prompt care were found to be statistically significant. It was found that factors like Caste other than schedule caste, Self decision making authority, Mother's perception of severity of illness and Mass media exposure were all significantly associated with appropriate and prompt care on logistic regression analysis.

Conclusion

This study established that only half of the study participants (52%) had appropriate and prompt health seeking behavior. Study highlights the importance of women's autonomy in decision making. Decision making should be based on right information on appropriate and prompt care. Health education regarding identification of danger signals should be initiated through mass media and community based Health education. The existing IMNCI programme should be strengthened at the grass root level in teaching the families regarding appropriate and prompt care.

KEY WORDS

Acute respiratory infections, Pneumonia, Under-five children, Health-seeking behavior Appropriate and prompt care.

1. INTRODUCTION

Every year approximately 1.9 million children in the age group of 0-59 months die throughout the world, mostly in developing countries.^{1,2,3} Among the childhood illnesses Acute respiratory infection (ARI) particularly lower respiratory tract infections or Pneumonia is the leading cause of both morbidity and mortality across the world.^{4,5} Acute respiratory infections may cause inflammation of the respiratory tract anywhere from the nose to alveoli, with wide range of combination of symptoms and signs.⁶ Most acute respiratory infections result in mild illnesses, such as the common cold.⁷ Acute respiratory infections is often classified by clinical syndromes depending on the site of infection and is referred as ARI of upper respiratory tract (AURI) or lower respiratory tract (ALRI).^{8,9}

The upper respiratory infections includes Common cold, Pharyngitis and otitis media. The Lower respiratory infections includes epiglottitis, Laryngitis, Laryngotracheitis, Bronchilolitis and Pneumonia.¹⁰ Pneumonia is a severe form of acute lower respiratory infection that specifically affects the lungs.^{11,12} In vulnerable children, infections that begins with mild symptoms may leads to more severe illnesses, such as pneumonia.¹³ In severe pneumonia, the alveoli in one or both lungs will be filled with pus and fluid, which may interfere with oxygen absorption and make breathing difficult.^{1,14} A variety of infectious agents account for the high burden of morbidity in Pneumonia.¹¹

The causative agents include respiratory syncytial virus, influenza virus, Haemophilus influenzae, Streptococcus pneumonia, Klebsiella pneumonia, and Staphylococcus aureus.¹⁵

Mothers play a pivotal role in managing childhood illness.^{16,17} Maternal Health seeking behavior regarding children's health care have been recognized as an important factor where, mothers recognize the sick child and seek appropriate and prompt care thereby mortality rates among under-five children is reduced.¹⁷ Maternal health seeking behavior is the key strategy in preventing severe life-threatening complications.¹⁸ Delay in seeking appropriate care and inappropriate care will contribute to the large number of under-five child deaths in developing countries.¹⁹⁻²³

Only about one in five caregivers knew the danger signs of pneumonia and only about half of children with pneumonia received appropriate medical care and less than 20 per cent of children with pneumonia received antibiotics in developing countries.^{1,24} Appropriate and Prompt care by mothers of under-five children with pneumonia can save their lives.^{1,25}

1.1 Global extent of the problem – Acute respiratory infections

Globally every year about 11 Million children in the age group of 0-59 months are affected by ARI, mostly in developing countries.^{1,26} Acute respiratory infections particularly pneumonia contributes to one-fifths of all child deaths in the age group of 0-59 months in developing countries.²⁷

Pneumonia and diarrhoea remain major killers of young children and together, these diseases account for about 29% of all deaths of children less than 5 years of age and result in the loss of two million young lives each year.^{28,29}

Yet, little attention is paid to this disease. In 2013, less than two thirds of children with symptoms of pneumonia were taken to an appropriate health provider.³⁰ The lowest levels of care-seeking was found in sub-Saharan Africa, where less than half of all children with symptoms of pneumonia are seen by a health worker.³¹ Trends since 2000 shows that global progress in seeking care for symptoms of pneumonia has been slow, with levels rising from 54 per cent in 2000 to 59 per cent in 2013.³²

It is estimated that India and its neighbouring countries together constitutes for about 40% of global acute respiratory infections mortality.^{26,27} Although most of the attacks are mild and self limiting episodes, ARI is responsible for about 30 – 50 % visits to health facilities and for about 20- 40 % hospitaladmissions.^{33,34}

Health seeking behavior of parents of the children is an important factor affecting the child health.^{35,36} In terms of illness behavior, the health seeking behavior refers to the activities undertaken by the individuals in response to symptom experience.^{37,38} The sequence of remedial actions that the caretakers or individuals undertake to rectify the perceived ill-health.³⁷⁻³⁹ Maternal health seeking behavior is influenced by many factors or determinants such as

knowledge and awareness, operating at the individual, family and Community level, including biosocial profile and her past experiences influencing at the Community level, the availability of alternative health care providers and perceptions about the quality of services available.⁴⁰

1.2 Indian extent of the problem – Acute respiratory infections

The under-five children constitutes about 11% of population, a larger number than the population of some countries.⁶ It is estimated that every year at least 300 million episodes of ARI occur in India, out of which about 30 to 60 millions are moderate to severe ARI.⁴¹ Globally every sixth child with ARI is Indian and every fourth child who dies is from India. ARI accounts for about 30-50 % visits to health facilities and for about 20-40 % hospital admissions.⁴¹

In India, Acute respiratory infections (ARI) particularly Pneumonia constitutes the leading cause of both morbidity and mortality especially in children aged 0-59 months and accounts for approximately one-fifth of the 1.9 million deaths which contributes about 19% of under-five deaths and 8.2 % of all disability and premature mortality in under-fives.^{11,6}

According to National Family Health Survey-3 (2005-06) the overall ARI prevalence was 5.8% among under-five children. The DALYs lost due to ARI in South East Asia Region are about 3, 30, 26,000.^{6,41}

1.3 Global extent of the problem – Health seeking Behavior

World Health Organization estimates that seeking appropriate and prompt care could reduce the child deaths due to ARI by 30%.^{43,44} According to UNICEF only 54 per cent of under-five children in developing countries sought medical care.¹ Early recognition of danger signals by care takers at home and health seeking behavior on appearance of danger signs were the key strategies to prevent severe life-threatening complications.⁴⁵ Any delay in seeking appropriate care and inappropriate care will contribute to the large number of under-five deaths in developing countries.^{19,20} Moreover, children are not receiving life-saving treatment and only 31% of children with suspected pneumonia received prompt care.¹ Once children develop symptoms of pneumonia, early recognition of danger signals by mother followed by appropriate and prompt care can save their lives.¹ Despite slow progress in preventing through interventions such as IMNCI, Pneumonia remains one of the single largest killer of young children worldwide.⁴⁷

1.4 Indian extent of the problem – Health seeking Behavior

Every year, nearly 11 million children globally and in India about two million die before reaching their fifth birthday.^{1,48} According to NFHS-3 the prevalence of health seeking behavior is 71% among mothers of under-five children for acute respiratory infections.⁴²

In view of its increasing national public health importance, ARI management and control in terms of training mothers in household management and improving health seeking behavior among mothers as prescribed by Integrated Management of Neonatal and Childhood Illness (IMNCI) program should be strengthened.^{49,91-94}

2. NEED FOR THE STUDY

Pneumonia is the leading killer of children in the age group of 0-59 months, yet it has become a forgotten pandemic.¹ It places an economic burden on the families, communities and societies.² Pneumonia is multi-factorial, involving complex interaction between nutrition, infectious diseases and other factors such as maternal health seeking behavior.⁶¹ One in five caregivers knew the danger signs of pneumonia and only about half of sick children with pneumonia received appropriate medical care.¹ In India, the percentage of health seeking behavior among mothers of under-five children was about 71% (NFHS-3).⁶² Goal 4 of Millennium development goals calls for reducing under-five mortality by two thirds between 1990 and 2015.⁵⁴ To achieve the MDG on child mortality, urgent action will be required to reduce childhood pneumonia deaths, which account for 19 per cent of all deaths in children 0-59 months.^{58,140}

Mothers play a pivotal role in managing childhood illness.¹⁷ Maternal Health seeking behavior regarding children's health care have been recognized as an important factor behind mortality rates among under-five children.¹⁷ When mothers recognize sick child and seek appropriate care and prompt treatment thereby reduce child mortality.¹⁸ Early recognition of danger signs by mothers at home and health seeking behavior in appearance of danger signs were the key strategies to prevent severe life-threatening complications.¹⁹

Delays in seeking appropriate care and inappropriate care will contribute to the large number of under-five deaths in developing countries.²¹⁻²³

Factors influencing appropriate and prompt health seeking behavior among mothers of under-five children include Socio-demographic factors like age, sex, religion, Community, Type of family, Socio-economic status, Mother's age, Mother's education, Mother's working status, age at first child birth, Place of delivery, Birth order, Number of living children, Women's autonomy in decision making, Mass media exposure, Health services availability, accessibility, Health insurance, ICDS utilization and Out-of pocket expenditure. In developing countries like India, due to patriarchal nature in the rural society, men dominate and women subordinate, women are less privileged, particularly in respect to having proper food and health care facilities.

There is paucity of studies determining the factors influencing the health seeking behavior among mothers using conceptual framework and only few such studies were done in Tamil Nadu regarding maternal health seeking behavior for under-five children.

Keeping in mind the above facts and in the light of scarcity of such studies based on conceptual framework for health seeking behavior, this Community based study was done to determine the health seeking behavior among mothers of under-five children and various factors influencing the

health seeking behavior using conceptual framework in the rural field practice area of PSG Institute of Medical Sciences and Research, Coimbatore, Tamilnadu.

The outcomes of the findings can help in the evidence- based decision to develop intervention strategies to improve the health care utilization among mothers of under-five children and thereby reducing deaths due to pneumonia.

3. OBJECTIVES

1. To assess the health seeking behavior among mothers of children aged 0-5 years with acute respiratory infections in the field practice area of RHTC, Vedapatti attached to PSGIMS & R, Coimbatore.
2. To determine the factors influencing health seeking behavior among mothers of children aged 0-5 years with acute respiratory infections in the field practice area of RHTC, Vedapatti attached to PSGIMS & R, Coimbatore..

4. REVIEW OF LITERATURE

Childhood acute respiratory tract infection (ARI) particularly Pneumonia is a major cause of morbidity and mortality in under-five children both in developing and also in developed countries.¹ In India, Pneumonia is responsible for approximately one-fifth of the 1.9 million deaths of children in the age group of 0-59 months. Hence the importance of ARI and Pneumonia cannot be over-emphasized.²

4.1 Acute Respiratory infections:

According to International Classification of Diseases definition, Acute respiratory infections includes any infection of the upper or lower respiratory system.^{11,6} Acute respiratory infections may cause inflammation of the respiratory tract anywhere from the nose to alveoli, with wide range of combination of symptoms and signs.⁶ ARI is often classified by clinical syndromes depending on the site of infection and is referred to as ARI of upper respiratory tract (AURI) or lower respiratory tract (ALRI).⁶³ The acute upper respiratory infections includes Common cold, Pharyngitis and otitis media.¹¹ Acute lower respiratory infections affect the airways below the epiglottis and include severe infections, such as epiglottitis, Laryngitis, Laryngotracheitis, Bronchiolitis and Pneumonia.⁶⁴ Pneumonia accounts for a significant proportion of the disease burden attributed to acute lower respiratory infections.⁶⁴ A variety of infectious agents account for the high burden of

morbidity in Pneumonia.¹⁵ The causative agents include respiratory syncytial virus, influenza virus, Haemophilus influenzae, Streptococcus pneumonia, Klebsiella pneumonia, and staphylococcus aureus.¹⁵

4.2 Pneumonia

A suspected case of pneumonia is identified by its clinical symptoms, since diagnostic confirmation using radiography or laboratory tests is usually unavailable in resource-poor settings.¹ All under-five children with suspected pneumonia, are defined as having cough and fast or difficult breathing.¹ Suspected pneumonia cases are further classified as either 'severe' or 'non-severe'.⁶⁵ Streptococcus pneumonia is the leading cause of severe pneumonia among children across the developing world.⁶⁶

Children with pneumonia might present with a range of symptoms depending on their age and cause of the infection.⁶⁷ Bacterial pneumonia usually causes children to become severely ill with high fever and rapid breathing. Viral infections, however, often come on gradually and may worsen over time.¹ Some common symptoms of pneumonia in children and infants include rapid or difficult breathing, cough, fever, chills, headache, loss of appetite and wheezing.¹¹ Under-five children with severe cases of pneumonia may struggle to breathe, with their chests moving in or retracting during inhalation or lower chest wall in-drawing. Young infants may suffer convulsions, unconsciousness, hypothermia, lethargy and feeding problems.⁶⁹

Researchers were interested in knowing what facilitates the use of health services, and what factors influences people to behave differently in relation to their health. There has been a plethora of health seeking behavior studies addressing particular social aspects carried out in many countries.^{44,130,127}

4.3 Mother's health seeking behavior

Mothers play a pivotal role in managing childhood illness.² Maternal Health seeking behavior regarding children's health care have been recognized as an important factor behind mortality rates among under-five children.² Health seeking behavior among mothers in recognizing the sick child, seeking appropriate care and prompt treatment could reduce child deaths³.

Worldwide Health promotion programs have long been focused on providing knowledge about the causes of ill health and choices of health facilities available, would go a long way towards promoting a change in individual behavior, towards more beneficial health seeking behavior.⁷⁰ However, there is growing recognition, in both developed and developing countries, that providing education and knowledge at the individual level is not sufficient in itself to promote a change in behavior.⁷⁰ Many studies on health seeking behavior, highlighting similar and unique factors, demonstrated the complexity of influences on an individual's behavior at a given time and place.³⁸ However, they focus almost exclusively on the individual as a purposive and decisive agent, and elsewhere there is a growing concern that

factors promoting ‘good’ health seeking behaviors are not rooted solely in the individual, they also have a more dynamic , collective , interactive element.⁷⁰⁻⁷²

Academics have therefore started to explore the way in which the local dynamics of communities have an influence over the well-being of the inhabitants.⁷⁰

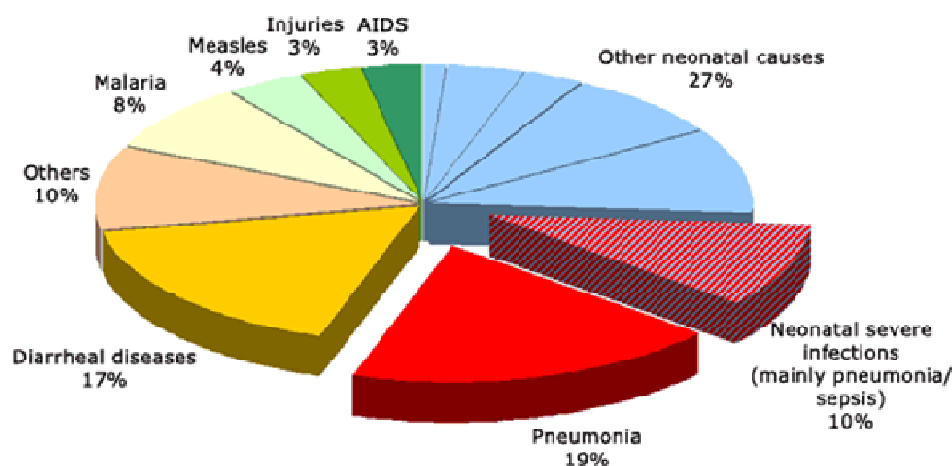
4.4 Global extent of the problem - Acute respiratory infections

Every year, nearly 11 million children globally and about two million children in India die before reaching their fifth birthday.^{10,73} About 156 million new episodes of childhood clinical pneumonia occurred globally in 2000, more than 95% of them in developing countries.⁷⁴ Of all the pneumonia cases occurring in those countries, 8.7% are severe enough to be life-threatening and require hospital admission.⁷⁴ About 2 million pneumonia deaths occur each year in children aged less than 5 years, mainly in the African and South-East Asia Regions.⁷⁵ About 11 Million under 5 children die every year in the world, 95% of them in developing countries, one third of total deaths are due to acute respiratory tract infection (ARI).⁷⁵

Pneumonia and diarrhoea remain major killers of young children.^{1,76,77} Pneumonia accounts for 29% of all deaths of children less than 5 years of age and result in the loss of 2 million young lives each year.^{1,78} Pneumonia kills

more than any other illness—More than AIDS, Malaria and measles combined.¹
 Yet, little attention is paid to this disease.

Fig.1. Pneumonia: The Leading killer of Children worldwide



Source: Pneumonia: the forgotten killer of children. UNICEF, 2006.

Globally, major progress has been made in improving child survival.⁷⁹ Worldwide, the under-five mortality rate has declined by nearly half (49 per cent), from 90 deaths per 1,000 live births to 46 deaths in 2013.⁷⁹

4.5 Indian extent of the problem –Acute respiratory infections

The under-five children constitutes about 11% of population, a larger number than the population of some countries.⁶ It is estimated that every year at least 300 million episodes of ARI occur in India, out of which about 30 to 60 millions are moderate to severe ARI.⁴¹ Globally every sixth child with ARI is Indian and every fourth child who dies is from India. ARI accounts for about 30-50 % visits to health facilities and for about 20-40 % hospital admissions.⁴¹

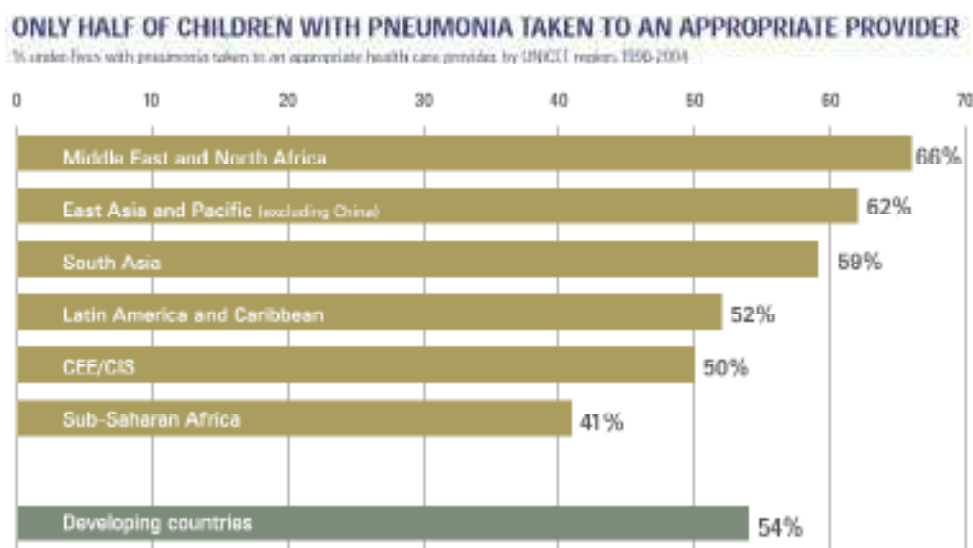
In India, Acute respiratory infections (ARI) particularly Pneumonia constitutes the leading cause of both morbidity and mortality especially in children aged 0-59 months and accounts about 19% of under five mortality^{80,81} and 8.2 % of all disability and premature mortality in under-fives.^{11,6}

According to National Family Health Survey-3 (2005-06) the overall ARI prevalence was 5.8% among under-five children. The DALYs lost due to ARI in South East Asia Region are about 3, 30, 26,000.^{6,41}

4.6 Global extent of the problem – Health-seeking behavior

World Health Organization estimates that seeking appropriate and prompt care could reduce the child deaths due to ARI by 30%.^{43,44,85} According to UNICEF only 54 percent of under-five children in developing countries with pneumonia sought appropriate medical care(Fig.2).^{1,82,83}

Fig.2.Global extent of the problem – Health-seeking behavior:



Source: Pneumonia: the forgotten killer of children. UNICEF, 2006.

Early recognition of danger signals by care takers at home and health seeking behavior in appearance of danger signs were the key strategies to prevent severe life-threatening complications.⁸⁴ Inappropriate and no prompt care can contribute to the large number of child deaths in developing countries.^{1,20,85,86}

Acute respiratory infections contribute to major disease associated morbidity and mortality among under-five children.⁸⁷ Children are dying because services are provided piecemeal and those most at risk are not being reached.^{25,87} Use of effective interventions remains too low; for instance, only 39% of infants less than 6 months are exclusively breastfed while only 60% of children with suspected pneumonia access appropriate care.^{1,88} Moreover, children are not receiving life-saving treatment; only 31% of children with suspected pneumonia receive antibiotics.¹

4.7 Indian extent of the problem – Health-seeking behavior:

According to NFHS-3 report , the prevalence of health seeking behavior is 71% among mothers of under-five children for acute respiratory infections.¹¹ Children of mothers with low or no education, and those belonging to lower socio-economic status had poor health seeking behavior respectively.⁸⁹ In response to this challenges, WHO in collaboration with UNICEF and other agencies developed a strategy known as the Integrated Management of Childhood Illness (IMCI) strategy.⁹⁰ At the core of this strategy is the

integrated management of the most common childhood illnesses in developing countries through improving the case management skills of health staff, the health system itself as well as family and Community practices.⁹¹

The family and community component of IMCI centers around enabling communities to address 16 key practices, among which there is considerable variation in intervention experience.^{91,92} Ensuring prompt and appropriate care-seeking for sick children is one of the practices for which there is the least intervention experience.^{93,94} Where the quality of care at health facilities is adequate, care-seeking interventions have the potential to substantially reduce mortality.⁹²

This is illustrated by the large number of children who die in developing countries without ever reaching a health facility, and amongst those who are taken but then die, the many deaths attributed to delays in seeking care.⁹⁵ Appropriate care-seeking is of particular importance in areas where access to health services is limited, because it is in these areas that caregivers would benefit most from being able to discern which episodes require care at a health facility, and which can be successfully treated at home.^{91,92} Appropriate care-seeking requires that a household recognizes when a child is ill, can interpret when an illness needs to be treated outside the home and seeks timely and appropriate medical care.^{96,97}

Lack of symptom recognition was identified as a barrier to care-seeking in some studies.⁹¹ In some settings, medical care was promptly sought for most severely ill children but the choice of providers was inappropriate or the overall quality of care poor.^{91,98} Few studies have explored the relative importance of these different barriers or the most effective ways of overcoming them, and whilst the complexity of care-seeking is widely acknowledged, the few care-seeking interventions implemented or recommended have focused on teaching care givers to recognize symptoms.⁹¹ Symptom recognition is also the suggested indicator to evaluate care-seeking.^{99,100}

The successful management of childhood pneumonia focus on rapid and accurate detection of pneumonia in children, early treatment/management with specific therapy, management of co-morbid conditions, and efforts at primary prevention.¹⁰³ These basic tenets are utilized to varying degrees in different programs to manage the burden of childhood pneumonia at the national and international levels.¹⁰³

4.8. National Family Health Survey (NFHS)-3

NFHS-3 revealed that during the two weeks before the survey, about 7 percent of under-five children had symptoms of an ARI, out of these children 71% were taken to a health facility or health provider for treatment.^{42,102}

ARI is the leading cause of mortality and morbidity in India especially in under fives.⁵⁷ In spite of increasing public health importance, management and control of ARI remains a neglected entity in most of the national RCH-2 activities including recently introduced Integrated Management of Neonatal and Childhood Illness (IMNCI) programme.¹⁰¹ Various factors are quoted as risk factors for ARI like low birth weight, timely initiation of breast feeding, prelacteal feeding, timely given complementary feeding and immunization status.¹⁰¹

4.9 Millennium Development Goals

Millennium development goals (MDG) were developed to reduce the under-five mortality rate by two thirds, between 1990 and 2015.^{53,104,105} Specifically, Goal 4 calls for reducing under-five mortality by two thirds between 1990 and 2015.^{53,140} To achieve the MDG on child mortality will require an urgent action to reduce childhood pneumonia deaths, which account for about 19 per cent of all under-five deaths.^{1,54} It has been estimated that 26 per cent of neonatal deaths, or 10 per cent of all under-five deaths, are caused by severe infections during the neonatal period particularly pneumonia/sepsis.^{1,56} If these deaths were taken into account, pneumonia would contribute for up to three million, or as many as one third (29 per cent), of under-five deaths each year.⁵⁷

Though the fourth Millennium Development Goal is to reduce child and infant mortality in the world by two-thirds by 2015, the current estimates suggest that at least 44 developing countries have less than a 20% chance of achieving the goal.^{58,140} An understanding of the risk factors associated with child mortality and the design of appropriate interventions are urgently required.⁵⁹ Worldwide Health promotion programs have focused on providing knowledge about the causes of ill health and choices of health facilities available, would go a long way towards promoting a change in individual behavior, towards more beneficial health seeking behavior.⁶⁰

4.10 Integrated Management of Childhood illnesses (IMCI)

Integrated Management of Childhood illnesses is an integrated approach to child health that focuses on the well-being of the whole child. It aims to reduce death, illness and disability, and to promote improved growth and development among under-five children. IMCI has three major components.¹⁴¹ IMCI includes both preventive and curative elements that are implemented by families and communities as well as by health facilities.^{141,142}

Improving household and community health practices was one of the major components in IMCI strategy.¹⁴¹ In the home setting, it promotes appropriate care seeking behaviors, improved nutrition and preventive care. The key household practices includes recognizing when the sick children needs treatment and seek care from appropriate healthcare providers.^{141,142}

4.11 Health care services utilization model

The concept of studying health-seeking behaviors among mothers of under-five children has evolved with time and has ultimately become a tool for understanding how people engage with health care systems in their respective socio-cultural, economic and demographic circumstances.⁵⁰ The factors determining these behaviors are socio-demographic factors including education, women's autonomy, social structures, cultural beliefs and practices, gender issues, economic and political systems, environmental conditions, the disease pattern and the health care system itself.⁴⁰

An appropriate health-seeking behavior is not merely dependent on an individual's choice or circumstances, it depends largely upon the dynamics of communities that influence the well-being of the inhabitants.⁵⁰ It is, therefore, evident that a more interdisciplinary approach would be indispensable in the study of health-seeking behaviors.⁵¹

4.11.1. Conceptual framework for Health-seeking behavior for childhood illness (Modified from Anderson and Newman)

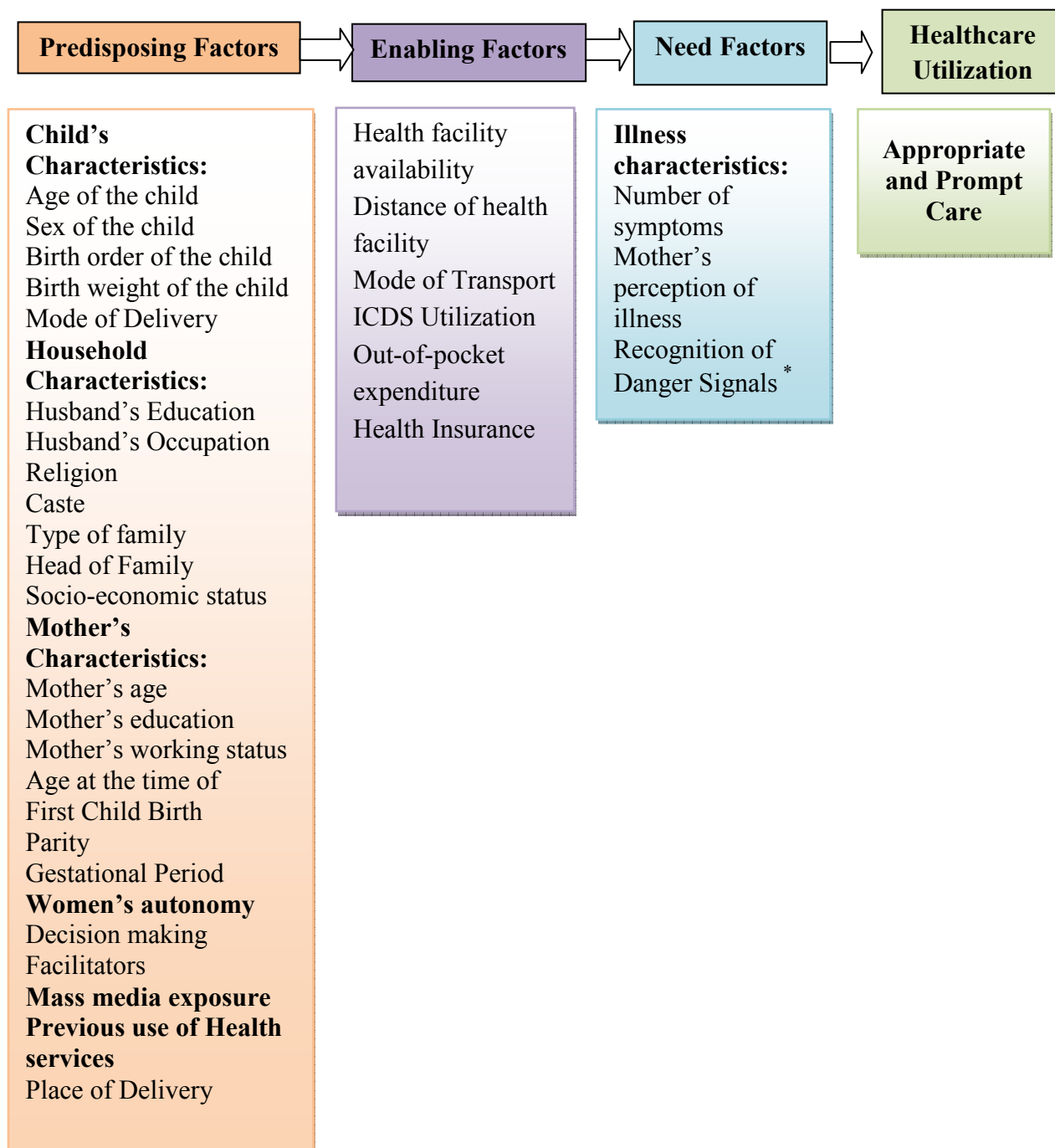
Conceptual framework helps investigators to get an overview of the factors influencing an issue under investigation. An extensive literature review has been published to further the rationale of devising a specific methodology for the research.⁴⁰ Several conceptual models of health care utilization have

been proposed, of which the behavioral model (Anderson 1968), health belief model and economic model (Grossman 1972) are commonly accepted.¹⁰⁶

Even though many theoretical frameworks have been presented in the literature on health-seeking behavior, the conceptual framework of Andersen and Newman for assessing health-seeking behavior was considered more suitable because it encompasses most aspects underlying the health-seeking behavior of a Community, especially in developing countries.⁵² This framework uses a mixed methodology to study individual behaviors, as well as the social determinants of health-seeking behavior.⁴⁰

The **behavioral model** consists of three major components—**predisposing factors** includes those variables that describe propensity of individuals to use services (demographic variables - age, sex, family size, education, employment), **enabling factors** describes the “means” individuals available to them to use the services (income, insurance, residence) and **need factors** refers to illness level which is the most immediate cause of health service use (perceived health status, symptoms of illness) which determine the use or non-use of care.^{106,107, 138} Conceptual framework models attempting to predict health seeking behavior through a variety of means are predicated on two assumptions central to classic health promotion: health is influenced by behavior; behavior is modifiable.⁴⁴

Fig.3. Conceptual framework of Modified Andersen and Newman for studying determinants of Health seeking behaviors



Researchers have long been interested in what facilitates the use of health services, and what influences people to behave differently in relation to their health. There has been a plethora of studies addressing particular aspects of the various conceptual models.^{44,130,138,139}

These factors were added and modified Andersen Newman conceptual framework was formed in 1995.^{50,107} Researchers revisited the modified Anderson Newman conceptual framework and added few more factors in the framework in the last two decades.(Fig.3)

4.12. Independent Variables:

Based on the factors listed in the conceptual framework (Fig.3) and review of literature on strength of association between independent variables and Health seeking behavior of mothers published in various studies (Table.1), the independent variables were identified for study.

Table.1 Factors influencing Health seeking behavior

Factors influencing Health seeking behaviour	Authors	Age group of Participants	Sample size	Methodology	Results
1.Age	Reddy et al NFHS III ⁴⁴ (2005–06)	children aged 0–59 months	48,679 of ever-married women	Cross sectional study	Children aged 1–2 years were more likely to be taken to any type of Healthcare provider during illness. (aOR 1.54, 95% CI 1.12, 2.13)
	Kumar et al ¹⁰⁹ (1984)	under 5 children	512 Mothers of under 5 children	Cross-sectional study.	Prevalence of visits to the medical facilities is highest among children aged 6-23 months.
2.Sex of child	Ghosh et al ¹¹⁰ Darjeeling district, West Bengal (2013)	under 5 children	256 Mothers of under 5 children	Cross-sectional study.	83.8% mothers having a male child sought health care as compared to 57.9% mothers having a female child (P < 0.05). OR=3.76 (2.03-7.02)
	Reddy et al NFHS III ⁴⁴ (2005–06)	children aged 0–59 months	48,679 of ever-married women	Cross sectional study	Female children had lower odds of being taken to Public healthcare provider for treatment of ARI aOR 0.88 95%CI (0.79, 0.98)
3.Birth Order	Ghosh et al ¹¹⁰ Darjeeling district, West Bengal (2013)	under 5 children	256 Mothers of under 5 children	Cross-sectional study.	Prevalence of visits to the medical facilities is highest among children of lower birth orders.
	Sreeramareddy et al ¹¹¹ (1984)	under 5 children	512 Mothers of under 5 children	Cross-sectional study.	Prevalence of visits to the medical facilities is highest among lower order births

4.Place of Delivery	Reddy et al NFHS III ⁴⁴ (2005–06)	children aged 0–59	48,679 of ever-married women	Cross sectional study	children those born at health facility (public/private) were more likely to be taken to any type of Healthcare provider during illness. (aOR 1.49, 95% CIs 1.24 1.81).
5.Socio-economic status	Reddy et al NFHS III ⁴⁴ (2005–06)	children aged 0–59	48,679 of ever-married women	Cross sectional study	wealthier households were 2.5 times more likely to choose private Healthcare provider for any illness (aOR 2.42, 95% CIs 1.78 2.30).
	Sreeramareddy et al ¹¹¹ (1984)	Under 5 children	292 mothers	Cross sectional study	Mothers sought 'prompt care' more often when the total family income was more than 10,000 Nepali rupees per month–OR =0.96 (95% CI : 0.94 0.99)
	Ghosh et al ¹¹⁰ Darjeeling district, West Bengal (2013)	Under 5 children	256 Mothers of under five children	Cross-sectional study.	Mothers of Below Poverty Line card holders (BPL OR=10.10 (95% CI=4.9-20.73) (P < 0.05)
6.Type of Family	Ghosh et al ¹¹⁰ (2013)	Under 5 children	256 Mothers of under five children	Cross-sectional study.	Mothers living in joint families had better healthcare-seeking behaviour than living in nuclear families. OR-0.16 (0.09-0.30) P <0.05
7.Mother's age	Reddy et al NFHS III ⁴⁴ (2005–06)	Under 5 children	48,679 of ever-married women	Cross-sectional study.	15–24 yrs : 40.3 % sought No/informal Care Compared to 35–49 yrs : 25–34 %

8.Mother's Education	Reddy et al NFHS III ⁴⁴ (2005–06)	Under 5 children	48,679 of ever-married women	Cross-sectional study.	46.7% Illiterate mothers sought No/informal Care Compared to mothers with higher education : 61.6 % (Private provider)
	Manna et al ¹¹⁴ (2006-07)	Under 5 children	333 children	Longitudinal study	Formal education of primary caretakers associated with seeking care outside the home (OR = 21.4; 95% CI [3.2–139.0]; P = 0.002)
	Sreeramareddy et al ¹¹¹ (1984)	Under 5 children	292 mothers	Cross-sectional study	Mothers higher education Up to high school Appropriate care - 95% CI : 7.43 (2.07 26.68) P -0.002
	Ghosh et al ¹¹⁰ Darjeeling district, West Bengal (2013)	Under 5 children	256 Mothers of under five children	under 5 children	Illiterate mothers, 24.2% had healthcare-seeking behavior less than that of Literate mothers, (78.3%) (P < 0.05, Odds ratio (95% CI) OR: 11.34 (5.5-23.62)
9.Mother's Working status	Ghosh et al ¹¹⁰ Darjeeling district, West Bengal (2013)	Under 5 children	256 Mothers of under five children	under 5 children	55.1%-working mothers sought appropriate care.
10.Mass media exposure	Ghosh et al ¹¹⁰ Darjeeling district, West Bengal (2013)	Under 5 children	256 Mothers of under five children	under 5 children	89.5%-aware of ARI (Mass media exposure)

11.Number of symptoms	Sreeramareddy et al ¹¹¹ (1984)	Under 5 children	292 mothers	Cross-sectional study	Appropriate care - >2 Symptoms - 95%CI : 5.43 (1.58- 18.65) p value : 0.038 Prompt care :OR : 5.36 (95% CI : 1.71 16.73) p value : 0.004
	Burton et al ¹¹³ kenya, (2005)	Under 5 children	2,900 caretakers	Cohort study	children with >1 symptoms had sought appropriate care (88%)
12.Perception of illness	Sreeramareddy et al ¹¹¹ (1984)	Under 5 children	292 mothers	Cross-sectional study	Among Mothers who sought appropriate care 69.8% perceived illness as serious
	Reddy et al NFHS III ⁴⁴ (2005–06)	Under 5 children	48,679 of ever-married women	Cross-sectional study	Children with severe symptoms were 2–3 times more likely to be taken to any type of Healthcare provider.
	Noreen Goldman ³⁰ Guetemela, (2000)	Under 5 children	3193 Mothers	Cross-sectional study	Children with severe symptoms were 2.29 times more likely to be taken to any type of Healthcare provider., OR : 2.29 (95% CI : 1.78- 2.94) 0p< 0.01
13.Mother's recognition of danger signals	Chibwana et al ¹¹² , Malawi (2009)	Under 5 children	151 caregivers & 46 health workers	Cross-sectional study	Unaware of Danger signs 9.9% -caregivers did not appreciate danger signs.
	Sreeramareddy et al ¹¹¹ (1984)	Under 5 children	292 mothers	Cross-sectional study	None of the mothers were aware of all the danger signs Unaware of danger signs -3.4%

4.13. Dependant Variable:

Table 2. Health care utilization: Appropriate and prompt care sought or not

The table shows the proportion of people sought various types of Health care in published studies.

Dependant variable	Reference	Age group	Sample size	Methodology	Results
Health care Utilization	Sudharsanam et al ¹¹⁵ , Pondicherry (2004)	Between 2 and 59 months of age,	441 Mothers of children	Cross-sectional study	65% -sought private care.
	Manna et al ¹¹⁴ Kolkata (2006-07)	Under 5 children	1,058 care takers	Cross-sectional study	85.4% -sought care from outside the home.
	Reddy et al NFHS III ⁴⁴ (2005–06)	Under 5 children	48,679 of ever-married women	Cross-sectional study	Nearly one-third of the children (28.9%) with cough did not receive any treatment . Among them 64.7% sought private Healthcare and 21.9% sought public Healthcare.
	Ghosh et al ¹¹⁰ Darjeeling district, West Bengal (2013)	Under 5 children	256 mothers	Cross-sectional study	42.1% -No treatment received.
	Sreeramareddy et al ¹¹¹ (1984)	Under 5 children	292 mothers	Cross-sectional study	'No care was sought' - 2.7% 'Sought appropriate care' - 26.4% 'prompt care' - 56.8% 'appropriate and prompt care'-11.3%

5. METHODOLOGY

5.1 Study Population

The study was conducted in the field practice area of the Rural Health Training Centre (RHTC) Vedapatti under Department of Community Medicine, PSG Institute of Medical Sciences & Research, Coimbatore. RHTC caters to a population of 23,841 distributed in 14 villages. The number of households and under-five children in each of the villages was obtained from the data collected by household survey conducted by the RHTC field workers during the year 2014. Distribution of number of Under-five children residing in the 14 villages are shown in **Table 3**.

**Table 3: Distribution of under-five children in the 14 villages of
RHTC - Field practice area**

S.No	Village Name	Total No of Households	Total Population	Under-five children
1.	Ajjanoor	235	849	52
2.	Dhaliyur	324	1071	70
3.	Dheenampalayam	245	831	43
4.	Kalikkanaickenpalaiyam	858	3088	246
5.	Kembanoor	360	1238	75
6.	Kurumbapalayam	875	3133	216
7.	Nagarajapuram	394	1536	165
8.	Nambialaganpalayam	310	1139	78
9.	Onappalayam	450	1473	75
10.	Poochiyur	212	766	68
11.	Sundapalaiyam	847	3068	212
12.	Ulliyampalaiyam	292	1006	55
13.	Vanniyampalayam	157	561	42
14.	Vedapatti	1138	4082	305
	TOTAL	6697	23841	1702

5.2 Sampling Frame :

In the field practice area of RHTC, Vedapatti attached to PSGIMS & R, there are 14 villages. Total number of under-five children in this area is 1702. All the permanent resident mothers having children in the age group of 0 –5 years were included in the study. To get required sample size of 319 under-five children with acute respiratory infections, based on the expected Period Prevalence rate of Acute respiratory infection in under-five children as 26 %, ^{41,76} all under-five children in 14 villages were screened.

Fig 4 : Map of RHTC- Catchment area

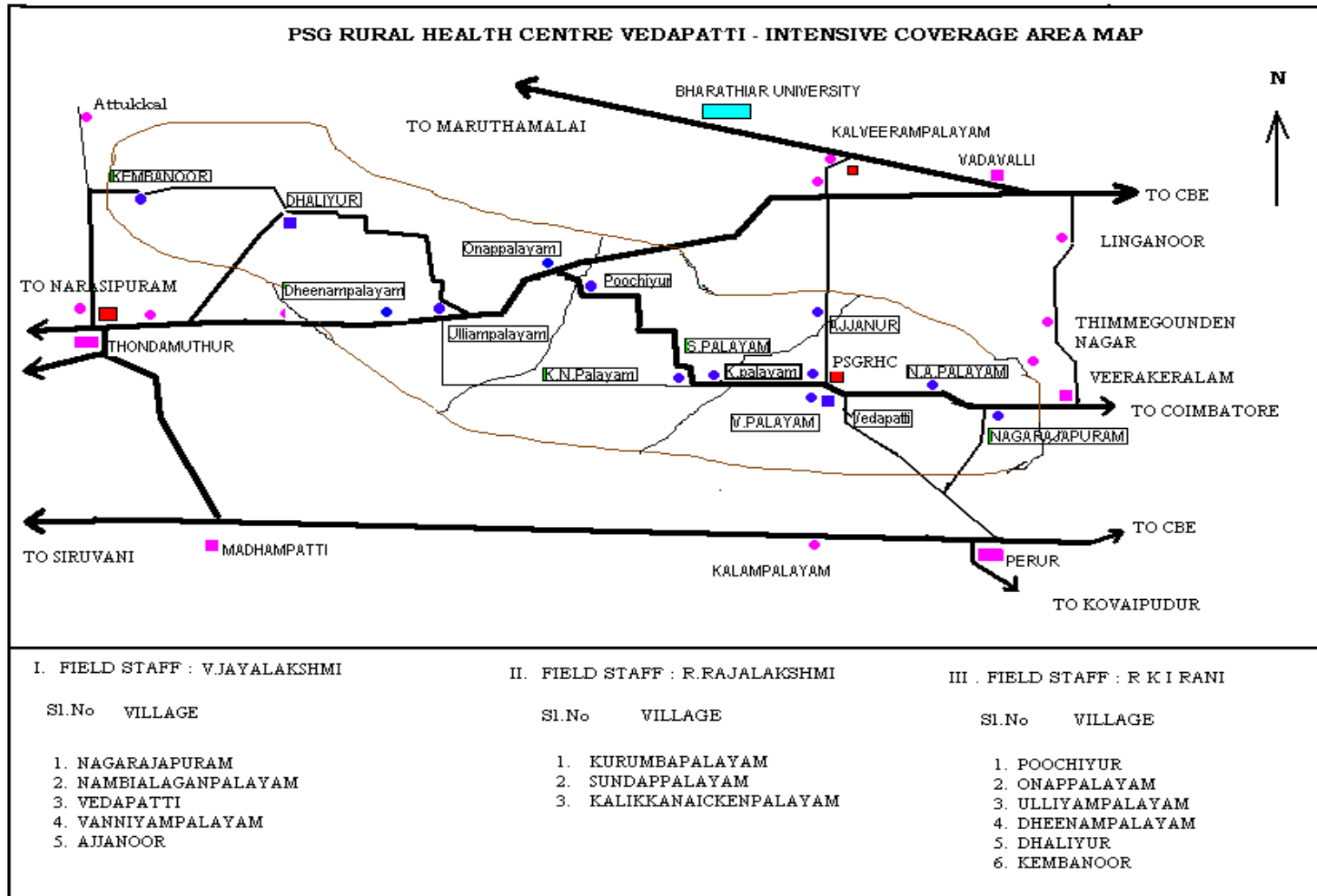
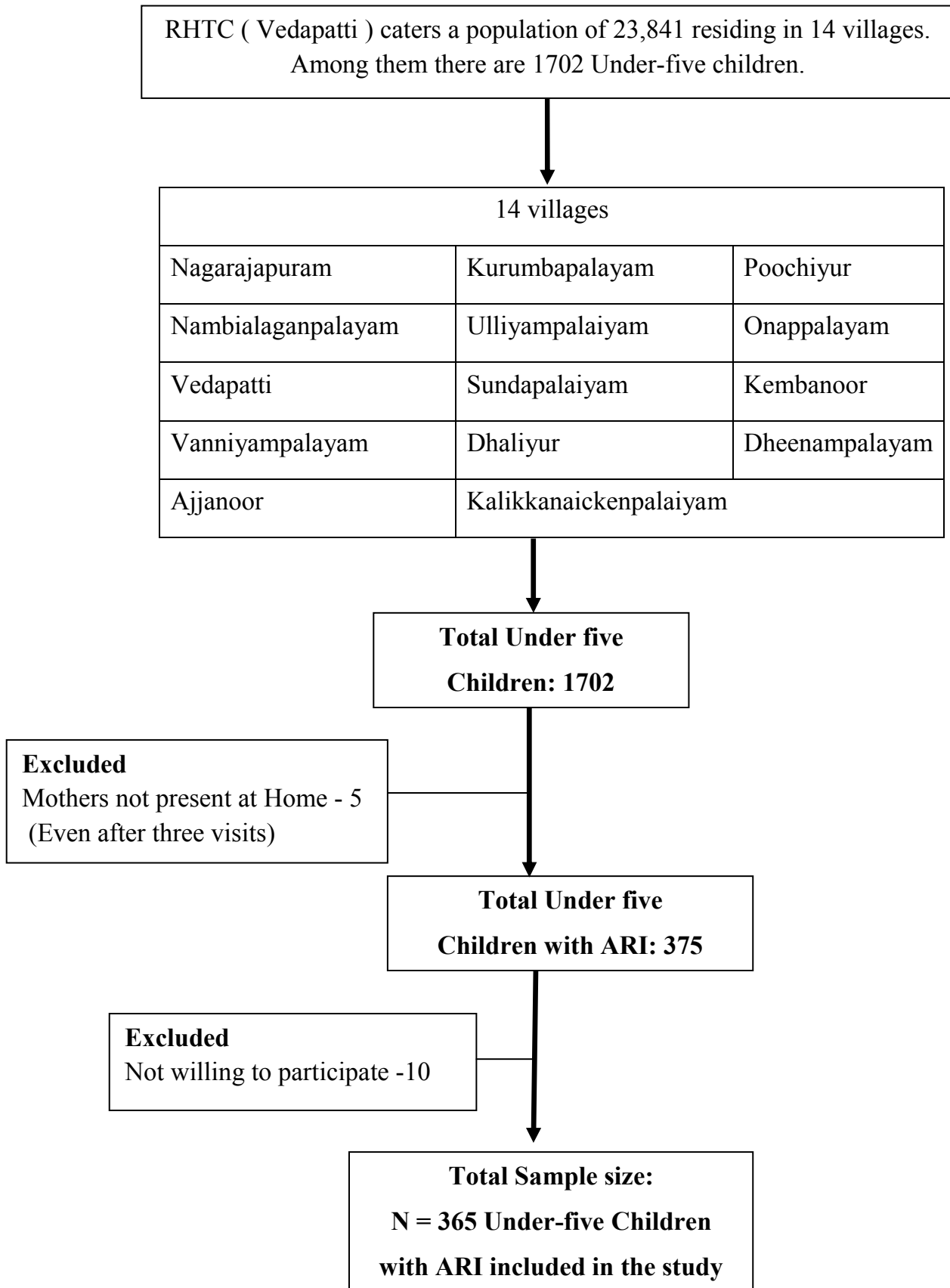


Fig 5 : Flow diagram describing sample size



5.2.1 Inclusion Criteria

- All mothers of children age group 0-5 years who are permanent residents for at least one year in the 14 villages in the field practice area of RHTC, Vedapatti were included for screening ARI.
- Those mothers of under-five children who had ARI in the last one month recall period were included for current study.

5.2.2 Exclusion Criteria

- Mothers of under-five children who are not willing to give consent for participation in the study
- Mothers of under-five children who are not present at home on three visits.

5.3 Study design - Cross sectional study

5.4 Study Period - November 2014 – March 2015

5.5 Study Area

All 14 villages located in the field practice area of PSG Rural Health Training Centre, Vedapatti attached to Department of Community medicine, PSGIMS&R, Coimbatore.

5.6 Sample size determination

With an estimated proportion of appropriate and prompt care was sought in 41% among mothers of under-five children based on study done by **Doracaj et al** and 15 % allowable error, sample size was calculated using the formula,

$$n = \frac{4pq}{d^2}$$
$$= \frac{4 \times 41 \times 59}{6.15 \times 6.15}$$
$$n = 255$$

where, n = Number of samples required

p = Prevalence

q = 100 – p

d = allowable error (15 % of Prevalence, hence approximately 6.15)

With expectation of non-response rate of 20 % the total sample required is

$$= 255 \times 100/80$$

$$\mathbf{N = 319}$$

Sample size required N = 319 under-five children with Acute respiratory infections.

5.7 Data collection Tools:

5.7.0 Questionnaire: The questionnaire was developed based on Modified Andersen behavioral conceptual framework. Questionnaire had closed ended questions to elicit the following details from the Mothers of Under-five children.

5.7.1. Predisposing Factors

5.7.1.1 Demographic Factors: Name, Age, Education, Occupation, Religion

5.7.1.2 Socio-Economic Factors: Type of Family, Total number of family members, Total monthly family income.

5.7.1.3 ICDS Utilization: Supplementary feeding, Ration for home Beneficiaries.

5.7.1.4 Maternal Factors: Mother's age, Age at the time of first child birth, Marital Status –married, widowed, divorced, Parity, Birth order

Enabling factors

5.7.1.5 Out of Pocket expenditure: Consultation cost, Medicine cost, Transport cost, Intervention cost

5.7.1.6 Health facility availability: Type of Health facility available and Distance in kilometers

5.7.1.7 Health Insurance: Holding Health insurance either Government, Private, ESI cards

Need Factors

5.7.1.8 Perception of symptoms: Severe or not severe

5.7.1.9 Recognition of danger signals: Number of symptoms

5.7.1.10 Appropriate care: Type of Health facility - Care sought from qualified medical professionals in government health facilities and private hospitals/clinics and Distance in kilometers

5.7.1.11 Prompt care: Any type of care that was sought within 24 hours from the recognition of the illness

5.7.1.12 Care before seeking health services: Self-medication, Traditional healers, Pharmacy and Home-remedies

5.7.1.13 Reasons for not seeking health services: Not felt necessary, Costs too much, Too far /no transportation, Not convenient (odd time/ place), Past bad experience, Nobody to accompany/ take

5.7.1.14 Referral: From First health facility

5.7.1.15 Reasons for not seeking health services after referral: Not felt necessary, Costs too much, Too far /no transportation, Not convenient (odd time/ place), Past bad experience, Nobody to accompany/ take

5.8 Steps in data collection:

The study was started after getting approval from the Institutional Human Ethics Committee (IHEC).

5.8.1 Pilot study:

Pilot study was carried out in a village adjacent to the field practice area of the Vedapatti Rural Health Training Center of the Community Medicine department. The feasibility of conducting the study was analyzed and necessary modifications in the questionnaire were done.

5.8.2 Data collection for study:

All mothers of under-five children and their respective residential address was obtained from the household survey data. All the individual households were visited and children with symptoms of Acute respiratory infections in the preceding one month were included and consent for the participation in the study was obtained from the Mothers of under-five children (0-59 months). Questionnaire was filled by the principal investigator.

5.9 Operational definition:

Acute Respiratory infections : Children with any one or combinations of symptoms like cough and cold, running nose, fast breathing, stops feeding and chest in-drawing.

5.9.1 Dependant variable:

Health seeking behavior

Health seeking behavior has been defined as the sequence of remedial actions that individuals undertake to rectify perceived ill-health.¹²

Appropriate care: Care sought from qualified medical professionals in government health facilities and private hospitals/clinics.

Prompt care: Any type of care that was sought within 24 hours from the recognition of the illness.

5.9.2 Independent variable:

The variables considered as factors influencing health seeking behavior in this study includes **Predisposing factors** such as Age of Child(0-12 vs 13-24 months), Sex of child (Male vs Female), Age of mothers (< 25 years vs ≥ 25 years), Mother's Education (Illiterate vs literate), Occupation (Working vs Not Working), Husband's education (High school and above Vs Others), Husband's Occupation (Upto Skilled workers vs others), Religion [Hindu vs others (Christian & Muslim)], Caste (Schedule caste vs Other caste), Type of family (Extended vs Nuclear), Head of family(Self vs Husband), Socioeconomic status [(Class IV and V) vs Class I,II,III], Parity (one child vs ≥2), Birth order (First child vs ≥ second order), Age at the time of first child birth(< 21 years vs ≥ 21 years),Place of delivery (Private vs Public), Gestational period (Term vs Preterm), Mode of delivery (Normal vs LSCS),

Birth weight (>2.5 kg vs ≤ 2.5 kg), Autonomy in Decision making(Self vs Husband), Mass media exposure (Yes vs No).

Enabling factors such as Health facility availability (Private vs Public), Distance of health facility in kms (≤ 5 kms vs > 5 kms), Mode of transport (Own vehicle vs others), Holding Health Insurance card (Yes vs No), ICDS utilization (Yes vs NO).

Need factors such as Number of symptoms (>2 vs 2), Danger signals (Present vs absent), Recognition of presence of danger signals (Yes vs No), Perception of symptoms (Severe vs Non-severe).

Socio economic status (SES) was assessed using the Modified B.G. Prasad's scale based on Consumer Price Index (CPI) for the month of July 2015. (CPI- 244). Those having the per capita income per month of Rs.5570 and above were classified as Class I, Rs.2780 – Rs.5569 as Class II, Rs.1670-2779 as Class III, Rs.840-1669 as Class IV and per capita income less than Rs. 840 as Class V.

At the end of the study, the mothers of under-five children with ARI were given health education regarding Recognition of danger signals, appropriate and prompt care, Importance of Breast feeding, Immunization. Pamphlet containing information about ARI /Pneumonia was given to them and those who needed treatment were referred to the RHTC for further management.

5.10 ANALYSIS

Data entry was made in the Microsoft Excel software and analysis was done with SPSS-19 computer package. Prevalence of health seeking behavior in terms of appropriate and prompt care was expressed in percentage with 95% Confidence interval (CI). The associations between independent variables and Health seeking behavior in terms of health care sought or not (appropriate and prompt care as dichotomized dependent variables) were tested for significance using chi square test and odds ratio was estimated. The variables which were found to be statistically significant by univariate analysis was further subjected to logistic regression analysis. P value <0.05 was considered as statistically significant.

6. RESULTS

The current study was carried out to assess the health seeking behavior among mothers regarding acute respiratory infections in children aged 0-5 years and to find the association of selected factors with health seeking behavior for ARI in children aged 0-5 years from the fourteen villages in the field practice area of Rural Health Training Centre (RHTC), Vedapatti attached to the Department of Community Medicine, PSG Institute of Medical Sciences and Research, Coimbatore.

There were 1702 children in the age group of 0-59 months. Their mothers were contacted to find out the health of their children. Five of them were not present in their house in spite of the three visits made by the investigator. Out of 1697 children in the age group of 0-59 months, 375 children had ARI in the previous one month and ten of them did not give the consent. Hence 365 under-five children were enrolled in the study. Overall participation rate is 97.33%. The proportion of health seeking behavior in terms of appropriate and prompt care among the study population was 52%.

Table 4: Village - wise distribution of study participants

S.No	Village Name	Total Number of Under five children	Study Participants (%)
1	AJJANOOR	52	20(5.47)
2	DHALIYUR	70	14(3.83)
3	DHEENAMPALAYAM	42	9(2.46)
4	KALIKANAICKENPALAYAM	246	47(12.87)
5	KEMPANOOR	74	17(4.65)
6	KURUMBAPALAYAM	216	42(11.50)
7	NAGARAJAPURAM	165	29(7.94)
8	NAMBIALAGANPALAYAM	78	17(4.65)
9	ONAPPALAYAM	75	15(4.10)
10	POOCHIYUR	68	22(6.02)
11	SUNDAPALAYAM	211	36(9.86)
12	ULLIAMPALAYAM	55	25(6.84)
13	VANNIAMPALAYAM	41	10(2.73)
14	VEDAPATTI	304	62(16.98)
	TOTAL	1697	365

Table 4. shows the village wise distribution of study participants. Period prevalence of acute respiratory infections among under-five children with a recall period of one month was 21.50% (95% CI: 19.52-23.48).

**Table 5: Predisposing Factors - Demographic Profile of Study
Participants (n=365)**

S.No	Variable	Frequency	Percentage	
1	Age of child (in months)	0-12	71	19.5
		13-24	71	19.5
		25-36	92	25.2
		37-59	131	35.9
2	Sex of child	Male	196	53.7
		Female	169	46.3
3	Mother's age	≤25	131	35.9
		>25	234	64.1
4	Mother's Education	Illiterate	14	3.8
		Primary	18	4.9
		Middle	92	25.2
		High School	104	28.5
		Higher Secondary	80	21.9
		Graduate	57	15.6
5	Mother's working status	Not working	308	84.4
		working	57	15.6
6	Husband's Education	Illiterate	24	6.6
		Primary	12	3.3
		Middle	100	27.4
		High School	104	28.5
		Higher Secondary	69	18.9
		Graduate	24	6.6

7	Husband's Occupation	Not working	2	.5
		unskilled	87	23.8
		semiskilled	39	10.7
		skilled	133	36.4
		Agriculturist	52	14.2
		Semiprofessionals	48	13.2
		Professionals	4	1.1
8	Religion	Hindu	339	92.9
		Christian	20	5.5
		Muslim	6	1.6
9	Caste	BC	175	47.9
		MBC	62	17.0
		SC	128	35.1

The demographic profile of the study participants is shown in **Table 5**. Among the 365 under five children with symptoms of acute respiratory infections studied, 196 were boys and 169 were girls. Among the under five children studied, 19.5% were in the age group of 0-12 months, 80.5% were in the age group of 13-59 months. Higher proportion (64.1%) of the mothers were in the age group of more than 25 years. Majority of them (62.5%) were educated up to high school. 84.4% of the mothers were not working and majority (92.9%) belonged to Hindu religion and 47.9% belonged to backward Caste. Around 74.5% of Husbands were educated up to high school and regarding Occupational status 36.4% were skilled workers, 23.8% were unskilled workers and 0.5% were unemployed.

Table 6: Predisposing Factors -Socio-Economic Variables of Study Participants (n=365)

S. No	Variable		Frequency	Percentage
1	Type of Family	Nuclear	201	55.1
		Extended	164	44.9
2	Head of Family	Husband	363	99.5
		Self	2	0.5
3	Socioeconomic status	Class I	16	4.4
		Class II	102	27.9
		Class III	120	32.9
		Class IV	115	31.5
		Class V	12	3.3

Table 6 shows the Socio-economic factors of study participants. 55.1% belonged to nuclear family. Higher proportion (32.9%) belonged to socioeconomic class III. Among the participants about 99.5% households were headed by the Husband.

Table 7: Predisposing Factors - Maternal and Child Characteristics of the Study Participants (n=365)

S.No	Variable	Frequency	Percentage	
1	Parity	1	125	34.2
		2	203	55.6
		3	33	9.1
		> 3	4	1.1
2	Birth Order	First child	147	40.3
		≥ Second Order	218	59.7
3	Age at the time of first Child Birth	≤ 21 years	166	45.5
		> 21 years	199	54.5
4	Place of Delivery	Public	177	48.5
		Private	188	51.5
5	Gestational Period	Term	344	94.2
		Preterm	21	5.8
6	Mode of Delivery	Normal	226	61.9
		LSCS	139	38.1
7	Birth Weight	≤ 2.5 Kg	75	20.5
		>2.5 Kg	290	79.5

Table 7 shows the maternal and child characteristics of the study participants. Among the study participants, 89.8% of them had less than two children. Majority (59.7%) of the children were second order birth and above.

Majority (54.5%) of mothers were more than 21 years of age at the time of first child's birth. Among the under five children who were delivered in institutions, 51.5% of them were in private sectors, 94.2% of them were born in term gestational period, 38.1% were born by Lower segment caesarean section. Around 79.5% had birth weight of more than 2.5 kilograms.

Table 8: Predisposing Factors - Women's autonomy and other Characteristics of the study Participants (n=365)

S.No	Variable		Frequency	Percentage
1	Decision making	Self	159	43.6
		Husband & Others	206	66.4
2	Facilitators	Husband & Others	314	86
		AWW & VHN	51	14
3	Mass media exposure regarding ARI and treatment facility	No exposure	201	55.1
		Newspaper	123	33.7
		Television	18	4.9
		Radio	23	6.3

Table 8 shows the Women's autonomy characteristics of the study participants. Around 43.6% of them took self decision in seeking appropriate and prompt health care. Majority (86%) of the participants were facilitated by husband and other relatives and only 14% were facilitated by Anganwadi workers and Female health workers. Around 55% did not have any mass media exposure regarding ARI and treatment facility. Among those who had mass media exposure, 33.7% of them had exposure to Newspapers, 4.9% of them to Television and 6.3% to Radio.

Table 9: Enabling Factors – for Health seeking behavior among the study Participants (n=365)

S.No	Variable		Frequency	Percentage
1	Type of Health Facility available	Public	37	10.1
		Private	328	89.9
2	Distance of Health facility (Kms)	≤5 kms	194	53.2
		>5 kms	171	46.8
3	Health Insurance	Yes	126	34.5
		No	239	65.5
4	ICDS utilization	Yes	132	36.2
		No	233	63.8
5	Mode of Transport	Own vehicle	200	54.8
		Others	165	45.2
6	Out-of -Pocket Expenditure	≤Rs 250	197	54
		>Rs 250	168	46

Table 9 shows the enabling factors for health seeking behavior of the study participants. Among the available health facility 89.9% of them were Private sectors and 53.2% of the health facilities were available within five kilometers of their residence and usual mode of transport is by own vehicle (54.8%). Only 34.5% hold health insurance cards and 36.2% were ICDS beneficiaries. Around 54% of the study participants had spent Indian rupees Rs 250 as total out-of- pocket expenditure for any type of treatment.

Table 10: Need Factors – Mother’s Perception of Severity of illness and recognition of symptoms of ARI among Under-five Children (n=365)

S.No	Variable	Frequency	Percentage	
1	Number of symptoms Child had	2	93	25.5
		>2	272	74.5
2	Mother’s Perception of Severity of illness	Severe	155	42.5
		Not Severe	210	57.5
3	Recognition of presence of Danger signals	Yes	269	73.7
		No	96	26.3
4	Danger signals which made the Mother to seek Healthcare*	Fever	250	68.5
		Fast breathing	36	9.9
		Difficulty in breathing	48	13.2
		Feeding Difficulty	40	11.0
		Chest in-drawing	3	0.8
		Others	4	1.1
5	Number of Days treatment given*	One day	142	51
		≥ 2 days	137	49
6	Type of Treatment*	Out-Patient	261	93
		In-Patient	18	7

*n=279

Table 10 shows the need factors such as mother's perception and recognition of ARI among the study participants. Among 365 Children with ARI some (25.5%) had only cough and cold. Around 74.5% of children were having more than two symptoms other than cough and cold.

About 155(42.5%) of the mothers perceived the illness as severe. Around 269 (73%) mothers had recognized the presence of one or more symptoms other than cough and cold which made them to seek healthcare. Among 365 children with ARI, 250(68.5%) had fever, 48(13.2%) had difficulty in breathing, 36(9.9%) had Fast breathing and 40(11%) had feeding difficulties. Around 51% took treatment for only one day and 18(7%) of them were treated as in-patients.

Fig 6. Type of care given before Health care sought among the study participants (n=365)

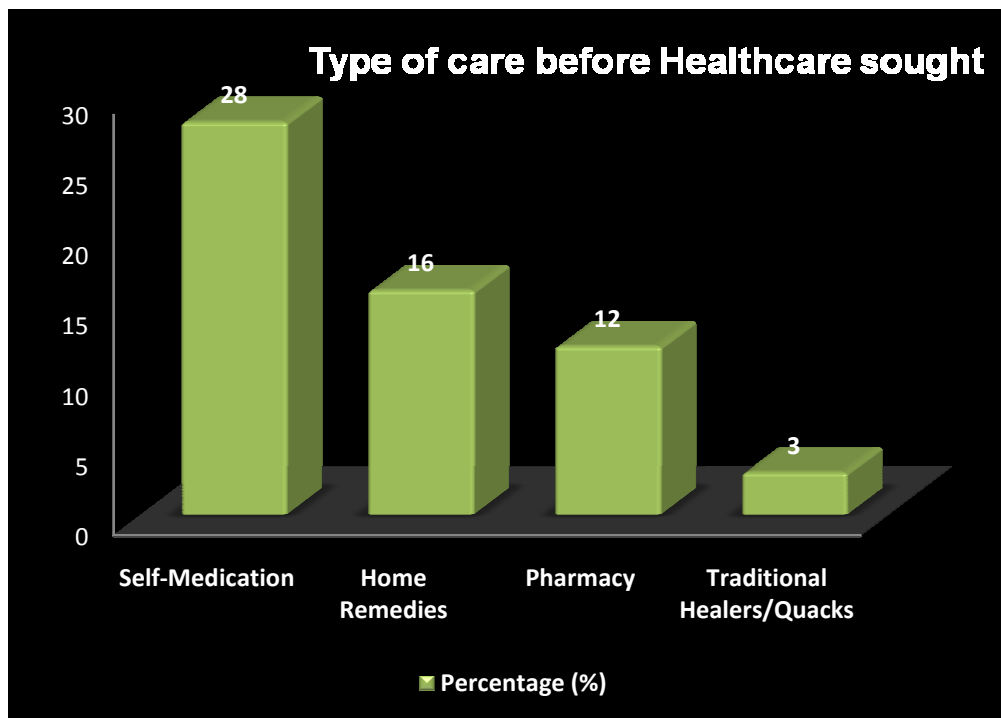


Fig.6. shows the type of care given before health care was sought by the study participants. Nearly 58% had given some type of care before healthcare was sought. Majority (28%) of them given self medication, 12% got medicines directly from the pharmacy, 16% tried home remedies and few got treatment from traditional healers and quacks (3%).

**Fig.7. Health Seeking Behavior among the study participants –
Appropriate and Prompt care (n=365)**

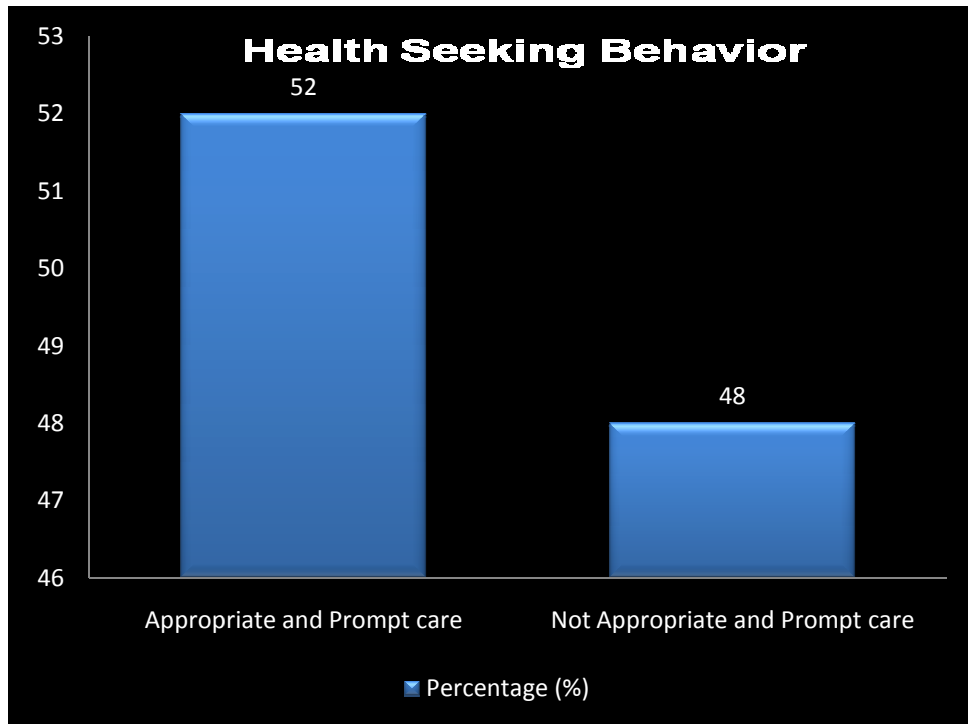


Fig.7 shows the Health seeking Behavior among the study participants in terms of appropriate and prompt care. Only 52% (95%CI- 46.8-57.5%) of them had appropriate and prompt care.

Table 11. Out-of Pocket Expenditure for treatment among the participants who sought healthcare (n=279)

Consultation Cost			Drug / Treatment Cost			Transportation Cost			Total Cost		
Mean Rs	SD	Median Rs	Mean Rs	SD	Median Rs	Mean Rs	SD	Median Rs	Mean Rs	SD	Median Rs
123	156	100	249	540	150	50	87	40	447	806	300

Table 11 shows the Out-of Pocket Expenditure for treatment among the study participants. The Median total cost was about Rs.300, Median Consultation cost was about Rs.100, Median drug/treatment cost was about Rs.150 and the transport cost was about Rs.40.

Fig.8.Reasons for Not seeking Health Care among the study participants (n=86)

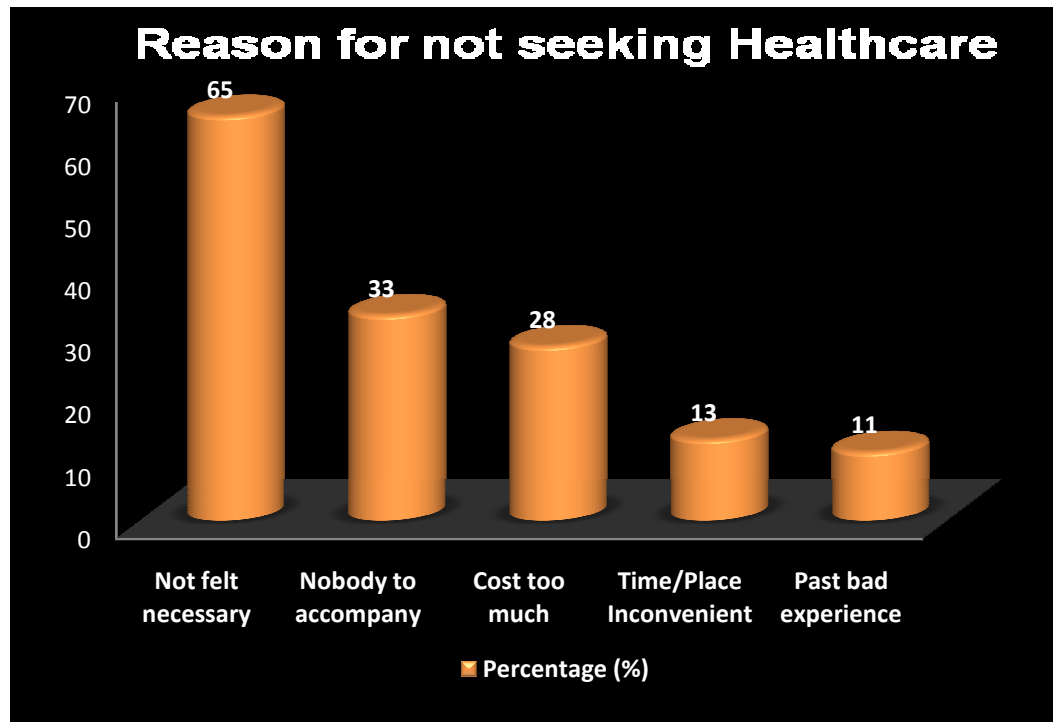


Fig.8 shows the reasons for not seeking health care among the study participants. Many Subjects have given more than one reason for not seeking health care. Majority (65%) of the participants were felt treatment was unnecessary, 28% felt cost is too much, 13% felt time and place was not convenient, 11% had previous bad experience and 33% had no persons to accompany to the healthcare facility.

Fig.9. Reasons for Not seeking Health Care after Referral among the study participants (n=29)

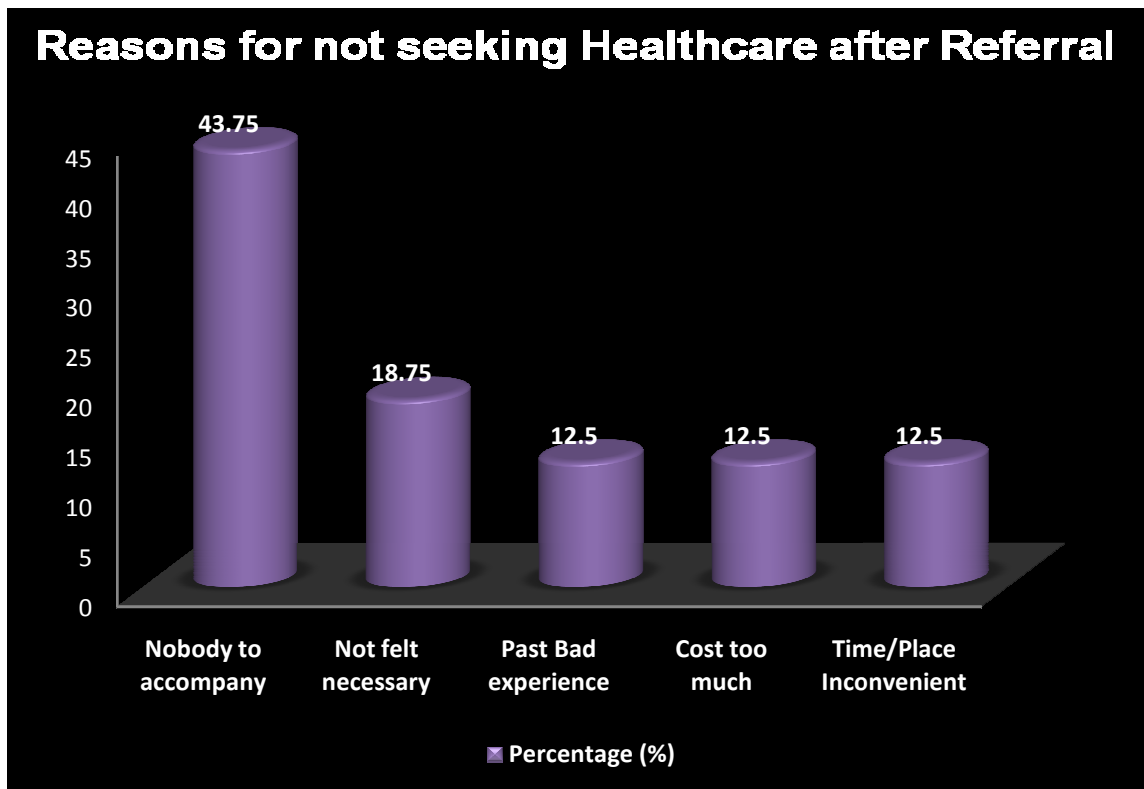


Fig.9. shows the reasons for not seeking health care after referral to a higher centre among the study participants. Majority (43.75%) of the participants had no other persons to accompany them to the healthcare facility, 18.75% of the participants felt further treatment was not necessary, 12.5% felt cost is too much, 12.5% felt Time and place was not convenient and 12.5% had previous bad experience.

Table 12: Association of Appropriate and Prompt care for acute respiratory infections with the selected factors by univariate analysis.
(n=365)

Factors	Category	Appropriate and Prompt care			Unadjusted odds ratio (95% Confidence Interval)	p value
		Total	Yes	No		
			Num (%)	Num (%)		
Predisposing factors						
Age of child (in months)	<0-12	71	46 (64.8)	25 (35.2)	1.91 (1.11-3.28)	<0.05
	13-59 months	294	144 (49)	150 (51)	1	
Sex of child	Male	196	114 (58.2)	82 (41.8)	1.70 (1.12-2.57)	<0.05
	Female	169	76 (45)	93 (55)	1	
Mother's age	≤25	131	60 (45.8)	71 (54.2)	0.67 (0.44-1.03)	0.074
	>25	234	76 (55.6)	93 (44.4)	1	
Mother's Education	High school and above	241	143 (59.3)	98 (40.7)	2.39 (1.50-3.82)	<0.001
	Up to Secondary school	124	47 (37.9)	77 (62.1)	1	
Mother's working status	Working	57	31 (54.4)	26 (45.6)	0.89 (0.50-1.57)	0.701
	Not working	308	159 (51.6)	149 (48.4)	1	

Husband's Education	High school and above	229	129 (56.3)	100 (43.7)	1.59 (1.01-2.49)	<0.05
	Up to Secondary school	136	61 (44.9)	75 (55.1)	1	
Husband's Occupation	Up to skilled workers	261	123 (47)	138 (53)	0.49 (0.30-0.78)	<0.05
	Semi-professionals and above	104	67 (64.4)	37 (35.6)	1	
Religion	Hindu	339	173 (51)	166 (49)	0.55 (0.23-1.27)	0.15
	Non Hindus	26	17 (65.4)	9 (34.6)	1	
Caste	Others	237	139 (59.3)	98 (40.7)	2.35 (1.45-3.81)	<0.001
	SC	128	51 (37.9)	77 (62.1)	1	
Type of family	Extended	164	93 (56.7)	71 (43.2)	1.40 (0.91-2.17)	0.10
	Nuclear	201	97 (48.2)	104 (51.8)	1	
Head of Family	Husband	363	189 (52)	174 (48)	1.08 (0.06-17.4)	0.95
	Self	2	1 (50)	1 (50)	1	
Socio-economic status (Modified Prasad's classification)	Class I,II,III	238	98 (41.2)	140 (58.8)	2.2 (1.38-3.50)	<0.001
	Class IV,V	127	77 (60.6)	50 (39.4)	1	
Parity (n=365)	1	328	170 (51.8)	158 (48.2)	0.91 (1.49-3.7)	0.47
	≥ 2	37	20 (54.1)	17 (45.9)	1	

Birth Order (n=365)	First child	147	77 (52.4)	70 (47.6)	1.02 (0.67-1.55)	0.91
	\geq Second Order	218	113 (51.8)	105 (48.2)	1	
Age at the time of first Child Birth (n=365)	\leq 21 years	166	74 (44.6)	92 (55.4)	0.58 (0.38-0.89)	<0.05
	>21 years	199	116 (58.3)	83 (41.7)	1	
Place of Delivery	Private	188	122 (64.9)	66 (35.1)	2.96 (1.89-4.64)	<0.001
	Public	177	68 (38.4)	109 (61.6)	1	
Gestational period	Term	344	182 (52.9)	162 (47.1)	1.82 (0.73-4.51)	0.18
	Preterm	21	8 (38.1)	13 (61.9)	1	
Mode of Delivery	Normal	226	109 (48.2)	117 (51.8)	0.66 (0.43-1.02)	0.18
	LSCS	139	81 (58.3)	58 (41.7)	1	
Birth Weight	>2.5 Kg	309	171 (55.3)	138 (44.7)	2.41 (1.28-4.58)	<0.05
	\leq 2.5 Kg	56	19 (33.9)	37 (66.1)	1	
Decision making	Self	159	140 (88.1)	19 (11.9)	22.98 (12.93- 40.87)	<0.001
	Husband	206	50 (24.3)	156 (75.7)	1	

Facilitators	Others	314	161 (51.3)	153 (48.7)	0.798 (5.29-14.19)	0.459
	VHN/AW W	51	29 (56.9)	22 (43.1)	1	
Mass media exposure	No	201	59 (29.4)	142 (96.4)	0.10 (0.06-0.17)	<0.001
	Yes	164	131 (79.9)	33(20.1)	1	
Enabling factors						
Health facility available	Private	328	178 (54.3)	150 (45.7)	2.47 (1.14-5.42)	<0.05
	Public	37	12 (32.4)	25 (67.6)	1	
Distance of health facility (in kms)	≤ 5kms	256	125 (48.8)	131 (51.2)	0.65 (0.41-1.01)	0.059
	>5 kms	109	65 (59.6)	44 (40.4)	1	
Mode of Transport	Own Vehicle	247	140 (56.7)	107 (43.3)	1.78 (1.14-2.77)	<0.05
	Others	118	50 (42.4)	68 (57.6)	1	
Health Insurance	Yes	126	76 (60.3)	50 (39.7)	1.67 (1.05-5.65)	<0.05
	No	239	114 (47.7)	125 (52.3)	1	
ICDS Beneficiary	Yes	132	63 (47.7)	69 (52.3)	1.31 (0.85-2.01)	0.21
	No	233	127 (54.5)	106 (45.5)	1	

Need Factors						
Number of symptoms Child had	>2	272	161 (59.2)	111 (40.8)	3.20 (1.9-5.45)	<0.001
	2	93	29 (31.2)	64 (68.8)	1	
Perception of Severity of illness	Not Severe	210	66 (31.4)	144 (68.6)	0.11 (0.07-0.19)	<0.001
	Severe	155	124 (80)	31 (20)	1	
Recognition of presence of any danger signals	Yes	269	160 (59.5)	109 (40.5)	3.23 (1.91-5.47)	<0.001
	No	96	30 (31.3)	66 (68.7)	1	
Danger signals which made the Mother to sought Healthcare	Fever	250	148 (59.2)	102 (40.8)	2.52 (1.56-4.08)	<0.001
		115	42 (36.5)	73 (63.5)	1	
	Fast breathing	36	18 (50)	18 (50)	0.91 (0.44-1.91)	0.79
		329	172 (52.3)	157 (47.7)	1	
	Difficulty in breathing	48	27 (56.3)	21 (43.8)	1.21 (0.63-2.34)	0.53
		317	163 (51.4)	154 (48.6)	1	
	Feeding Difficulty	40	23 (57.5)	17 (42.5)	1.28 (0.63-2.62)	0.46
		325	167 (51.4)	158 (48.6)	1	
	Others	7	6 (85.7)	1 (14.3)	5.7 (0.67-127)	0.07
		358	184 (52.1)	174 (47.9)	1	

Table 12 shows the association of appropriate and prompt care with its determinants by univariate analysis. The odds of appropriate and prompt care is significantly higher for those mothers of under five children having 0-12 months old children, Male child, Mothers who were literates (High school and above), Husband's education (High school and above), Husband's Occupation (working as semiprofessionals and above vs others), Caste other than Schedule caste, those belonging to higher socioeconomic status (Class I,II & III), Age at the time of first child's birth(>21 years vs <21 years), Place of delivery(Private vs Public), Birth weight(>2.5kgs vs \leq 2.5 kgs), autonomy in Decision making, Mass media exposure to ARI and its treatment facilities, Type of Health facility utilized(Private vs Public), Mode of transport(Own Vehicle vs others), Holding health insurance card, Illness factors such as number of symptoms(>2 symptoms vs 2 symptoms), Presence of Fever, Perception of severity of illness, and those who recognized danger signals in children with acute respiratory infections.

There is no significant association between appropriate and prompt care and mother's age, mother's working status, Religion, Type of family, Head of the household, Parity, Birth order, Gestational period of pregnancy, Mode of delivery, Facilitators for taking the children to health facility, Distance of health facility, Utilization of ICDS, Recognition of other danger signals such as Fast breathing, Difficulty in breathing, Feeding difficulty, and Incessant cry.

Table 13. Association of seeking appropriate and prompt care with the factors influencing it by Logistic Regression analysis

Variable	Category	Adjusted Odds ratio (AOR)	Confidence Interval	P value
Age of child	<0-12	1.83	0.81-4.14	0.14
	13-59 months	1		
Sex of child	Female	1.37	0.75-2.53	0.29
	Male	1		
Mother's Education	High school and above	1.29	0.66-2.57	0.45
	Up to middle school	1		
Husband's Education	Up to middle school	0.83	0.43-1.62	0.59
	High school and above	1		
Husband's Occupation	Semi-professionals and above	1.14	0.52-2.53	0.73
	Upto skilled	1		
Caste	SC	0.47	0.23-0.93	<0.05
	Others	1		
Socio-economic status (Modified Prasad's classification)	Class IV,V	0.83	0.41-1.66	0.60
	Class I,II,III	1		

Age at the time of first Child Birth	>21 years	0.71	0.34-1.49	0.37
	≤ 21years	1		
Place of Delivery	Public	0.66	0.33-1.31	0.23
	Private	1		
Birth Weight	>2.5 Kg	0.48	0.20-1.14	0.10
	< 2.49 Kg	1		
Decision making	Self	11.09	5.55-23.10	<0.001
	Husband	1		
Mass media exposure	No	0.32	0.15-0.67	<0.001
	Yes	1		
Health facility Available	Private	1.12	0.36-3.26	0.83
	Public	1		
Mode of Transport	Others	0.99	0.48-2.03	0.98
	Own Vehicle	1		
Number of symptoms	>2	3.42	0.05-324.4	0.61
	2	1		
Fever	Present	1.20	0.36-3.91	0.75
	Absent	1		
Perception of symptoms	Not Severe	0.25	0.11-0.51	<0.001
	Severe	1		
Recognition of danger signals	No	0.18	0.002-8.78	0.47
	Yes	1		
Health Insurance	No	0.84	0.42-1.66	0.62
	Yes	1		

Table 13 shows logistic regression exploring the association of appropriate and prompt care with those factors having statistically significant association with appropriate and prompt care by univariate analysis. This reveals that:

1. The odds of appropriate and prompt care was 53 % lower in mothers of under-five children of Schedule Community when compared to other Community mothers.
2. The odds of appropriate and prompt care was 11.09 times higher in mothers of under-five children who had autonomy in decision making than others.
3. Mass media exposure is significantly associated with appropriate and prompt care after logistic regression. Mothers of under-five children who had no exposure to mass media such as television, newspapers and Radio have 68% less appropriate and prompt healthcare utilization when compared to mothers exposed to Mass media in any form .
4. Perception of severe symptoms is significantly associated with appropriate and prompt care after logistic regression. Mothers who perceived symptoms as less severe had 75% less appropriate and prompt care when compared to mothers whose perception of symptoms is severe.

Whereas factors like age of child, Sex of child, Mother's education, Father's education, Father's Occupation, Socio-economic status, Age at the time of first child's birth, Place of delivery, Birth weight, Type of Health facility, Mode of transport, Number of symptoms, Fever, Recognition of danger signals, Holding Health insurance card which were found to have a significant association by univariate analysis did not show significant association with appropriate and prompt care by logistic regression analysis.

7. DISCUSSION

The current study was carried out in the field practice area of Rural Health Training Centre (RHTC) attached to the Department of Community Medicine, PSG Institute of Medical Sciences and Research, Coimbatore to assess the appropriate and prompt health seeking behavior among mothers regarding acute respiratory infections in their children aged 0-5 years and to determine the factors influencing it using the modified Anderson and Newman health seeking behavior conceptual framework.

There were 1702 under-five children residing in the fourteen villages. House to house survey was conducted to find out the under-five children with an episode of acute respiratory infections in the preceding one month. Among 1702 children, five of them were not present in their house during the three visits. Among 1697 children, 375 had ARI during the preceding one month recall period. Mothers of these children were invited to participate and ten of them did not give their consent. So a total of 365 mothers of children in the age group of 0-59 months were enrolled in the study. A predesigned semi-structured questionnaire based on modified Anderson and Newman health seeking behavior conceptual framework was used to collect the data pertaining to the factors influencing the health seeking behavior among mothers of under-five children.

7.1 Health Seeking Behavior – Appropriate and Prompt care:

The one month period prevalence of ARI among the children aged 0-59 months in the study area was found to be about 21.50% (95% CI: 19.52-23.48). The proportion of appropriate and prompt health seeking behavior among mothers of children aged 0-59 months in the study area was nearly 52% (95%CI- 46.8-57.5%). If we consider only appropriate care, 76% of mothers had sought health care.

Even though many studies have been conducted to assess the health seeking behavior, the operational definition of “appropriate and prompt care” was used in few studies only.

A study conducted in 2006 by **Sreeramareddy et al**¹¹¹ in Nepal among mothers of children aged 0-59 months showed the prevalence of ARI as 17.7% and the percentage of appropriate and prompt health seeking behavior for acute respiratory infections was nearly 11.30%. The proportion of mothers had appropriate care in Nepal study was 26.4% whereas in our study it was 76%. The authors mentioned the reason for low utilization of appropriate care as lack of qualified medical professionals and large proportion of mothers visited traditional healers in Nepal.

According to the study conducted in North-eastern Albania in 2012 by **Doracaj et al**¹¹⁶, among mothers of children aged 0-59 months, the prevalence of ARI was 11.2% and the proportion of appropriate and prompt health seeking

behavior for acute respiratory infections was only 40% and appropriate care was nearly 64%. The authors mentioned the reasons for low utilization as suboptimal access to healthcare facilities, poor educational background, cultural factors and lower socioeconomic status.

Many studies have mentioned only appropriate health seeking behavior for acute respiratory infections among mothers of children aged 0-59 months.

According to the **NFHS-3**⁴² report, the health seeking behavior among mothers of under-five children for acute respiratory infections in Tamilnadu is 71.1%.

A study by **Ghosh et al**¹¹⁰ done among mothers of children in the age group 0-59 months in a rural area in Darjeeling district, in West Bengal has reported the proportion of health seeking behavior was 72.3%.

Sudharsanam et al¹¹⁵, in a study conducted in Pondicherry in 2007 among mothers of children aged between 2-59 months had shown that only 65% of the study population has sought medical care.

Indira dey et al¹¹⁷, in a study conducted in Hooghly district in West Bengal for health care seeking behavior among rural mothers of under-five children, the overall treatment rate from qualified practitioners was about 72%.

Majumdar et al¹¹⁸, in a study conducted at Pondicherry in 2014 reported the ARI prevalence rate was about 43.1% and 49.6% sought appropriate care. Majority (63%) preferred government sector which is contrary to our findings.

Sankarapandian et al¹¹⁹, in a study conducted at Vellore in 2005-2006 the overall care seeking behavior among mothers was about 88.9% and no treatment was sought among 19.1% in the study population. The increased utilization of health services could be due to availability of both public, private and Community based health services of mission hospitals in Vellore town.

Anwar-ul-Haq et al¹²⁰, in a study conducted at Karachi in Pakistan and published in 2015 regarding recognizing danger signs and health care seeking behavior among rural mothers of under-five children, found that the overall treatment rate from qualified practitioners was about 85.2%. According to the author the increased utilization of health facility was due to the study was conducted in a town where literacy rate among mothers was 81.5% with better household income.

Assefa et al¹²¹, in a study conducted at Ethiopia for health care seeking behavior among rural mothers of under-five children, found that only 43% of participants sought care from health facilities compared to 87% in urban mothers. The reason stated by the author for less utilization was Poor literacy, low socio-economic status, difficulty in access to health facilities.

According to **Wardlaw et al**¹, the prevalence of Health seeking behavior in developing countries is 54% and South Asia is about 59%, it is considered that only half of children with pneumonia were taken to an appropriate healthcare provider.¹⁵²

Our study also reiterates the fact that proportion of appropriate and prompt health seeking behavior among mothers of children aged 0-59 months is nearly 52% which remains low in rural India despite intervention measures such as the implementation of national programs such as IMNCI. Hence it is important to find out the determinants for appropriate and prompt health seeking behavior among mothers of children aged 0-59 months.

7.2 Factors influencing the Health seeking behavior

7.2.1 Predisposing Factors

7.2.1.1 Child's age vs Health seeking behavior

Child's age is an important variable influencing health seeking behavior. It is well known that younger the child, more attention is paid. In our study, both in univariate (OR 1.91, 95% CI 1.09-3.43) and in logistic regression analysis(AOR 1.54,95% CI 1.12-2.13) it was found statistically significant association between children less than one year and appropriate and prompt health seeking behavior compared to children aged more than one year.

Finding was consistent with the studies by **Sreeramareddy et al**^{44,111}, **Dey et al**¹²³, **Sankarapandian et al**¹¹⁹, **Page et al**¹²⁴ and **Webair et al**¹²⁵ who had shown that the younger the age group of children, more health care utilization than others.

7.2.1.2 Sex of the child vs Health seeking behavior

Sex of the child plays a major role in health seeking behavior among mothers of under-five children. Female children had lower odds of being taken to health facility during the time of illness.

In our study, in univariate analysis the male children had 1.7 times increased utilization of healthcare than that of female children and after adjusting with confounding variables it was not found to be statistically significant (AOR 1.37, 95% CI 0.75-2.53).

A study done by **Sreeramareddy et al**¹¹¹ had shown Female children had lower odds of being taken to healthcare providers (AOR 0.87, 95% CI 0.78-0.97).

7.2.1.3 Birth Order of the child vs Health seeking behavior

Children of lower birth order had utilized healthcare better than that of higher birth order children. In our study there is no statistically significant association between birth order and appropriate and prompt health care. According to the studies by **Goldman et al**³⁰, **Sreeramareddy et al**¹¹¹,

Govindaswamy et al¹²⁶ Children of lower birth order are more likely to be taken to appropriate health facilities (First Birth order, OR 1.52, 95% CI 1.18-1.95).

7.2.1.4 Birth weight of the child vs Health seeking behavior

It was found that in our study, there was no significant association between Birth weight and Health seeking behavior (AOR 0.48, 95% CI 0.20-1.14). According to the study conducted by **Shah et al**¹²⁷ in Bangladesh, preterm babies with low birth weight had better utilization of health care services than others.

7.2.1.5 Mode of Delivery vs Health seeking behavior

In our study, there was no significant association between Mode of delivery such as Normal delivery, Lower segment Caesarean section and Health seeking behavior (OR 0.66, 95% CI 0.43-1.02).

7.2.1.6 Religion vs Health seeking behavior

In the present study there was no statistically significant association between Religion and Health seeking behavior among mothers of children in the age group of 0-59 months. Similar findings were observed by **Sreeramareddy et al**^{44,111}, **Manna et al**¹¹⁴, and **Assefa et al**¹²¹.

7.2.1.7 Caste vs Health seeking behavior

Present study showed that there was significant association between mothers of schedule Caste had lesser utilization in terms of appropriate and prompt care (AOR 0.47, 95% CI 0.23-0.93) in logistic regression analysis compared to mothers of other caste. Similar findings were observed by **Sreeramareddy et al**¹¹¹ and **Saswatha Ghosh et al**¹²⁸.

7.2.1.8 Socioeconomic status vs Health seeking behavior

Socioeconomic status has a direct relationship with health seeking behavior. In our study, univariate analysis had shown women of higher socioeconomic status (Class I, II & III) had higher odds of healthcare utilization (OR- 2.20: 95% CI: 1.38-3.50) compared to those of lower socioeconomic status (Class IV &V). The findings from our study is consistent with studies done by **Sreeramareddy et al**^{111,44}, **Dey et al**¹²³ and **Ghosh et al**¹¹⁰ wherein women of low socio-economic status are at lower odds of healthcare utilization than those of high social status. However in the current study, in logistic regression analysis it was not found statistically significant.

7.2.1.9 Type of family vs Health seeking behavior

Studies have shown that Joint families had appropriate health seeking behavior among mothers of under-five children. Few Studies conducted by **Assefa et al**¹²¹, **Ghosh et al**¹¹⁰ have shown that mothers living in Nuclear families (67%) had sought healthcare better than mothers of Joint families

(25%). However it was not significant in our study between type of family and Health seeking behavior.

7.2.1.10 Head of family vs Health seeking behavior

Studies had shown that when mothers were the head of the family there was better healthcare utilization. In our study, there was no significant association between head of family and Health seeking behavior. It could be due to fewer numbers of mothers as head of the household (0.5%). A study conducted by **Pokhrel et al**¹⁰⁶ had shown that when mothers head the household, health care sought was 58%.

7.2.1.11 Husband's Education vs Health seeking behavior

Studies had shown that health seeking behavior was more among wives having educated husband. In our study, there was no statistically significant association between husband's education and Health seeking behavior. Similar findings were found by **Hassanzadeh J et al**¹²⁹ and **Amin et al**¹³⁰.

7.2.1.12 Husband's Occupation vs Health seeking behavior

Studies had shown that health seeking behavior was more among mothers having working husband. In our study, there was no statistically significant association between husband's occupation and Health seeking behavior. The findings from our study was consistent with a study done by **Amin et al**¹³⁰.

7.2.1.13 Mother's age vs Health seeking behavior

The mean age of mothers of children aged 0-59 months in the study population is 26.79± 3.43 years. In the current study there was no significant association between mother's age and health seeking behavior (OR 1.48, CI: 0.94-2.33). This was contrary to the findings by **Sreeramareddy et al**⁴⁴, **Assefa et al**¹²¹, **Taffa et al**¹³¹ and **Webair et al**¹²⁵ in which with increase in Mother's age higher the utilization of health services was reported.

7.2.1.14 Mother's Education vs Health seeking behavior

Education plays a major role in health seeking behavior of an individual. Better educated women have the privilege of living in better environment which have a positive influence on health status of their children.

The current study reveals the fact that mothers educated High school and above have higher odds of healthcare utilization (OR: 2.39, 95% CI: 1.50-3.82) than that of mothers with schooling up to secondary school level and illiterates. However when subjected to logistic regression analysis this was not statistically significant (AOR: 1.29, 95% CI: 0.66-2.57). This finding was not consistent with other studies like **Sreeramareddy et al**^{44,111}, **Ghosh et al**¹¹⁰, **Pokhrel et al**¹⁰⁶, **Sankarapandian et al**¹¹⁹ and **Manna et al**¹¹⁴ wherein significant association between education and health seeking behavior among mothers has been revealed.

7.2.1.15 Mother's working status vs Health seeking behavior

Mother's working status plays an important role in influencing health seeking behavior. In the current study, there was no significant association between mother's working status and Health seeking behavior. This findings was consistent with various studies like **Ghosh et al**¹¹⁰, **Hassanzadeh J et al**¹²⁹ and **Assefa et al**¹²¹ wherein no significant association between working status and health seeking behavior among mothers has been revealed.

7.2.1.16 Age at the time of first Child Birth vs Health seeking behavior

Age at the time of first child's birth has influence on the health status of the children in the age group of 0-59 months. The current study showed statistically significant association between age at the time of first child's birth was more than 21 years and appropriate and prompt care seeking behavior(OR: 0.58, 95% CI: 0.38-0.89). However when subjected to logistic regression analysis this was not statistically significant (AOR: 1.29, 95% CI: 0.66-2.57). Studies by **Gibbs et al**¹³², **Kayode et al**¹³³ and **Pillai et al**¹³⁴ had found younger mothers had lesser utilization of health services for their child illness.

7.2.1.17 Parity vs Health seeking behavior

Studies have shown that as the number of child birth increases lesser will be the healthcare utilization among mothers of under-five children. The current study finding showed no statistically significant association between parity and appropriate and prompt care seeking behavior. Studies by

Sreeramareddy et al¹¹¹, Asseefa et al¹²¹, Page et al¹²⁴ and Pokhrel et al¹⁰⁶ had shown no significant association between parity and appropriate and prompt care seeking behavior.

7.2.1.18 Gestational Period vs Health seeking behavior

Studies have shown that Preterm child will have increased healthcare utilization. A study conducted by **Shah et al¹²⁷, Asseefa et al¹²¹** had shown significant association between preterm child and appropriate and prompt care seeking behavior among mothers. But the current study finding showed no statistically significant association between gestational period and appropriate and prompt care seeking behavior.

7.2.1.19 Place of delivery of the child vs Health seeking behavior

Studies have shown that Children those who born at Private health facility were more likely to be taken to Healthcare facility at the time of illness. In our study, by univariate analysis, it was found that those children born at Private nursing home were 3 times more utilizing health care at the time of illness. In logistic regression analysis, it was not found statistically significant. Studies conducted by **Sreeramareddy et al^{111,44} and Manna et al¹¹⁴** had shown place of delivery was not significantly associated with healthcare utilization.

7.2.1.20 Decision making vs Health seeking behavior

Studies have shown that mothers who had autonomy in taking decisions regarding their child's treatment had better utilization of healthcare facility at the time of childhood illnesses. Our study found a strong association between mother's decision making and health seeking behavior (AOR 11.09,95% CI 5.55-23.10). Similar findings were shown in various studies conducted by **Ghosh et al**¹¹⁰, **Pillai et al**¹³⁴ and **Mohan et al**¹³⁵.

7.2.1.21 Mass media exposure vs Health seeking behavior

Exposure to mass media such as Television, Newspaper and radio regarding ARI and its treatment facility had increased the health seeking behavior among mothers of under-five children. In our study, there was a statistically significant association between Mass media exposure and Health seeking Behavior(AOR 0.32, 95% CI 0.15-0.67).

Similar findings was reported in **Dey et al**¹²³, **Amin et al**¹³⁰, **Saswatha et al**¹²⁸ that exposure to mass media will have increased healthcare utilization among mothers of under-five children.

7.2.2 Enabling Factors

7.2.2.1 Type of Health facility available vs Health seeking behavior

The type of health facility available near the residing place will have increased healthcare utilization among mothers of under-five children. In our study, in univariate analysis availability of Private health facility was 2.4 times more than that of Public health facility (OR 2.4 , 95% CI 1.14-5.42) and when it was subjected to logistic regression analysis, no statistically significant association found between availability of health facility and health seeking behavior (AOR 1.12, 95% CI 0.36-3.26).

7.2.2.2 Distance of health facility vs Health seeking behavior

The Distance of health facility from the residing place will influence healthcare utilization among mothers of under five children. In our study, there was no statistically significant association between the distance of health facility and health seeking behavior. This could be due to presence of health facilities within 3-5 kms of any village in the study area. Similar findings were found by **Sreeramareddy et al**⁴⁴ and **Diaz et al**¹³⁶

7.2.2.3 Mode of Transport vs Health seeking behavior

Studies had shown that the mode of transport influences health seeking behavior when they own vehicle and our study findings also reported that when they had own vehicle they had 1.78 times more utilization than that of others.(OR 1.78, 95% CI 1.14-2.77) However, on logistic regression analysis it was not statistically significant in the present study.

7.2.2.4 Health Insurance vs Health seeking behavior

Holding Health insurance among the mothers of children aged 0-59 months will increase utilization of healthcare facility. In our study, holding health insurance by mothers had 1.67 times appropriate and prompt care compared to those who don't possess health insurance (OR 1.67, 95% CI: 1.05-5.65). But on logistic regression analysis it was not statistically significant (AOR 0.84, 95% CI: 0.42-1.66).

Devadasan et al¹³⁷, in a study conducted at Gudalur, India had reported that the hospital admission among the insured was more when compared to uninsured individuals (OR 2.72, 95% CI 1.18-6.24).

A study conducted by **Sreeramareddy et al**⁴⁴ had reported 1.4 times more utilization among health insurance holders compared to others (AOR 1.40, 95% CI 1.11-1.75).

7.2.3 Need Factors

7.2.3.1 Number of symptoms vs Health seeking behavior

Studies had shown that Children with more than two symptoms had sought appropriate and prompt care. In our study, in univariate analysis the children having more than two symptoms had three times more utilized the healthcare facility (OR 3.20, 95% CI 1.9-5.45) and on logistic regression analysis it was not found statistically significant.

Burton et al¹¹³, in a study conducted an household survey at Kenya had reported that 88% had utilized when children presented with more than two symptoms.

Sreeramareddy et al¹¹¹, in a study conducted at Nepal has reported more than two symptoms had 5.36 times appropriate and prompt care.(AOR 5.36, 95% CI 1.71-16.73)

7.2.3.2 Perception of Illness vs Health seeking behavior

Studies had shown that mothers who perceived the illness as severe had sought healthcare from either public or private healthcare providers. In our study, in univariate analysis, the mothers who perceived the illness as not severe had utilized 89% less than that of those perceived the illness as severe (OR 0.11, 95% CI 0.07-0.19) and on logistic regression analysis it was found statistically significant (AOR 0.25,95% CI 0.11-0.51).

Sreeramareddy et al¹¹¹, in a study conducted at Nepal had reported mothers who perceived the illness as severe had 2.65 times appropriate and prompt care.(AOR 2.65, 95% CI 2.04-3.46)

7.2.3.3 Recognition of any Danger Signals vs Health seeking behavior

Studies had shown that recognition of any danger signals had influenced the health seeking behavior among mothers of under-five children. In our study when the mothers recognized the danger signals such as Fever, Fast breathing,

Difficulty in breathing, Feeding difficulty, Incessant cry they had three times more utilization (OR 3.23, 95% CI 1.91-5.47). However on logistic regression analysis it was not found statistically significant.

In our study, the most common danger signal influenced the mothers to sought healthcare was fever (OR 2.52, 95% CI 1.56-4.08) and found to be statistically significant in univariate analysis. However it was not statistically significant when subjected to logistic regression analysis.

Sreeramareddy et al⁴⁴, in a study conducted at Nepal had reported that mothers who were aware of danger signs such as fever sought healthcare more often than others. (AOR 1.49, 95% CI 1.24-1.81)

8. SUMMARY

Pneumonia is a major cause of morbidity and mortality in under-five children both in developing and developed countries. World Health Organization estimates that seeking appropriate and prompt care could reduce the child deaths due to ARI by 30%. Mothers play a pivotal role in managing childhood illness. Maternal Health seeking behavior regarding child's health care have been recognized as an important factor behind mortality rates among under-five children. Health seeking behavior among mothers in recognizing the sick child, seeking appropriate care and prompt treatment could reduce child deaths.

The current study was carried out in the field practice area of Rural Health Training Centre (RHTC) attached to the Department of Community Medicine, PSG Institute of Medical Sciences and Research, Coimbatore to assess the appropriate and prompt health seeking behavior among mothers regarding acute respiratory infections in their children aged 0-5 years and to determine the factors influencing it using the Anderson and Newman health seeking behavior conceptual framework.

There were 1702 children in the age group of 0-59 months. Their mothers were contacted to find out the health of their children. Five of them were not present in their house in spite of the three visits made by the investigator. Out of 1697 children in the age group of 0-59 months, 375

children had ARI in the previous one month and ten of them did not give the consent. Hence 365 under-five children were enrolled in the study. Overall participation rate is 97.33%. The proportion of health seeking behavior in terms of appropriate and prompt care among the study population was 52%.

A predesigned semi-structured questionnaire based on Anderson and Newman health seeking behavior conceptual framework was used to collect the data pertaining to the health seeking behavior and factors influencing it among mothers of under-five children.

The one month period prevalence of ARI among the children aged 0-59 months in the study area was found to be about 21.50% (CI: 19.52-23.48). The proportion of appropriate and prompt health seeking behavior among mothers of children aged 0-59 months in the study area is nearly 52% (95%CI- 46.8-57.5%). If we consider only appropriate care, 76% of mothers have sought health care.

In univariate analysis, factors like age of the child (0-12 months), Male child, Mothers who were literates (High school and above), Husband's education (High school and above), Husband Occupation (semiprofessionals and above), Caste other than Schedule caste, those belonging to higher socioeconomic status (Class I,II & III), Age of mother at the time of first child's birth(>21 years), Place of delivery(Private), Birth weight(>2.5), autonomy in Decision making, Mass media exposure to ARI and its treatment

facility, Type of Health facility utilized(Private), Mode of transport(Own Vehicle), Holding health insurance card, Illness factors such as number of symptoms(>2 symptoms), Presence of Fever, Perception of severity of illness, and those who recognized danger signals in children with acute respiratory infections and appropriate and prompt care were found to be statistically significant.

There was no significant association between appropriate and prompt care and mother's age, mother's working status, Religion, Type of family, Head of the household, Parity, Birth order, Gestational period of delivery, Mode of delivery, Facilitators for taking the children to health facility, Distance of health facility, Utilization of ICDS, Recognition of other danger signals such as Fast breathing, Difficulty in breathing, Feeding difficulty, and Incessant cry.

Those factors having statistically significant association with appropriate and prompt care by univariate analysis were subjected to logistic regression analysis. This reveals that:

1. The odds of appropriate and prompt care was 53 % lower in mothers of under-five children of Schedule Community when compared to other Community mothers.
2. The odds of appropriate and prompt care was 11.09 times higher in mothers of under-five children who had autonomy in decision making than others.

3. Mass media exposure is significantly associated with appropriate and prompt care after logistic regression. Mothers of under-five children who had no exposure to mass media such as television, newspapers and Radio have 68% less appropriate and prompt healthcare utilization when compared to mothers exposed to Mass media in any form .
4. Perception of severe symptoms is significantly associated with appropriate and prompt care after logistic regression. Mothers who perceived symptoms as less severe had 75% less appropriate and prompt care when compared to mothers whose perception of symptoms is severe.

Whereas factors like age of child, Sex of child, Mother's age, Mother's education, Father's education, Father's Occupation, Socio-economic status, Age at the time of first child's birth, Place of delivery, Birth weight, Type of Health facility, Distance of Health facility, Mode of transport, Number of symptoms, Fever, Recognition of danger signals, Holding Health insurance which were found to have a significant association by univariate analysis did not show significant association with appropriate and prompt care by logistic regression analysis.

This study establishes the importance of women's autonomy in decision making. Decision making should be based on right information regarding the necessity of appropriate and prompt care. Health education to mothers regarding identification of danger signals should be initiated and this could be obtained by health education through mass media and Community based Health education. Hence the existing IMNCI program should be strengthened at the grass root level in teaching the families regarding appropriate and prompt care which will alleviate India's Pneumonia burden and be able to achieve the Millennium Development Goals.

9. LIMITATIONS

1. The current study is a cross-sectional study with a recall period of one month which could lead to recall bias in collecting information.
2. The prevalence of ARI may be more in our study because of seasonal variation.
3. Sample size is not adequate to find out the association between some of the dependent and independent variables.
4. The responses from the mothers regarding severity of illness are subjective and distance of health facility told by them may be approximate.

10. RECOMMENDATIONS

1. Study highlights the importance of women's autonomy in decision making. Education should be encouraged to bring autonomy among mothers including Schedule caste.
2. Health education regarding identification of danger signals of ARI should be strengthened among mothers.
3. Health education regarding ARI and its treatment facilities through mass media and Community based Health education may help in reaching the unreached.
4. The existing IMNCI program should be reinforced at the grass root level in teaching the families regarding appropriate and prompt care.

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ANNEXURE - I



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1. INTRODUCTION

Every year approximately 1.7 million children in the age group of 0-59 months die throughout the world, mostly in developing countries.^{1,2} Among the childhood illnesses Acute respiratory infection (ARI) particularly lower respiratory tract infections or Pneumonia is the leading cause of both morbidity and mortality across the world.³ Acute respiratory infections are common inflammation of the respiratory tract anywhere from the nose to throat, with wide range of combination of symptoms and signs.⁴ Most acute respiratory infections result in mild illnesses, such as the common cold.⁵ Acute respiratory infections is often classified by clinical syndrome depending on the site of infection and is referred as ARI of upper respiratory tract (UARI) or lower respiratory tract (LARI).⁶

The upper respiratory infections includes Common cold, Pharyngitis and sinusitis. The Lower respiratory infections includes epiglottitis, Laryngitis, Laryngotracheitis, Bronchiolitis and Pneumonia.⁷ Pneumonia is a serious form of acute lower respiratory infection, that specifically affects the lungs.^{8,9} In vulnerable children, infections that begins with mild symptoms may leads to more severe illnesses, such as pneumonia.¹⁰ In severe pneumonia, the alveoli in one or both lungs will be filled with pus and fluid, which may interfere with oxygen absorption and make breathing difficult.¹¹ A variety of organisms agents account for the high burden of morbidity in Pneumonia.¹²



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1. INTRODUCTION

Every year approximately 1.9 million children in the age group of 0-59 months ¹³ die throughout the world, mostly in developing countries.^{1,2,3} Among the childhood illnesses Acute respiratory infection (ARI) particularly lower respiratory tract infections or Pneumonia ⁷ is the leading cause of both morbidity and mortality across the world.^{4,5} Acute respiratory infections may cause inflammation of the respiratory tract anywhere from the nose to alveoli, with wide range of combination of symptoms and signs.⁶ ² Most acute respiratory infections result in mild illnesses, such as the common cold.⁷ Acute respiratory infections is often classified by clinical syndromes depending on the site of infection and is referred as ARI of upper respiratory tract (AURI) or lower respiratory tract (ALRI).^{8,9}

The upper respiratory infections includes Common cold, Pharyngitis,

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ANNEXURE - II



PSG Institute of Medical Sciences & Research Institutional Human Ethics Committee

Recognized by The Strategic Initiative for Developing Capacity in Ethical Review (SIDCER)
POST BOX NO. 1674, PEELAMEDU, COIMBATORE 641 004, TAMIL NADU, INDIA
Phone : 91 422 - 2598822, 2570170, Fax : 91 422 - 2594400, Email : ihec@psgimsr.ac.in

June 19, 2014

To
Dr M Vijayakumar
Postgraduate
Department of Community Medicine
PSG IMS & R
Coimbatore

The Institutional Human Ethics Committee, PSG IMS & R, Coimbatore -4, has reviewed your proposal on 13th June, 2014 in its expedited review meeting held at IHEC Secretariat, PSG IMS&R, between 10.00 am and 11.00 am, and discussed your study proposal entitled:

"A study on health-seeking behaviour among mothers regarding acute respiratory infections in under five children in a rural area in Coimbatore"

The following documents were received for review:

1. Duly filled application form
2. Proposal
3. Informed consent forms
4. Proforma
5. CV
6. Budget

After due consideration, the Committee has decided to approve the study.

The members who attended the meeting at which your study proposal was discussed are as follows:

Name	Qualification	Responsibility in IHEC	Gender	Affiliation to the Institution Yes/No	Present at the meeting Yes/No
Dr P Sathyan	DO, DNB	Clinician, Chairperson	Male	No	Yes
Dr S Bhuvaneshwari	M.D	Clinical Pharmacologist Member - Secretary	Female	Yes	Yes
Dr Sudha Ramalingam	M.D	Epidemiologist Alt. Member - Secretary	Female	Yes	Yes
Dr Y S Sivan	Ph D	Member - Social Scientist	Male	Yes	Yes
Dr D Vijaya	Ph D	Member - Basic Scientist	Female	Yes	Yes

The approval is valid for one year.

We request you to intimate the date of initiation of the study to IHEC, PSG IMS&R and also, after completion of the project, please submit completion report to IHEC.



PSG Institute of Medical Sciences & Research Institutional Human Ethics Committee

Recognized by The Strategic Initiative for Developing Capacity in Ethical Review (SIDCER)

POST BOX NO. 1674, PEELAMEDU, COIMBATORE 641 004, TAMIL NADU, INDIA

Phone : 91 422 - 2598822, 2570170, Fax : 91 422 - 2594400, Email : ihec@psgimsr.ac.in

This Ethics Committee is organized and operates according to Good Clinical Practice and Schedule Y requirements.

Non-adherence to the Standard Operating Procedures (SOP) of the Institutional Human Ethics Committee (IHEC) and national and international ethical guidelines shall result in withdrawal of approval (suspension or termination of the study). SOP will be revised from time to time and revisions are applicable prospectively to ongoing studies approved prior to such revisions.

Kindly note this approval is subject to ratification in the forthcoming full board review meeting of the IHEC.

Yours truly,


19.6.24
Dr S Bhuvaneshwari
Member - Secretary

Institutional Human Ethics Committee



ANNEXURE - III

PSG Institute of Medical Science and Research, Coimbatore

Institutional Human Ethics Committee

INFORMED CONSENT FORMAT FOR RESEARCH PROJECTS

I Dr.M.Vijayakumar carrying out a study on the topic: **A study on health-seeking behavior among mothers of under-five children with acute respiratory infections in a rural area of Coimbatore.**

as part of my research project being carried out under the aegis of the DEPARTMENT OF COMMUNITY MEDICINE.

(Applicable to students only): My research guide is:

DR.M.SIVAMANI and DR.PUNITHAKUMARI

The justification for this study :

Mothers play a pivotal role in managing childhood illness. Maternal Health seeking behavior regarding children's health care have been recognized as an important factor behind mortality rates among children < 5 years of age.

Health Seeking Behavior among mothers in recognizing sick child and seeking appropriate care & prompt treatment could reduce child deaths.

Early recognition of danger signs by mothers at home & health seeking behavior in appearance of danger signs were the key strategies to prevent severe life-threatening complications. Delays in seeking appropriate care & not seeking care at all will contribute to the large number of child deaths in developing countries.

There is a paucity of studies determining the factors influencing the health seeking behavior among mothers using conceptual framework and only few studies were done in Tamil Nadu regarding maternal health seeking behavior for underfive children. On this background, we planned to study the health seeking behavior and factors influencing it among mothers of children aged 0-5 years in a rural area of Coimbatore.

The objectives of this study are:

1. To assess the health seeking behavior among mothers for acute respiratory infections in children aged 0-5 years.
2. To determine the factors influencing health seeking behavior among mothers for acute respiratory infections in children aged 0-5 years.

Sample size: 319 Mothers of Underfive children with acute respiratory infections in last one month.

Study volunteers / participants are (specify population group & age group):

All Mothers of under-five children in 14 villages of field practice area of RHTC, Vedapatti, PSGIMSR, Coimbatore.

Location:

Field practice area of RHTC, Vedapatti, PSGIMSR, Coimbatore.

We request you to kindly cooperate with us in this study. We propose collect background information and other relevant details related to this study. We will be carrying out:

Initial interview (specify approximate duration): 10 minutes

Data collected will be stored for a period of FIVE years. We will / will not use the data as part of another study.

Health education sessions: NOT APPLICABLE

Clinical examination (Specify details and purpose): Height and weight of the child and mother will be measured to calculate their nutritional status

Blood sample collection: NOT APPLICABLE

Medication: NOT APPLICABLE

Final interview: NOT APPLICABLE

If **photograph** is taken, purpose: FOR DISSERTATION PURPOSE

Benefits from this study:

1. Prevalence of Health seeking behavior among mothers of under-five children will be estimated
2. Determinants of Health seeking behavior among mothers of under-five children will be found
3. Health education will be given to mothers regarding recognition of danger signals of Acute respiratory infections to promote health seeking behavior among mothers of under-five children
4. Those children found to have severe respiratory infections will be referred to RHTC, Vedapatti for further treatment

Risks involved by participating in this study: NO RISK

How the **results** will be used: FOR DISSERTATION AND PUBLICATION.

If you are uncomfortable in answering any of our questions during the course of the interview you **have the right to withdraw from the interview / study at anytime**. You have the freedom to withdraw from the study at any point of time. Kindly be assured that your refusal to participate or withdrawal at any stage, if you so decide, will not result in any form of compromise or discrimination in the services offered nor would it attract any penalty. You will continue to have access to the regular services offered to a patient. You will **NOT** be paid any remuneration for the time you spend with us for this interview / study. The information provided by you will be kept in strict confidence. Under no circumstances shall we reveal the identity of the respondent or their families to anyone. The information that we collect shall be used for approved research purposes only. You will be informed about any significant new findings - including adverse events, if any, – whether directly related to you or to other participants of this study, developed during the course of this research which may relate to your willingness to continue participation.

Consent: The above information regarding the study, has been read by me/ read to me, and has been explained to me by the investigator/s. Having understood the same, I hereby give my consent to them to interview me. I am affixing my signature / left thumb impression to indicate my consent and willingness to participate in this study (i.e., willingly abide by the project requirements).

Signature / Left thumb impression of the parents:

Signature of the Interviewer with date:

Witness:

பி.எஸ்.ஜி.மருத்துவக்கல்லூரி, கோயம்புத்தூர்

ஒப்புதல் படிவம்

வணக்கத்திற்குரிய பெற்றோர்களே,

டாக்டர் மு.விஜயகுமார் ஆகிய நான் PSG மருத்துவக்கல்லூரியின் சமூகவியல் மருத்துவ துறையில் MD பட்ட மேற்படிப்பு படித்து வருகிறேன். நான் “கோயமுத்தூரில் உள்ள வேடபட்டி கிராம பகுதியில், பிறந்த குழந்தை முதல் 5 வயதுக்குட்பட்ட குழந்தையின் தாய்மார்களிடம் குழந்தைகளுக்கு ஏற்படும் சுவாசக்குழாய் மற்றும் நுரையீரல் சம்பந்தப்பட்ட நோய்களுக்கான சுகாதாரம் சார்ந்த விழிப்புணர்வு மற்றும் அதற்கான காரணிகள்” பற்றி அறிந்திட ஆய்வு ஒன்றை மேற்கொள்ள உள்ளேன். ஆகவே பெற்றோர்களாகிய உங்களிடம், உங்கள் குழந்தையின் நோய் குறித்த விபரம் மற்றும் குடும்பத்தின் விவரங்கள் சிலவற்றை அறிய உங்கள் ஒத்துழைப்பைக் கோருகிறேன்.

என் ஆய்வு வழிகாட்டி : Dr.M.சிவமணி, Dr.P.புனிதகுமாரி

ஆய்வு மேற்கொள்வதற்கான அடிப்படை :

பொதுவாக பிறந்த குழந்தை முதல் ஐந்து வயதுக்குட்பட்ட குழந்தைகளுக்கு சுவாசக்குழாய் மற்றும் நுரையீரல் சம்பந்தப்பட்ட நோய்களும், வயிற்றுப்போக்கும் பெரும்பான்மையான நோய் தாக்குதலுக்கும், உயிரிழப்பிற்கும் காரணமென பல ஆய்வுகளும், உலகசுகாதார நிறுவனமும் மேற்கோள் காட்டியுள்ளது.

அவ்வாறு பாதிக்கப்பட்ட குழந்தைகளின் தாய்மார்களிடையே, இந்நோய் குறித்து விழிப்புணர்வும் அதன் அபாயநிலை கண்டறியும் திறன் குறித்தும், மேலும் உடனடி சிகிச்சைக்கு எவ்வித மருத்துவச் சேவையை நாடினார்கள் எனவும் இவ்வாய்வில் மேற்கொள்ளப்படும்.

அத்தகைய சுகாதாரம் சார்ந்த விழிப்புணர்வுக் ஊக்குவிக்கும் காரணிகளையும், ஊறுவிளைவிக்கும் காரணிகளையும் கண்டறியவும், இதன் மூலம் சரியான நலத்திட்டங்களை வகுக்கவும், தாய்மார்களின் நோய் கண்டறியும் திறனை மேம்படுத்தும் விதமாகவும், இவ்வாய்வினை மேற்கொள்கிறேன்.

ஆய்வின் நோக்கம்

- பிறந்த குழந்தை முதல் ஐந்து வயதுக்குட்பட்ட குழந்தையின் தாய்மார்களிடம், சுவாசக்குழாய் மற்றும் நுரையீரல் தொற்றுநோய் குறித்தும், அதன் அபாயநிலை கண்டறியும் திறன் குறித்தும், அவ்வாறிருப்பின் எவ்வித மருத்துவச்சேவை அளிக்கப்பட்டது என்பது குறித்தும் கண்டறிதல்.
- சுகாதார நலன் கோறும் விழிப்புணர்வு குறித்தும் அவற்றை ஊக்குவிக்கும் மற்றும் ஊறுவிளைவிக்கும் காரணிகள் கண்டறிதல்.

ஆய்வில் பங்குபெறுபவர்கள்:

ஆய்வு நடப்பதற்கு ஒருமாதகாலம் முன்பாக சுவாசக்குழாய் மற்றும் நுரையீரல் சம்பந்தப்பட்ட நோய் பாதிக்கப்பட்ட குழந்தையின் தாய்மார்கள்.

ஆய்வு மேற்கொள்ளும் இடம் :

பி.எஸ்.ஐ.மருத்துவக்கல்லூரியின் கிராமபுற சுகாதார மையத்தின் சேவை பகுதி, வேடபட்டி கிராமம்.

ஆய்வின் பலன்கள்

சுகாதார நலன் குறித்த விழிப்புணர்வின் பரவலையும் அதன் காரணிகளையும் கண்டறிவதன் மூலம் தேவையான நலத்திட்டங்களையும், தாய்மார்களுக்கு சுவாசக்குழாய் மற்றும் நுரையீரல் தொற்றுநோய் குறித்தும், நோயின் அபாய நிலையை கண்டறியும் திறன் குறித்தும், அதற்கான உரிய சிகிச்சை முறைகளை எடுத்துரைக்கவும் உதவிடும்.

ஆய்வினால் ஏற்படும் அசௌகரியம் :

இவ்வாய்வில் பங்கேற்க ஒப்புக்கொள்வதால் எந்தவிதமான தீங்கும் தங்களுக்கும், தங்கள் குழந்தைக்கும் ஏற்படாது.

இந்த ஆய்வில் கிடைக்கும் தகவல்கள் 5 வருடங்கள் பாதுகாக்கப்படும். இவை வேறு எந்த ஆய்விற்கும் பயன்படுத்தப்பட மாட்டாது. அவை இரகசியமாக பாதுகாக்கப்படும். எந்த நேரத்தில் வேண்டுமானாலும் ஆய்விலிருந்து விலகிக் கொள்ளும் உரிமை உங்களுக்கு உண்டு.

இந்த ஆராய்ச்சிக்காக உங்களிடம் சில கேள்விகள் கேட்கப்படும்.

மேலும் இந்த ஆய்வில் பங்கு கொள்வது உங்கள் சொந்த விருப்பம்.
இதில் எவ்வித கட்டாயமும் இல்லை.

ஆய்வாளரின் கையொப்பம் :

தேதி :

ஆய்வுக்குட்படுவாரின் ஒப்புதல்

நான் இந்த ஆராய்ச்சியின் நோக்கம் மற்றும் அதன் பயன்பாட்டினைப்பற்றி தெளிவாகவும், விளக்கமாகவும் தெரியப்படுத்தப்பட்டுள்ளேன். இந்த ஆய்வில் மருத்துவரீதியான குறிப்புகளை வரும் காலத்திலும் உபயோகப்படுத்திக் கொள்ளவும் முழுமனதுடன் சம்மதிக்கிறேன்.

ஆய்வுக்குட்படுவாரின் பெயர் :

முகவரி :

கையொப்பம் :

தேதி :

ஆய்வாளரின் தொலைபேசி எண் : 9994311162

மனித நெறிமுறைக்குழு அலுவலகத்தின் தொலைபேசி எண். : 0422-2570170, Extn : 5818
குழந்தையின் தாய்மார்கள் இந்த ஆய்வுக்கு உதவியதற்கு நன்றி.

ANNEXURE - IV

A STUDY ON HEALTH-SEEKING BEHAVIOR AMONG MOTHERS OF UNDER-FIVE CHILDREN WITH ACUTE RESPIRATORY INFECTIONS IN A RURAL AREA OF COIMBATORE

Questionnaire to Mother

Name of the Village : _____

Participant ID No

DEMOGRAPHIC PROFILE :

1. Name of the child : _____
2. Sex : M F
3. Date of birth : _____
4. Address : _____
5. Religion
 - i. Hindu
 - ii. Christian
 - iii. Muslim
 - iv. Others
6. Caste
 - BC
 - MBC
 - SC
 - others

SOCIO-ECONOMIC DETAILS

7. Mother's age : Years

8. Mother's Education: _____ 9. Mother's Occupation: _____

- | | | | |
|---------------------|--------------------------|---------------|--------------------------|
| 1. Illiterate | <input type="checkbox"/> | 1. Unemployed | <input type="checkbox"/> |
| 2. Primary | <input type="checkbox"/> | 2. Employed | <input type="checkbox"/> |
| 3. Middle school | <input type="checkbox"/> | | |
| 4. Secondary | <input type="checkbox"/> | | |
| 5. Higher secondary | <input type="checkbox"/> | | |
| 6. Graduate | <input type="checkbox"/> | | |

Father's details

10. Education _____

- 1. Illiterate
- 2. Primary
- 3. Middle school
- 4. Secondary
- 5. Higher secondary
- 6. Graduate
- 7. Others,specify_____

11. Occupation: _____

- 1. Unemployed
- 2. Unskilled worker
- 3. Semiskilled worker
- 4. Skilled worker
- 5. Clerk/shop owner/farm
- 6. Semi profession
- 7. Profession

Family details

- 12. Type of family: Nuclear Extended
- 13. Head of family : Husband Self
- 14. Total number of family members :
- 15. Monthly family income : Rs _____

Maternal and child health details

- 16. Number of children ever born(Birth order) :
- 17. Age of mother at the time of delivery of first child
- 18. Birth order :
- 19. Place of delivery: Government Private Others (specify):
- 20. Type of delivery : Normal LSCS
- 21. Details about the delivery of this child: Preterm Term
- 22. Birth Weight (kg) :
- 23. Whether the child is beneficiary of anganwadi center(ICDS) : Yes No
- 24. Whether your child is enrolled for any health insurance ? Yes No
If Yes , Government Private

MORBIDITY DETAILS:

- 25. In Your opinion, how severe was the illness of child during the last one month?
Not severe
Severe

26. During the respiratory illness in the past one month did you notice whether the child had any one of the following symptoms associated with cough?

- Fever Yes No
- Difficulty in breathing Yes No
- Fast breathing Yes No
- Feeding difficulty Yes No
- Chest indrawing Yes No
- Fast Breathing Yes No
- Others Yes No Specify _____

HEALTH SEEKING BEHAVIOUR DETAILS:

27. Which symptoms when associated with cough made you to take your child to a health facility right away?

- Fever
- Difficulty in breathing
- Fast breathing
- Feeding difficulty
- Convulsions
- Altered sensorium

28. Whether you gave any type of care before taking the child to the health facility?

Yes No

If yes ,

- Pharmacy
- Self medication
- Home based remedies
- Traditional practitioner

29. Whether you took your child to health facility for illness associated with cough and cold?

Yes No

If yes, continue or skip to Q 38.

30. Which health care provider did you seek treatment for this illness associated with cough?

- Public sector
- Private sector
- Others

31. Was there any delay for you to take your child to the health facility? Yes No

32. If Yes, how much time it took for you to take your child to a health facility right away?

Specify _____

33. Was your child referred to any other higher level health facility for further treatment?

Yes No

34. If yes, did you take your child to the higher health facility ? Yes No

35. If health facility was not approached what were the reasons for not seeking advice?

i. Not felt necessary

ii. Costs too much

iii. Too far

iii. Not convenient

iv. Past bad experience

v. Nobody to accompany

Vi. Others

Specify _____

36. Which mode of transport you used to reach the health facility?

Own vehicle

Rented vehicle

Cycle

Walk

Others Specify _____

37. Out-Of-Pocket expenditure

Health facility Visits	Out-Of-Pocket expenditure			Total
	Consultation cost	Medicine cost	Travel cost	
Total				

HEALTH SERVICES UTILIZATION DETAILS

38. Which health facility is available nearer to your residence ?

Public sector

Private medical sector

Others

39. Distance of that health facility? kms

40. Who will take the decision to take your child to the health facility?

Self

Spouse

41. Who all will facilitate or motivate you to get your child treated?

Self

Spouse

Other family members/ relatives

Friends/ Neighbors

ANM/VHN

AWW

42. From which mass media you came to know about ARI and its treatment facilities?

Newspaper

Television

Radio

பி.எஸ்.ஜி.மருத்துவக்கல்லூரி, கோயம்புத்தூர்

வணக்கத்திற்குரிய பெற்றோர்களே,

டாக்டர் மு.விஜயகுமார் ஆகிய நான் PSG மருத்துவக்கல்லூரியின் சமூகவியல் மருத்துவ துறையில் MD பட்ட மேற்படிப்பு படித்து வருகிறேன். நான் "கோயம்புத்தூரில் உள்ள வேடபட்டி கிராம பகுதியில், பிறந்த குழந்தை முதல் 5 வயதுக்குட்பட்ட குழந்தையின் தாய்மார்களிடம் குழந்தைகளுக்கு ஏற்படும் சுவாசக்குழாய் மற்றும் நுரையீரல் சம்பந்தப்பட்ட நோய்களுக்கான சுகாதாரம் சார்ந்த விழிப்புணர்வு மற்றும் அதற்கான காரணிகள்" பற்றி அறிந்திட ஆய்வு ஒன்றை மேற்கொள்ள உள்ளேன். ஆகவே பெற்றோர்களாகிய உங்களிடம், உங்கள் குழந்தையின் நோய் குறித்த விபரம் மற்றும் குடும்பத்தின் விவரங்கள் சிலவற்றை அறிய உங்கள் ஒத்துழைப்பைக் கோருகிறேன்.

நோய்குறித்த தகவல்

1. உங்களுக்கு ஐந்து வயதுக்குட்பட்ட குழந்தைகள் (0-5 ஆண்டுகள்) இருக்கிறார்களா?
ஆம் இல்லை
2. தங்கள் குழந்தைக்கு சுவாசக்குழாய் மற்றும் நுரையீரல் சம்பந்தமாக இருமலுடன் காய்ச்சல், மூச்சுத்திணறல், பால் மற்றும் உணவு உட்கொள்ள பிரச்சனை மற்றும் மார்பு உள்வாங்குதல் போன்ற அறிகுறிகள் கடந்த ஒரு மாதத்தில் நோய் ஏதேனும் கடந்த ஒரு மாதக்காலத்தில் ஏற்பட்டதா?
ஆம் இல்லை

ஆய்வு படிவம்

I. சமூக பொருளாதார விவரங்கள்

கிராமத்தின் பெயர் : _____

(i) குழந்தையின் விவரங்கள் :

அடையாள எண் :

1. குழந்தையின் பெயர் : _____

2. பிறந்த தேதி : _____

3. பாலினம் : ஆண் பெண்

4. முகவரி : _____

5. மதம் : இந்து கிறிஸ்துவம் முஸ்லீம் மற்றவை

6. வகுப்பு : பிற்படுத்தப்பட்டவர் மிகவும் பிற்படுத்தப்பட்டவர்

தாழ்த்தப்பட்டவர் மற்றவை

(ii) அம்மாவின் விவரங்கள் :

7. அம்மாவின் வயது : _____

8. அம்மாவின் கல்வி :

படிப்பறிவில்லை

ஐந்தாவது வரை

பத்தாவது வரை

பன்னிரண்டாவது வரை

கல்லூரி படிப்பு

9. தொழில் :

வேலையில்லை

திறமை சாராத பணி

குறைந்த திறன் பணி

திறமை சார்ந்த பணி

வேளாண்மை எழுத்தர்/விவசாயம்
/விற்பனையாளர்

தொழில்

உயர்தொழில்

(iii) தந்தையின் விபரங்கள் :

10. கல்வி :

- படிப்பறிவில்லை
- ஐந்தாவது வரை
- பத்தாவது வரை
- பன்னிரண்டாவது வரை
- கல்லூரி படிப்பு

11. தொழில் :

- வேலையில்லை
- திறமை சாராத பணி
- குறைந்த திறன் பணி
- திறமை சார்ந்த பணி
- வேளாண்மை எழுத்தர்/விவசாயம்
/விற்பனையாளர்
- தொழில்
- உயர்தொழில்

(iv) குடும்ப விபரங்கள் :

12. குடும்பத்தின் வகை : தனிக்குடும்பம் கூட்டு குடும்பம்
13. குடும்பத்தலைவர் : தந்தை தாய்
14. குடும்பத்தில் மொத்தம் எத்தனை நபர்கள் உள்ளனர்
15. குடும்பத்தின் மொத்த மாத வருமானம் : _____

(v) தாய்சேய் நல விபரங்கள் :

16. உங்களுக்கு மொத்தம் எவ்வளவு குழந்தைகள் உள்ளனர்?
17. முதல் குழந்தை பிறந்தபோது உங்கள் வயது என்ன?
18. பிறப்பு வரிசை

(vi) இளைய குழந்தையின் விவரங்கள் :

19. குழந்தை பிரசவம் நடந்த இடம் அரசு தனியார் மற்றவை
குழந்தையின் பிரசவம் குறித்த தகவல் :
20. பிரசவ வகை :
சுக பிரசவம் அறுவை சிகிச்சை
21. பிரசவ காலம்
குறை மாதம் நிறை மாதம்
- குறை மாதம் எனில் எத்தனை மாதங்கள் _____

22. பிறந்த போது குழந்தையின் எடை எவ்வளவு _____ கிலோ
23. குழந்தை அருகிலுள்ள ஒருக்கிணைந்த குழந்தை (அங்கன்வாடி மையம்) வளர்ச்சி திட்டத்தின் பயனாளியா?
ஆம் இல்லை
24. நீங்கள் ஏதேனும் மருத்துவக்காப்பீட்டு பயனாளியா?
ஆம் இல்லை
- ஆம் எனில்
- அரசு மருத்துவக்காப்பீடு
- தனியார் மருத்துவக்காப்பீடு
- தொழிலாளர் மருத்துவக்காப்பீடு (ESI)

நோய்குறித்த தகவல்

25. தங்கள் குழந்தைக்கு ஏற்பட்ட சுவாசக்குழாய் பிரச்சனை குறித்து உங்கள் கருத்து?
உடல்நிலை மோசமில்லை
உடல்நிலை மோசம்
26. நீங்கள் உங்கள் குழந்தைக்கு இருமலுடன் கீழ்க்காணும் ஏதேனும் ஒன்றை கவனித்தீர்களா?
ஆம் இல்லை
- | | | | | |
|----------------------------|-----|--------------------------|-------|--------------------------|
| காய்ச்சல் | ஆம் | <input type="checkbox"/> | இல்லை | <input type="checkbox"/> |
| மூச்சுத்திணறல் | ஆம் | <input type="checkbox"/> | இல்லை | <input type="checkbox"/> |
| உணவு உட்கொள்ளாதல் பிரச்சனை | ஆம் | <input type="checkbox"/> | இல்லை | <input type="checkbox"/> |
| மார்பு உள்வாங்குதல் | ஆம் | <input type="checkbox"/> | இல்லை | <input type="checkbox"/> |
| வலிப்பு | ஆம் | <input type="checkbox"/> | இல்லை | <input type="checkbox"/> |
| சுயநினைவின்மை | ஆம் | <input type="checkbox"/> | இல்லை | <input type="checkbox"/> |
| மற்றவை | ஆம் | <input type="checkbox"/> | இல்லை | <input type="checkbox"/> |

சுகாதார நலன் குறித்த தகவல்:

27. மேற்குறிப்பிட்டவற்றில் எந்த அறிகுறி தோன்றியவுடன் உடனடியாக உங்கள் குழந்தையை மருத்துவமனைக்கு கொண்டு சென்றீர்கள் ?

காய்ச்சல்	ஆம்	<input type="checkbox"/>	இல்லை	<input type="checkbox"/>
மூச்சுத்திணறல்	ஆம்	<input type="checkbox"/>	இல்லை	<input type="checkbox"/>
உணவு உட்கொள்ளாதல் பிரச்சனை	ஆம்	<input type="checkbox"/>	இல்லை	<input type="checkbox"/>
மார்பு உள்வாங்குதல்	ஆம்	<input type="checkbox"/>	இல்லை	<input type="checkbox"/>
வலிப்பு	ஆம்	<input type="checkbox"/>	இல்லை	<input type="checkbox"/>
சுயநினைவின்மை	ஆம்	<input type="checkbox"/>	இல்லை	<input type="checkbox"/>
மற்றவை	ஆம்	<input type="checkbox"/>	இல்லை	<input type="checkbox"/>

28. உங்கள் குழந்தைக்கு சுவாசக்குழாய் மற்றும் நுரையீரல் சம்பந்தப்பட்ட நோய்க்கு மருத்துவச்சேவையை நாடுவதற்கு முன் ஏதேனும் வைத்தியம் செய்தீர்களா?

ஆம் இல்லை ஆம் எனில் :

மருந்து அங்காடி	<input type="checkbox"/>
சுயமாக மருந்து உட்கொள்ளாதல்	<input type="checkbox"/>
வீட்டு மருந்து	<input type="checkbox"/>
நாட்டு வைத்தியம்	<input type="checkbox"/>

29. உங்கள் குழந்தைக்கு சளி, இருமலுடன் மேலே கூறப்பட்ட அபாய அறிகுறிகள் காணப்பட்டதால் உடனடி மருத்துவச்சேவையை நாடினீர்களா?

ஆம் இல்லை

ஆம் எனில் : தொடர்க, இல்லை எனில் கேள்வி 38 தாவுக.

30. உங்கள் குழந்தையின் சுவாசக்குழாய் மற்றும் நுரையீரல் சம்பந்தப்பட்ட எவ்வித மருத்துவச் செவையை நாடினீர்கள்?

அரசு நிறுவனம்	<input type="checkbox"/>
தனியார் நிறுவனம்	<input type="checkbox"/>
மற்றவை	<input type="checkbox"/>

31. குறிப்பிட்ட மருத்தவ சேவைக்கு கொண்டுச்செல்ல காலதாமதம் ஏதேனும் ஏற்பட்டதா?

ஆம் இல்லை

32. ஆம் எனில், எவ்வளவு நேரம் கழித்து தங்கள் குழந்தையை மருத்துவச்சேவைக்கு கொண்டு சென்றீர்கள்

< 24 மணி நேரத்திற்குள் > 24 மணி நேரத்திற்கு மேல்

33. மருத்துவச்சேவையை பெற்றபின் குழந்தையின் உடல்நிலை மோசமானதால் உயர் மருத்துவச்சேவைக்கு பரிந்துரை செய்யப்பட்டதா?

ஆம் இல்லை

34. ஆம் எனில், நீங்கள் உங்கள் குழந்தையை உயர் மருத்துவச் சேவைக்கு கொண்டு சென்றீர்களா?

ஆம் இல்லை

35. அவ்வாறு இல்லையெனில், எதற்காக கொண்டு செல்லவில்லை?

தேவையில்லை என்று கருதியது

பணச்செலவு அதிகம்

தொலைவு போக்குவரத்து இல்லை

அசௌகரியம் (நேரம், இடம்)

பழைய மோசமான அனுபவம்

கூட்டிச்செல்ல யாருமில்லை

மற்றவை

குறிப்பிடுக _____

36. இம்மருத்துவச் சேவைக்கு செல்வதற்கான போக்குவரத்து வசதி என்ன?

சொந்த மோட்டார் வாகனம்

வாடகை மோட்டார் வாகனம்

சைக்கிள்

நடை

மற்றவை

குறிப்பிடுக _____

37. மருத்துவச்சேவைக்கான செலவு விபரம் :

மருத்துவச்சேவை நாடியது	மருத்துவ ஆலோசனை செலவு	மருந்து செலவு	போக்குவரத்து செலவு	மொத்தம்
முதல் தடவை				
இரண்டாம் தடவை				
மொத்தம்				

மருத்துவச்சேவை பயன்பாடு குறித்த தகவல்கள்

38. தங்கள் வீட்டின் அருகிலுள்ள மருத்துவச் சேவையை குறிப்பிடவும்?

- அரசு நிறுவனம்
- தனியார் நிறுவனம்
- மற்றவை

39. உங்கள் வீட்டிலிருந்து இம்மருத்துவ வசதி எவ்வளவு தொலைவில் உள்ளது
_____ கி.மீ.

40. அவ்வாறு குழந்தைக்கு உடல்நிலை சரியில்லாத போது மருத்துவச்சேவையை
நாடிட அறிவுறுத்தியவர் யார்?

- சுயமாக
- கணவர்
- மற்ற குடும்ப நபர்கள் / சொந்தக்காரர்கள்

41. யாரெல்லாம் உங்கள் குழந்தைக்கு மருத்துவச்சேவையை செய்திட பரிந்துரை
செய்தனர்?

- கணவர்
- மற்ற குடும்ப நபர்கள் / சொந்தக்காரர்கள்
- நண்பர்கள்
- அண்டை வீட்டார்
- கிராம சுகாதார செவிலியர்
- அங்கன்வாடி மைய பணியாளர்

42. இந்த நோய்க்கான மருத்துவ சேவைப் பற்றி ஏதேனும் ஊடகங்கள் மூலமாக
தெரிந்து கொண்டீர்களா?

- செய்தித்தாள்
- தொலைக்காட்சி
- வானொலி
- மற்றவை குறிப்பிடுக _____

ANNEXURE V

Modified Prasad's classification

Value of Consumer Price Index – Industrial Workers (CPI – IW) for July 2015= 244
(for Coimbatore; Base 2001 =100)

The calculation as per Modified Prasad's classification has to be done using the following formula:

To convert the March 2014 CPI of 219

$$= 244 \times 4.63 = 1097.31$$

The calculation as per Modified Prasad's classification was done using the following formula:

$$\text{Multiplication factor} = (\text{Value of CPI} \times 4.63) \times 4.93$$

$$\begin{aligned} & \frac{\text{-----}}{100} \\ & = 1097.31 \times 4.93 \\ & \frac{\text{-----}}{100} = 55.69 \end{aligned}$$

Socio-economic Status	Per capita monthly income limits
CLASS I	Rs. \geq 5570
CLASS II	Rs 2780- 5569
CLASS III	Rs1670-2779
CLASS IV	Rs 840-1669
CLASS V	Rs < 840

ANNEXURE VI

Coding sheet for master chart

1. Village Name

Ajjnoor	1
Dhaliyur	2
Dheenampalayam	3
Kalikanaicken palayam	4
Kempanoor	5
Kurumbapalayam	6
Nagarajapuram	7
Nambialaganpalayam	8
Onappalayam	9
Poochiyur	10
Sundapalayam	11
Ulliampalayam	12
Vanniampalayam	13
Vedapatti	14

2. Age group

0-12months	1
13-24months	2
25-36months	3
37-59months	4

3.Sex

Male	1
Female	2

4.Religion

Hindu	1
Muslim	2
Christian	3
Others	4

5.Community

BC	1
MBC	2
SC	3
Others	4

6. Paternal and maternal education status

Illiterate	0
Primary school	1
Secondary school	2
High school	3
HSC/Diploma	4
Graduate	5

7. Socio-Economic Status (SES)

Upper	1
Upper Middle	2
Lower Middle	3
Upper Lower	4
Lower Lower	5

8. Mother's Age

≤ 25	1
> 25	2

9. Mother's working status

Working	1
Not working	0

10. Type of Family

Nuclear	1
Joint	2

11. Head of family

Husband	1
Self	2

12. Parity

Single Child	1
≤ 2 Child	2

13. Birth Order

First Child	1
\geq Second order	2

14. Age at First Child

≤ 21	1
> 21	2

5. Place of birth

Govt.Hospital	1
Private	2
Others	3

16. Type of delivery

Normal	1
LSCS	2

17. Term of delivery

Term	1
Preterm	2

18. Birth weight of the child

≤ 2.5	1
> 2.5	2

19. Health insurance

Yes	0
No	1

20. ICDS utilization

Yes	1
No	0

21. Perception of illness

Severe	1
Not severe	0

22. Illness in the past one month

Present	1
Absent	0

23. Number of symptoms

Only 2	1
>2	2

24. Recognition of Danger signals

Yes	1
No	0

25. Type of Health facility available

Government	1
Private	2

26. Appropriate and Prompt care

Yes	1
No	0

27. Distance of Health facility from house

≤ 5 kms	1
> 5 kms	2

28. Reason for healthcare not sought

Not felt necessary	Yes	1
	No	0
Costs too much	Yes	1
	No	0
Too far	Yes	1
	No	0
Not convinient	Yes	1
	No	0
Past bad experience	Yes	1
	No	0
Nobody to accompany	Yes	1
	No	0
Others	Yes	1
	No	0

29. Decision making

Self	1
Husband	2

30. Facilitators

Husband	1
Relatives	2
VHN /ANM	3
AWW	4
Friends	5
Neighbours	6

31. Mass media exposure

Newspaper	1
Television	2
Radio	3
Others	4

32. Mode of Transport

Own vehicle	1
Rented vehicle	2
Cycle	3
Walk	4
Bus	5
Auto	6
Others	7

34	10	1	1	1	1	4	2	0	1	1	1	2	2	2	2	2	1	2	2	0	0	1	2	0	0	0	1	0	0	2	0	0	2	0	0	0	0	0	0	0	0	48	0	2	4	1	1	0	2	2	1	1	1	100	200	50	350	0			
35	10	1	1	1	2	1	2	0	2	1	1	2	2	2	2	1	1	2	0	0	0	1	2	1	0	0	0	0	0	1	1	2	1	1	1	0	0	0	0	0	0	0	0	2	1	6	0	0	100	0	100	0									
36	10	4	2	1	2	2	2	0	2	1	1	2	2	1	2	1	1	2	1	1	0	1	2	1	1	0	0	0	2	1	2	2	0	0	0	0	0	0	0	0	48	0	2	5	1	0	0	0	2	1	4	4	400	620	300	1,720	4				
37	6	1	1	1	1	4	1	0	3	1	1	2	2	1	1	2	1	2	0	0	0	1	2	1	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0	48	0	2	4	0	0	0	0	2	1	1	1	50	150	0	200	0				
38	6	1	1	1	1	2	2	0	2	1	1	2	2	2	1	1	1	2	2	1	0	0	1	0	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	2	1	4	1	50	100	0	150	0			
39	6	3	1	1	1	5	2	0	2	1	1	2	2	2	2	1	1	2	0	0	0	1	2	1	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	48	0	2	4	0	0	0	0	2	1	1	1	100	120	50	270	0			
40	6	2	2	1	1	2	2	0	2	1	1	1	1	2	2	2	1	2	0	1	1	1	2	1	1	0	1	0	0	2	1	3	2	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	2	2	1	2	300	200	100	600	2		
41	6	1	2	1	3	3	2	1	3	1	1	1	1	2	2	2	1	2	2	1	0	0	1	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	2	2	1	1	150	100	50	300	0		
42	6	4	1	1	3	1	2	1	4	2	1	2	2	2	1	1	1	2	1	0	0	1	2	1	0	0	0	0	1	1	1	2	0	0	0	0	0	0	0	0	48	0	2	1	0	1	0	4	2	1	6	2	100	200	40	340	0				
43	6	2	1	1	3	4	1	0	2	1	1	1	1	1	1	1	1	2	2	0	1	1	2	1	1	0	0	0	2	1	2	2	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	2	1	4	2	150	300	50	500	0			
44	6	2	2	1	2	4	2	0	4	2	1	2	2	2	2	2	1	2	0	0	0	0	1	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	2	1	1	1	80	100	20	200	0			
45	6	3	1	1	2	4	1	0	2	1	1	1	1	1	2	2	1	2	1	0	0	1	2	1	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0	0	72	0	2	2	1	0	0	0	2	2	6	1	100	150	50	300	0			
46	6	3	1	1	2	2	2	0	4	2	1	2	2	2	1	1	1	2	1	1	0	1	2	1	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1	2	4	0	1	0	6	1	1	6	1	0	150	50	200	0			
47	6	4	1	1	2	4	1	0	3	1	1	1	1	1	1	1	1	2	1	0	0	0	1	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	48	0	2	5	3	0	0	0	2	2	1	1	150	200	50	400	0			
48	6	2	2	1	2	2	1	0	4	2	1	1	1	1	2	2	1	2	0	0	1	1	2	1	1	0	0	0	2	1	2	2	0	0	0	0	0	0	0	0	0	0	1	2	1	1	0	0	0	2	2	2	1	120	500	100	720	0			
49	6	3	1	1	1	3	2	0	3	1	1	2	2	2	2	2	1	1	0	1	0	0	1	0	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	2	1	1	1	100	200	50	350	0			
50	10	2	1	1	2	5	2	0	2	2	1	1	1	2	2	2	1	2	0	1	0	0	1	0	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	0	0	0	2	2	1	1	100	200	50	350	0		
51	10	2	2	1	2	5	1	0	2	2	1	1	1	1	2	1	1	2	0	0	1	1	2	1	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	48	0	2	4	1	0	0	0	2	1	1	1	70	230	0	300	0			
52	10	4	2	1	2	2	1	0	2	1	1	1	1	1	1	2	2	1	2	1	0	0	0	1	0	0	0	0	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0
53	10	1	2	1	2	4	2	0	3	1	1	2	2	2	2	1	1	2	0	0	0	1	2	0	0	1	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	
54	10	4	2	1	2	2	2	1	4	2	1	2	2	1	2	2	1	1	1	1	0	1	2	1	0	0	0	0	1	1	3	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	
55	8	3	2	1	3	2	2	1	4	2	1	2	2	2	2	1	1	2	0	1	0	1	2	1	0	0	0	0	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	2	1	6	0	0	50	0	50	0			
56	6	3	1	1	1	5	1	0	3	2	1	1	1	1	2	1	1	2	0	1	0	1	2	1	0	0	1	0	2	1	1	2	0	0	0	0	0	0	0	0	48	0	2	1	1	0	0	0	2	1	1	1	50	50	0	100	0				
57	6	4	1	1	2	2	1	0	3	2	1	1	1	1	2	2	1	1	1	1	1	1	2	1	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	2	2	4	1	50	120	30	200	0		
58	14	3	2	1	1	5	2	0	2	2	1	1	1	2	1	2	1	1	0	0	0	0	1	0	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0	0	48	0	2	1	0	0	0	0	2	1	4	2	0	300	0	300	0			
59	14	1	1	2	3	5	2	0	4	2	1	1	1	2	1	1	1	2	2	1	0	0	1	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	2	1	1	1	100	200	20	320	0			
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61	14	1	2	1	1	1	2	0	4	1	1	2	2	2	1	1	1	2	2	0	0	1	2	1	0	1	0	0	2	1	2	2	0	0	0	0	0	0	0	0	0	48	0	2	1	2	0	0	0	2	1	1	1	150	300	20	470	0			
62	14	1	2	1	3	5	2	1	4	2	1	2	2	2	2	2	1	2	2	0	1	1	2	1	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	2	2	1	1	150	500	50	700	0			
63	14	4	2	1	3	2	2	0	4	2	1	2	2	2	1	1	1	2	1	0	0	1	2	1	0	1	0	0	2	1	2	1	1	0	0	1	0	1	0	0	0	0	0	0	2	0	0	0	0	0	2	1	5	0	0	0	0	0	0	0	
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65	14	1	1	1	3	2	2	0	2	1	1	1	1	1	2	1	2	1	2	0	0	0	1	2	1	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0	0	0	0	1	2	1	3	0	0	0	2	1	5	1	0	0	20	20	0	
66	14	3	2	1	3	2	2	0	4	1	1	1	1	1	2	1	2	1	2	1	0	0	0	1	0	0	0	0	0	1	1	4	1	0	1	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	2	1	5	0	0	0	0	0	0	0	
67	14	2	2	1	3	3	2	0	4	1	1	2	2	2	1	1	1	2	0	1	0	0	1	0	0	0	0	0	1	1	2	2	0	0	0																										

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78	12	4	1	1	1	5	2	0	1	1	1	1	1	2	2	2	1	1	0	1	1	1	2	1	1	1	0	0	0	2	1	2	2	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	2	2	1	1	300	100	0	400	0		
79	11	4	1	1	1	3	2	0	5	1	1	2	2	2	1	2	1	1	1	1	0	1	2	1	0	0	0	0	0	1	1	1	2	0	0	0	0	0	0	0	0	48	0	2	1	0	0	0	0	2	1	4	2	100	200	0	300	0				
80	6	4	2	1	3	5	2	0	1	1	1	2	2	2	2	2	1	2	0	1	1	1	2	1	0	1	1	0	0	2	1	2	2	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	2	2	1	1	200	200	100	500	0		
81	14	4	1	1	3	0	2	0	3	2	1	1	1	2	1	1	1	2	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	1	5	0	0	0	0	0	0				
82	14	1	2	1	3	0	2	0	2	1	1	2	2	2	1	1	1	2	1	0	0	0	1	0	0	0	0	0	0	1	1	3	1	0	1	0	1	0	0	0	0	0	0	2	0	0	0	0	0	2	1	1	0	0	0	0	0	0				
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84	14	1	1	1	2	2	1	0	3	1	1	2	2	1	1	1	1	2	0	0	0	1	2	0	0	0	1	0	0	2	1	3	1	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	1	5	0	0	0	0	0	0				
85	14	1	1	1	1	4	2	0	2	1	1	1	1	2	2	1	1	1	2	1	1	1	2	1	1	1	2	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	3	0	0	0	2	2	1	1	100	500	100	700	0		
86	14	2	1	1	1	2	2	0	2	2	1	1	1	2	2	2	1	2	1	1	1	1	2	1	1	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	2	2	1	2	300	400	100	800	0
87	11	4	1	1	1	2	1	1	4	1	1	2	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	1	1	3	1	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2	1	4	0	0	0	0	0	0					
88	11	2	1	1	1	2	1	0	3	1	1	1	1	1	1	1	1	2	1	0	1	1	2	1	1	1	1	0	0	2	1	2	2	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	2	1	1	3	0	500	30	590	0			
89	12	2	1	1	3	2	2	0	4	2	1	2	2	2	1	2	2	1	0	1	0	1	2	1	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	1	5	0	0	0	0	0	0				
90	12	2	1	1	3	2	2	1	4	1	1	2	2	2	1	1	1	2	1	1	0	1	2	1	0	0	1	0	0	2	1	3	2	0	0	0	0	0	0	0	0	48	0	2	5	1	1	0	5	1	1	5	2	0	0	20	20	0				
91	12	1	2	1	2	4	1	0	3	1	1	1	1	1	2	2	1	2	2	0	1	1	2	0	0	1	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	0	0	0	2	2	1	1	150	100	20	270	0			
92	12	4	1	1	1	3	1	0	2	1	1	2	2	1	1	1	1	2	0	0	0	1	2	0	0	1	1	0	0	2	1	3	1	0	1	0	0	1	0	0	0	2	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0					
93	12	2	1	1	1	4	2	0	2	1	1	2	2	2	2	1	1	1	1	1	1	1	2	1	0	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0	0	48	0	1	6	1	0	0	0	2	1	1	1	80	50	10	140	0			
94	12	3	1	1	1	4	1	0	4	2	1	1	1	2	1	2	1	2	0	0	1	1	1	2	1	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	1	1	0	1	1	1	1	0	0	0	50	50	0	
95	12	1	2	1	1	2	2	0	4	2	1	1	1	2	1	2	1	1	1	1	1	1	2	1	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2	0	0	2	1	6	1	0	0	50	50	0		
96	11	3	2	1	1	3	1	0	3	2	1	2	1	2	1	1	1	2	1	0	0	0	2	1	1	0	0	0	0	2	1	1	2	0	0	0	0	0	0	0	0	0	0	72	0	2	5	1	0	0	0	2	1	1	1	100	150	0	250	0		
97	11	4	1	2	1	2	2	0	2	1	1	2	2	1	1	2	1	1	1	1	1	1	2	1	1	1	1	0	1	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	2	5	1	1	1	0	2	1	1	5	2,000	5,000	0	7,000	5			
98	11	1	2	1	1	3	1	0	4	2	1	2	2	1	1	1	1	2	2	0	1	1	2	1	0	1	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	1	2	1	0	0	0	2	2	1	1	100	150	10	260	0			
99	11	4	2	1	1	4	1	0	1	1	1	1	1	2	2	1	1	1	1	1	1	1	2	1	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	2	2	1	1	100	150	50	300	0			
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101	10	3	1	1	3	3	2	0	3	2	1	1	1	2	1	1	1	1	1	0	1	1	2	1	0	1	0	0	2	1	3	2	0	0	0	0	0	0	0	0	0	36	0	1	6	0	1	0	6	1	1	5	1	0	0	20	20	0				
102	9	2	2	1	2	2	2	1	2	1	1	2	2	2	2	2	1	2	1	1	0	1	2	1	0	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	2	2	4	2	350	250	0	600	0		
103	13	2	2	1	2	5	2	0	3	1	1	1	1	2	1	2	1	2	0	0	0	1	2	1	0	0	0	0	0	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	1	4	0	0	0	0	0	0		
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108	13	4	1	1	3	2	1	0	5	2	1	2	2	1	1	1	1	2	1	0	0	1	2	1	0	0	0	0	0	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	1	6	0	0	0	0	0	0		
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110	13	3	1	1	3	5	2	0	2	1	1	2	2																																																	

119	14	1	1	2	1	5	2	0	3	2	1	2	2	2	1	1	1	2	0	0	0	0	0	0	0	1	1	3	2	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	2	2	1	1	50	150	0	200	0					
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123	4	4	1	1	2	4	2	0	5	1	1	2	2	2	1	1	1	2	1	0	0	0	1	0	0	0	0	0	1	1	2	1	0	0	0	0	0	1	0	0	2	0	0	0	0	0	2	1	4	0	0	0	0	0	0				
124	4	2	2	1	2	3	2	0	4	2	1	2	2	2	1	1	1	2	0	0	0	1	2	0	1	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	2	1	1	4	400	300	50	2,000	4	
125	14	1	1	1	1	5	2	0	2	1	1	2	2	2	2	2	1	2	2	0	1	1	2	1	0	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0	0	1	1	4	1	0	0	0	2	2	1	1	150	200	50	400	0	
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127	1	1	2	2	1	2	1	0	4	1	1	1	1	1	1	1	1	2	0	0	0	1	2	1	0	0	1	0	0	2	1	2	1	1	0	0	1	0	0	0	0	2	0	0	0	0	0	2	1	5	0	0	0	0	0	0			
128	1	3	1	1	1	5	2	0	1	1	1	2	2	2	2	2	1	2	0	1	1	1	2	1	0	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	2	2	4	2	200	300	0	500	0	
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131	1	3	2	1	3	3	2	1	5	2	1	2	2	1	1	1	1	1	0	0	0	1	2	1	0	1	1	0	0	2	1	1	2	0	0	0	0	0	0	0	0	48	0	1	1	0	0	0	0	2	2	5	1	100	50	0	150	0	
132	1	3	2	1	3	4	1	0	4	2	1	1	1	1	2	2	1	2	1	0	1	1	2	1	1	1	1	0	0	2	1	2	2	0	0	0	0	0	0	0	0	72	0	2	1	0	0	0	0	2	1	5	3	450	450	50	950	2	
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137	10	1	1	1	3	0	2	0	4	1	1	2	2	2	2	2	1	2	1	0	0	1	2	0	0	1	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	2	5	0	0	0	0	1	2	5	1	50	150	20	220	0	
138	10	4	1	1	3	0	2	1	4	1	1	2	2	1	1	1	1	1	0	1	0	0	1	0	0	0	0	0	1	1	3	1	0	1	0	0	0	1	0	0	2	0	0	0	0	0	1	1	5	0	0	0	0	0	0	0			
139	10	2	1	1	1	4	2	0	4	1	1	2	2	1	1	2	1	2	0	0	0	1	2	1	0	0	0	0	0	1	1	3	2	0	0	0	0	0	0	48	0	2	4	0	1	1	0	1	1	5	2	0	50	40	90	1			
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146	8	3	1	1	3	5	2	0	2	2	1	2	2	2	2	2	1	2	0	1	0	0	1	0	0	0	0	0	1	1	2	1	0	1	0	0	0	1	0	0	2	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0			
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153	14	2	2	1	3	4	1																																																				

162	7	1	1	1	3	3	1	0	3	1	1	1	1	1	2	1	1	1	0	0	1	1	2	1	0	0	1	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	1	1	5	3	0	0	0	2	1	6	1	50	100	50	200	0						
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170	9	4	2	1	3	2	2	0	3	1	1	2	2	1	2	2	1	2	0	0	1	1	2	1	0	1	0	0	2	1	1	2	0	0	0	0	0	0	0	0	36	0	2	5	1	1	1	0	2	1	1	2	100	200	60	360	0							
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176	8	3	2	1	3	5	2	0	3	2	1	1	1	2	1	1	1	2	0	0	0	0	1	0	0	0	0	0	0	1	1	3	1	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	1	4	0	0	0	0	0	0					
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188	12	2	2	1	1	3	1	0	3	2	1	1	1	1	2	2	1	2	0	0	0	1	2	1	0	0	0	0	0	1	1	3	2	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	2	1	4	2	200	150	0	350	0				
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206	9	3	1	1	1	2	2	1	3	1	1	2	2	2	2	2	1	2	1	1	0	1	2	1	0	0	0	0	0	1	1	2	1	0	0	0	0	0	0	1	0	0	2	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	
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212	8	2	2	1	3	4	2	0	4	2	1	1	1	2	1	1	1	2	0	0	0	0	1	0	0	0	0	0	1	1	2	1	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	2	1	4	0	0	0	0	0	0	0				
213	1	4	1	1	3	5	2	0	2	1	1	2	1	2	2	2	1	2	1	0	0	0	1	0	0	0	0	0	1	1	2	1	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	2	1	5	0	0	0	0	0	0	0				
214	9	4	1	1	1	3	2	0	3	2	1	2	2	2	2	1	1	2	0	1	1	1	2	1	0	0	0	0	1	1	3	2	0	0	0	0	0	0	0	0	0	1	2	1	3	0	0	0	2	1	1	2	0	100	50	150	0				
215	9	4	2	1	1	2	2	0	3	2	1	2	2	2	2	2	1	1	2	1	1	0	1	2	1	1	0	0	2	1	3	2	0	0	0	0	0	0	0	0	0	0	1	2	2	0	0	0	0	2	1	1	2	100	150	40	290	0			
216	9	1	2	1	1	4	2	0	4	2	1	2	2	2	2	2	2	0	1	1	1	2	0	0	0	1	0	0	2	1	4	2	0	0	0	0	0	0	0	0	0	0	1	2	1	1	0	0	0	2	1	4	2	100	200	0	300	0			
217	9	3	1	1	1	4	2	0	4	2	1	2	2	1	2	1	1	2	1	1	0	1	2	1	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	2	1	1	1	100	300	0	400	0		
218	11	2	2	1	1	2	2	0	3	2	1	2	1	2	1	1	1	1	1	0	1	1	2	1	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	2	1	4	2	100	150	0	250	0			
219	1	4	2	1	1	5	2	0	2	2	1	1	1	2	2	1	1	2	0	1	1	1	2	1	0	0	0	0	1	1	3	2	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	2	2	1	2	100	150	0	250	0			
220	14	1	1	1	3	2	1	0	4	2	1	1	1	2	2	1	1	2	0	0	0	0	1	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	2	1	1	2	100	250	0	350	0			
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223	5	4	1	1	1	3	2	0	3	1	1	2	2	2	1	1	1	2	0	0	0	1	2	1	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	2	4	0	0	0	0	2	1	5	1	50	60	20	130	0		
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226	5	4	2	1	3	4	2	0	3	2	1	2	1	2	1	1	1	2	1	0	1	1	2	1	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	2	6	0	0	0	0	2	1	1	1	50	70	20	140	0		
227	5	2	1	1	2	4	1	0	3	2	1	2	2	1	2	1	1	2	0	0	0	0	1	0	0	0	0	0	1	1	3	1	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	1	1	0	0	0	0	0	0			
228	14	4	2	2	1	2	2	0	3	1	1	2	2	1	2	2	1	2	1	0	1	1	2	1	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	2	1	4	1	50	100	0	150	0			
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238	14	4	1	1	1	4	2	0	2	1	1	2	2	2	1	1	1	2	1	0	0	1	2	1	0	0	0	0	1	1	4	2	0																												

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257	11	3	2	1	1	4	1	0	3	1	1	1	1	1	1	1	1	2	0	0	1	1	2	1	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	2	1	1	2	100	250	50	400	0		
258	6	1	1	3	1	2	1	0	2	1	1	1	1	1	1	1	1	2	0	0	1	1	2	1	1	0	0	0	2	1	2	2	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	2	1	2	2	100	300	50	450	0			
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261	6	3	1	1	1	5	2	0	1	1	1	2	2	2	2	1	1	2	0	0	1	1	2	1	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	2	2	1	2	200	250	50	500	0		
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266	6	4	2	1	2	4	2	1	2	1	1	2	2	2	2	1	2	0	1	0	0	1	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	2	1	1	1	50	150	50	250	0		
267	6	2	2	1	1	1	2	0	3	1	1	2	2	2	1	1	1	2	0	0	1	1	2	1	0	0	0	0	1	1	1	2	0	0	0	0	0	0	0	0	0	0	1	2	1	0	1	1	0	2	1	1	2	100	250	40	390	0		
268	9	3	1	1	1	2	2	0	4	2	1	2	2	2	2	2	1	2	0	0	1	1	2	1	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	2	0	0	0	0	0	2	1	1	0	0	0	0	0	0					
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277	4	2	1	1	3	3	2	0	2	2	1	2	2	2	2	1	1	2	0	0	1	1	2	1	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	2	2	1	2	120	200	50	370	0		
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282	4	3	2	1	1																																																							

291	14	3	1	2	1	4	2	0	2	1	1	2	2	2	1	2	1	2	1	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	1	2	4	0	0	0	0	2	1	1	2	100	250	0	350	0			
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