ACUTE RESPIRATORY INFECTIONS IN YOUNG URBAN CHILDREN:

AN EXPLANATORY MODEL ON THE

KNOWLEDGE, BELIEF AND PRACTICE BY MOTHERS IN LUSAKA URBAN

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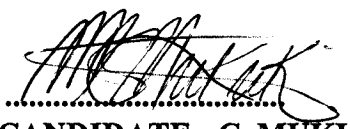
DECLARATION

I hereby declare that, this Dissertation is entirely the result of my own work, and that it has not been previously submitted for a degree at this, or another University.



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This Dissertation is approved for Dr. Catherine Mukuka as fulfilling the partial requirements for the award of a Masters Degree in Paediatrics, by the University of Zambia, Lusaka.

EXAMINER 1: .....

EXAMINER 2: .....

EXAMINER 3: .....

EXECUTIVE SUMMARY

A study on the knowledge, beliefs and attitude of mothers concerning acute respiratory infections (ARI) was conducted in Kanyama, a Lusaka urban community. Six key informants, a male traditional healer, a female traditional healer who is also a traditional birth attendant and grandmother, a female community health worker who is also a grandmother and 3 grandmothers were interviewed in depth. Twenty nine mothers seeking care at the health centre for children with ARI, 30 mothers at home who were carers of small children, 9 pharmacy workers or drug sellers and 14 practitioners (at the local clinic, private community clinics, traditional healers and University Teaching Hospital staff) were the other sources of information. The information from these other informants was collected using questionnaires, checklists and structured interviews.

There are a variety of terminologies used to describe ARI in young children. The terms used were in Nyanja and Bemba - the two languages widely spoken in Kanyama. The respiratory conditions in children which were thought to be of a serious nature were *"midulo"* (infantile pneumonia), *"tulaso"* (childhood pneumonia), *"chifuba chifwasa"* (bronchitis), *"chifuba cho yendelela"*(whooping cough) and *"chifuba cha kalombo ka HIV"* (cough assocaited with HIV infection). Bronchitis had a 100 per cent rating on severity i.e. all the respondents agreed that it was severe. Childhood pneumonia and infantile pneumonia (infantile pneumonia here refering to illness in an infant 1-2 months of age), had a 79 per cent and 64 per cent rating respectively. This would indicate that mothers rate pneumonia in small babies to be less serious than in older children.

Mothers recognise difficult breathing more than they do fast breathing. In about 61 per cent of the responses in the video interview, difficult breathing was mentioned for the children having both difficult and fast breathing. The information was unprompted. Fast breathing alone on the other hand was recognised in only 30 per cent of the responses. There were a variety of terms used to describe fast breathing. Both difficult and fast breathing were considered serious, and an indication for care seeking at a health facility. Mothers also tended to seek care for less serious symptoms especially in neonates. The seriousness of measles infection requires that the knowledge and practice of this illness by mothers, be corrected. All the key informants believed that symptoms in measles infection worsen upon handling by a health worker who has recently had sexual intercourse, and that the worser the rash, the worser the illness.

Home management of children did not include an increase in the frequency of feeds but the nutritional content of the feeds was improved. Keeping the child warm was a well known measure. Mothers gave aspirin and aspirin containing drugs to children for alleviation of fever. Cough mixtures, nasal decongestants, steam inahalations with menthol are also home measures used in the treatment of ARI.

Fathers are the main decision makers as to when and where to seek care outside the home. 63 per cent of the respondents said that the father to the child was the decision maker. The University Teaching Hospital because of its presumed wider and better diagnostic and treatment capacity was the main source of care. It received a 97 per cent rating as a source of care.

Mothers expect to get cough mixture, nasal drops and injections from the health facility. Intravenous fluids were also mentioned for small babies. The average expected improvement time was 2.3 days .

Health workers generally feel that maternal delay in care seeking is significant medically, and the reasons put forward were ignorance of symptoms, economic reasons and lack of diligence in some cases. As far as the treatment of pneumonia is concerned, 50% would give either injectable or oral antiobiotic. The importance of frequent breastfeeding, small frequent feeds, increase in fluid intake and not overwrapping infants was not alluded to for the most part.

The pharmacists and drug sellers for the most part advice mothers with children suffering from ARI to consult a health worker before they purchase drugs.

There is need for mothers to be informed about the importance of small frequent feeds in children with pneumonia, since they often do not tolerate normal quantities of feed. In educating carers on home management therefore, health workers need to emphasize the importance of freqent feeding (breastfeeding or otherwise) and other measures including increased fluid intake and the dangers of overwrapping infants. More education is required on the causation and presentation of infantile pneumonia. It must be empahasized that the same type of *kalombo* (something causing illness) causes both infantile and childhood illness but that the severity differs. The concept of *kalombo* should be used to describe the causation of various other infective diseases.

As far as care seeking is concerned, the fact that care was sought mainly at the teaching hospital may well mean that the mothers' confidence in the peripheral clinics needs to be boosted. Pertaining to health workers knowledge, they need to be familiar with the local termiologies used to describe the illnesses , signs and symptoms of ARI, in order to communicate effectively with carers of small children. They also need to have an evaluation of their knowledge and management of ARI.

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TABLE OF CONTENTS

Abbreviations and terms

1. Antib. - antibiotic
2. BF - breast feeding
3. Dr. - doctor
4. G/mother - grandmother
5. G/nut - groundnut
6. HC - health centre
7. HW - health worker
8. HIV - Human Immune Deficiency virus
9. Inj. - injection
10. MCH - maternal and child health
11. O/juice - orange juice
12. TBA - traditional birth attendant
13. TH - traditional healer
14. T/med. - traditional medicine
15. UTH - University Teaching Hospital
16. PUSH - Programme Urban Self Help
17. Healthworker - doctor, clinical officer, nurse at a private clinic, public clinic or hospital
18. Practitioner - health worker or traditional healer

CHAPTER ONE

1.0 INTRODUCTION

Acute respiratory infections are one the commonest causes of death in children (1), (2), (3), (4), (5). Of the 14-15 million children under 5 years of age who die each year in the world, 4 million die of acute respiratory infections (ARI) and two thirds of them are infants (2), (3). Thus on average a child dies of ARI every eight seconds. More than 90 per cent of deaths worldwide occur in developing countries (6). Most deaths due to ARI are caused by pneumonia (7). Although little is known about the incidence and aetiology of respiratory illnesses in developing countries, available data suggests that more than 75 per cent of ARI deaths are caused by pneumonia, both bacterial and viral (8).

In Zambia, where children under 5 years of age represent about 20 per cent of the total population - about 1.6 million children (9), ARI is among the top four causes of childhood mortality, causing 20 per cent of all deaths in children under one year of age and 8 per cent of all deaths in older children . ARI due to pneumonia, caused about 2,732 deaths in 1992 (10).

Carers of young children in many communities know that "difficult breathing" and fast breathing is a sign of serious illness in a child with a cough. The danger of letting a child become too cold is also widely known. Many communities also know of and use harmless and soothing cough remedies (6). There are also some harmful practices that have been noted in various places. For instance, food and drink may be kept from a child with a cough; the child may be dangerously over wrapped to prevent chilling; the nostrils may be lubricated with oil; and treatment may be

denied to children with measles, even though they have respiratory complications. Concerning expectations for treatment from health facilities, some parents prefer and expect injectable medicines for every cough that their child suffers from - especially if the child has a fever - even if the illness is not serious(7).

Studies using the World Health Organisation Focused Ethnographic Study (FES) have been conducted in several countries including Ghana, Egypt, The Gambia, Sudan, Nigeria Honduras and Bolivia(11). These studies have highlighted the knowledge and practices in ARI in children in mothers or carers.

In a study in seven villages in The Gambia, the mothers identified cough and fever as the most common symptoms associated with pneumonia, and these prompted them to seek care. Chest in drawing was not specifically recognised or named, but "open chest" and chest pain were. Some mothers also tended to seek treatment unnecessarily for less serious symptoms (11).

In two communities in Bolivia, mothers considered very difficult breathing, cough and fever to be worrying symptoms(11). It was felt that rapid breathing disappeared if fever was successfully treated. It was recognised that illness in young infants was more severe and fatal, but causation was usually considered to be due to supernatural forces and that this required treatment by a traditional healer. Home remedies were the first line of treatment, followed by attending a traditional healer.

The Nigerian study revealed that fast breathing was not generally recognised by mothers and that

many symptoms and signs of ARI are regarded by many as a normal part of a child's development. There was a tendency for mothers to treat ARI with herbs or home made cough remedies or to buy antipyretics and antibiotics from the pharmacy or local drug sellers (11).

CHAPTER 2 OBJECTIVES

Purpose: To construct an explanatory model (12), (13), on acute respiratory illnesses in Kanyama compound based on the local knowledge, beliefs and practice.

Aim:

To collect data on knowledge, attitude and practice in relation to management of a child with acute respiratory infection (ARI) amongst mothers in Kanyama, Lusaka urban, in order to make recommendations to the national CDD/ARI programme on appropriate health education messages necessary to encourage mothers/carers to recognise when children have serious ARI.

Objectives:

1. To find out if the various illnesses that constitute ARI are known.
2. To establish the local terminologies used to describe the various illnesses, symptoms and signs of ARI.
3. To find out what beliefs are on the causation of ARI.
4. To establish wether pneumonia and other ARI are recognized by mothers as a problem.
5. To find out what symptoms and signs of ARI are considered to be serious.
6. To determine what mothers do at home when their children have symptoms of ARI.
7. To determine when and where they seek treatment outside the home.

8. To identify factors that constrain prompt seeking of care from a health worker trained in standard case management of pneumonia.

9. To identify maternal expectations concerning antibiotics and other drug therapy.

10. To make recommendations to the national CDD/ARI programme on appropriate messages for home care management and health education for ARI.

CHAPTER 3 MATERIALS AND METHODS

3.1 STUDY DESIGN

This was a cross-sectional, community-based study, in which the Standardised Focused Ethnographic Study protocol developed by the World Health Organization for acute respiratory infections was used (13).

3.2 STUDY POPULATIONS

The following populations were studied:

1. Six key informants (individuals knowledgeable about ARI, such as grandmothers with grandchildren below five years of age; mothers with at least three young children; traditional healers who treat young children and community health workers who have treated ARI.
2. A community-based sample of 30 mothers or carers of children aged up to 60 months.
3. A clinic sample of 27 mothers seeking care for children up to 60 months with ARI.
4. A representative sample of practitioners, at Kanyama clinic, the local private clinics, the University Teaching Hospital (doctors, clinical officers, nurses) and traditional healers (14 in all).
5. Pharmacists and drug sellers (a representative sample of nine out of 17 drug selling points).

The guidelines given in the Standard Focused Ethnographic Study protocol were used to determine the total numbers required in each sample. The protocol has been used in previous

similar studies and the sample size used for the key informants, carers at home and carers coming to the health facility was adequate for the information required on ARI for a given community.

STUDY SITE

Kanyama compound in urban Lusaka lies west of the city and has a population of about 100,000 thousand inhabitants (14). It is a high density residential area whose people are largely in the lower social class, their main occupation being emploment in government institutions, various businesses/industries in the city and small scale trading (15). The area has one public health clinic and two private facilities. The main health problems in children, like the rest of the country are malnutrition, acute respiratory infections and diarrhoeal diseases (10).

The community study population comprised of Zambians living in Kanyama compound ,who had in common the fact that they spoke *Nyanja* or *Bemba* (16) and were thus familiar with the terminologies used to describe illnesses in infants and small children.

3.2.1 The Key informants

The key informants comprised of prominent members of the Kanyama community, who were conversant with children's illnesses. The total number was six, one male traditional healer who often treated infants and young children, a female traditional healer who is also a traditional birth attendant (TBA) and grandmother, a female community health worker who is also a grandmother, and three grandmothers. The informants were mobilised by the chairperson of the neighbourhood health committee.

3.2.2 The mothers at home

These were made up of mothers and other principle caretakers of infants and small children, under three years. A wide age range was covered from young mothers of 19 years to grandmothers of 56 years of age.

Table 3.2.1: Characteristics community based sample of mothers and carers.

Age group (years)	Number	Average No. of children	Education		
			None	Prim.	Sec.
<20	1	3.0	0	0	1
20 - 24	3	3.0	0	2	1
25 - 29	2	3.0	0	1	1
30 - 34	6	5.1	1	4	1
35 - 39	5	6.6	0	5	0
40 - 44	4	6.3	0	2	2
45+	9	7.3	3	6	0
Total	30		4	20	6

The mothers at home had a primary education for the most part (about 67 per cent). Thirty per cent of them were aged above 45 years and had an average of seven children.

3.2.3 Mothers and caretakers at the health centre.

Caretakers of infants and young children presenting with the symptoms of cough and fever or fast breathing were interviewed. The caretakers (other than mothers) were made of grandmothers, aunties or other female relations. Unlike the community sample of carers, there

were no mothers/guardians above the age of 45 years, 33 per cent were aged 20-24 years. This category had an average of 3 children and most of them had a primary shcool education (63 per cent).

Table 3.2.2: Characteristics of mothers coming to the clinic.

Age group (years)	Number	Average number of children	Education		
			None	Prim.	Sec.
<20	0	0	-	-	-
20 -24	9	3.4	0	5	4
25 -29	7	3.2	0	5	2
30 -34	5	4.8	1	2	2
35 -39	5	6.4	0	4	1
40 -44	1	6.0	0	1	0
45+	0	0	-	-	-
Total	27		1	17	9

3.2.4 Practitioners

These were a clinical officer, registered nurses, and enrolled nurses involved in screening and treating infants and young children at Kanyama health centre. Also interviewed were two doctors who were practising at two private clinics within the study area. At the University Teaching Hospital, the crew on duty in the outpatient department were all interviewed. The total number came to 14 and comprised of five enrolled nurses, three registered nurses, tree clinical officers and two doctors.

3.2.5 Pharmacists

Nine persons working at the medicine counter in the various chemists and at one private clinic stores were the respondents in this instance. The mother used to present the confederate of cases was not able to tell if the respondent was a pharmacist or one of the assistants working at the pharmacists counter.

3.3 SAMPLING METHODS

1. ***Convenient*** for the key informants. The chairperson of the neighbourhood health committee selected persons who in her opinion were knowledgeable about illnesses in young children. The male traditioal healer who was well known in the Kanyama community, treats childrens's illnesses. The female traditional healer who is also a TBA conducts at least 10 deliveries a month and treats young children. One of the four grandmothers is a trained community healthworker who has the experience of having treated childhood illnesses.

2. ***Purposeful***for the sample of mothers and carers at home. A map of Kanyama drawn by the PUSH (Programme Urban Self Help) project divides the township in 4 zones. The same map was used to obtain the sample. The numbering system for the houses in old Kanyama is not systematic, and in order to spread the area covered for this sample therfore, certain landmarks such as a tavern, shop, borehole were used . A consenting carer found at home and who was presently caring for young children was included within the vicinity of the landmark.

3. ***Systematic*** for the clinic sample of mothers seeking care. The health workers at the clinic sit in two screening rooms, where they attend to patients of all ages. They were asked to refer, to the researcher in another consultation room, children suffering from fever and cough. Every third child was included. The other children were also attended to.

4. A ***Random stratified*** sample of health workers (stratified by designation), was intended. All the clinical officers and nurses working in the general medical section of the clinic were actually interviewed however, because of the small total number of staff working there. At the UTH, all the healthworkers at the outpatient department on the afternoon shift were interviewed.

5. ***Purposeful*** for pharmacists and drug sellers. The sample represented 50% of the registered chemists in Lusaka (Source: Registrar of Pharmacy Companies. Pharmacy, Medicines and Poisons Board). A private clinic in the study area which was also a drug selling point was included. A baseline study allowed for the determination of four most frequently utilised drug stores by the persons coming to the clinic. The four were included in the sample, which comprised chemists in the town centre.

3.4 DATA COLLECTION AND DATA COLLECTION TOOLS (see annex).

The data was collected by the researcher aided by two assisstants one of whom has wide experience in interviewing. The other assistant was a student at the Chainama Hills College of Health sciences who took down field notes. Both assistants had a days training in interview

techniques and the use of the various forms employed for data collection. A day was spent in pilot testing the data collection tools . The key informants interview was conducted by the researcher and the former assistant, the conversations were audio recorded . The interviews of the mothers at the clinic were conducted by the researcher. The tools used were as follows:

1. Open-ended exploratory interviews to key informants to generate a list of signs, symptoms, illness terms, causes and treatments. In addition a narrative on an episode of ARI was elicited (annex 1,2).
2. Interviews with mothers at home by (annex3):
   a. Presentation of hypothetical case scenarios.
   b. Paired comparison of practitioners.
   c. Illness names, signs and symptoms sorting task.
   d. Severity rating task.
   e. Inventory of medications at home.
   f. Video presentation to mothers to assess the relationship of local terms to physical signs and symptoms.
3. Structured interviews to mothers at the health facility (annex 5).
4. Structured interview to practitioners (annex 6).
5. Structured interview to pharmacists and presentation to them of a confederate of hypothetical "cases" (annex 4).

ANALYSIS

This included the construction of an "explanatory model"(12), (13), of respiratory illnesses from

the perspective of the cultural belief system. The components of this model included illness names, their relative severity, characteristic signs and symptoms, causes, treatment at home and treatment outside the home. Other components of the analysis for the various aspects of the study are as follows:

!. A tabulation of the free listing interview of the key informants on illnesses, symptoms and signs, with summary tables on their cause, treatment and care seeking pattern.

2. Creating matrices and tables for the hypothetical case presentations.

3. Tabulating the rank order of choices of practitioners for the management of pneumonia.

4. Tabulating recommendations by pharmacists for vrious case scenarios together with other aspects of their behaviour.

5. Tabulating responses from the video interview indicating both prompted and unpromtpted recognition of fast breathing.

RESULTS

CHAPTER 4

The study was conducted over a period of five weeks. The first week was used to mobilise the key informants and conduct the key informant in depth interviews. In the second week , mothers with children having ARI were interviewed together with the healthworkers at Kanyama clinic and private clinics. The third and fourth weeks were dedicated to the community based and pharmacists interviews. During week five, health workers at the UTH and video interviews were conducted.

STUDY LIMITATIONS

The validity of the study would have better if more than one compound of Lusaka would be covered . A limitation on time and resource prevented this. For the video viewing part of the community interview, not all the carers interviewed at home were able to come. This affected to some extent the conclusions that were drawn from it.

4.1 KEY INFORMANTS

4.1.1 EXPLORATORY INTERVIEW

The respiratory conditions in children which were thought to be of serious nature were *"midulo", "tulaso", "chifuba chamene chifwasa", "chifuba cho yendelela"* and *"chifuba cha kalombo ka* HIV" These terms, it would appear, correspond to severe pneumonia in infants, pneumonia in young children, bronchitis or asthma, acute respiratory symptoms in measles patients, whooping cough and respiratory illness occurring in association with HIV infection. Less severe respiratory illnesses were *"chifuba cha mpepo"* and *"chifuba cha chabe",* corresponding to coughs that occur frequently in cold weather or during changes in the weather from warm to cold, and what was termed as an "ordinary cough" which is a normal physiological occurrence. Table 4.1.1A shows the local terms described by the key informants.

TABLE: 4.1.1A COUGH AND BREATHING SIGNS AND SYMPTOMS

Total respondents: 6.

TERMS MENTIONED BY KEY RESPONDENTS	NUMBER
1. *Tulaso/Kalaso*(chest pain/ chest pain and cough).	4
2. *Osa pema bwino* (Not breathing well).	5
3. *Chifuba/kukosola*(cough - illness, cough - symptom).	4
4. *Chifuba cho yendelela*(Cough that persists).	4
5. *Kupema ati e! e!* (breathing like eh! eh!-grunting)	3
6. *Kupemeseka/kupema musanga* (fast breathing).	3
7. *Kutyoka chifuba* (Broken chest - indrawing)	2
8. *Chikoso cho yuma* (dry cough).	2
9. *Kukosola monga sa mvera bwino mu chifuba* (breathing as if he does not feel alright in the chest).	2
10. *Chifuba cha kansamwa* (cough in measles).	2
11. *Ku iminina mbafu* (lower chest/ribs protrusion).	1
12. *Chifuba cha mpepo* (cough associated with cold weather).	1
13. *Chifuba cha chabe* (uncomplicated/ordinary cough).	1
14. *Kufwasa chifuba/kuvalika chifuba* (congested chest/closed chest)	2
15. *Midulo* (Caved in chest)	1

For the most part, a wide spectrum of symptoms and signs of acute respiratory infections (ARI) were mentioned by the key respondents. Chest pain associated with pneumonia (*kalaso*), difficult breathing (*osa pema bwino*), cough (*chifuba*) and whooping cough (*chifuba cho yendelela*) were illnesses mentioned by most respondents. In describing lower chest protrusion, the respondents pointed to the lower ribs on mentioning the term *ku iminina mbafu. Midulo* was said to occur particularly in small infants with cough and the description fitted that of an infant having severe pneumonia and sternal retraction.

The following table is a summary of the key informants beliefs and knowledge of the causation of the various illnesses, symptoms and signs of ARI. The causes of respiratory symptoms in infants and young children ranged from an unfaithful husband (extramarital sexual relationships), handling by a menstruating person, a "bad spirit", "bad air", exposure to cold, to changes in the weather. The first two reasons were mostly applicable to respiratory illnesses in infants. For the most part the cause of measles was not known, but respondents all expressed that symptoms were aggravated by the lack of abstinence from sex on the part of the parents of the child or any other persons attending to the patient, including health workers. The overlap between terms, i.e. midulo being an illness entity and a cause of illness was apparent here.

TABLE: 4.1.1B CAUSATION SUMMARY

TERM	CAUSES
1. *Midulo* *(pneumonia in infancy)*	- unfaithful husband. - sex during menstruation. - not abstaining from sex after abortion(miscarriage).
2. *Tulaso* *(chest pain)*	- bad spirit. - bad air. - exposure to cold
3. *Osa pema bwino* (difficult breathing).	- *midulo.* - *tulaso.* - *kufwasa chifuba.* - *kutyoka chifuba.* - *kufyantiwa chifuba/kuvalika chifuba.*
4. *Ku iminina mbafu* (protruding lower ribs)	- *tulaso* - *kansamwa*
5. *kupemeseka* (fast breathing)	- *kansamwa* - *tulaso* - infant of parents with HIV.
6. *kutyoka chifuba* (chest in drawing)	- menstruating person touching or handling infant. - bad blood from parents.
7. *kupema ati e! e!* (shallow difficult breathing - grunting)	- *tulaso* - *chifuba cho yendelela.*
8. *chifuba choyende-lela*(whooping cough)	- "bad air"
9. *chifuba cha kansamwa* (measles cough)	- unknown
10. *kupema monga samvera bwino mu chifuba* (shallow difficult breathing)	- *kansamwa*
11. *chikoso choyuma* (dry cough)	- *kansamwa*
12. *chifuba cha mpepo*	- exposure to cold - changes in the weather

13. *chifuba cha chabe*(ordinary cough).	- "bad air"
14. *chifuba chi fwasa*(chest congestion).	- exposure to cold
15. *Chifine* (cold)	- exposure to cold

4.1.2 ELICITING A NARRATIVE OF A PAST ILLNESS

The six informants gave information concerning illnesses that they had observed in a patient or child or grandchild. Because there was an outbreak of measles in the period before the study, the ARI episodes centred around those associated with measles and pneumonia. 3 respondents described an episode of measles, and 3 others recounted one involving pneumonia.

A large variety of symptoms were elicited for measles. The symptoms of pneumonia that were mentioned were cough, chest pain, fever and fast breathing. Fever and cough were stated by all. The cause was unknown or attributed to the weather. Injections seem to help alter the course of the disease and most respondents said that care had been sought from the health centre, but the traditional healer was also mentioned as a care giver for this condition.

Most of the informants were able to state the symptoms of pneumonia in their narrative. Fever, cough and difficult breathing were mentioned by all. Fast breathing was included by 2 out of the 3 respondents. The cause was attributed to spiritual influences. Only one respondent said that injections were given for pneumonia, the rest said the treatment was by herbal medication.

4.2 MOTHERS AT HOME

4.2.1 SCENARIO PRESENTATION

Scenarios were presented to 30 mothers of infants and small children of different ages having an episode of acute respiratory infection, at home. Each respondent was presented with 2 children having no signs of pneumonia, and 1 having signs of pneumonia (see annex 7).

It was intended that each should have 15 responses. Logistical problems did not allow this and instead, scenario A had 17 responses, B had 14, C , D, E and F had 20, 16, 13and 10 respectively. The data elicited had categories of information namely, home care actions, when and where to seek care outside the home, expected improvement time after care is sought and what actions follow if these expectations are not met. Expected practitioner treatment when care is sought outside the home and the perceived improvement times, were also inquired into.

Matrix 4.2.1 is a presentation of results for scanarios A,B,C, having 17, 14, and 20 responses respectively. The wide variety of responses elicited made quantitative analysis of no avail.

MATRIX 4.2.1: SCENARIO PRESENTATION

	SCENARIO A 6/12 no pneumonia	SCENARIO B 6/12 pneum.	SCENARIO C 2 yrs no pneum.
HOME CARE ACTION + FOODS	-cafenol -hot water + salt, massage nose. -boiled water + lemon, massage nose -"vicks" rubbed on chest. -massage chest with moist heat pad. -dress warmly. -aspirin. -fruits, fluids, milk -isolation. -chloroquine. -warm water + salt to drink.	-keep warm. -cafenol/panadol -"rub on" massage -feed on porridge -aspirin. -traditional medicine	-prevent handling by the promiscuous. -panadol. -warm bath + "rub on". -dress warmly. -panadol. -herbal anti-malarial -aspirin. -herbs for fever -cafenol. -porridge milk fruits -cough syrup.
IMPROV E-MENT (home care)	-1-3 days.	1-2 days.	-hours-7 days.
EXPEC-TED PRACTI-TIONER TREAT-MENT	-cough + cold medicine -chloroquine. -septrin syrup + calpol -cough + fever Medicine -cough syrup + sedative -septrin syrup + cough syrup. -aspirin -injections. -anti-TB drugs. -herbal medicine.	-injections + ventolin -asthma pills -anti TB drugs -injections. -blood transfusion -intravenous fluids -herbal med.	-asthma medicine. -septrin. -injections -cough pill. -cough + fever medicine -ventolin. -cough + sneezing med. -cough syrup.
PRACTI-TIONER IMPROV E-MENT TIME	-3-14 days.	-1-7 days.	-30 minutes- 14 days

The home management of the patient having pneumonia did not include fluids. An increase in the frequency of feeding was not mentioned. The home actions mentioned that are positive are

keeping the child warm, feeding, administration of a cough remedy and fever medicine. An unacceptable practice are giving children aspirin or aspirin containing drugs for fever. The expected practitioner treatment had a variety of responses .

The following matrix elicits the same information as above for scenarios D,E and F. They each had 16, 13, and 10 responses respectively.

MATRIX 4.2.2: SCENARIO PRESENTATION

	SCENARIO D 2 Yrs + pneumonia	SCENARIO E 3/52 no pneum	SCENARIO F 1/12 +pneum.
HOME CARE ACTION + FOODS	-vicks + hot water steam inhalation. -fever pills. -chloroquine. -cold water sponging -keep warm. -aspirin. -balanced diet.	-EBM nasal drops -"rub on" chest massage -vaseline in nostrils -cafenol. -keep warm.	-no special action.
IMPROV E-MENT TIME: (home)	-1-3 days	-1-7 days	-N/A
EXPEC-TED PRACTI-TIONER TREAT-MENT.	-septrin. -injections. -sedatives. -medicine for appetite -fever medicine. -panadol. -chloroquine. -herbal medicine.	-nasal drops. -medicine for chest -"rub on" chest massage.	-injections + oxygen -pills for blood.
PRACTI-TIONER IMPROVE -MENT TIME.	-1-7 days	-1-7 days	-1-30 days

For the 2 year old having pneumonia, the positive practices were fever medicine, keeping the patient warm and a balanced diet. The practices to be discouraged are cold water sponging and aspirin administration. For the neonate with pneumonia, no action was taken. Some mothers felt

that it is difficult to treat small babies at home since their symptomatology is not clearly defined and one does not know what illness is present in the baby. In the neonate without pneumonia the negative practice was lubrication of the nose with vaseline (petroleum jelly).

The following table shows what the respondents perceived to be the diagnosis (illness name), any other information they wished to know about the symptomatology and other signs they needed to look for.

some of the history that would be sought in such an infant. The contribution of promiscuity to illness causation as observed in the key persons interview is also mentioned here. Breathing problems were specifically asked for by one mother.

As far as seeking care was concerned, for the infant having pneumonia, all practitioners were mentioned as a source of care. It was said by some that if the condition of the patient did not improve with the treatment at the local clinic, then care would be sought at the University Teaching Hospital.

The following matrix similar results for scenarios D,E and F.

MATRIX 4.2.4 PRESENTATION OF SCENARIOS

	SCENARIO D 2Yrs + pneum.	SCENARIO E Neonate no pneum.	SCENARIO F Neonate + pnem
NAME OF ILLNESS	-bronchitis. -asthma. *-tulaso.* -malaria.	-normal state(due to bad air). -congenital cold. -cough. -febrile illness. *-"midulo".* -chest problem	-unknown congenital illness. -chest congestion. -febrile illness. -sleeping sickness. -HIV related *-tulaso.* -malaria.
OTHER INFORM -TION ASKED	-when did it start. -medicines given. -is soft spot working?	-difficult breathing. -how did it start -was baby handled by menstruating person?	-how did it start? -when did it start?
OTHER SIGNS TO WATCH FOR	-worsening difficult breathing. -persisting fever.	-difficult breathing due to blocked nose. -difficulty sucking. -crying at night -fever.	-no response to medicine (will not respond readily).
TYPE OF PRACTI-TIONER	-UTH Dr. -clinic HW. -clinic HW--->TH ---> UTH Dr.	-home care. -clinic HW. -UTH Dr.	-clinic HW. -UTH Dr.

Once again worsening difficult breathing was mentioned and persisting fever was also worrisome in the child with pneumonia. In the neonate with a runny nose, difficulty in breathing and sucking were mentioned as other signs to look out for.

The following table compare the responses given for children aged 2 years one of who has pneumonia. The comparison is made with respect to home care actions and foods, expected practitioner, expected treatment and improvement time.

TABLE 4.2.5: 2 YEAR OLD CHILD WITH PNEUMONIA VS NO PNEUMONIA

Number of responses: Scenario C-20, D-13.

	SCENARIO C (No pneumonia)	**SCENARIO D (pneumonia)**
HOME CARE ACTION FOODS.	-cafenol/aspirin/ panadol -dress warmly	-aspirin/ fever pills -dress warmly
	-porridge,fruit, milk, fluids	-balanced diet, fluids.
	-"rub on" chest massage	-"vicks + hot water steam.
	-herbs	-chloroquine
	-cough syrup	-cold water sponging
EXPECTED PRACTI-TIONER TREATMENT	-appropriate medicine -septrin	-appropriate medicine -septrin
	-injections	-injections
	-cough + cold + fever med.	-cough + cold + fever med.
	-chloroquine	-herbal
PRACTI-TIONER IMPROVE-MENT TIME	-minutes - 1 day -2-3 days -1 week -1-2 weeks	-minutes - 1 day -2 - 3 days -1 week -1 -2 weeks
TYPE OF PRACTI-TIONER	-Dr. UTH -HW clinic -TH	-Dr. UTH -HW clinic -TH

For both children, there was a striking similarity in the responses. In both children, medicines for fever were advised. Most respondents felt they did not want to give any thing. It appeared

that there was the fear of giving the wrong treatment. Both scenarios had anticipation of injectable treatment. Improvement time was equal. Mothers felt that they would advise care to be sought at the public health centre or hospital.

4.2.2 PRACTITIONER RANKING

Six practitioners were selected based on the information from the key informants interview. These were a male traditional healer who treated children's illnesses, a female traditional healer who is also a birth attendant, 2 private practitioners practising in Kanyama, the health workers at Kanyama health centre and the health workers at the referral hospital. These were designated practitioners A, B, C, E, D and F respectively. Percentage ranking was calculated from the number of times a practitioner was selected over the total number of responses(150). Ranking was carried out by asking respondents which practitioner mothers would take their child suffering from pneumonia to. The ranking was done for each practitioner against the other 5. The number of times a particular practitioner was selected was divided by the total number of responses and the ranking was expressed as a percentage.

TABLE 4.2.2: RANK ORDER OF PRACTITIONERS

PRACTITIONER	% TIME SELECTED
F- UTH Dr.	97
D- Kanyama clinic CO	75
E- Private practitioner	59
C- Ptivate practitioner	36
B- Female trad. healer	3
A- Male trad. healer	1

CO = Cinical officer

The UTH was selected by 97 per cent of the responses, while the male traditional healer was chosen in only one per cent of the selections. The public facilities were ranked higher than the private ones.

4.2.3 ILLNESS SORTING TASK

Mothers were asked which symptoms and signs were associated with various ARI (as listed by the key informants). A sign or symptom which was selected by 60 per cent or more of the mothers at home, was accepted as belonging to the illness in question.

TABLE 4.2.3.1: *CHIFUBA CHI FWASA* (BRONCHITIS)

Total Respondents: 25

SIGNS/SYMPTOMS	NUMBER (%)
Chifuba (Cough)	25 (100)
Chikoso Cha ngoma (Hacking)	24 (96)
Kufwasa (Congestion)	22 (88)
Kuvutika kupema (Difficult Breathing)	21 (84)
Tulaso (Chest Pain)	17 (68)
Kupema musanga (Fast Breathing)	15 (60)

The symptoms most associated with bronchitis were, cough which is hacking (sounds like a drum beat), chest congestion, difficult and fast breathing, chest pain and red eyes (both attributed to the cough).

TABLE 4.2.3.2: *"MIDULO"* (SEVERE INFANTILE PNEUMONIA)

Total Respondents: 9.

SIGN/SYMPTOM	NUMBER (%)
Kutyoka chifuba (Chest In drawing)	9 (100)
Midulo (Substernal Retraction)	9 (100)
Kuiminina mbafu (Lower Chest Protrusion)	9 (100)
Kufyantiwa (Closed Chest)	9 (100)
Chifuba (Cough)	9 (100)
Kufwasa (Congestion)	8 (89)
Chifuba cha ngoma (Hacking Cough)	6 (67)
Kutuluka mimba (Abdominal Protrusion)	6 (67)
Kupema musanga (Fast Breathing)	6 (67)

Only 9 respondents recognised the term *midulo*, and all agreed that it was a serious infantile, life threatening illness. All the mothers agreed that chest in drawing , difficult breathing, lower chest protrusion, cough and a "closed chest" were characteristic of this condition.

TABLE 4.2.3.3: *TULASO* (PNEUMONIA IN YOUNG CHILDREN)

Total Respondents: 23.

SIGN/SYMPTOM	NUMBER (%)
Kuvutika kupema (Difficult Breathing)	23 (100)
Tulaso (Chest Pain)	22 (96)
Kuiminina mbafu (Protruding Lower Ribs)	22 (96)
Chifuba (Cough)	22 (96)
Kupya tupi (Fever)	20 (87)
Kufyantiwa (oppression)	19 (83)
Kupema musanga (Fast Breathing)	19 (83)
Kuvalika chifuba (Closed Chest)	16 (70)
Kufwasa (Congestion)	14 (61)
Kusweta maso (Red Eyes)	14 (61)

It is interesting to note that one respondent did not think that *tulaso* (chest pain), is an occurrence in *chifuba cha tulaso* (pneumonia). All agreed however, that difficult breathing is a feature. Again the red eyes were attributed to the cough.

TABLE 4.2.3.4: *CHIFUBA CHA MPEPO* (COUGH AND COLD)

Total Respondents: 18.

SIGN/SYMPTOM	NUMBER (%)
Chifuba (Cough)	16 (89)
Chifine (Cold)	13 (72)
Chifuba cha chabe (Ordinary cough)	12 (67)
Chikoso cho yuma (Dry cough)	11 (61)
Kupya tupi (Fever)	11 (61)

Cough that occurs in cold weather or during changes from warm to cold weather, was characterised by a cold (runny nose), a dry cough, fever (which is mild), and a cough which is not serious, and likened to a "normal" cough, which is not a disease state.

TABLE 4.2.3.5: *CHIFUBA CHO YENDELELA* (WHOOPING COUGH)

Total Respondents: 18.

SIGNS/SYMPTOMS	NUMBER (%)
Kuiminina mbafu (Protrusion of lower ribs)	18 (100)
Chifuba (Cough)	17 (94)
Kupya Tupi (Fever)	16 (89)
Kusweta maso (Red eyes)	15 (83)
Kuvutika kupema (Difficult breathing)	15 (83)
Chikoso cho yuma (Dry cough)	14 (78)
Kufyantiwa (Oppression)	14 (78)
Kupema musanga (Fast breathing)	12 (67)
Kufwasa chifuba (Congested chest)	12 (67)
Chifine (Cold)	11 (61)

Most respondents demonstrated a high pitched sound after a bout of cough in the above condition, the bout ending in the child vomiting. This information was unprompted. The illness was said to be fatiguing.

TABLE 4.2.3.6: *CHIFUBA CHA CHABE CHABE* ORDINARY COUGH

Total Respondents: 25

SIGNS/SYMPTOMS	NUMBER (%)
Chifuba (Cough)	25 (100)
Chifuba cha chabe (Ordinary Cough)	24 (96)
Chikoso cho yuma (Dry Cough)	16 (64)
Chifine (Cold)	15 (60)
Kuimina mbafu (Protrusion of lower ribs)	15 (60)

One respondent did not agree that an ordinary cough is "ordinary" in nature. Even though most respondents said that this was not a disease state, the symptoms it was associated with were similar to those for cough due to prevailing cold weather or changes in the weather. They differed in that in the latter, fever is also a feature.

TABLE 4.2.3.7: *CHIFUBA CHA KALOMBO KA HIV* (COUGH ASSOCIATED WITH HIV)

Total Respondents: 9.

SIGNS/SYMPTOMS	NUMBER (%)
Chifuba(Cough)	9 (100)
Kuimina mbafu (Lower Ribs Protrusion)	9 (100)
Kufwasa chifuba (Congestion)	8 (89)
Kuvutika kupema (Difficult Breathing)	8 (89)
Kutuluka mimba (Protruding Abdomen)	7 (78)
Chifuba cha chabe (Ordinary Cough)	6 (67)

Only 9 mothers had seen an infant or young child with signs and symptoms of HIV infection, or whose parents had this illness. All the respondents agreed that cough and chest protrusion were present in respiratory illness associated with HIV infection. Difficult breathing and congestion were also prominent features.

TABLE 4.2.3.8: CHIFUBA CHA KANSAMWA (MEASLES COUGH)

Total Respondents: 27.

SIGNS/SYMPTOMS	NUMBER (%)
Kusweta maso (Red eyes)	27 (100)
Kansamwa (Measles rash)	27 (100)
Chifuba (Cough)	26 (96)
Kupya tupi (Fever)	26 (96)
Kuiminina mbafu (Lower Chest Protrusion)	25 (93)
Chifine (Cold)	24 (89)
Chikoso cho yuma (Dry cough)	21 (78)
Kupema musanga (Fast breathing)	18 (67)
Kuvutika kupema (Difficult breathing)	17 (63)

Cough, rash, red eyes, fever and lower chest protrusion were the signs and symptoms most often associated with measles. Fewer mothers agreed with an occurrence of fast and difficult breathing with this illness.

TABLE 4.2.3.9: *CHIFINE* (COLD)

Total Respondents: 27

SIGNS/SYMPTOMS	NUMBER (%)
Chifine (runny nose)	27 (100)
Chifuba (Cough)	24 (89)
Kupya tupi (Fever)	22 (82)
Kusweta maso (Red eyes)	20 (74)
Chifuba cha chabe (Ordinary Cough)	19 (70)

A runny nose and cough were the features most often associated with a cold. In terms of the symptomatology, cough, a runny nose, and fever were mentioned for *chifuba cha mpepo* as well. The illness entity does not appear to be different.

4.2.4 SEVERITY RATING

A symptom or clinical feature of ARI was considered as being severe if it was categorised as such by more than 60 per cent of the respondents. The ratings ranged from 3 per cent (the rating for *chifine*-common cold) to 100 per cent.

TABLE 4.2.4.1: SIGNS AND SYMPTOMS TERMS

The Total number of respondents varied in that some mothers were non committal in some ilnesses. They felt they did not know some of the symptoms well enough to say what the severity was.

TERM	SEVERITY RATING (%)
Chifuba cha ngoma (Hacking cough)	96
Tulaso (chest pain)	93
Chifuba cha kansamwa (Measles cough)	93
Kutyoka chifuba (Chest in drawing)	83
Kansamwa (Measles)	85
Kuvutika kupema (Difficult breathing)	85
Kuvalika chifuba (Closed chest)	75
Kufyantiwa (Oppression)	71
Kufwasa chifuba (Congestion)	68

A hacking cough, pneumonia, respiratory illness in measles, chest in drawing, measles as an illness, difficult breathing, a "closed chest", *kufyantiwa* and congestion as found in bronchitis for instance, were considered severe.

TABLE 4.2.4.2: ILLNESS TERMS SEVERITY RATING

The total numbers varied once again in that some respondents were non committal with some illnesses. Examples of this are infantile pneumonia *(midulo)* and respiratory illness associated with HIV *(Chifuba cha kalombo ka HIV)*

TERM	SEVERITY RATING (%)
Bronchitis	100
Kutulula (Diarrhoea)	86
Chifuba cha tulaso (Pneumonia)	79
Chifuba cha kalombo ka HIV (resp. illness in HIV)	78
Kansamwa (Measles)	78
Chifuba cho yendelela (whooping cough)	76
Chifuba cha midulo (Infantile pneumonia)	64

Diarrhoea and conjunctivitis in children were included in the severity rating task in order to see how ARI compares with other illnesses. Both diarrhoea and conjuctivitis (known as Chongwe named after the district in periurban Lusaka which was the apparent source of an epidemic of conjunctivitis) were rated severe. Conjunctivitis had a 62 per cent rating.

4.2.5: MEDICATIONS FOR CHILDREN UNDER FIVE FOR ARI

An inventory of medications at home was done for 29 respondents. Nine mother had medicines for children's illnesses and of these, 3 classes of drugs were for ARI.

TABLE 4.2.5.1: ARI MEDICINES AT HOME

MEDICATION	SOURCE	NUMBER
Panadol Syrup	Chemist	1
Mr. Strong Cough Syrup	Chemist	1
Unknown Cough Syrup	Grocery Shop	1
Good-morning Lung Tonic	Chemist	1
Ventolin	UTH	1

Three out of the five medicines were cough mixtures of various kinds, they were all bought in chemists in the town centre. One mother had panadol and Mr. Strong Cough Syrup, one had an unknown cough mixture and the third Good-morning Lung Tonic with ventolin (salbutamol).

4.2.6 VIDEO PRESENTATION

The video presentation was done using a WHO video tape entitled ARI assessment of the child with cough and difficult breathing catalogue number 307.

Eight children on this video were shown to the nine mothers who participated in this presentation. Five children had fast breathing and difficult breathing and one had only fast breathing. The respondents were asked to mention what problem the child in the video had. If fast breathing was not mentioned, they were prompted for a response on this observation using the question: What do you think about this child's breathing?

4.2.6.1: TABULATION FOR UNPROMPTED ILLNESS TERMS

The following tables shows what the mothers perceived as the illness or pattern of breathing that the Infant/child had without prompting.

Child 1- four month old having fast breathing and chest indrawing.

TERM	NUMBER
Midulo (Infantile pneumonia)	2
Kalaso (chest pain)	3
Kutyoka (subcostal recession)	1
Kufwasa (congestion)	3
Befu (Difficult breathing)	1
Kuvutika kupema (Difficult breathing)	7
Kutamanga kupema (Fast breathing)	3
TOTAL FAST BREATHING	3
TOTAL OTHER BREATHING PROBLEMS	7

This infant had fast breathing and only three mothers mentioned this without prompting. The remainder mentioned other breathing problems which pointed to difficult breathing.

Child 2 - eight month old having fast breathing, intercostal recession and chest indrawing.

TERM	NUMBER
Tulaso (Chest pain)	2
Asthma	1
Bronchitis	2
Midulo (Infantle pneumonia)	2
Kutyoka (Subcostal recession)	1
Kuvutika kupema (Difficult breathing)	7
Kutamanga kupema (Kupema musanga)	3
TOTAL FAST BREATHING	3
TOTAL OTHER BREATHING PROBLEMS	7

Difficult breathing was mentioned in seven responses, while fast breathing was recognised in three.

Child 3 - two month old having fast breathing and chest indrawing.

TERM	NUMBER
Midulo (Infantile pneumonia)	1
Malaria	1
Tulaso (Chest pain)	5
Chifine (Cold)	1
Kutyoka (subcostal recession)	1
Chifuba (Cough)	2
Kuvutika kupema (Difficult breathing)	6
Kutamanga kupema (Fast breathing)	1
TOTAL FAST BREATHING	1
TOTAL OTHER BREATHING PROBLEMS	6

Pneumonia was mentioned as the illness name in 5 responses and only 2 referred to the illness as being *midulo*.

Child 4 - two month old no signs of pneumonia.

TERM	NUMBER
Tulaso (Chest pain)	1
Befu (Difficult breathing)	1
Chifuba (Cough)	1
Midulo (Infantile pneumonia)	2
Asthma	1
Chifine na chifuba (Cough and cold)	1
Kuvutika kupema (Difficult breathing)	6
Kupema musanga (Fast breathing)	2
TOTAL FAST BREATING	2
TOTAL OTHER BREATHING PROBLEMS	6

The above child was normal, but the slight substernal retrction normally seen in infants of this age was mistakenly identified as difficult breathing.

Child 5 - two year old with fast breathing and chest indrawing.

TERM	NUMBER
Chifuba cha chabe (Ordinary cough)	3
Tulaso (Chest pain)	2
Kuvutika kupema (Difficult breathing)	6
Kutamanga kupema (Fast breathing)	5
TOTAL FAST BREATHING	5
TOTAL OTHER BREATHING PROBLEMS	6

In this child fast breathing got almost the same number of responses as difficult breathing.

Child 6 - ten month old with no signs of pneumonia.

TERM	NUMBER
Tulaso (Chest pain)	3
No illness	1
Chifuba cha mpepo (Cough associated with cold weather)	1
Kuvutika kupema (Difficult breathing)	5
Kutamanga kupema (Fast breathing)	0
TOTAL FAST BREATHING	0
TOTAL OTHER BREATHING PROBLEMS	5

This infant was normal and yet difficult breathing was still mentioned as being present.

Child 7 - one year old with fast breathing and no chest indrawing.

TERM	NUMBER
Bronchitis	2
Tulaso (Chest pain)	1
Chifuba cha chabe (Ordinary cough)	2
Chifuba cha mpepo (Cough associated with cold weather)	1
Kuvutika kupema (Difficult breathing)	6
Kutamanga kupema (Fast breathing)	1
TOTAL FAST BREATHING	1
TOTAL OTHER BREATHING PROBLEMS	6

This child only had fast breathing. The mothers recognised this as difficult breathing and fast breathing was only registered in one response.

Child 8 - eight month old with fast breathing and chest indrawing.

TERM	NUMBER
Kansamwa (Measles)	1
Kunkala na tenda mu chifuba (Chest problem)	1
Midulo (Infantile pneumonia)	1
Chifuba cha chabe (Ordinary cough)	2
Chifuba cha mpepo (Cough associated with cold weather)	1
Kuvutika kupema (Difficult breathing)	7
Kupema musanga (Fast breathing)	1
TOTAL FAST BREATHING	1
TOTAL OTHER BREATHING PROBLEMS	7

Once again difficult breathing was mentioned rather fast breathing.

The following table is a summary of the responses obtained about the pattern of breathing unprompted.

TABLE 4.2.6.2: FAST BREATHING UNPROMPTED

AGE (months)	F	N	O	OTHER
2	2	0	1	6
2(N)	2	2		5
4	3	1		5
8	4	0		5
8	2	0		7
10(N)	1	3		5
14	1	2		6
24	4	1		4
TOTAL	19	9	1	43

F = mentions fast breathing

N = says child is normal

O = says nothing about breathing

P = other breathing problems

The "other breathing problems" are described by the various terms used to describe difficult breathing such as *kuvutika kupema, osa pema bwino and befu.* Fast breathing was mentioned in 16 out of a possible 54 correct responses (with regard to the 6 children who actually had fast breathing). Other breathing problems were described in 33 out of 54 resonses responses. Mothers tended to mention difficult breathing rather than fast breathing. The following is a summary of the above results:

Total number of possible correct responses for fast breathing = 6(children) by 9(mothers)= 54

F = 16/54 = 29.6%

P = 33/54 = 61.1%

N = 4/54 = 7.4%

O = 1/54 = 1.9%

In 5 out of a possible 18 responses the breathing pattern was said to be normal in the children who were actually normal.

The following table shows the answers obtained when mothers were prompted to comment on the pattern of breathing by the question: "What do you think about the breathing in this child?"

TABLE 4.2.6.3: SUMMARY RECOGNITION OF FAST BREATHING, PROMPTED

AGE (months)	F	N
2	2	4
2	0	7
4	5	1
8	3	1
8	2	5
10	2	7
14	2	6
24	3	1
Total	19	32

F = says fast breathing.

N = says not fast breathing

More mothers said that there was no fast breathing in the 6 children with fast breathing. In the normal 2 month-old infant, no one mentioned fast breathing even with prompting. The other normal child was said for the most part not to have fast breathing. The following is a summary:

Of the total 54 responses, 38 needed prompting in order to elicit information on fast breathing.

17/38 (44.74 per cent) agreed that there was fast breathing in the children with fast breathing.

18/38 (47.37 per cent) said that the children with fast breathing were normal.

3(7.89 per cent) were non comittal.

4.3 PRACTITIONERS INTERVIEW

Ten community based practitioners were interviewed , two of these were traditional healers, one private practitioner and the rest (7) were health workers at the local clinic. Four health workers in the outpatient department at UTH were interviewed. Two were clinical officers and two were nurses on duty at the outpatient department. Thus the total number of practitioners interviewed was 14.

The following table shows what signs of pneumonia the practitioners thought were often recognised by mothers.

TABLE 4.3.1: SIGNS AND SYMPTOMS OF PNEUMONIA RECOGNISED BY MOTHERS. Total responses:37

SIGN/SYMPTOM	NUMBER(%)
Cough	6 (16.22)
Difficult/changes in Breathing	12 (32.43)
Chest protrusion	1 (2.7)
Fever	10 (27.03)
Poor feeding	2 (5.41)
Restlessness	1 (2.7)
Gasping	1 (2.7)
Chest pain	4 (10.81)

Most of the practitioners (85.5 per cent) mentioned that mothers recognise cough, difficult or changes in the breathing pattern, fever and chest pain.

The following table shows what the practitioners perceive as signs and sumptoms of pneumonia not recognised by mothers.

TABLE 4.3.2: SIGNS AND SYMPTOMS OF PNEUMONIA NOT RECOGNISED BY MOTHERS. Total responses:17.

SIGN/SYMPTOM	NUMBER (%)
Chest in drawing	4 (23.53)
Fast breathing	4 (23.53)
Nasal flaring	8 (47.06)
Fever	1 (5.88)

There were a variety of answers, about 23 per cent of the responses portrayed that mothers do not recognise chest in drawing and fast breathing, while 47 per cent said that nasal flaring was not recognised. The mothers at home interview however, revealed that mothers recognise difficult breathing and not fast breathing. The respondent who felt that fever was not recognised, said that mothers tend to attribute this symptom to malaria.

The following table shows what the practitioners think are the reasons for delayed care seeking.

TABLE 4.3.3: REASONS FOR DELAYED CARE SEEKING

Total number of responses: 26.

REASONS FOR DELAY	NUMBER (%)
Lack of diligence	2 (7.69)
Ignorance of symptoms	5 (19.23)
Economic	6 (23.08)
Go to TH first	6 (23.08)
Go to private clinic first	3 (11.54)
Attending to other affairs	3 (11.54)
Distance from HC	1 (3.9)

Ignorance of symptoms, economic reasons and going to a traditional healer first were named by more practitioners as being the reasons for delayed care seeking. The mothers at the clinic interview portrayed that there was no delay.

The following table shows how the practitioners would treat a child suffering from pneumonia.

TABLE 4.3.4: TREATMENT OF PNEUMONIA BY PRACTITIONERS

Total number of responses: 20

TYPE OF TREATMENT	NUMBER (%)
Herbal medication (TH)	1 (5)
Unspecified medication	1 (5)
Calpol	1 (5)
Health Education	1 (5)
Keep warm	3 (15)
Avoid commercial drinks	1 (5)
Plenty of oral fluids	2 (10)
Injectable penicillin(5 days)	6 (30)
Inj. penicillin--->oral antib.	3 (15)
Frequent small feeds	1 (5)

Various answers were given, many respondents mentioned one measure or another. 30 per cent of them said they would give injectable penicillin for five days. One traditional healer mentioned herbal medication, whilst the other did not specify the type of treatment.

The following table shows how the practitioners would treat bronchitis.

TABLE 4.3.5: TREATMENT OF BRONCHITIS

Total number of responses: 14.

TYPE OF TREATMENT	NUMBER (%)
Herbal enema + herbal chest massage (TH)	1 (7)
Penicillin	4 (29)
Antibiotic (unspecified)	2 (14)
Amoxyl syrup	2 (14)
Ventolin + antibiotic	4 (29)
Antibiotic + calpol	1 (7)

All the healthworkers included an antibiotic in the management of bronchitis. No other general measures were mentioned. The second traditional healer was not keen to mention his management of bronchitis.

4.3.2 SCENARIO PRESENTATION.

The practitioners were asked what in their opinion mothers would think about the infants/young children presented in the various scenarios. The specific aspects enquired about were the name of the illness, its cause, home treatment, duration of delay in care seeking and source of care. Scenario A, B, C and D had five responses each, whilst scenarios E and F had four responses each, making a total of 28 responses. The wide variety of responses elicited compared well with the home interviews and the numbers elicited for each response were too few to make quantitative analysis justifiable. A listing of the various answers has therefore been made.

SCENARIO A (six month old without pneumonia):

Name of illness - measles, cough

Cause - unknwn, unloyal husband, unknown pregnancy, cold weather.

Home treatment - hygienic practices, traditional medicine, leftover antibiotic, cough mixture.

Delay in care seeking - one-three days or when condition worsens.

Source of care - traditional healer, health centre.

The aetiological factors were similar to those elicited for the key people and home interviews but the home management was not alike. Measles and cough were also the illness names mentioned for this scenario in the home interviews.

SCENARIO B (six month old with pneumonia):

Name of illness - not known, *kalaso*, malaria.

Cause - unknown, witchcraft, cold weather.

Home treatment - none, cafenol/panadol, cough syrup, chloroquine, leftover antibiotic,

Delay in care seeking - few hours to four days.

Source of care - traditional, hospital.

The home treatment list is much like the home interview one.

SCENARIO C (two year old without pneumonia):

Name of illness - cough and cold

Cause - not known, cantact with sufferer, cold weather.

Home treatment - "rub on" / "vicks", steam inhalation, cafenol/panadol, cough mixture, traditional medcine, nothing.

Dealy in care seeking - three-four days or until conditions worsens.

Source of care - health centre.

The list for home care actions is even more comparable to the home interview one. The list of illness names included among other things cough and cold.

SCENARIO D (two year old with pneumonia):

Name of illness - *tulaso* (pneumonia)

Cause - witchcraft, unloyal husband, unknown pregnancy, unknown aeitology.

Home treatment - panadol, tatooes on the chest, sweet potato leaves.

Delay in care seeking - one-three days and one week.

Source of care - traditional healer and health centre.

The cause for illness elicited a similar list as the mothers at home interview.

SCENARIO E (neonate without pneumonia):

Name of illness - soft spot not working, a cold.

Cause - a cold, baby soap, dust, aspiration of amniotic fluid at delivery.

Home treatment - none, expressed breast milk nasal drops.

Delay in care seeking - none, one week.

Source of care - traditional healer, MCH clinic, TBA.

The illness "soft spot not working" was not mentioned by the mothers at home.

SCENARIO F (neonate with pneumonia):

Name of illness - *kalaso* (pneumonia), bronchitis, not an illness.

Cause - not known, passed on by parents.

Home treatment - *"chitima"* (traditional medicine), cough mixture, drugs used for previous epsode in the patient or older sibling, none.

Delay in care seeking - one-four days, when the condition worsens.

Source of care - health centre, hospital.

4.4 MOTHERS AT THE HEALTH FACILITY

Twenty-seven (27) mothers bringing infants and small children to the health centre were interviewed. They were those who either complained of cough and fever, or whose children were observed to have difficult breathing, by the screening healthworker.

The following table shows the various symtoms that the children presented with.

TABLE 4.4.1: PRESENTING SYMPTOMS

Total number of responses: 52.

PRESENTING SYMPTOMS	INFANTS	1-4 Yrs	TOTAL(%)
Chifuba (Cough)	13	9	22 (42.3)
Kupya tupi (Fever)	10	6	16 (30.8)
Chifine (Sneezing/a cold)	3	2	5 (9.6)
Not B/F well, no appetite	2	2	4 (7.7)
Kuvutika kupema (Difficult breathing)	0	1	1 (1.9)
Tulaso (Pain in the chest)	0	1	1 (1.9)
Others	2	1	3 (5.8)

Cough and fever were the commonest presenting symptoms. Only one mother said her child had difficult breathing. Children with other symptoms were those who presented with non ARI symptoms such as diarrhoea, but who also had ARI.

TABLE 4.4.2: ILLNESS NAMES MENTIONED BY MOTHERS

Total number of responses: 27.

ILLNESS NAME	INFANT	1-4 Yrs	TOTAL (%)
Tulaso (Pneumonia)	1	1	2 (7.4)
Chifuba na chifine(Cough + cold)	1	0	1 (3.7)
Chifuba (Cough)	1	0	1 (3.7)
Kansamwa (Measles)	0	1	1 (3.7)
Asthma	0	1	1 (3.7)
Malaria	1	3	4 (14.8)
Unknown	11	6	17(63)
TOTAL	15	11	27

Most mothers (63 per cent) declined to name an illness because they said that they come had come to the health centre specifically to have their children examined, and for the health workers to tell them what was wrong. They may have also had reservations about mentioning an illness name for fear of being wrong. The infant and child whose mothers said had *tulaso*(7 per cent) actually had pneumonia on clinial examination.

TABLE 4.4.3: REASON FOR CARE SEEKING

Total number of responses: 21 for infants, 13 for older children.

REASONS FOR CARE SEEKING	INFANTS(%)	1-4 Yrs (%)
Persisting cough	8 (38)	4 (30.77)
Irritable/crying	2 (10)	0
Not playing	0	1 (7.69)
Persisting fever	6 (28)	3 (23.08)
Vomiting after cough	2 (10)	0
Sunken soft spot	1 (5)	0
For examination	1 (5)	1 (7.69)
Difficult breathing	0	1 (7.69)
Appetite loss	0	3 (23.08)
Fast breathing	1 (3)	0
TOTAL	21	13

A persisting cough and fever, were the commoner reasons for seeking care. They represented about 38 per cent, 30 per cent, 28 per cent and 23 per cent of the responses in the two age groups respectively. One mentioned difficult breathing and another fast breathing as the reason for seeking care.

TABLE 4.4.4: TRIGGER SYMPTOMS FOR SEEKING CARE

Total number of responses: 61.

TRIGGER SYMPTOMS	INFANTS	1-4 Yrs	TOTAL(%)
Not B/F or feeding well	2	4	6 (9.84)
Irritable/crying	1	0	1 (1.64)
Sneezing/a cold	3	4	7 (11.48)
Fast breathing	3	1	4 (6.56)
Cough	11	9	20 (32.79)
Difficult breathing	0	2	2 (3.28)
Weakness	1	0	1 (1.64)
"Scratching ear"	1	0	1 (1.64)
Body hotness	10	8	18 (29.51)
Others	0	1	1 (1.64)

Cough and fever were the main triggering symptoms, accounting for about 32 per cent and 29 per cent of the responses respectively. Here again some mothers presented more than one symptom in some cases.

The following table shows what the mother said were the reasons for their delay in care seeking. 12 mothers said that they had not delayed.

TABLE 4.4.5: REASONS FOR DELAY

Total number of responses: 15.

REASONS FOR DELAY	INFANTS	1-4 Yrs	TOTAL(%)
Waited for improvement	5	3	8 (53.33)
No baby sitter	1	0	1 (6.66)
Waited to tell elders	1	0	1 (6.66)
Fear of fees/economic	1	0	1 (6.66)
Had things to do	1	1	2 (13.33)
After hours	1	0	1 (6.66)
Went to church	1	0	1 (6.66)
TOTAL	11	4	15

The commonest reason for delay was that mothers waited to see if there would be an improvement in the symptoms, representing about 53 per cent of the responses.

The average number of days in terms of delay to care seeking was calculated by dividing the number of respondents into the number of days before care seeking from the time symptoms were first noticed, this came to 2.3 days. The longest delay was five days, the shortest one day.

The following table shows what the maternal expectations were from the halth centre in terms of treatment.

TABLE 4.4.6: EXPECTATIONS OF CONSULTATION

Total number of responses: 41.

EXPECTATIONS OF CONSULTATION.	INFANTS	1-4Yrs	TOTAL (%)
Med. to stop fever/cough	3	1	4 (9.76)
Cough medicine	1	3	4 (9.76)
Medicine to cure	7	7	14 (34.15)
Injections	1	0	1 (2.44)
Diagnosis	2	2	4 (9.76)
Chloroquine	1	2	3 (7.32)
Septrin	2	2	4 (9.76)
Fever medicine	1	2	3 (7.32)
Vitamins	0	2	2 (4.88)
Others	1	1	2 (4.88)

In 34 per cent of the responses, medicine to cure the child of symptoms was the expectation. This percentage is diluted by the fact that the number of respnses rather than the number of respondents is used as the denominator. The variety of responses is similar to the mothers at home interview results. Once again, fear of saying the wrong thing may have largely contributed to the non specific response that most mothers gave. Septrin, cough mixture, and antipyretics were mentioned in about 10 per cent of the responses.

The following table illustrates the various treatments that the mothers gave before the clinic visit.

TABLE 4.4.7: TREATMENTS BEFORE CLINIC VISIT

Total respondents: 23.

HOME TREATMENTS	INFANTS	1-4Yrs	TOTAL (%)
Cafenol	5	3	8 (34.78)
EBM nose drops	1	0	1 (4.35)
Multivitamin	0	1	1 (4.35)
"Vicks" to nostrils	1	0	1 (4.35)
Cooking oil ear drops	1	0	1 (4.35)
Aspirin/anadin	1	1	2 (8.7)
Cough mixture	3	1	4 (17.39)
Calpol/panadol	1	2	3 (13.04)
Chloroquine	0	1	1 (4.35)
Others	0	1	1 (4.35)

Cafenol (caffein and aspirin) was the most frequently used home treatment (35 per cent), followed by cough mixture (17 per cent) and panadol in tablet or syrup form (13 per cent). Antipyretics together made up 55 per cent of the responses. The measures are similar to those elicited in the home interviews.

The following table shows the main decision makers in care seeking.

TABLE 4.4.8: PERSONS PARTICIPATING IN DECISION TO SEEK CARE.

Total responses: 27.

DECISION MAKERS	INFANT	1-4Yrs	TOTAL (%)
Father (waited to tell husband)	9	8	17 (62.96)
Child's G/mother	1	0	1 (3.7)
Mum's initiative	2	2	4 (14.82)
Other relations	2	2	4 (14.82)
Neighbour	1	0	1 (3.7)
TOTAL	15	12	27

The child's father was the main decision maker as far as seeking care was concerned (63 per cent of the responses). Mothers often waited for their husbands to come home in the evening so that the child's problem would be discussed. This information was obtained on indepth questioning since it was observed in the course of the interview that some mothers prefered to wait for their spouses before a decision was made to seek care.

TABLE 4.4.9: BREAST FEEDING PATTERN DURING ILLNESS

Total responses: 21.

BREAST FEEDING PATTERN	INFANT	> 1 Yr	TOTAL (%)
Breast feeding normally	6	2	8 (38.1)
Decreased/difficult BF	9	4	13 (61.9)
Increased BF	0	0	0
TOTAL	15	6	21

BF = breastfeeding

Most mothers (62 per cent), observed decreased or difficult breast feeding during the episode.

TABLE 4.4.10: SPECIAL FOODS GIVEN DURING ILLNESS

Total responses: 32.

SPECIAL FOODS GIVEN	INFANTS	1-4Yrs	TOTAL (%)
None	8	3	11 (34.4)
Meal porridge + milk/g-nut/soya	4	2	6 (18.8)
Plain porridge	1	0	1 (3.1)
Oranges	1	3	4 (12.5)
Bananas	0	3	3 (9.4)
Eggs	1	0	1 (3.1)
Fanta/coke/commercial o/juice	2	1	3 (9.4)
Tea	0	2	2 (6.3)
Buns	0	1	1 (3.1)
Total	17	15	32

g-nut = groundnut O/juice = orange juice

The larger number of respondents (34 per cent) did not give any special foods to the children during the present illness. Some however did make an effort to make the usual meal porridge more nutritious (about 19 per cent), and some gave fruit (about 22 per cent). Apart from giving commercial drinks and buns, the foods given are coparable with the list given in the home interviews.

TABLE 4.4.11: FOODS STOPPED DURING THE ILLNESS

Total responses: 27.

FOODS STOPPED	INFANTS	1-4Yrs	TOTAL (%)
None	10	5	15 (55.56)
Porridge	2	1	3 (11.11)
Nshima	3	4	7 (25.93)
Banana	1	0	1 (3.7)
Commercial drink	0	1	1 (3.7)
TOTAL	16	11	27

For the most part, no foods were stopped during the illness (about 55 per cent). Nshima, the staple food, was stopped by a good number of mothers (about 26 per cent).

TABLE 4.4.12: PHYSICAL OBSERVATIONS

These were the observations made by the principle researcher on the children brought to the health facility with cough and fever.

SIGN	INFANT		1-Yrs		TOTAL	
	YES	NO	YES	NO	YES	NO
Fast breathing	9	6	8	4	17	10
Lower chest indrawing	4	11	5	7	9	18
Nasal flaring	5	10	6	6	11	16
Audible wheeze	1	14	3	9	4	23
Audible stridor	0	25	0	12	0	27
Runny/blocked nose	10	5	7	5	17	10

Tachypnoea was observed in 17 children, nasal flaring in 11, chest in drawing in nine, wheeze in four. It is noteworthy that only four mothers mentioned fast breathing as a reason to seek care and two sought care because of difficult breathing.

4.5 PRESENTATION OF CASES TO PHARMACISTS

Fifty-six (56) patients attending Kanyama clinic were asked where they buy their medicines when they get a prescription from the health centre (a systematic random sample was taken). Fifteen sources were named, and the following is a tabulation of the results.

TABLE 4.5.1: SOURCES OF MEDICINES

MEDICINE SOURCE (No.)		No. (%)
Chemist	(9)	45 (80)
Private clinic	(2)	6 (11)
Work place	(3)	3 (5)
Traditional medicine	(1)	2 (4)
TOTAL		56

The chemists (which were all from the town centre), were the commonest sources of prescribed medicines. There were 16 registered chemists in Lusaka at the time of the study (Source : Registrar of Phamacy Companies, Pharmacy, Medicines and Poisons Board). Eight chemists were included in the interview. One private clinic in the study area which sells drugs , also participated. A 27 year old mother of two children was used to conduct this part of the study. She was asked to present the six scenarios (see annex 7) to the person at the counter of a chemist, in such a way that she was an enquirer wanting to know what could be given to her child suffering from ARI. For instance, for scenario B, she said (in Bemba): "My baby is six months old and he has been healthy all along and is groing well. He has had cough and fever with problems in breathing for two days now. He is breastfeeding alright. What medicine can I buy

for him?" The mother was required to memorise the contents of the scenarios, and after leaving the chemist, she wrote down the advice given by the person at the counter.The interviews were conducted during the week except on Monday. All the interviews were carried out within one week in the mornings. The answers elicited are tabulated in the following tables. The first table shows the medicines recommended for various senarios.

TABLE 4.5.2: MEDICATIONS RECOMMENDED BY PHARMACISTS

SCENARIO	ANTIBIOTIC PRESCRIBED	OTHER MEDICINES
A - no pneumonia	None	None
B(1,2) - pneumonia	1.Septrin syrup 2.Septrin tablets.	1.Cough syrup 2.Calpol syrup. 4 C's syrup.
C(1,2) - no pneumonia	1. None 2. None	1. None 2. None
D(1,2) - pneumonia	1. None 2. None	1. None 2. None
E - no pneumonia	Septrin	-Otrivin nasal drops -Calpol syrup. -CQ syrup
F - with pneumonia	None	None

The following table illustrates the recommendations given to the mother by the person at the chemist as to where to seek care and any further questions asked about the child's illness.

TABLE 4.5.3

SCENARIO	RECOMMENDATION TO SEEK HELP	QUESTIONS ASKED ABOUT CASE
A	UTH	-Where is the child? -Have you taken the child to hospital?
B(1,2)	1.None 2.Come back if child does not improve	1. None 2. None
C(1,2)	1. Go to UTH. 2. Go to UTH	1. None 2. None
D(1,2)	1-Have your blood examined by PDr. -Take child to UTH 2-Have your blood examined at UTH -Take child to UTH	-Does your husband have children with another woman? -Is your spouse promiscuous? -What was the illness like in the sibling? -Is your husband well?
F	Take child to UTH	None

PDr. = private doctor

For the most part the researcher was advised to seek help at the University Teaching Hospital and then to return to the chemist with a prescription. Antibiotics were offered for scenarios B and E, together with other medications. In these two instances no advice to seek care was given. The enquirer was reassured that the child would improve with the prescribed drugs. No reference was made to the possibility of lack of improvement and what should be done in that event. In scenario B1 the pharmacy worker specifically said that a hospital/clinic visit was not necessary. In scenario B2, the drug seller offered the antibiotic in tablet form and assure the researcher that the cost would be only K1,500. This argument is strengthened by the fact that this particular source was in the study area. This particular drug store is part of a private clinic and the enquirer was advised to seek consultation there at a cost of K4,000, registration and drug costs inclusive. The client, it would appear, was being given a choice between the purchase of drugs only and a consultation and purchase of appropriate medicine, depending on her economic situation.

In scenario C1, the drug seller was concerned about the noisy chest and gave this as the reason for the mother to seek care at the hospital.

In D1, the mother was advised to take the child to the hospital. She was asked to return to the pharmacy in the afternoon. During this session, she was taken to a back office and asked about her families' social and medical history. The drug seller was particularly interested to know if her husband had extramarital relationships or if he was unwell. He was also concerned about what kind of illness the previous child had, and wether it was a persistent problem. She was advised not to have another child unless her and her spouse had their blood examined. If this was not possible, she was told to get herself sterilised. She was also advised to guard against being

promiscuous and to use a condom during sex. She was further informed that cough and difficult breathing were very common illnesses in young children nowadays and therefore drug sellers were reluctant to sell medicines without a prescription.

4.6 EXPLANATORY MODEL OF ARI

An explanatory model comprising the basic elements of the local cultural belief system concerning acute respiratory illness for urban Lusaka was constructed for nine illnesses namely, *chifuba cha tulaso* (pneumonia), *midulo* (infantile pneumonia), *chifuba chifwasa* (bronchitis), *Chifuba cha mpepo* (cough and cold), *chifuba cho yendelela* (whooping cough), *chifuba cha kansamwa* (cough in measles), *chifuba cha kalombo ka HIV* (cough associated with HIV), *chifine* (cold). The model comprises the emic name of the illness, its severity as rated by mothers, signs and symptoms, aetiology, treatment at home, expected practitioner treatment and the choice of practitioners for a given illness.

ILLNESS 1: *CHIFUBA CHA TULASO*(PNEMONIA)

DEGREE OF SEVERITY: Severe

KEY SIGNS/SYMPTOMS	LITERAL TRANSLATION
Osa pema bwino	Not breathing well
Tulaso	Chest pain
Kuiminina mbafu	Protruding lower ribs
Chifuba	Cough
Kufyantiwa	"Oppressed chest"
Kupema musanga	Fast breathing
Kupya tupi	Body hotness

Note: Of the above, fever, chest pain and not breathing well aroused the most concern.

CAUSES:

- Bad spirit
- Bad air
- Exposure to cold

TREATMENT:

Home remedies:
- Chest massage with "rub on" and "vicks"
- Keep the child warm
- Herbs
- Panadol/cafenol/aspirin
- Cough mixture

Practitioner treatment:
- Cough mixture
- Injections

CHOICE OF PRACTITIONER: (In order of preference based on paired comparison task).
UTH
Kanyama clinic
Private clinic
Traditional healer

Tulaso is the term used to describe what clinicians will call pneumonia. This illness occurs in children past infancy, and is considered serious. Outside help is usually sought from the UTH or the public clinic.

ILLNESS 2: *MIDULO* (INFANTILE PNEUMONIA)

DEGREE OF SEVERITY: Severe

KEY SIGNS/SYMPTOMS	LITERAL TRANSLATION
Kutyoka chifuba	Broken chest
Kudulika	Caved in chest
Kuiminina mbafu	Lower rib protrusion
Kufyantiwa	"Oppressed chest"
Chifuba	Cough
Kufwasa	Chest congestion
Kutuluka mimba	Abdominal protrusion
Kupema musanga	Fast breathing

Note: Of the above signs, substernal retraction aroused concern together with fast breathing.

CAUSES
- unfaithful partner
- bad air
- sex during menstruation

TREATMENT:

Home treatment: - none
Practitioner treatment: - herbal

PRACTITIONER: UTH
Kanyama clinic
Private clinic
Traditional healer (In the key informants interview it was evident that *midulo* is likely to be treated by a traditional healer)

DISCUSSION: *Midulo* is an illness which clinically can be said to be infantile pneumonia. *Kuduluka* is to cave in. Its causation is believed to be spiritual - a spell.

ILLNESS 3 : *CHIFUBA CHIFWASA* (BRONCHITIS)

DEGREE OF SEVERITY: Severe

KEY SIGNS/SYMPTOMS	LITERAL TRANSLATION
Chifuba	Cough
Chikoso cho yuma	Dry Cough
Kufwasa	Congestion
Kuvutika kupema	Difficult Breathing
Tulaso	Chest pain
Kutamanga kupema	Fast breathing

CAUSES: - Cold weather

TREATMENT: Home remedies:
-Herbal enema.
-Keep warm.
Practitioner treatment
-herbal medication
-ventolin
-injections
-fever medicine

CHOICE OF PRACTITIONER:
UTH
Kanyama Clinic
Private Clinic
Traditional healer

DISCUSSION:
This condition corresponds to bronchitis, but is also used to describe asthma. Care is sought from the health centre or from the private clinic.

ILLNESS 4: *CHIFUBA CHA MPEPO* (COUGH AND COLD)

DEGREE OF SEVERITY: mild to moderate

KEY SIGNS/SYMPTOMS	LITERAL TRANSLATION
Chifuba	Cough
Chifine	Cold
Chikoso choyuma	Dry cough
Chikoso cha chabe	Ordinary cough
Tupi kupya	Fever

Note: Of the above symptoms, cough and cold were the most usual.

CAUSES:

- Cold weather
- Change from warm to cold weather

TREATMENT: Home remedies:
-Keep warm
-Cough mixture
-Nasal drops
-Chest massage
Practitioner treatment:
-cough and cold medicine
-fever medicine
-injections

CHOICE OF PRACTITIONERS:

- Kanyama Clinic

DISCUSSION:

This condition is considered mild and home measures are generally adequate. It corresponds to the common cold. There are however some mothers who felt that there is a cough and cold remedy which can be used, and some even expected injections.

ILLNESS 5: *CHIFUBA CHO YENDELELA* (WHOOPING COUGH)

DEGREE OF SEVERITY: Severe

KEY SIGNS/SYMPTOMS	LITERAL TRANSLATIONS
Kuiminina mbafu	Protrusion of lower ribs
Chifuba	Cough
Tupi kupya	Fever
Kusweta maso	Red eyes
Kuvutika kupema	Difficult breathing
Chikoso cho yuma	Dry cough
Kufyantiwa	Oppression
Kupema musanga	Fast breathing
Kufwasa	Congestion
Chifine	Cold

Note: The red eyes were attributed to the persistent cough, as was the protrusion of the lower ribs.

CAUSE: -Bad air

TREATMENT: -Herbal

PRACTITIONERS:

- UTH
- Kanyama Clinic
- Private clinic
- Traditional healer

Note: The key informants interviewed revealed that herbal medication was the first line treatment, and that the condition was self limiting lasting 6 months. Mothers thus refer to it as the cough that lasts six months.

DISCUSSION:

Many mothers knew of this condition, and were able to demonstrate the high pitched sound that is associated with a paroxysm of cough. They also mentioned that children vomit after a bout of cough.

ILLNESS 6: *CHIFUBA CHA KANSAMWA* (COUGH ASSOCIATED WITH MEASLES)

SEVERITY: Severe

KEY SIGNS/SYMPTOMS	LITERAL TRANSLATION
Kusweta maso	Red Eyes
Kansamwa	Measles rash
Chifuba	Cough
Tupi kupya	Fever
Kuiminina mbafu	Lower rib protrusion
Chifine	Cold
Chikoso cho yuma	Dry cough
Kupema musanga	Fast breathing
Kuvutika kupema	Difficult breathing

Note: Red eyes in this case was attributed to a disease state. The symptoms of pneumonia were mentioned but mothers did not mention that children suffering from measles suffer from pneumonia frequently.

CAUSE:

Unknown, but aggravated symptoms and signs occur if the child is handled by one who has had recent sex.

TREATMENT:

Home remedies:
-Topical herbal medication
-Salt water mouth washes
-Cough mixture
-Herbal medicine for eyes
Practitioner treatment:
-injections
-cough medicine

CHOICE OF PRACTITIONER:

-UTH
-Kanyama Clinic
-Private Clinic
-Traditional healer

Note: The most apparent choice during the interviews was the traditional healer because he is in a better position to understand the issues of "hot".

DISCUSSION:

This respiratory infection is associated with measles. The symptoms described were for both the upper airway infection and pneumonia. Most mothers felt that a sparse rash meant that the illness was severe i.e. "It has not come out and is affecting the internal organs and can cause death". Many mothers said that injections given at the clinic helped the disease to "come out".

ILLNESS 7: *CHIFUBA CHA KALOMBO KA HIV* (COUGH ASSOCIATED WITH HIV)

SEVERITY: Severe

KEY SIGNS/SYMPTOMS	LITERAL TRANSLATION
Chifuba	Cough
Kuminina mbafu	Lower rib protrusion
Kufwasa	Congestion
Kuvutika kupema	Difficult breathing
Kutuluka mimba	Abdominal protrusion
Chifuba cha chabe	Ordinary cough

Note: The symptoms and signs of pneumonia were described in this condition.

CAUSES:

Kalombo passed on from parents.

TREATMENT: Home remedies: None

PRACTITIONERS:

-UTH
-Kanyama clinic
-Private clinic
-Traditional healer

DISCUSSION: This is the respiratory illness occurring in children with HIV infection. Many mothers said they were not familiar with the symptoms and signs of this condition since they did not know of a young child suffering from or suspected of having HIV infection.

ILLNESS 8: *CHIFINE* (COLD)

SEVERITY: Not severe

KEY SIGNS/SYMPTOMS	LITERAL TRANSLATION
Chifine	Cold
Chifuba	Cough
Tupi Kupya	Fever
Kusweta maso	Red Eyes
Chifuba cha chabe	Ordinary cough

CAUSES: -Cold Weather
-Change from warm to cold weather

TREATMENT: Home remedies:
-Chest massage
-Nose drops (salt solution, breast milk)
-Cough Mixture
Practitioner treatment:
-cough and cold medicine
-nose drops
-fever medicine

PRACTITIONER:
-Kanyama Clinic
-Chemist/grocer's shop

Note: Mothers tend to buy over the counter medicines for this illness.

DISCUSSION:
Many mothers said that this illness, which corresponds to common cold, was mild and children were generally unaffected by it. They mentioned that a blocked nose may be a problem in infants especially during breast feeding.

CHAPTER 5

DISCUSSION

KNOWLEDGE OF ILLNESSES THAT CONSTITUTE ARI BY MOTHERS AND WHAT IS CONSIDERED SEVERE.

KEY INFORMANTS

Mothers/carers of small children know the various illnesses that constitute ARI. The key informants defined the ARI syndrome as comprising of *kalaso* (pneumonia), *chifuba cha mpepo* (cough and cold), *chifuba cha kansamwa* (cough in measles), *chifuba chifwasa* (cough associated with chest congestion), as ARI found in small children. In their narrative of a recent episode of ARI in children, pneumonia was described by three respondents and measles by the other three (during the period of the study, there was increased prevalence of measles). The illness summaries for the two conditions contained the spectrum of symptoms and signs commonly associated with the two infections, namely fever, cough, difficult breathing, chest pain and fast breathing for pneumonia. In the case of measles, rash and red eyes were also included.

MOTHERS AT HOME

The mothers at home mentioned the various illnesses included in ARI. This was evidenced by the illness names suggested during the presentation of the various case scenarios. The illness sorting task supports this fact, in that respondents showed knowledge of symptoms that occur in

the various illnesses that constitute ARI. 60-100 per cent of the mothers for instance, agreed that cough, chest congestion, difficult breathing, chest pain and fast breathing were present in bronchitis. It is noteworthy that wheezing was not mentioned in this regard. 67-100 per cent of the responses included chest in drawing, substernal retraction, lower chest protrusion, "closed chest", abdominal protrusion and fast breathing in the signs and symptoms of infantile pneumonia. There was 100 per cent agreement for the first five signs and symptoms. For older children with pneumonia, difficult breathing, chest pain, protruding lower ribs, cough, fever, "chest oppression", fast breathing, "closed chest," chest congestion and red eyes were the signs and symptoms included by 61-100 per cent of the responses. There was 100 per cent agreement on difficult breathing. The red eyes in this instance were attributed to conjunctival congestion occurring with coughing bouts. Fast breathing, difficult breathing, cough and lower chest protrusion were ascribed to cough in measles infection.

Both the key informants and the mothers at home believed that the more sparse the rash in measles infection, the more severe the illness. It is said that serious damage occurs to internal organs in this instance. Medical knowledge is contrary to this belief since the more severe the rash, the more severe the illness is. This belief is important in that mothers will seek care for mild measles as opposed to severe measles.

In terms of severity rating of signs and symptoms, the chest pain in pneumonia *(tulaso)*, was rated as being more severe (96 per cent) than difficult breathing (85 per cent) and chest in drawing (83 per cent). Fever received a 87 per cent rating for severity. Stewart and others to the contrary found in a Bangladesh study that mothers were able to identify laboured breathing, chest retractions, lethargy and inability to feed as signs of severe disease needing treatment outside the home (17). Bronchitis was rated as the most severe illness (100 per cent), childhood pneumonia

was rated 79 per cent and infantile pneumonia the least severe (64 per cent). It would appear that the difficulty in breathing seen in this condition is thought to be of a more serious nature than that occurring in pneumonia. In Bolivia, illness in young infants was said by mothers to be more severe and fatal (11). The rating obtained in the Kanyama study is contrary to medical knowledge of pneumonia in children since infants suffer severe and fatal forms of the illness. The severity rating for pneumonia in older children was 79 per cent.

In the video presentation, for the six children having dyspnoea and tachypnoea, terminologies pertaining to difficult breathing were mentioned in 61 per cent of the responses. About 30 per cent of them referred to fast breathing. This part of the interview thus revealed that mothers more readily recognise difficult breathing than they do fast breathing. This finding is in agreement with the Nigerian study by Wilson et al who found that fast breathing was not generally recognised by mothers(11). When prompted, more correct responses were elicited (about 45 per cent).

HOME CARE ACTIONS

Key persons

The treatment of pneumonia at home included herbal topical medication and was mentioned by all the respondents, in their recall of a recent episode of ARI. In the case of measles one person out of three included herbs in the home management of measles.

The mothers at home included a wide variety of home care actions and it was noted that in young children with pneumonia the responses indicated the use of aspirin and other non specified fever pills. Others would use chloroquine because of fever, and some stated the

importance of a balanced diet and extra fluids, keeping the child warm and some did not have any home care actions. Others advised a " vicks" or "rub on" (menthol in an ointment preparation) and hot water steam inhalation, and yet others would do cold water sponging.

For mothers interviewed at the health centre, 34 per cent of the responses gave cafenol (caffein and aspirin) for fever and 13 per cent gave panadol tablets or calpol, 8 per cent gave aspirin/anadin

(a total of 55 per cent of the responses thus indicated the use of antipyretics). 17 per cent gave cough mixture, whilst other measures included nose drops, vitamins, and "vicks" applied to the nostrils. During the episode of ARI, 34 per cent of the responses indicated that no special foods were given, 18 per cent enriched the usual meal porridge with milk, soya flour and ground nut powder. 21 per cent gave fruit, and commercial drinks such as coca cola and Fanta were given by some (nine per cent).

The mothers in this study compare with those in the Egyptian research who also had the tendency of treating fever with aspirin or aspirin containing preparations (11). This is worrisome in our mothers because of the dangers of Reyes syndrome. Gwatkin noted other dangerous home practices in the management of ARI, dangerous over wrapping to prevent chilling and lubricating the nostrils with oil (7), practices that the mothers of Kanyama often adhere to.

CARE SEEKING PATTERNS

The key informants in their recall of a recent ARI episode described care being sought from both the traditional healer and modern health facilities (two out of three respondents). This supports the observation by health workers, who on examination of children suffering from pneumonia have often found scarification marks on the chest of a patient. In the Bolivian study, help from a traditional healer was sought when home remedies failed (11). For measles all the respondents said that care was sought from the health worker (at a private or public facility), in spite of the belief that handling by a "hot person" (a hot person being someone who has had recent sexual intercourse), can worsen symptoms. The issue of "hot health workers" may be a constraining factor to care seeking and may explain why in clinical practice some children suffering from measles are brought to the health facility when they have suffered severe and sometimes fatal complications. Withholding care from measles patients is not peculiar of carers in this study alone (7). The mothers at home tended to use the modern health facility as a source of care. 97 per cent of the responses were in favour of UTH as the first level of care because of its presumed wider examination and investigative and treatment capacity. 75 per cent preferred Kanyama clinic for similar reasons with the added economic advantage because of its proximity. Care is also sought from private clinics because drugs are scarce at the health centre (18). During the mothers at home interview, some expressed that certain infantile symptoms and illnesses of acute nature tend to be caused by spiritual influences. Care in these circumstances would be sought from a traditional healer. In Bangladesh, illnesses similar to pneumonia, were thought to be due to attack by evil influences and in these cases, spiritual healers were sought and allopathic treatment was avoided or delayed(17). Also during this interview, there was a feeling that one is not certain with illnesses in small babies and one is safer taking infants to a health

facility whenever they are unwell. This may result in mothers seeking treatment unnecessarily even for minor symptoms (11).

The mothers coming to the health facility had a delay of about 2.3 days from the time symptoms were observed to the day when care was sought. This would indicate that there is no delay generally in seeking care. The longest duration for delay was 5 days. One mother said that before she came to the health centre, her husband had gone to the chemist to purchase septrin for their 2 month old infant with cough and fast breathing. The mother presented to the health centre because her spouse had been turned away by the drug seller who insisted on a prescription. There is therefore a tendency in some parents to go straight to the chemist to purchase drugs without having their child examined (11). The main reasons for seeking care were cough (32 per cent), and fever (29 per cent) - the same reasons as their counterparts in the Gambia (19).

Fathers are the main decision makers when it comes to seeking care outside the home. This was noted in 63 per cent of the responses. Mothers themselves often decide to seek care (15 per cent) and in this instance, female relatives such as the patients aunt and grandmother (15 per cent) assist in the decision process.

MATERNAL EXPECTATIONS

Mothers at home expected injections to be given to their children for ARI symptoms wether they had pneumonia or no pneumonia . Gwatkin found that parents prefer and expect injectable medicines for every cough that their child suffers from especially if the child has a fever, even if the illness is not serious (7). Cough mixtures, cold medicine and antipyretics are also expected

remedies. Septrin was particularly mentioned as an expected treatment for both the child with pneumonia, and one without. As far as improvement times are concerned, it was expected that the child with pneumonia would improve in 2-3 days. Mothers are thus realistic about their expectations for improvement (11).

The mothers coming to the health centre expected medicine given to their children to cure them (34 per cent). Ten per cent of the responses indicated that they hoped to get antipyretics, cough mixtures and septrin to be given to them. The expectation of cure is important because in some conditions such as bronchiolitis, supportive treatment is the mainstay of management, and specific drug treatment to cure is given in pneumonia. Mothers it would appear need to understand this fact. It is of interest that in this group of mothers not many mentioned injections.

PRACTITIONER PERCEPTIONS AND MANAGEMENT OF ARI.

Practitioners felt that mothers do not recognise difficult breathing or changes in the breathing pattern (32 per cent). 27 per cent thought that they did not associate fever with pneumonia. 16 per cent observed that cough is not a recognised symptom of pneumonia. These observations are contrary to the information elicited in the home and key persons interview in which mothers agreed that all these symptoms occur in pneumonia (61-100 per cent agreement). Practitioners feel that there is a delay in care seeking and the most important reason put forward is economic (23 per cent). This is contrary to the reasons given by mothers coming to the health centre who for the most part said there was no delay in seeking care (44 per cent), and if they did delay, it was because they waited to see if there would be an improvement (30 per cent) or they had other business to attend to (29 per cent).

In the scenario presentations to the practitioners , pneumonia was included in the possible illnesses that mothers would mention. This agrees with the information generated in the home interviews. Practitioners tended to agree that for non pneumonia children, mothers would attribute the symptoms to cough and cold. For neonates, a soft spot which is not "working" is a possibility. As far as the causation of pneumonia is concerned, witchcraft, an disloyal husband and unknown pregnancy were put forward. These responses are in agreement with the responses given by the key persons. During the practitioners interviews, the health centre staff tended to be more familiar with the terminologies used by mothers than did the UTH health workers. Practitioners felt that there was a delay to care seeking of 2.9 days. The variety of home care treatments were similar to the ones given in the home and health centre interviews except that drugs used for a previous episode or for another sibling was also included (11).

Concerning the treatment of pneumonia by practitioners, if the traditional healers are omitted, 50 per cent of the respondents would give antibiotics either injectable or oral. Only one person mentioned the need for small frequent feeds, two mentioned fluids and no one talked about breastfeeding. This has implications on wether mothers are given complete information on home management of ARI by health workers, as per the WHO recommendations (20).

The small number of healthworkers interviewed did not allow for the quantitative establishment of the knowledge of local terminologies for the various illnesses, symptoms and signs of ARI. During the interviews however, it was observed that the community based healthworkers were more knowledgeable (though not sufficiently so), than their UTH couterparts in this respect.

PHARMACISTS BEHAVIOUR

For the most part, the drug sellers advised the enquirer to seek help at UTH or other medical institutions and then return with a prescription. The two drug sellers who advised the mother to purchase drugs assured the mother that the children would improve on the medication they had prescribed. No reference was made to the possibility of lack of improvement and what the enquirer would do in this event.

CHAPTER 6

CONCLUSION

1. Mothers know the various illnesses that constitute ARI. Pneumonia is known by the term *chifuba cha tulaso* - the cough associated with chest pain. *Midulo* is a severe acute illness seen in infants and which corresponds to infantile pneumonia. Bronchitis was referred to by its medical term a lot and was identified as *chifuba chifwasa*, recognised as causing chest congestion. The mothers' contact with healthworkers would explain knowledge of this particular term which is often used to describe asthmatic attacks as well , even by healthworkers. The cough that persists is the literal translation for *chifuba cho yendelela* or whooping cough. *Chifuba cha kansamwa* is the cough that occurs in measles, and the symptomatology elucidated were those of an upper airway cough and those of pneumonia. Ordinary "physiological" cough and cough occurring in common cold were referred to as *chifuba cha chabe* and *chifuba cha mpepo* respectively. The respiratory illness seen in association with HIV infection was termed *chifuba cha kalombo ka HIV*.

2. Mothers do recognise pneumonia as a problem but perhaps do not rate it as severely as it merits (in comparison to bronchitis).

3. The symptoms that are considered serious are the chest pain of pneumonia, fever, difficult breathing and chest in drawing (rated 96%, 87%, 85% and 83% respectively).

4. In home management of ARI, mothers give antipyretics in the form of aspirin and aspirin

containing pills. Other measures are cough mixtures, menthol steam inhalations, cold water sponging, "vicks" applied to the nostrils and massaged on the chest, feeding the child on fruits and a more nutritious porridge than usual. Some mothers (30%), would not use any home measures.

5. Care is sought for the most part at the UTH and Kanyama health centre. The private clinics are the next source of care. The traditional healers are consulted for pneumonia (both infantile and childhood types) and other illnesses of acute and "unexplained" nature.

6. Constraining factors to care seeking are not evident since most mothers sought care when there was no improvement in the child's symptoms. In their choice of practitioners however, proximity was an advantage to seeking care at Kanyama clinic.

7. The mothers expect the child taken to the UTH to be examined and investigated and be given appropriate treatment to cure the illness. Their expectation for improvement time is realistic for the most part.

8. Healthworkers need to have their management of ARI reviewed and there is the possible need to improve communication with mothers by aquainting themselves with the local terms used for the illnesses, symptoms, and signs of ARI.

9. The chemists, for the most part, do not sell antibiotics for the treatment of ARI without a prescription

CHAPTER 7

RECOMMENDATIONS

1. Health workers need to be familiar with terminologies used by mothers to describe the various illnesses that constitute ARI in children. There is need for the production of a booklet training having local terms for the various symptomatology and signs of ARI to assist health workers in the education of parents.

2. Health workers need to give mothers more information concerning home management of ARI apart from "keep the child warm". The messages should include:

- do no over wrap the infant
- increase oral fluids
- increase frequency of breast feeding
- increase frequency of other feeds
- Watch out for failure to feed, flaring alae nasi,*Kupema musanga* and *Kutyoka chifuba*

There is also the need to inform mothers of the severity and tendency to fatality of pneumonia especially in infants. The danger of giving infants and young children aspirin and aspirin containing remedies for the management of fever must also be communicated to mothers.

3. There is need for mothers to be educated on the fact that measles can cause death in young children especially if care is not sought early and that they need not fear that their children's condition will deteriorate if they are handled by a "hot" health worker. Increased feeding during

convalescence should also be encouraged.

4. There is need to explain that infantile pneumonia and childhood pneumonia have got similarities in their causation and that both need prompt treatment. There is also need to explain to mothers why it is that infants tend to have a "caved in chest" when they breath if they are suffering from *midulo.*

5. The concept of *kalombo* should be used widely in the education of mothers on the causes of various ARI. Mothers in this study referred to "*kalombo ka* HIV" as the cause of HIV related illness. Health workers should use terms like:

- *"kalombo ka kalaso"*
- *"kalombo ka chifine"*
- *"kalombo ka kansamwa"*

and so on, to refer to the causation of various illnesses that constitute ARI.

6. There is need to educate mothers on the recognition of fast breathing and mild dyspnoea i.e. flaring of the alae nasi. They also need to know that severe measles rash means a severe illness. This will assist in early care seeking.

7. There is need for the Ministry of Health to continue to support the pharmaceutical society's efforts to maintain professional ethics as far as the dispensing of drugs is concerned. Mothers should be encouraged to have their children with ARI examined and antibiotics should be obtained on prescription.

8. The pharmacists and drug sellers should be included in the ARI health education programme.

9. Fathers being the main decision makers should be educated on ARI illnesses, signs and symptoms.

10. Health workers in the health centres should have an evaluation of their knowledge and practice concerning ARI.

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ANNEX 1

KEY INFORMANTS INTERVIEW (Mother and grandmother)

1. What are the illnesses that children suffer from in this area?
2. What is the cause of these illnesses?
3. How do they start?
4. What problems do they cause in children?
5. How does one know that they are serious?
6. What is the difference between the various illnesses?
7. Have you seen a child with ARI recently? If yes:
   a. What were the problems the child had?
   b. How was the child's breathing?
   c. Did the child have a blocked nose?
   d. Did the child have difficulty in breathing?
   e. Is this serious or dangerous?
   f. What treatment was the child given at home?
   g. Was any medicine given?
   h. Where did the medicine come from?
   i. Was advice sought as to what to do next? From whom?
   j. Where was the child taken to?
   k. Was the child taken to a clinic/hospital?

l. Why was the child taken to a health facility?

m. How long was the child ill before he/she was taken to a health facility?

n. Whose decision was it to take the child to a health facility? Who went?

o. Were there any arrangements which had to made?

p. Were there any problems which caused a delay in seeking care?

q. Who attended to the child at the health facility?

r. What treatment was given?

s. What was the child's condition after the treatment?

t. Were you satisfied with the treatment?

u. What was the child's condition after the treatment?

v. What fluid was given during the illness (elicit any changes in quantity).

w. Was the child breastfed during the illness? (if the child is breastfeeding).

x. Were there any changes in the child's diet during and after the episode?

ANNEX 2

KEY INFORMANTS INTERVIEW (Traditional healer)

1. What problems do you frequently treat in young children?

2. What causes these illnesses?

3. How do you recognise the different illnesses when you see an ill child?

4. What kinds of problems arise from these illnesses?

5. How do you know when an illness is serious?

6. Have you seen a child with ARI recently? If yes:

a. What were the problems the child had?

b. How was the child's breathing?

c. Did the child have a blocked nose?

d. Did the child breathe slower or faster than normal?

e. Is this serious or dangerous?

f. Before the child was brought to you, was he given any treatment at home?

g. How long was the child ill before he/she was brought to you?

h. What treatment did you give the child?

i. What advice did you give the carer concerning the child? (elicit advice on fluids and feeding)

j. How was the child after the treatment?

ANNEX 3

INTERVIEWS TO MOTHERS AT HOME

1. CASE SCENARIOS

One scenario was introduced (see annex 2) and probing questions were asked as follows:

a. Is there anything else it would be helpful to know about the child (mention the child in the scenario)?

b. What illness do you think the child has?

c. Is there anything else, or any other problem that the mother should look out for?

d. What kind of treatment can the mother give at home?

e. How soon should the child get better after getting the treatment that you have recommended?

f. If the child does not improve, what should the family do next?

Ask the following probing questions if the respondent suggests going to a qualified practitioner:

a. Is there any treatment the doctor/nurse should give the child at the clinic/hospital?

b. What kind of treament do you think the doctor/nurse will tell the mother to give the child at home?

c. How soon should the child get better after he/she gets the treatment?

d. If the child does not improve, what should the mother do next.

3. ILLNESS NAMES, SIGNS AND SYMPTOMS SORTING TASK

From the key informants interview, the terms that were thought to be associated with ARI were entered on a checklist. The illness names (as given by the key informants) were matched by the respondents with the symptoms and signs that they thought were associated with the respiratory illness.

Checklist: cough

chikoso cha ngoma (hacking cough)

kufwasa (congestion)

osa pema bwino (difficulty with breathing)

kalaso (chest pain)

kupema musanga (fast breathing)

kutyoka chifuba (chest indrawing)

kuduluka (substernal retraction)

ku ima mbafu (lower chest protrusion)

kufyantiwa "closed chest"

kutuluka mimba (abdominal protrusion)

kupya tupi (fever)

kusweta maso (red eyes)

chifine (cold)

chifuba cha chabe (ordinary cough)

chikoso cho yuma (dry cough)

rash

runny nose

4. SEVERITY RATING

A checklist of the various terms for acute respiratory infections and their symtoms and signs was prepared thus:

Illness terms bronchitis

pneumonia

respiratory illness in HIV infection

measles

whooping cough

infantile pneumonia

signs and symptoms hacking cough

chest pain

measles cough

chest indrawing

measles

difficult breathing

"closed chest"

"oppression"

congestion

5. INVENTORY OF MEDICATIONS AT HOME

A checklist of the possible drugs used in the treatment of ARI was made as follows:

a. aspirin

b. cafenol

c. panadol syrup

d. panadol tablet

e anadin

f. cough mixture

g. septrin syrup

h. ampicillin

i. cloxacillin

j. ampiclox

k. penicillin V

l. piriton syrup

m. phenergan syrup

n. others

6. VIDEO PRESENTATION

Show the video and ask:

This child has been unwell for 2 days, what do you think is wrong wth him/her?

Is this child breathing too fast?

For the children having chest indrawing ask:

Is there anything wrong with the child's chest?

Is this serious or dangerous?

ANNEX 4

INTERVIEW TO PHARMACISTS

A scenario was presented to the respondent and any further information asked for, and the treatment advice given was noted. The checklist for this interview was as follows:

1. Further information about the case that was asked for:

   a. fever

   b. difficult breathing

   c. fast breathing

   d. difficult feeding

   e. wheeze

2. Recommended to seek help? If yes, from whom?

   a. private doctor

   b. public health centre

   c. UTH

3. Instructions about administration of drugs:

   a. how much to give

   b. how many times to give

   c. how long to give

4. Factors considered in dispensing:

   a. cost of medicine

   b. availability of medicine

   c. easy to give

   d. others

ANNEX 5

INTERVIEW WITH MOTHERS OF CURRENT CASES

Current problem

1. What problem does your child have?

   (circle type of answer: signs\symptoms illness name both)

2. If response doesn't include an illness term: What illness do you think he/she has?

3. What worried you that made you decide to come here to Kanyama clinic?

4. If response does not include mention of signs: Are there any particular signs or symptoms that you are worried about?

5. Can you tell me the signs and symptoms of concern to you?

Illness and care-seeking history

6. When did the illness start?

7. Can you tell me which symptoms were first, and then, which symptoms followed, and what treatments you gave? (probe and tabulate responses).

8. When you decided to come here for help, did you talk it over with anyone before you came? Who? Did they heil you decide what to do.

9. Were you able to come as soon as you wanted or did you have to wait? If there was a delay, Why did you have to wait?

10. What do you think they do for your child here? Will they give him/her some medicine? What will the medicine do?

11. How soon do you think he/she should get better?

Feeding behaviour

12. Does the child still breastfeed? If yes, has he/she been breastfeeding normally during this illness?

13. What foods and drinks are you giving now? Are you giving any special foods?

14. Are there any foods or drinks you have stopped giving the child while he/she is sick?

ANNEX 6.

PRACTITIONER INTERVIEW

1. How frequently do people bring infants or small children to you for treatment of ARI? About how many cases of ARI in infants/small children do you see in a day?
2. To what kind of healer or facility do people usually take their small children with ARI problems?
3. What are the types of respiratory infection you see most often?
4. In this community, which of these are causes of death among small children and infants?
5. What are the main signs and symptoms that mothers pay attention to? Which do they consider serious?
6. Specifically in the case of pneumonia, what are the signs and symptoms mothers recognise and pay attention to?
7. Are there other names or terms that you hear for pneumonia and other ARI?
8. Are there signs and symptoms of possible pneumoia that mothers should recognise, but don't seem to notice or pay attention to?
9. How do the peoples' definitions and/or awareness of signs and symptoms match up with what you find when you examine the children or infants?
10. Do you think people sometimess bring their small children too late for care when they have pneumonia? How often does this happen?

    How often does this happen?

    What are the causes of delay?

11. How do you usually treat infants and young children with pneumonia? What kind of instructions do you give for home management?

12. How do you usually treat children with a common cold?

13. How do you usually treat children with bronchitis? What signs and symptoms do you associate with bronchitis?

14. What do you think could be done to reduce the numbers of deaths from pneumonia and other ARI?

    Who could take responsibility for these actions?

SCENARIO PRESENTATION

Select 2 scenarios for each health worker and ask the following:

1. What would mothers call this illness? What would they say the cause is?

2. What home treatments would they use?

3. How many days would they wait to seek care, and where would they go first?

ANNEX 7

SCENARIO TEXTS

Case A. six moth old without signs of pneumonia

"Your neighbour has a baby girl, Linda, who is six months old. Two days ago the baby started to cough. She sill has a cough and she also has a runny nose. She has a low fever. She takes the breast as ususal, but she does not smile and play as much. Linda is the first born, and this is the first time that she has been sick. Your neighbour needs advice: what should she do?"

Case B. Six month old with signs of pneumonia

John is six months old. Until now he has been a health baby:; he is strong and he has grown well. But two days ago he got sick. He has a cough and a fever. He seems to be having trouble breathing. He is still taking breast milk. His mother, asks you what she should do. What would you advise.

Case C. Two year old without signs of pneumonia

"Your friend has a little boy, two years old. He has been sick for more than a week. It started with a runny nose. He didn't seem to be bothered by it, he was eating and playing as usual.. He also has a dry cough. For the last two days he seems to have a low fever and he makes a "wet" noise when he breathes, but he is not breathing fast or hard. He is still eating alright. What

should your friend do?"

Case D. Two year old with signs of pneumonia

"Clara is two years old, and she is sick. This is the second time that she has been sick this year -- three months ago she was sick with a high fever, but it went away after a couple of days and she was fine. Now she has a fever again. This fever started two days ago. Clara does not want to eat, and she won't play with her brothers and sisters. Her mother, sees that when she breathes, her nostrils flare out, and she seems to be breathing fast. What advice would you give her about what she should?"

Case E. Neonate without signs of pneumonia

"Elena's new baby, Sandra, is almost three weeks old. She has a runny nose, but she doesn't have any fever, and she is nursing well. Elena asks for your advice about what she should do. What do you think?"

Case F. Neonate with signs of pneumonia

Peter is young baby, he was born about a month ago. Hiss mother sees that he is not well. He doesn't want to suck; he seems very sleepy and doesn"t want to wake up when she holds him. His breathing is irregular but his mother remebers that her older child also had irregular breathing when he was a newborn. What advice would you give her about Peter?"

ANNEX 8

LOCAL TERMS AND LITERAL TRANSLATION

1. Befu	- difficult breathing
2. *Chifuba cha tulaso*	- cough associated with chest pain
3. *Chifuba cha mpepo*	- cough associated with cold weather
4. *Chifuba cha chabe*	- ordinary cough
5. *Chifine*	- a cold
6. *Chifine na chifuba*	- cold and cough
7. *Chifuba cha ka nsamwa*	- cough associated with measles
8. *Chifuba cha midulo*	- cough associated with "caved in chest"
9. *Chifuba cha kalombo ka* HIV	- cough associated with HIV infection
10. *Chifuba cho yendelela*	- cough that goes on
11. *Chikoso cho yuma*	- dry cough
12. *Chitima*	- traditional medicine
13. *Chifuba cha ngoma*	- cough sounding like a drum beat.
14. *Kukosola*	- to cough
15. *Kukosola monga samvera Bwino mu chest*	- coughing as if one does not feel well in the chest
16. *Kupema musanga*	- fast breathing
17. *Kupemeseka*	- fast breathing
18. *Kuvutika kupema*	- having difficulty breathing

19. *Kusweta maso* - having red eyes

20. *Kansamwa* - measles

21. *Kuiminina mbafu* - having protrusion of ribs

22. *Kutyoka chifuba* - broken chest

23. *Kuvalika chifuba* - closed chest

24. *Kufwasa chifuba* - congested chest

25. *Kufyantiwa* - oppression

26. *Kupya tupi* - having a hot body

27. *Kupema ati e! e!* - breathing like eh! eh!

28. *Kalombo* - something causing illness

29. *Osa pema bwino* - not breathing well