PREVENTION OF CHILDHOOD DISEASES AMONG THE SODDOS OF GURAGE, ETHIOPIA.

A thesis presented to the University of Amsterdam, Medical Anthropology Unit
in partial fulfillment of the requirements for a Masters Degree in Medical Anthropology.

September, 1999
Abeba Bekele
Preface

The objective of an anthropological fieldwork is to study a social system or culture in its totality in order to have a fair and unbiased interpretation. I cannot claim that I have dealt with the entire socio-cultural system and have done an efficient anthropological work in Soddo within such a short period of time. However, I believe that the use of multiple sources of information and observations were substantial in helping me obtain adequate information to produce this report.

This thesis is based on information gathered during my two separate field visits to Soddo. My first field visit to the area, as team member of the SSIRP, was in April–May 1997. My second visit was in May–June 1999 when I collected a major part of the information in this paper. My previous encounter with the two study villages has helped me to have a well-refined and focused field entry. I have also used secondary or written sources of data in trying to present a full picture of the context.

Even though most of the interviews were conducted in my own language, I want to give adequate credit for my interpreters not only for translating the conversations whenever necessary (when my informants seem not to understand what I said), but also for their other contributions. They were not simply instruments of translation whenever necessary, but were also ‘interviewers’ and at times were guiding the direction of the conversations. So I have used the terms ‘we’ or ‘our’ instead of words describing me alone throughout my report.
Acknowledgements

This thesis is a result of a fieldwork conducted in Soddo, Ethiopia in 1997 and 1999 as part of the social science and immunization research project. I am greatly indebted for the support I got from Danish Ministry of Foreign Affairs and KIT through the project without which the thesis work wouldn't have been realized.

I would like to thank my supervisor and advisor, Professor Pieter Streefland for his valuable comments and assistance from the very inception of the project. My thanks is also due to Dr Yemane Berhane of the DCH, AAU, who was willing to take me in as one of the department staff during the period of the thesis work. His comments and technical support were very helpful. I also owe thanks to the health staff in Soddo without whose assistance field access would have been impossible.

My thanks extend to the team members of the SSIRP who assisted me in organizing the data already available from the previous fieldwork. I am also grateful to my interpreters in both villages who were not only interpreters, but also my tutors in ‘accessing’ the villages, and my informants. They were valuable in helping me understand and interpret ‘foreign’ ideas.

I am indebted to the mothers and all other key informants in Soddo who participated in the study. I wouldn’t have been able to do the fieldwork successfully if it was not for their willingness to talk to me.

Last but not least I would like to thank my husband and daughter who allowed me to use most of ‘our’ time to make this thesis a reality.
**List of acronyms**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AAU</td>
<td>Addis Ababa University</td>
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<tr>
<td>ACHD</td>
<td>Accelerated Child Health Development</td>
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<td>AMMA</td>
<td>Amsterdam’s Masters in Medical Anthropology</td>
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<td>ARI</td>
<td>Acute Respiratory Illnesses</td>
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<td>BCG</td>
<td>Baccilus-Calmette-Guerin (Vaccine against Tuberculosis)</td>
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<td>CDD</td>
<td>Control of Diarrhoeal Diseases</td>
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<td>CHA</td>
<td>Community Health Agent</td>
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<td>CHW</td>
<td>Community Health Worker</td>
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<tr>
<td>CSA</td>
<td>Central Statistics Authority</td>
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<tr>
<td>DCH</td>
<td>Department of Community Health</td>
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<td>DPT</td>
<td>Diphtheria, Pertussis, Tetanus vaccine</td>
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<td>EPI</td>
<td>Expanded Program on Immunization</td>
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<td>JICA</td>
<td>Japan International Cooperation Agency</td>
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<tr>
<td>MoH</td>
<td>Ministry of Health</td>
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<td>OPV</td>
<td>Oral Polio Vaccine</td>
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<td>PHC</td>
<td>Primary Health Care</td>
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<td>PHRD</td>
<td>Policy and Human Resource Development</td>
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<td>PI</td>
<td>Principal Investigator</td>
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<td>SSIRP</td>
<td>Social Science and Immunization Research Project</td>
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<tr>
<td>TBA</td>
<td>Traditional Birth Attendant</td>
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<td>TT</td>
<td>Tetanus Toxoid vaccine</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Fund</td>
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<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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<td>UvA</td>
<td>University van / of Amsterdam</td>
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<tr>
<td>WB</td>
<td>World Bank</td>
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<td>WHO</td>
<td>World Health Organization</td>
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Terminology

Acceptance: Adherence to vaccination programs/regime or compliance. No distinction is made
between active and passive.

Treatment: Relates exclusively to curative treatment.

Immunization/vaccination: Interchangeably used in the text for the process of administering the
vaccines whether there is associated development of immunity or not.

Woreda: Equivalent to district.

Zone: Administrative unit composed of many woredas.

Region: Administrative unit that contains many zones.

VPDs: The term is used to mean the six EPI diseases as indicated in chapter 2. It is used
throughout the text irrespective of the diseases being considered vaccine-preventable by the
studied communities.
Chapter 1. Background

The Social Science and Immunization Research Project

The Social Science and Immunization Research Project (SSIRP) is part of the International Research Project “Social Science and Immunization” which was initiated in 1993 and carried out by teams of researchers in seven countries (Bangladesh, India, The Netherlands, The Philippines, USA, Ethiopia and Malawi). The rationale for the project was to reveal the potential of social science research methods in understanding social, cultural, political and economic factors that influence the efficiency and effectiveness of immunization programs. The rationale extends to include that social scientific knowledge can contribute to the quality and sustainability of immunization programs. Its main goal was to enhance coverage and sustainability of vaccination programs in the North and the South through a better understanding of their socio-cultural aspects.

The Ethiopian project was designed during a six-week international training on Applied Research Methods in the Philippines in 1996. A research project agreement was signed between the Department of Community Health (DCH), Addis Ababa University (AAU) and the Royal Tropical Institute of Amsterdam (KIT) in late 1996 after a funding was obtained from the Danish Ministry of Foreign Affairs.

Preparation for the research project began as soon as the funding was obtained but the pace was slowed by the administrative procedures in the Addis Ababa University. Office organization took more time than planned. Under the title of “quality of care and socio-cultural factors affecting immunization acceptance/demand”, a comparative study was undertaken in four woredas. The actual study began in May 1997. The project was initially planned for eighteen months but could not be completed in time due to unprecedented reasons.

As it can be seen from the title, the research project had two main aspects: service-related (immunization service or the health system at large) and users (acceptors). The study was basically qualitative which used multiple data collection tools and information sources. An interim analysis of data obtained from the first study site was done after a one-month fieldwork. The aim was to assess if the data collection tools and techniques would enable to collect the required information.

1 The research project was extended to two African countries after a decision was made during the Research Planning Conference held in Bangladesh in 1995.

2 Staff recruitment and purchase of office equipment, including vehicle, took more time than planned.
A lot was learned from this analysis and necessary modifications were done on the instruments and the techniques. A re-visit to the study villages was also entertained as some information gap was detected, but could not be conducted until May 1999 for various reasons.

Considering the existence of a huge information gap on the socio-cultural aspect of the study in one of the study woredas, the possibility of using the already established study base to do a masters work was contemplated. After a discussion between the Project Director in Amsterdam and the Principal Investigator in Ethiopia, agreement was reached that a complementary study be done to fill the information gap. So I used the opportunity to do my thesis work for AMMA.

The second field visit to the area was then made in May and June 1999. During this period, information on mothers’ notions of prevention was collected. This report includes part of the socio-cultural information collected in the first field visit, though the main body concerns the recent field visit. This was done for two basic reasons. First, a more complete and ‘rich’ report will be presented if all the available information in relation to the study objective is used. Second, it is practically impossible to write a separate report of the second visit when I have the information from the two visits intermingled in my mind. Furthermore, there is an overlap of the information collected during the two field visits.

The objectives of the study
The main aim of the study was to investigate which social and cultural factors determine compliance with and social demand for immunization. Narrowing this down to the earlier identified information gap (mentioned in the introduction section) the aim of the current study is to explore mothers’ perceptions, beliefs and practices related to prevention of vaccine-preventable diseases (VPDs), and analyze if and in what way these influence acceptance of immunization among the Soddos. Specifically it is designed to:

- Explore mothers’ ideas, beliefs, perceptions and practices regarding VPDs with respect to cause, prevention and treatment.
- Describe how mothers conceptualize ‘prevention’ and ‘treatment’.
- Explore the decision-making process regarding prevention of VPDs.
- Assess mothers’ ideas, beliefs, perceptions and practices of vaccination.
- Analyze if and in what way beliefs and perceptions are related to vaccination acceptance.
The study setting

Although most of the data for the study was collected at the village level, efforts were made to get some additional information from other sources. This was done in order to help view the issue from different perspectives and show conditions at other levels, which might be influential at the local level. The following background information is presented to set the scene or the context in which the different notions of prevention and decision-making function at the local level.

Ethiopia

Ethiopia is the 10th largest country in Africa, extending over a surface area of 1,112,000 km². Eighty percent of its territory consists of fertile land but only 15% of it is cultivated. The dominant geographical element of the country is the central plateau, rising to 2,000–3,000 meters above sea level, with some mountain peaks rising to over 4,000 m above sea level. The central plateau is crossed by a large number of rivers, of which the Blue Nile is the most prominent. The Syrian–African Rift, which crosses Eastern Ethiopia from north to south, is another important geographic element.

Administratively, the country is sub-divided into 11 regional States, 60 zones, 7 special woredas and 521 woredas (CSA 1996). According to the 1994 census, the total population of the country is estimated at 52,467,808 (of which 15.2% is urban) with an annual growth of 2.7% per year which, if continued, will result in population doubling by 2015 (CSA 1996). The age distribution of the population reflects this high rate of growth with close to half being under the age of 15 years (with 3.5% under 1 year and 18.5% under 5 years). Though overall population density is about 45 people per km², the pattern is uneven and not well matched with the distribution of resources. Wars and famine, with their consequences, and forced settlement programs have added to the uneven distribution, with some areas having a density of over 250 people (UNICEF 1996). Gurage land is one of such areas.
Health and development in Ethiopia

Improvement of the health status of many countries around the world is seen in the last half of the twentieth century, one of the responsible factors being general socio-economic development. However, Ethiopia is still at a very difficult stage owing to its staggering socio-economic situation. The military socialist government (the Derg) that came into power in the mid-seventies and got overthrown by the current government in the early nineties had committed the bulk of the already limited national resources to the pursuit of war throughout its life, which left very little for development activities in any sector.

Available reports indicate that important development and health indicators are far lower than many African countries. The GNP per capita is $120 and its annual growth is –0.7 (WB 1996). Life expectancy at birth is 47 years, and primary and secondary school enrolment rates are around 22% and 12%, respectively (UNICEF 1996).

This low level of development puts severe strain on the health sector, and at the same time increases the importance of good health. The health sector is expected to provide optimum service for poor people in poor health but with very limited resources. At the same time, the cost of health care has been going up as more sophisticated health technologies are needed to deal with the changing disease pattern. The existence of many communicable diseases endemically and the country’s lack of capacity to deal with them worsens the situation.

Health indicators

Infectious diseases and malnutrition are the major health problems of the country. More than half of the under-five children suffer from chronic malnutrition. Under financing of the health care, combined with poor management, contributes to poor access to health service and therefore poor health status of the population. Lower than 20% of the population live within a two-hour walking distance to modern health care facilities (USAID 1999). The limited available health units and manpower are concentrated in the cities and big towns. Hospital-to-population ratio is 1:1,153,000 for the Southern Region, where the study woreda is located, compared to 1:584,494 for the country as a whole.

Over 17% of all children die before their fifth birthday due mainly to diarrhoea, acute respiratory infections (ARI), and other preventable infectious diseases combined with malnutrition. In fact all basic indicators of child survival are distressingly poor, with an infant mortality rate of 145, under-
five mortality rate of 218 and maternal mortality rate of 1,400 (CSA 1996). On average a woman gives birth to seven children during her lifetime. The already weak health status of the mother and child is aggravated by infections and malnutrition. Women in rural Ethiopia are responsible for over half of the subsistence agricultural production and undertake most time-consuming domestic chores, which leave them with little time for childcare and rearing. Most rural children are brought up in a harsh environment marked by poverty and unhealthy child-rearing practices.

**Health Care**

The *Derg*, soon after it took power in the seventies, revised the health policy (which was curative oriented) to place more emphasis on primary care, rural health services, prevention and control of common diseases, self-reliance, and community participation in health activities, through its declaration of the National Democratic Revolutionary Program in 1976 and its adoption in 1978 of the Alma-Ata Declaration of Health for All by the year 2000 (Henze 1993). A ten-year perspective plan was formulated for the period 1974-1984. A target coverage of 80% by 1993-94 was selected which formed the bases for the development of PHC in the country. Strengthening and expansion of MCH services, particularly immunization of pregnant women and children under the age of two years, was one of the major goals of the plan. Strategies were designed to achieve the whole range of targets, which include community participation, intersectoral collaboration, gradual integration of the vertical programs and development of a six-tiered health care system with levels of increasing technical complexity to facilitate management, referral, support and training.

The MoH was solely responsible to execute these strategies all over the country as both missionary health services, which provided most of the medical care in many rural areas of the country prior to the revolution, and private pharmacies and drug shops have been largely taken over by the government as part of the nationalization of private firms after the revolution. As one of its socialist principles, the government considered health 'equal rights of all citizens' and the care was provided free of charge. Though the ten-year perspective plan looked promising on paper, in practice the political system lacked the commitment, leadership quality and strategies to get and maintain active popular participation in translating the formulated policy into action.

A forced villagization program was introduced early in the regime with a goal of "*creating a totally collectivized rural population that could be directed to produce and deliver as the state desired*" (emphasis mine) (Henze 1993). This villagization supported with active mobilization of the community, and different forms of sanctions helped different vertical health programs like
immunization to gain popularity in the communities. However, it was only the donor-dependent programs that were able to uphold for some time. As health had a small share of the country’s budget, health programs in general were deprived of resources and lost momentum during the 1980s.

At present, the MoH is still the major provider of health care in Ethiopia, followed by the private sector, including commercial drug retailers and clinics, welfare and famine relief organizations and missions. Small private clinics, drug retailers, traditional healers and local injectors continue to constitute important elements of the non-government health services in many parts. Traditional home remedies and healers are the only available health resources in many isolated rural areas.

The lowest governmental health care facility in the system is the health station (clinic) which is supposed to serve 10,000 people each. These units (close to 3000 throughout the country) are mostly staffed with one health assistant, the lowest in the hierarchy of the government health care providers. In addition to supervising CHAs and TBAs in health posts ('voluntary' CHWs at health posts), they provide regular outpatient clinics, health education, environmental sanitation, and basic mother and child health services including immunization both at static and outreach sites. The outreach sites are particularly meant for provision of immunization services but also other MCH activities as well in some areas. A clinic might have as many as twenty sites depending on the geographic area its catchment population is dispersed. A site is expected to be accessible for a population within five kms radius. The services are held in a commonly agreed spot (usually between the health workers and community leaders) which can be a school or church compound, the PA’s office or under the shade of a tree.

The present health policy is also PHC oriented. It stresses on strengthening the preventive and promotive health services basically through provision of basic health services at grass-root level. However, majority of the health posts and community health agents are non-functional due mainly to lack of incentives and managerial capacity at the higher level to sustain their services.

The medical system in Ethiopia has been described as plural, consisting of modern, traditional and transitional systems, the latter being a typical one in the rural areas (Slikkeveer 1990). Slikkeveer

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3. The proportion of the national health budget spent on health services declined from 6.1% in 1973-74 to 3.5% in 1986-87 and to 2.2% in 1990-91. After that it increased yearly to reach 6.2% in 1995-96. The later had been attributed to the end of civil strife in the country.
(1990:212) describes transitional medical systems as “not belonging to either traditional or modern systems” with practitioners who are “often laymen with scant knowledge of either of traditional or cosmopolitan medicine, who sell pills, capsules, medicinal drinks and injections in shops, markets or as they travel”. In another study the popularity and acceptability of these practitioners was described as “...for most of them are born in the provinces and that they adhere to varying degrees of traditional disease concepts and methods of healing” (Kloos 1974:84). Furthermore, self-care is the major part of the health care system in many parts of the country (Slikkerveer 1990; Gedef 1995). Many governmental health institutions face drug shortage while the private health care system is far too expensive for the majority of the population. This, combined with many other service-related and cultural factors pushes people into hoarding both modern and traditional medicines at home to use them whenever they need to. Presently people also have more freedom to choose for their health. They can choose whether they use religious, traditional, modern (government or private), or other methods of health care freely which was not the case during the Derg regime.

**Soddo Woreda**

Soddo Woreda, the study district, is one of the eleven woredas in the Gurage Zone located 100 km southwest of Addis Ababa. The name Soddo refers to the groups of people living in the area. In other words, Soddo refers to the geographic area over which these groups of people roam and live together as a socio-cultural community. Oral information tells us that the name Soddo was a name of a man whose father came from Borena, an Oromo land, invaded the Aymellel Gurages in this area and settled there. One of the effects of the invasion was cultural assimilation. Both groups can speak the other dialect. Many Aymellel Gurages are good speakers of Oromigna (the Oromo dialect) and vise-versa.

In spite of the cultural assimilation and exchange, however, both groups have retained certain distinctive cultural elements. The Gurages, for instance, have retained Christianity and are proud of being Orthodox Christian, but against its principles, they marry more than one wife. They also have their typical village with abundant enset trees[^4], which they use as their staple food.

[^4]: *Enset (Ensete edulis)* is a banana-like plant cultivated mainly in the Gurage land. Since it does not produce edible fruit, others refer to it as false-banana. The root And ‘stem’ are used for consumption. A peculiar cultural trait surrounds its preparation as a food item. The part extracted for consumption is kept in a hole dug close to the house for as long as one year or even more; the older the extract, the more valued it is as a food stuff. It is prepared in a form of bread and eaten alone or with vegetables, meat or legumes (whatever is available depending on the economic status of the household).
surrounding their houses.

Though the name Soddo doesn't exclusively refer to the Gurages, Soddo Woreda currently is a Gurage land\(^5\). The total population of the woreda is 108,220 according to the 1994 census (CSA 1996). The predominant religion in the area is Christianity with more than 95% of the population following it. Soddo is the major sub-ethnic group in the woreda with its own dialect, Soddigna. Being highly mobile and 'petty' traders (predominant characteristics of the Gurages), most of the Soddos also speak Amharic, the lingua franca.

**Health care in Soddo**

Health care in Soddo, as in many other parts of the country, is plural. Government health facilities are the main formal health care providers followed by drug shops. There are two 'health centres'\(^6\), three clinics and three licensed private drug shops in the woreda. Additionally, to provide primary health care at the grass-root level, many health posts have been constructed in the villages, each expected to serve about 5000 people. Nearly half of the health posts were constructed by an NGO supporting the zone in health and other developmental activities while the rest was from government fund. They are basically two- to three-roomed low-standard houses, which the community health workers use for 'examination' and as dispensary.

Though community health agents (CHAs) and traditional birth attendants (TBAs) are trained for each of the posts, only less than a quarter of the posts are currently functioning. Their function is limited to provision of occasional health education to the community on prevention and promotion aspects of health, and treatment of minor and endemic ailments, of which distribution of antimalarial and anti-scabies lotion are the major. As one of their 'job descriptions', they are also expected to assist in EPI. This is mainly related to mobilizing the community, assisting the health workers during outreach services, and identifying and convincing dropouts to continue vaccination. However, because of lack of incentives and problems related to the outreach service itself, this activity is almost non-existent. Even the higher-level health institutions are barely able to run curative and preventive health services in parallel because of resource limitation including lack of manpower.

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\(^5\) The current administrative classification of the country is based on ethnic identity. So Soddo belongs to the Gurages while the Oromos share neighboring woredas with other Oromos.

\(^6\) Staffed with general practitioners and paramedics, a health center is a set up which provides all basic preventive and curative health services except specialized care. In addition, it supports and supervises the clinics under it. Except the building, the facilities and staff in the 'center' in Buee are that of a clinic.
Apart from the formal health sector, there are many traditional healers of different groups (religious healers, herbalists, bonesetters, birth attendants, etc) and local drug vendors, including local injectors, serving the population. All these different health care 'systems' exist side-by-side and complement self-care.
Chapter 2. Literature review

The History of Immunization

The history of immunization or vaccination goes as far back as the history of smallpox. Early records suggest that the history of smallpox antedates written history. To combat this fatal and serious disease, the Chinese used “inoculation” or scabs or pustular material from convalescent cases 2000 years ago. This technique, known as variolation was introduced to Europe in the early eighteenth century (Last 1986). But by 1796 Edward Jenner, an English country physician, showed that an infection with cowpox could prevent subsequent infection with smallpox. Jenner also showed that pustular material taken from the cowpox lesion of an infected person could be used to infect others. The cowpox material was rapidly disseminated around the world either by arm-to-arm inoculation or in a dried form on threads or slides. The procedure became known as vaccination (Last 1986).

It was not until 1950 that simplified, commercially feasible methods of freezing and storing the vaccine were finally perfected by Collier at the Lister Institute (Last 1986). It was after the production of this stable vaccine that the WHO started the campaign for eradication of smallpox from the world on January 1, 1967. The last case of smallpox occurred in October 26, 1977 in Somalia, 10 years after the start of the campaign. In 1980, the WHO officially declared the eradication of the disease.

The eradication of smallpox represents a notable milestone in medical history, and one of the major achievements of the WHO. The fact that it was possible to organize and execute a health program that extended into the most remote villages in some of the most inhospitable parts of the world suggests that a long-term program of health care capable of similar outreach is within reason. The lesson learned from the eradication of smallpox and savings achieved at such minimal cost led to the establishment of the WHO’s Expanded Program on Immunization (EPI).

The WHO established EPI in 1974 with the goal of reducing morbidity and mortality by making immunization services available to all children of the world by 1990. The program focuses on six VPDs that kill almost 4 million children in the developing countries every year. These were: diphtheria, pertussis, tetanus, measles, polio and tuberculosis. Immunization service is an essential part of PHC as defined in the Alma-Ata declaration (WHO 1978). Because of its low cost, its simplicity and its focus on the major health problems of many poor countries, the EPI constitutes
a corner-stone of primary health care. Its degree of success provides a measure of the commitment and capacity to achieve the broadest and more difficult goals of PHC for the world as a whole.

Most national programs have made a significant effort to expand the immunization service in their countries mainly by improving accessibility and by improving their managerial capability to meet the program needs. To increase accessibility to the service, countries have adopted different vaccine-delivery strategies. Although the EPI is showing progressive improvement in terms of coverage world-wide, the universal goal set has not been achieved. Coverage is still low in many developing countries. A high and sustained overall coverage rate is the key outcome in effective immunization programs.

**Immunization in the Ethiopian context**

Recognizing the seriousness of the VPDs and taking into account the useful experience gained from the small pox eradication program, the MoH of Ethiopia established an EPI in 1980 with the assistance of the WHO, UNICEF, and the UNDP. The goal was to provide immunization services to all children under two years of age. In 1986, the target age group was changed to children under one year of age though children under the age of two are to be immunized whenever they have contact with a health institution providing immunization services (Lidetu 1988). The reduction of neonatal tetanus by vaccinating pregnant women with two doses of TT was also stressed.

The strategy used states that EPI is an integral part of the general health services and is carried out by health units of various types as part and parcel of health activities. Three approaches are employed: static (performed by health staff of the health units as part of routine activities), outreach (in which the staff of health units go out and administer vaccine at other sites in their catchment area), and mobile. In the case of mobile service, diseases that need a single dose of vaccine (measles, BCG) are given in settlement areas, and for controlling outbreaks of measles (Shiferaw 1990) and recently in the NIDs of national polio eradication program.

The antigens being used for the program are BCG, DPT, Oral Polio, Measles, and Tetanus Toxoid (see annex 2 for national schedule). All vaccines fulfil the WHO requirements concerning quality and are imported through UNICEF. The national EPI policy has underscored the importance of restarting interrupted vaccinations as if the prolonged interval has not occurred. For practical purposes, no maximum interval is set. However, the minimum interval of four weeks must be kept between DPT and polio injections.
During the first few years, the program's main efforts focused on increasing the number of vaccination sites by establishing an effective cold chain, training health workers and providing immunization services in some health facilities in urban areas. Simultaneously it expanded into rural areas, as shown by the increasing proportions of health stations and outreach sites serving as immunization sites after 1981 (Lidetu 1988). Increased provision of EPI sites resulted in a steady increase in geographical accessibility of EPI services from 9% of the population in 1980 to 75% in 1990 (MoH 1991). However, progress in actual immunization coverage has been slower. In 1980 only 3% of children under 2 years completed DPT3. The Accelerated Child Health Development (ACHD) program introduced in 1986 led to an increase in immunization coverage from 7% in 1986 to 26% in 1989. The social mobilization activities carried out by the MoH in 1990 resulted in a further increase of EPI coverage to 59% among the accessible population. However, coverage declined after 1991 due to the decentralization policy of the new government, although the commitment of the government to the program is still high as demonstrated in the health policy. The DPT3 coverage in 1994 and 1995 was 37% and 43%, respectively (UNICEF 1994; MoH 1995).

The impact of the EPI program in terms of morbidity, mortality and disability reduction is difficult to assess in view of limited and unreliable information available for the computation of these indices. Routine surveillance for monitoring the incidence of immunizable childhood diseases is virtually non-existent. In order to assess the progress of EPI, epidemiological studies that mainly dealt with coverage evaluation, investigation of reasons for non-attendance, drop-outs and missed opportunities were conducted in different parts of the country. As part of their report, these studies listed different factors responsible for non-attendance, non-acceptance or drop-out from immunization. Inaccessibility of the service, missed opportunity, and failure to return for subsequent visits were found to be major reasons for under-utilization of the service. Factors related to health care delivery system in general including health workers' capability to provide proper service, mothers' attitude to the health care and mothers' reasons related to convenience were responsible for non-attendance and hence under-utilization (Tsegaye 1988; Alemu 1989; Alemu 1991; Tolossa 1991; Bekele 1994).

In addition, civil war and disruption, logistics problem including communication, transport, and spare parts, problems related to cold chain maintenance, inadequate health infrastructure and deficiencies in the surveillance system were reported as factors contributing to low immunization coverage (MoH 1995).
Until late 1994, EPI was organized as the Expanded Program and General Prophylaxis Division under the Department of Epidemiology of the MoH. Following decentralization and the restructuring of the MoH, the program was combined with other child health programs. Currently EPI is one of the four programs (along with CDD, ARI and Nutrition) in the Department of Family Health. UNICEF has been the major donor in assisting the immunization services, with additional support provided by the WHO, Rotary International, JICA and USAID.

Notions of prevention

The concept of prevention dates as far back as Hippocrates, who stated that “physician’s studies include a consideration of what is beneficial in patient’s regimen while he is yet in health”. Disease prevention in a narrow medical context means averting the development of a pathological state. In a broader sense, it refers to limiting the progression of disease at any stage of its course. Commonly in biomedicine distinction is made between three types of prevention: primary prevention, which is related to averting the occurrence of disease, defect or injury; secondary prevention, which is early detection of asymptomatic disease followed by prompt intervention and tertiary prevention which is related to measures that prevent progression to disability and improves residual function for situations where disease is already established (Clark 1981; Last 1986).

Prevention of illness and containment of disease are part of every medical system. A culture without prevention does not exist. Culture can be defined pragmatically as a routine way of solving and preventing problems, including illnesses. Preventive measures in different cultures are bound up with religion and world view, and with perceptions of powers and intentions of ‘other forces’. Thus the medical system with regard to prevention is directly hooked into the local beliefs and perceptions, social organization and social control.

Foster and Anderson (1978:232–233) state that traditional people are not the best candidates for preventive medicine as it is based on the “philosophy of taking action before the illness appears”. However, different studies have shown that many traditional societies practice preventive medicine as well as or even more than they practice curative medicine (Ajose 1957; Ngubane 1977; Chavunduka 1994; Ventevogel 1996). In these societies prevention is practised based on the same philosophy of taking action before illness appears, and following their own illness explanation theories.
Different anthropological studies support the idea of what people do with regard to their health is not random, but depends, among different factors, on their health belief system (Colson 1971; Fosu 1988; Ventevogel 1996). Fosu, in his study in Ghana, found that the different measures people take to prevent diseases are based on their explanatory theories, whether they explain these in terms of supernatural or natural terms. He discusses that the avoidance of predisposing conditions, including contact with sick people, wearing of amulets, utterance of incantations, settling of quarrels and observing of traditional norms and taboos are “logical corollaries of the concepts of disease causation” (Fosu:94). Colson also supports this idea. He said, “ideas or concepts are necessary but not sufficient causes of [preventive] behavior” (Colson 1971:115). He further argues that the magnitude of the perceived danger, i.e., its severity, proximity and specificity, and convenience of the preventive behavior also play a role for its performance.

Furthermore, people’s perception of danger or vulnerability influences their health behavior (Douglas 1966; Ngubane 1977). Among the Zulus, Ngubane describes how the perception of risk and vulnerability in new born babies has led to the development of different alternative preventive behavior, possibly meant not to take any chance of failure with one. According to Mary Douglas, there are not only big cultural differences in what people do to avoid dangerous situations but there are equally large differences in people’s perception of what is dangerous and what is not (Douglas 1966). Risks are selected and reflect the world view, the social, physical and metaphysical preoccupations of people. Douglas and Wildavisky, while discussing the Lele people of Zaire, argue that in the world of devastating tropical ills that surrounded these people, the Leles mainly focused on being struck by lightning, the affliction of barrenness and bronchitis (Douglas and Wildavisky 1983:7–8). Despite the many afflictions these people suffered, they selected the three conditions, which they consider most important. Other societies in Africa, or even in Zaire, with similar health problems will have their own list of ailments or misfortunes that they consider as most important from the big pool.

While discussing beliefs and practices related to prevention, it is important to mention which aspect of sickness people are preventing: are they preventing illness or disease? and how does their definition of these terms relate to what they do? The dichotomy between disease and illness is well discussed by anthropologists. Disease refers to “a deviation from (these) normal values, accompanied by abnormality in the structure or function of body organs or systems” (Helman 1984:103), while illness refers to “the psychosocial experience and meaning of perceived disease” (Kleinman 1980:72). Illness includes all the personal and social responses to the 'primary
malfunctioning’—disease. Like medicine or treatment, the translation of the term disease in many African societies is very unspecific (Ngubane 1977:22; Pool 1994:112; Ventevogel 1996:15). In a study in Ethiopia, Slikkerveer (1990) has found that what people consider as disease differs from community to community. The general lack of specificity of such concepts in different societies demands the assessment of their conceptualization in studying health and illness.

People’s idea of the effectiveness and suitability of a strategy (an intervention/a medical technology) affect their preference and performance as well. The effectiveness of a treatment, for instance, is measured by its ability to meet the hopes and expectations of the sick man and his kin in such a way that “it changes a sick man’s condition to some more desirable state” and “produces a certain result in a predictable way” (Young 1979:132). Similarly the effectiveness of a prevention can be measured by its ability to produce the expectation, meaning, non-appearance of the undesirable state, namely an illness or a misfortune. Two points are worth considering here. First, many of the so called ‘effective’ preventive measures in traditional societies are related to “etiological mistakes” 7.

In Imperato’s (1979) study about beliefs of measles, the Bambaras of Mali perceive vaccination to be very effective in preventing measles. In this society, people believe that measles is contracted several times as it is a ‘wind illness’ 8. Children who have had measles are thought to be vulnerable to subsequent visits and revisits by the illness. For this reason, amulets are worn and children are vaccinated and re-vaccinated whenever the vaccination session is held (Imperato 1979). These people are using vaccination to prevent a disease that is not going to happen anyway. The technology however, is considered very effective when seen from their own perspective.

Many people have their own idea of which ‘technology’ is suitable for them, or what they prefer based on their lived experience and/or information they have. In the Philippines, the concept hyang which equates to suitability, plays a role in health decision making (Hardon 1992). People choose what is hyang to them based on, among other factors, experience. And if it does not work, the effectiveness of the method is usually never questioned. Instead, the blame shifts to either the wrong technique of treatment or the combination used.

7 ‘Aetiological mistakes’ as seen from the biomedical paradigm (Young 1979).
8 Though they consider measles to be caused by wind, they usually give supernatural explanation as an ultimate cause.
In Ethiopia as well studies have shown that perception of suitability and preference play a role in dealing with health issues. Preference of injections over oral medications, and that of colored capsules over white pills is the best example (Haile 1995; Gedef 1995). However, there are some places where injections are considered not suitable for small babies or for people with particular illnesses because of beliefs. What is considered effective, suitable or what is preferred as the best is usually related to, among other factors, people's experience. Perceived quality of health service, knowledge about availability and importance, and satisfaction with the services in the past were found important in decision-making in the use of modern preventive and curative services (Amenu 1989; Alemu 1991). However, previous experience may not always predict behavior. Motivational factors may play a role in decision-making even when satisfaction with the service is poor. In the SSIRP study mothers in one village accepted vaccination not because they were satisfied with the service, but because they were given incentives for completing it (SSIRP 1999).

In addition to ideas, beliefs, and perceptions related to the illness, researchers' reports indicate that socio-demographic and economic factors predict health behavior (Fosu 1988; Nichter 1995). Maternal age, education, occupation, religion, ethnicity, child sex and birth order, were found to have association with health service utilization, whether preventive or curative. This was also demonstrated in studies in Ethiopia (Amenu, 1989; Slikkerveer 1990).

**Conceptual framework**

There are many factors that affect immunization acceptance either positively or negatively independent of whether immunization services are easily available. Streefland (1989) discusses the importance of understanding the total structural, environmental and socio-cultural context within which an immunization program is meant to function in order to have a clear picture of the issue at stake. At least two sets of factors could be identified in relation to immunization acceptance or demand. These are: 1) those associated with immunization service or the larger health system itself, 2) those associated with the target population. In many instances these sets of factors are so intertwined with each other that it is difficult to talk about one without mentioning something from the other. It is having this in mind that the conceptual framework related to how notions of prevention could influence immunization acceptance is put forward.

Health services provide vaccinations as a preventive health intervention. They usually require mothers to attend to vaccination sessions at certain places and at certain times. Mothers/caretakers
are expected to comply with the 'regime'. The vaccination 'regimes' could be more promotive (encouraging compliance through health education, follow up and reminder home visits) or prescriptive (through use of local power structure, control through sanctions or other manipulations). The way in which such regimes function may affect the long term sustainability of the acceptance (Streefland et al. 1999).

Mothers/caretakers who attend immunization sessions may be called 'acceptors' and their action, 'acceptance'. Acceptance assumes that there is something to receive, something to secure. So in order to discuss acceptance of immunization, it is first necessary that a fully functioning immunization service is in place.

Assuming there is a properly functioning immunization service in place, however, acceptance of vaccination does not necessarily imply that it is based on a biomedically correct and complete understanding of vaccination. In fact, at the local level, within certain groups or village societies, vaccination cultures prevail, which include knowledge, beliefs, practices and experiences with regard to vaccination. Such local cultures include past experiences with vaccination (this may relate to the service or side effects), rumors about the use of vaccination, preference of certain medical technologies, folk etiologies of VPDs and various lay explanations about the efficacy of vaccinations (Streefland et al. 1999). Different groups, whether ethnically, culturally or socio-economically constituted, often have distinct perceptions about illness causation and about appropriate preventive and curative measures. These may influence acceptance of immunization. Such perceptions may be culturally derived, but may at times be individually inspired. This may call for analysis of case histories.

Conversely, assuming again that there is a fully functioning immunization service, non-acceptance can have various reasons. Lack of information about the immunization or service, other priorities, negligence, inconvenience, refusal related to past experience or otherwise, misconceptions, or rumors may in one way or another contribute to non-acceptance. As mentioned earlier in this section, acceptance or non-acceptance is not only due to factors related to the 'acceptors'. There may be different factors related to the providers, the service or otherwise which influences acceptance. In areas where immunization service is not fully functioning, one should be able to conceptualize how different service-related issues (both the general health service and immunization service) might influence acceptance regardless of the presence of any contributing socio-cultural factor.
Chapter 3. Methodology

The Research Team

As I have used some data from the first field visit, it seems appropriate to give a brief description of the team responsible for the data collection and the process. The original team of the SSIRP consisted of two social scientists, and a sanitarian who has had a long-time experience on EPI while working with the MoH (all recruited as researchers), myself (a researcher and project coordinator) and the PI, both public health specialists. The project coordinator was responsible for designing the instruments, training the research team, obtaining permission to conducting the study, and also conduct the field work and data analysis with the team. The PI was responsible for facilitating the administrative process for the research and conducting the analysis with the team.

During the field work, interpreters who had graduated from high school, resided in the study area and spoke the local dialect were recruited and vigorously trained by the team. Training was given on some basic concepts of interviewing and interpretation, and the importance of culturally appropriate “access” to the field. Mock interviews were done and instructions were given based on the findings.

During the second field work in May–June 1999, an interpreter from the study area and myself made up the research team. After partially disclosing the purpose of the study as a study on MCH, a lesson learned from the first field visit, I trained the interpreter on basic skills on interviewing and interpreting. Field access was found easier than the first visit as there was an already established contact with the area administration and health bureaus.

Study Area, Population and Sampling

The study was conducted in two rural villages of Soddo Woreda. The selection criteria is mentioned in detail in the SSIRP report (SSIRP 1999).

All mothers of children under the age of five years were the source population for the study. Even though the original plan was to use mothers of children under the age of two years (to minimize problem of recall related to immunization) it had to be modified after the start of the study for reasons not foreseen at the outset. First, mothers were found to round the age of their children to the nearest year or half-year. Many children were reported to be one year old (or in their second year of life) when they really were not. Second, even if the decision to take mothers of children in
their second year of life was to discuss about the 'index child'\textsuperscript{9}; it was very difficult to make it practical. Mothers were found to discuss about any of their kids as they wish, mostly relating to experiences or recalling incidents at different points in the discussion. It was practically difficult to stick to the 'index child'. The latter was further complicated by the presence of two to three 'under five' children in a family. For these reasons, we had to modify our source population. In doing so, we removed the term 'index child' from our protocol and decided to deal with VPDs and vaccination experiences of young children.

Data collection

Review of relevant documents, in-depth interviews with different members of the communities, focus group discussions, observations and case studies were the major tools used in the study.

Document review: Relevant available documents were collected from the woreda health bureaus and health institutions, and reviewed. General background information about health system and health care in the area, major health problems, health service (preventive and curative) and related issues were obtained from secondary sources of information.

Focus group discussions: Focus group discussions (FGDs) were held with mothers of immunized and non-immunized children at the beginning of the study. The aim was to get a general idea on childhood illnesses, local terms, beliefs and perceptions on cause, prevention and treatment, and main reasons for accepting or non-accepting, in order to have starting points for the follow-up in-depth interviews. The discussion was based on pretested guides. The plan at the outset was to have three groups of mothers: mothers with fully, partly and non-immunized children. However, it was not possible to group mothers with immunized children in partly and fully groups when immunization cards were not available (which was very common in the study area). For this reason, mothers of partly and fully immunized children were put in one group of 'immunized'. Though most of the participants understood Amharic well, discussions were conducted in the local dialect since we wanted to make the environment as natural as possible. A total of fifty-two mothers participated in six focus group discussions, of which two were with mothers of non-immunized children and four were with that of immunized.

\textsuperscript{9} 'Index child' is the term originally used to mean children under the age of two years. The original plan was to include only mothers of such children in the study as it was thought easy to assess their or immunization status as complete, 'up to date' or incomplete.
In-depth interviews with mothers: In-depth interviews were conducted with mothers of children under the age of five years. We used snowballing to identify eligible mothers. A pretested interview guide prepared for the purpose was used during the interviews. Interviews were conducted in the homes of the mothers to give them the benefit of the familiar environment, and the researcher the opportunity to make additional notes of the living conditions. Even though most of the interviews were conducted in Amharic, the interpreters were always there to clarify some points (both for the researcher and the informants) and assist during transcription. A total of twenty-one in-depth interviews were conducted during the current field visit. In addition, some information from the seventeen interviews of the first field visit was used.

Key informant interviews: Village heads and elders, community health agents, health officials/workers and traditional birth attendants were interviewed using a guide prepared for each group. The idea was to collect different sets of information from the various groups and also validate the information by using multiple sources. Even though the focus of the study were mothers, it was deemed necessary to include these different groups in the study for two main reasons. First, to get general information about the villages: disease pattern, health care, health seeking behavior, preventive health activities, involvement of the community in health, recent epidemics and other general issues. Second, to enrich and validate the information obtained from the mothers.

Observation: Observations were mainly made to assess the socio-economic conditions of the informants, as it was difficult to rely only on what they reported. The condition of the homes, the garden, the presence of cattle, and other general observations were made during the in-depth interview sessions. The observation supported with individual report on socio-economic status helped us group informants into three broad socio-economic categories of poor, average and better of groups. Cases of measles were also observed to assess how they are being managed. Our findings related to the observation of vaccination sessions is found to be more pertinent to the quality of care aspect of the study, hence is included there. However, part of it is used in my interpretation of some of the findings and conclusions.
**Data processing and analysis**

The fully transcribed interviews were sorted and organized by area and instrument. This was then manually coded and summarized in matrices. Analysis of the information was an ongoing process that began during the data collection phase. Moreover, structured analysis was done after the data collection got completed.
Chapter 4. The Diseases

The terms: illness or disease

Before going to the description, I would like to raise some points on the terminology I will be using throughout the text. The distinction between disease and illness is well discussed by various scholars: diseases are conditions constructed in the biomedical discourse and illnesses are individual psychological experiences of not being well. When looking into the concepts among the Soddos, 'disease' which translates locally to 'beshita' refers to an objectified condition with a name or label of its own while 'illness' or 'sickness' (translates locally to 'himmem') is what the individual feels. While it is the terms 'illness' or 'sickness' people usually use in their day-to-day conversations, the term 'disease' can also be used to discuss similar conditions. The Soddos do not make a distinction between the terms and use them interchangeably. Furthermore, these concepts do not refer to somatic symptoms alone but also to situations in which a person's condition is interpreted as deviating from what is perceived normal. In addition to different physical and mental symptoms, some 'abnormal' conditions are considered diseases. Mothers mentioned conditions like sleeping a lot, not playing with peers, eating 'too much' or getting angry as 'diseases'.

On the other hand, some biomedically defined diseases are not regarded as such. Conditions which are very common, and perceived as 'inevitable' or part of growing up, like measles, diarrhoea, scabies and jiger flea infestations are not considered as diseases. This observation was also made in a study in Babille, eastern Ethiopia (Slikkerveer 1990). Slikkerveer found that what people consider as disease differs from community to community. Childhood diseases like whooping cough, measles, and chicken pox were not regarded as 'diseases' among the Amharas while they were considered so among the Oromos.

In order to avoid interpreting the different ill-health conditions into 'illness' or 'disease' when the people themselves are not doing this, I will use the words as synonyms. Therefore, both the terms 'illness' and 'disease' are mentioned in the text to mean the same: conditions of ill-health whether biomedically defined or indigenously constructed.

The VPDs: a biomedical grouping

While my main interest was on the six VPDs, I tried to obtain list of common childhood illnesses with their local names from both villages. My intention here was to see if the VPDs would be mentioned as common illnesses, or even as illnesses at all, and whether they are perceived as
‘serious’. Assessing this was an important first step in finding out if the diseases are really relevant to the communities or if they are something imposed on them by the biomedical culture. Acceptance of vaccination could in one way or another relate to this issue of relevance.

Except malaria, which came out first on the list in one of the villages (a lowland area), and kwashiorkor which was mentioned more frequently in the other village, other childhood illnesses were reported equally from both study villages. Some illnesses were mentioned spontaneously, others after probing and still some others after mentioning the symptoms. Table 1 summarizes common childhood illnesses in the study area as reported by the mothers. Interestingly, nobody mentioned infestation as an illness even if we could observe a majority of the children to have lice and jiger flea infestation. Even scabies, which was observed as a very common problem of children in the area, was mentioned by very few mothers although many children had a rather super-infected one.

Table 1. List of common childhood illnesses as reported by mothers, Soddo, June 1999.

<table>
<thead>
<tr>
<th>Illness</th>
<th>Local name</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaria</td>
<td>Weba</td>
<td>weather change</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>Tekmat</td>
<td>dirt, flies</td>
</tr>
<tr>
<td>Fever</td>
<td>Tekusat</td>
<td>buda, likift</td>
</tr>
<tr>
<td>Abdominal cramp</td>
<td>Kurtet</td>
<td>food, dirt</td>
</tr>
<tr>
<td>Kwashiorkor</td>
<td>nefefit, nefas beshita, likift</td>
<td>likift</td>
</tr>
<tr>
<td>Measles</td>
<td>kufign</td>
<td>(1)</td>
</tr>
<tr>
<td>Common cold</td>
<td>gunfan, sal</td>
<td>weather change</td>
</tr>
<tr>
<td>Whooping cough</td>
<td>tiktkik, kerkeri</td>
<td>(1)</td>
</tr>
<tr>
<td>Chicken pox</td>
<td>gudef</td>
<td>(1)</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>sanba nekersa, nekersa  *</td>
<td>adults (1)</td>
</tr>
<tr>
<td>Polio</td>
<td>likift (leg weakening)**</td>
<td>likift (1)</td>
</tr>
<tr>
<td>Meningitis</td>
<td>anget geter***</td>
<td>?likift</td>
</tr>
<tr>
<td>Tetanus</td>
<td>mengaga kolef**</td>
<td>?likift (1)</td>
</tr>
<tr>
<td>Headache</td>
<td>ras metat</td>
<td>unknown</td>
</tr>
<tr>
<td>Cough</td>
<td>sal</td>
<td>weather change</td>
</tr>
<tr>
<td>'Cold exposure'</td>
<td>berd beshita</td>
<td>weather change</td>
</tr>
<tr>
<td>Evil eye</td>
<td>buda</td>
<td>evil eye</td>
</tr>
<tr>
<td>Tonsillitis</td>
<td>tonsil, tankur</td>
<td>just happens</td>
</tr>
<tr>
<td>Conjunctivitis</td>
<td>ayn hemem</td>
<td>dust</td>
</tr>
<tr>
<td>Scabies</td>
<td>ekeck***</td>
<td>playing on dirt</td>
</tr>
</tbody>
</table>

*:Mentioned after probing, and considered illness of an adult by the majority
**:Mentioned after probing
***:Mentioned by less than a third of informants
(1):Perceived causes mentioned in text in detail
With regard to the six VPDs, only measles and pertussis were mentioned as common illnesses spontaneously. Diphtheria couldn't be identified as an illness even after a lot of probing. The rest (tetanus, poliomyelitis and tuberculosis) were identified as childhood illnesses after probing though many said that they were not very common. This is in line with the MoH report. According to the routine reports of the health facilities between 1980–1990, number of reported cases of pertussis, measles and tuberculosis in under-five children was the highest among the VPDs (Lidetu 1988). Diphtheria, poliomyelitis and neonatal tetanus ranked as the last three. Community-based surveys of selected VPDs also showed that the incidence of measles and tuberculosis is high in children (Lidetu 1988). This study also confirmed that measles and pertussis are the most prevalent of the VPDs.

There was no difference between mothers of immunized and non-immunized children with regard to reported common childhood illnesses. Some mothers failed to mention measles and pertussis in their list since they expected everybody (especially a woman like me who is considered a child carer) to know about such common illnesses. A mother who failed to mention them said, after I asked her if she knows the two illnesses, "how can you ask me about the existence of these illnesses? You can't be suggesting that you don't know about them; they attack children everywhere". My conversation with other mothers had a similar implication. These responses gave me the impression of perceived universality of the diseases. Mothers believe that these illnesses exist wherever children and mankind exist. Such perception may imply that they are something which cannot be avoided, which no one can prevent.

Seriousness of the VPDs was expressed in terms of their outcome: death and disability. Measles, pertussis and neonatal tetanus were considered serious because "they kill many children". Loss of appetite, swelling of the body ("nefeft" as they call it), diarrhoea and severe cough were mentioned as different complications which accompany or follow measles and pertussis. And once one or more of these conditions have developed it is very likely that the afflicted will die. Loss of appetite and inability to swallow were the main conditions frequently mentioned with neonatal tetanus. The seriousness of polio, on the other hand, was explained in terms of the disability it brings to the children. Many said "children will be invalid after the leg weakening likifit".
Perceived Causes of VPDs

Discussion with the mothers on causes of illnesses was not an easy task. This was not because of lack of knowledge on causes, rather it was because they didn’t have the responses to our questions ready in mind. It seemed like our informants had never thought about it before we started interviewing them about causes of the illnesses, that it took them time to think and bring it out. As Pool described it beautifully,

"it was not simply a matter of asking questions and obtaining answers that revealed medical beliefs or culture. I confronted people and obliged them, even forced them, to think about, and speak about, phenomena and connections about which they might not normally, perhaps ever, think" (Pool 1994:25).

So, they had to bring what is ‘buried’ in the backs of their mind into the open in the form of narrative, in a form that they think is understandable and comprehensible to us. The response for our initial question on causes was “we don’t know; who are we to know it, only God knows about it; there is nothing like cause, they [the diseases] are always there". However, with probing and as the interviews continued to other issues, many perceived causes of VPDs came out.

Both natural and supernatural forces were mentioned as causes. The distinction between the two explanations was not that clear. Natural explanations of illnesses were somehow related to a supernatural one as an ultimate reason. A similar observation was made in a pervious study in Ethiopia (Bishaw 1989). Bishaw described supernatural forces like spirits, magic, sorcery and witchcraft; natural causes like poor personal hygiene, contact with a sick person and inadequate or unclean food, and other less easily classifiable causes like too much worry or mitich⁹ as being given to explain ill health. Moreover, he also mentioned that the supreme deity, known by various names among different groups was given the ultimate responsibility for all misfortunes including illnesses. In this study, measles and pertussis were more associated with natural causes than the other VPDs.

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⁹The term is used to refer a variety of conditions and symptoms, often attributing it to exposure to sudden changes in weather, or encounter with malevolent spirits.
Measles and pertussis

Measles (locally known as “kufign”) and pertussis (locally known as “kerkeri” or “tiktik”) are believed to come together, pertussis following measles in many instances but also the other way round. They are perceived to come from schools, clouds or cold temperature and transmitted by breath, wind, dirt or flies from one child to another. The illnesses are considered to be naturally there in the environment and ‘attack’ children during the ‘wedding season’ which translates to January and February. When they ‘attack’, they usually begin from schools and “these kids bring measles and pertussis to the villages”. The illnesses are considered to have ‘a life of their own’, ‘attacking’ as if it come from outside and possess their victim. The idea might have originated form the belief that disease is caused by supernatural or outside forces. At any rate, the first cases are believed to “just happen or attack suddenly” without any cause, probably implying that they exist naturally.

Those with a personalistic explanation tend to associate measles and pertussis with God: “it is only God who is able to bring all kinds of illnesses to people”. Others believe that the illnesses come with “the drums during wedding ceremonies”, somehow associated with some spiritual being that comes with the sound of the drums.

In general, measles and pertussis are known to attack children who didn’t have them before and are known to be once-in-a-life time illnesses. As they are perceived to come together, usually pertussis following a measles attack, it was difficult to be sure if they were really talking about pertussis or post- measles pneumonia. Interviews with the health workers revealed that pertussis is not a very common illness in the area. However, this cannot rule it out as a common illness since very few people use the available health institutions for various reasons, among which avoidance of injections and modern health care during measles attack is the major.
Other VPDs

Polio is known in the study area as “likift”. Likift is not a specific name given to polio, but to all illnesses which are believed to be caused by evil spirits or Satan. For instance, kwashiorkor is also known as likift in the area as it is believed to be caused by evil spirits. But to differentiate the two, they call polio ‘leg weakening likift’. Malaria could also be called likift at the beginning when a child presents with a very high grade fever and associated delirium. It is in general believed that the ‘spirit’ attacks children when they are playing near an accumulated ash (from fire wood) or water body especially at noon (the evil spirits are believed to be particularly active at this hour of the day).

Conversely, some consider polio as hereditary: a condition passing from generation to generation. They believe that there is ‘something washable’ in the ancestral blood when a child in a family becomes lame. This is not specific to polio, but to lameness in general. The family is expected to find the ‘washable’ cause and deal with it with the help of traditional healers to prevent other similar mishaps. Even though my field visit to the area was about a month after the third ‘national’ campaign against polio, no one tried to explain the disease in a ‘biomedical’ way. This could be either because the existing causal explanation theory is so deeply rooted in the society that it is difficult to substitute it with an other theory or takes a very long time to do so; or that the polio eradication campaign was not supported by or accompanied at all with proper health education. Whatever the explanation, the perceived cause affects preventive behavior as it is the most important fact about an illness in many medical systems. The underlying cause is so central that most diagnosis in many medical systems prove to be statements about causation, most treatment responses directed against particular causative agents, and most preventive actions directed towards the perceived cause.

Tuberculosis is believed to be an illness of adults. The cause in general is unknown or supernatural. Some believe that it comes from exposure to cold weather. It is known to be transmitted to others from breath of the sick person or through using the same utensils for eating and drinking. A child is believed to get it from a sick adult. One of my informants said, when explaining why she does not like going to the clinics, "... the clinics are usually crowded. A lot of old people [adults] sit at the waiting area and I don’t want to sit among them with my child while waiting for my turn. My child will ‘catch’ Tb."

The fact that tuberculosis is considered an adult disease may be related to its very high magnitude in adults in the country as a major HIV-associated illness. Unfortunately, our study design didn’t
allow us to investigate what its perceived cause in adults is. This would have given us more insight into its cause.

Treatment of VPDs

Therapy options

As in many other societies, options of health care in Soddo are multiple consisting of the professional, folk and popular sectors, the boundaries of which are sometimes blurred. The professional sector includes the government clinics, health centres, and drug shops. Except one of the government clinics which is located in one of the study villages, the accessibility of this sector is very limited for many of the families. Though there is a general perception in the community that ‘clinics are good’ this sector is the last option, probably because of inaccessibility. Or maybe they are saying this for my sake, the ‘modern, city woman’ who is asking around about illnesses.

The folk sector includes a wide range of traditional healers, of which the traditional midwife (locally known as “wegesha”), the religious healers of Christian and Islam origin (locally known as “metshaf gelach” and “kalecha”, respectively) and herbalists (locally known as “medhanit awaki”) are important with regard to treatment of childhood illnesses. Additionally, this sector includes the unlicensed drug shops, local drug vendors and local injectors. However, many of the health workers in the professional sector will be included in this sector as well since they are at least consulted by friends, neighbors, relatives and colleagues at one time or another. Some are also formally involved in the folk sector in their leisure time.

The most frequently used option is the popular sector as it is cheap, easily available and convenient in many ways. It is non-specialized, non-institutionalized and doesn’t have any special technology. This sector is very diverse. It includes self-care by the mother alone or in consultation with neighbors, in-laws or other older women in the family. Dietary change, herbal bathing, improved cleanliness, and provision of herbal drinks are the frequently used options in the management of a sick child. Modern drugs are also given as part of self care as they are easily available from drugs hoarded at home or can be bought easily from local drug vendors or informal drug shops. A mother who was complaining about ‘lack of competence’ of the health workers in the village clinic showed me a box full of medicines which were prescribed for her children at different occasions. There were antibiotic suspensions, antipyretics and ORS in the box. She said:

“Look at these medicines I brought from the clinic. These two women in the clinic do not know anything. They gave me all these but these didn’t help a bit for the
children's illnesses. If they had any knowledge, they would have given me something better which could really help. I kept the left-overs in this box after trying them ..... in case I need some again. After all I spent money on these!”

Therapy choice

As seen above, there are different options for treatment of children with VPDs. Modern, traditional and self-care are used side-by-side simultaneously or in a hierarchic resort. Self-care is the most common way of dealing with childhood illnesses. Typically, when a child is sick mothers usually start with home care. This is followed by or done in combination with consulting neighbors or in-laws, or traditional healers if they are found close by. If there is no improvement, and depending on the perceived cause, a visit to a traditional healer or modern care is entertained.

There are some conditions that are therapist-specific. These are particularly illnesses which are believed to be caused by evil spirits or associated with “buda”—evil eye. These conditions are believed to respond only to traditional treatment, and never to modern. There is even a belief that modern treatment, particularly injections, worsen the condition and may lead to death. High fever of any cause, polio (lameness in general) and kwashiorkor are examples of such illnesses. As these conditions are believed to be a result of likift, only traditional healers can deal with them. For these conditions, modern health units are visited at a terminal stage, if at all. When a mother takes a terminally ill child to a health institution and brings back home a dead body in spite of the ‘injections’ he got, it may bring a negative impression on the health institution, or an impression that injections do not help for such illnesses. Or maybe that the injections even caused the death.

Many factors influence therapy choice. Nature of the illness, past experience, trust of the method, accessibility and beliefs and perceptions related to the illness were found to be the major ones. In mentioning the different factors separately below, I am not saying that they are entertained one at a time and consciously, in any treatment decision-making process. A combination of the different factors is reflected during any decision-making.
• Illness related therapy choice

"injections are not good for measles"

As I have mentioned earlier, high fever of any cause, lameness including polio, tetanus/meningitis and kwashiorkor, which are believed to result from likifi, are therapist-specific. It is only traditional healers who can treat them. At the same time, there are illnesses that are believed to be therapy-specific. Measles and pertussis qualify for the latter. In general these illnesses should be managed at home with diet, herbal drinks and bath. In case of measles, injection, thus modern health care, is contraindicated before the rashes come out, lest the child die. There are two opinions equally prevailing in the area on treatment of measles after the rashes come out. One group says that injections are good to help the child get stronger—"after the rashes come out, we take them to the clinic to get strengthening injections". The other group says that injections are not good at all since they will make the illness come back—"a child should not receive an injection, or even get out of the home before the rashes go back to the abdomen, lest the illness comes back".

Pertussis in general is treated with herbal mixtures. Different leaves and/or roots of plants, including tea, are boiled together with sugar or sugarcane and the sick child is made to drink it. This is expected to trigger vomiting after a bout of coughing—"the illness will come out with the vomitus". Additionally, cough remedies like fatty soup, boiled sugarcane juice or herbal tea are given. With pertussis (cough in general), home care is usually combined with visit to modern health institutions for injections which are considered superior over syrups.

Polio is known to be un-treatable—"Once a child is lame, nothing can be done to treat the problem". Modern health institutions are the preferred care mentioned for tuberculosis by mothers who identified the illness. They are well aware of the 'sixty injections' given in the intensive course of the treatment. Mothers who mentioned neonatal tetanus/meningitis said that there are traditional healers who specialize on its treatment. The treatment mainly consists of massage on the neck, which only the healers know how to do.

• Accessibility influences therapy choice

"It is too far"

Geographic, economic and social accessibility affects therapy choice. A modern health care facility, for instance, is located at a three-hour walking distance of one of the study villages. Mothers in this village were telling me outright that visiting the clinic at Buee is their very last option because it is too far. Being a last option, they visit the clinic after they have tried everything within their reach.
It is usually the terminally ill child, for whom all the treatment options were to no avail, who is taken to the clinic, which unfortunately does not have the capacity to manage such cases. The assumption in visiting a ‘modern health care facility’ with a seriously ill child is that the child gets well. After all it is equipped with sophisticated equipment, and very knowledgeable white-coated people who have a little less power than God over illnesses work there.

"There are no medicines"
Geography being one factor however, mothers in the village where the clinic is within thirty minutes walking distance were not using it for other reasons. Here their reason was another ‘accessibility’ factor. There are no drugs or any diagnostic facilities in the clinic. Most of the times, people are given prescriptions to buy medicines from somewhere else, which means at least an eight km walk to the main road, plus an additional cost for a ride to the closest town where they can find drug shops. According to the informants, the cost of drugs in these drug shops is much higher than the government health institutions. Considering all these then, they prefer to visit another government health institution that is 20 to 30 km away from the village. Travelling such a distance requires money and being away from home for at least a day. Under such circumstances a child is usually seriously ill and will be accompanied by the father or another male in addition to the mother. This obviously incurs additional cost.

"My husband has the money"
Economic accessibility is the other major factor influencing therapy choice. Even if we assume that there is a government health institution within walking distance in a village, people have to pay for health care. Service fee, even if it is minimal, includes for the card, the diagnostic tests if required and for the drugs. For many families who live in subsistence farming, having money at hand let alone paying such amount of money is a dream. At this junction, I would like to mention how gender is related to economic accessibility, and thereby therapy choice. In one of the villages, I had a chance to visit children sick with measles. The following case describes one of my visits to a ‘measles house’.

I was informed by a mother that there is measles in the neighborhood, and took the opportunity to visit the families. In one of the houses we found a mother who was very reluctant to let us in. We could go in only after explaining the purpose of our visit. The room was very dark and at first I was not able to see anything except the fireplace at the rear of the house where a coffee pot was placed. I had to sit and adjust to the light before seeing the sick child. He was lying by the wall of the house
on an old mat. He was about two years old. His older brother, who was four years old, is also sick, but had gone out to his grandmother’s house, which is close by. The mother said she couldn’t restrain him. Our conversation about the treatment went as follows.

Me: What are you doing to treat his condition?

Her: Nothing. What is there to do? I just sit here (she was sitting on the floor in front of him) and watch what happens. I tried to give him lentil soup (believed to be especially good for measles), but he refused. People say it is good. He doesn’t eat anything. I try to breast-feed him now and then, but he doesn’t take much of that either.

Interpreter: Do you have enough breast milk?

Her: I try to give what I have. I don’t have a cow. I tried to give him ‘kocho’ (the staple food prepared from enset) but he cannot eat that; it is too hard for him.

Me: What else did you do to treat him?

Her: After the rashes came out, the other one got better but this one got seriously sick. My husband said it is not good to take him to the clinic. He said the clinic is not good for measles. I asked my husband to give me money so that I could take my son to the clinic but my husband doesn’t want to part with his money. He said it is not good. A while back this child was seriously ill with cough. I asked my husband for money, but he refused. He said he doesn’t have money, but he has money for his drinks. The child had almost died then; it is only God who protected him. I don’t have any money even if I want to take him to the clinic. So what can I do except sit here alone and stare at him?

Me: Maybe he doesn’t have money.... Or is it that he prefers another health care, other than the clinic?

Her: He has money for his drinks. It is that he doesn’t want to part with his money. Why should he care, it is me who stays with the child here alone and watch his sufferings. It is me who suffers with the child. He doesn’t care if he lives. It is not him who suffers during the pregnancy and delivery, it is me. I was very sick once and he had a hard time taking me to the clinic. Why should he care, he will marry another one if I die.

This mother cannot take the child to a clinic even if she wants to as long as it is the husband who controls the money. So when she is asked why she doesn’t want to take the child to the clinic, she automatically says ‘I heard that injection is not good for measles’, but deep inside she know that she cannot visit a clinic unless she can somehow get some money from her husband. Though I was not able to talk to other desperate women with a seriously sick child at hand, it is in general the husbands who have control over the money. On the contrary, child care is in general a responsibility of women. So therapy choice, if it involves money, has to do with prioritization. Treatment decision-making is not a simple matter decided by the mothers alone, but a process involving the fathers,
grandparents and probably other relatives as well. Apart from the factors I mentioned above, other priorities could influence treatment decision-making, and thus therapy choice. No wonder self-care is so abundant in the area!

The husband's reaction in this case can be interpreted in another way. Infant and child mortality rate is high in the area. From experience he knows that many children die despite the treatment they get, including visits to the clinics. So maybe he just wanted to wait and see what would happen—if the child was fit enough to survive. Or perhaps, from experience and hearsay, he thinks the treatment he will get at the clinic is not worth the three-hour walk with a sick child. Interviewing the husband, which I didn't consider while in the field, might have brought something else into this picture. But even with what I have here, it is clear that different interwoven factors affect decision-making and treatment choice.

- Past Experience
Before going to describe how past experience is affecting therapy choice in the study area, I would like to provide some information about a government clinic in one of the study villages. My aim in doing this is not to blame anyone for what is happening or not happening. Rather, it is to be able to draw the context clearly for the reader. As I will be mentioning the clinic very frequently in the text, I found it important to give its background information.

One of the study villages has a clinic within walking distance, even for those who live at the farthest end. The clinic was constructed by an NGO and started functioning in 1997 with an initial one-year drug budget from the organization. It is located 10 km off the main road and has a dry weather road. There is no public transport accessing the village, and vehicles are very infrequently seen in the area. The clinic uses solar electric power but has no water source of its own. It shares the only river in the village with the community.

Two women health assistants, a woman helper and a guard work in the clinic. They do not have any means of transportation to the woreda health office (not even a mule) which is about 20 km away. The health workers in the clinic are responsible for getting their own drug and vaccine supply from the zonal office more than 250 km away. Transportation of the supply, which is difficult to secure in the first place, is a major problem. The health workers thus try to use 'economically' whatever they have so that they won't have to 'hit the road' frequently.
"What do women know?"

Members of the community on the other hand are very dissatisfied with the service the clinic is offering. They have been complaining to me that:

"it is because they are women; what do women know? they just sit here and do nothing when our children die because of lack of drugs; one man would have been enough for us here instead of two useless women".

The health workers know how the community feels about them. They were telling me that they even had had open arguments with the village leaders at various occasions. They said:

"we are trying to do what we can. It is not fair to blame us when we are expected to work under such conditions. People think that it is because we are women, but what difference could a man bring if he has to work under such harsh conditions?"

Generally members of this community, mothers and others alike, have a negative attitude towards the clinic related to their past experience. Drugs are not available at all, or those available do not satisfy the needs of the community; or are not the drugs that they 'want'. Quality of the service is perceived as poor. Some of the complaints were: "they keep us there the whole morning", "they inject everyone with one syringe, I have heard that this is bad", "they treated me bad, and they insulted me". Probably related to the general impression the clinic and the two women health workers created among the community, it is barely utilized. During my stay in the village, I saw the clinic either closed or with two clients at most waiting on the verandah. Vaccination service in the clinic is held on a monthly basis and according to the report of the health workers, clients are very few. It is not surprising to see home care, including the use of drugs bought from the local drug shop in town as the major therapy option for childhood illnesses in this village.

Preventing the VPDs

The concept of prevention

Before describing what mothers do to protect their children from getting VPDs, it is important to see how they understand the concept itself. During my interviews with the mothers and key informants, I found it very difficult to discuss prevention without mentioning treatment. Almost all my questions on prevention at first got a response about treatment. Prevention being the main issue of my study, I began to wonder if I really would be able to get the information I wanted. I had to modify my questioning. I began to use examples and metaphors from day-to-day life to explain the concept. They know and explain a lot about it when it comes to day-to-day life experience. The problem was when prevention was attached to illness.
The first responses I got when inquiring about illness prevention were:

"Who are we to prevent illness, that is God’s task."

"What do we know about doing something before an illness comes, we are rural people. It is the town people who know about it”.

"Is there such a thing like illness prevention? Why should one bother before it comes? No one knows if and when the child will get sick anyway, so why bother?"

“We don’t have time to bother about prevention, we just wait and react/respond when the children are sick”.

However, even though they stick for this response to any direct question on illness prevention, many preventive methods came out as the conversation progressed. Some were more of general preventive measures related to the perceived cause, or measures taken to strengthen the body, or measures practised to reduce vulnerability. Others were illness-specific measures.

Prevention in literal terms means stopping or hindering a disease or maintaining health at an acceptable optimum. In its biomedical sense, prevention is behavior or practice aimed at hindering a disease in an individual or group using strategies which are based on scientifically sound knowledge of disease causation and transmission. It is a conscious act based on knowledge of cause–effect relationship. It is “..aimed at actively controlling and altering the environment to remove and modify the causes of disease” (Ventevogel, 1996:16). Colson (1971), in his study of illness prevention in Malay Village, defines prevention as “a way of avoiding the initiation of a causal sequence or the interruption of one that has begun” and as “a means of achieving a positive health status through preventive medicine”.

Prevention for the Soddos is a very broad concept. It is not limited to controlling the cause, as in primary prevention of biomedicine, but is also related to measures taken to prevent progression of a disease or avoiding its unfavorable effect. In the latter case, disease-specific measures are taken after the illnesses appear; but these which may also be considered as treatment. Looking back now, I realize that I had a problem of understanding their concept since my definition of prevention was basically related to primary prevention. With this in mind, I wanted them to tell me about illness prevention without mentioning treatment. However, for them it was not important to differentiate between prevention and treatment as they ‘are’ practically the same. What they do to limit the progress or bad outcome of an illness is prevention on the one hand—prevents death or another
unwanted outcome — and treatment on the other hand — cures the illness, brings favorable response or hoped-for result.

Preventive methods

‘Preventive methods’ refer to all methods or measures perceived to be preventive even if they are not so biomedically. Both general and illness-specific measures are practised in the communities. A remarkable difference was observed between mothers of vaccinated children and those of non-vaccinated children on their practices. Those with non-vaccinated children claimed not to know any method of prevention when talking about specific illnesses. They said, “is it possible to do something before an illness appears, while you don’t know if it comes at all?” In general they were practising more general forms of prevention related to perceived causes. When it came to specific VPDs, they said, “we just wait until the disease attacks and then act”, or “we are rural people, we don’t do anything before it attacks, it is the urban people who know such things”.

Mothers of vaccinated children also practiced general preventive measures directed towards the perceived cause. However, in contrast to those of non-vaccinated children, they were found to resort to more modern health care practices. In the following section I will present the different preventive methods or measures practised in the communities. I will make note in the text if a method is practised more by one group of mothers than others, if not it means that there is no difference.

• Amulets

Amulets are principally used to protect children from evil spirits (both evil eyes and evil spirits) including likift. Religious healers commonly prepare them. A verse from the Bible or the Koran is believed to be written on a piece of paper and wrapped in a piece of leather to be put around the neck of children. The amulets should be protected from water contact in order to remain potent. For best results they should be worn all the time.

Collars with beads are also used mainly as a protection from evil eyes. It is believed that if a child has something attractive around the neck, the ‘evil eye’, the spirit, will be diverted to look at the beautiful ornament rather than to the ‘beauty’ of the child. These are usually beads of different kinds without any religious incantations.

Perceptions about the effectiveness of amulets or collars differ among the mothers. Those who have some form of formal education, even though they were found to use them, were questioning their
effectiveness. Their main argument was that “amulets are worn just because it is tradition to do so”. They devalued their effectiveness by saying “we have seen children wearing them falling sick from evil spirits”.

- **Herbs**
Mixtures of different leaves and roots of plants are used as means of protection from various childhood illnesses. They are squeezed and the juices are used for bathing, or to mix in the drinks, or are burnt and the smoke is inhaled. Different mixtures are used for different illnesses. Evil spirit, measles, pertussis, likift, and abdominal problems are some of the illnesses for which herbs are used. Mothers of vaccinated and non-vaccinated children alike use this method as vaccination “doesn’t prevent from evil eye or likift”.

Some spices are also used to prevent common ailments. Garlic, for example, is used for protection against malaria, measles and pertussis. The general belief is that the illnesses will not be serious if garlic is consumed frequently.
Bathing and feeding practices around child birth

There are some practices related to pregnancy or childbirth that are believed to give children some protection against illnesses. Most are not illness-specific and according to the informants they are being abandoned owing to the advice the people get from health workers.

I was not able to elicit any food taboo during pregnancy or special food a pregnant mother should eat. This inquiry was entertained with contempt. The responses were "what is there to avoid? We eat kacho all the time. We don't have variety to avoid or choose from". Two informants said that they would generally avoid cottage cheese as there is a general belief that the whitish matter will stick on the skin of the newborn during birth. This probably has to do with 'prevention' of skin problems.

Neighbors and older relatives commonly attend delivery. Traditional birth attendants (locally known as "wogesha", a name given for bone-setters in some other areas of the country) are consulted if the amateurs feel that they cannot handle it, which is usually when they are not satisfied with the progress of the labor or see something 'abnormal'. Whoever attends the delivery, the after-birth (placenta) is buried in the house by the wall. The newborn is bathed in warm water immediately while the mother is forbidden to wash before the fifth day. No one could explain to me why they take the first bath on the fifth day, and not earlier or later; no one had bothered to question why. It looks like the practice has become a tradition now, but there definitely was some reason for its initiation. The part of the umbilical cord that falls off the baby will be put around its neck on a string to protect the baby from hiccups. Immediately after birth the newborn will be given a mixture of herbs boiled in water to "cleanse the stomach". In addition butter will be given through mouth or nose for the same purpose. Both are believed to "strengthen babies and help fight many illnesses in the future". Many young mothers said that they no longer do this because they were told "these traditional practises bring illness to the babies" by health workers. However, the health workers didn't agree with this. They are positive that many mothers in the area still practice it as they "see babies who come with abdominal problems after ingesting butter or the herbs".

On the other hand, older mothers believe that all new-born babies should 'swallow butter' in order to grow strong. They associate the frequent illness children 'of this times' are facing with lack of proper 'care', meaning the abandonment of traditional practices. An old woman, a grandmother, said:
"all my children were very strong and were never sick because I made them 'swallow butter' and drink the herbal mixtures when they were born. Not only my children, but all children used to 'swallow butter' enough to make them very strong. Nowadays, mothers are careless and it is also difficult to get butter for many families; time has changed, you know. I see my grandchildren fall sick all the time. They are not strong enough to fight off diseases".

Another practice relates to breast-feeding. Prolonged breast-feeding, even as long as up to the forth year of life unless a mother gets pregnant, is the rule. It is usually when the mother is pregnant that she becomes conscious of the breast-feeding, and stops it immediately. There is a general belief that the milk of a pregnant mother will be 'poison' for the suckling child and the fetus will 'dissolve'. Both the suckling child and the new baby will be vulnerable to a lot of illnesses if a mother continues breast-feeding while pregnant. This is a very tough period for the baby who is forbidden to suckle breast as proper weaning is not very common, and the child begins to struggle with 'adult diet' from the family plate. Of the four pregnant mothers I interviewed, three had severely malnourished children under the age of two years. Two of the mothers said that the children look 'unhappy' and 'withdrawn' because 'they are no longer on breast'.

In general 'child-care' related practices are more general and directed towards strengthening the body to be able to fight-off illnesses or 'not to fall for them easily'. Providing good/proper nutrition is also included here. Food is associated with strength and strength in turn with 'power to ward off illnesses'.

- **Avoiding contact with sick people**

  This method is mainly employed for prevention of measles, pertussis and TB. However, all mothers do not conform with the method. Some mothers said that they don't prevent their children from going to a 'house with measles/pertussis' since "it is also transmitted by flies, so what is the point of restricting them?" Others argued that a child cannot get the illnesses merely by visiting a sick child, but it is God who decides who should have the disease and when. These groups of mothers were giving examples of children who were not 'attacked' during the last epidemic in spite of visiting sick children, and being 'non-immune'. On the other hand, those who use the method said that they were successful in protecting their children from the illnesses by restricting them from visiting the sick children, or even preventing them from going out of the compound and playing with other children. Even though these mothers believe that the disease is inevitable they are using the
method to postpone the time of attack until the children are a little bit bigger for "the diseases are less serious on children who have started eating well".

It was relatively well-off mothers who mentioned this method often as they generally perceive measles and pertussis to pass from an infected child to a healthy one by breath and from playing together. They made it a strong point of argument based on their past experience with measles epidemics in the villages. Looking at it from the biomedical perspective, their point can be justified as measles is infectious for a relatively short period of time and avoiding contact for this period could bring the intended result: preventing measles 'attack' in this case.

• **Hygiene**
Again, the relatively well-off mothers and those who have had some form of formal education mentioned keeping children and the environment clean as a method of prevention. Washing the body and clothing of the children [frequently] and keeping the immediate environment clean from any dirt were the main strategies mentioned. Though they believe on the method's capacity to protect many illnesses including the VPDs, they still doubt its practicality "as dirt and flies are abundant in the environment".

This can be considered as a sign of civilization, something taken as a modern practice, especially it is more practised by the relatively well-off in a community. One can say that these people are doing something the 'town people' are doing and are trying to identify themselves with the latter. But it would be denying the reality if one ascribes all ideas and practices of hygiene to civilization or modernization. Studies in many parts of Africa have shown that many traditional societies have always recognized the importance of personal and environmental hygiene in relation to health (Ajose 1957). Something that probably developed gradually with the process of adapting to the environment [one might argue that this is the same with the process of civilization], many 'traditional societies' in Ethiopia have hygiene as part and parcel of their culture. Regular bathing, combing hair and cleaning teeth; washing clothing; sweeping and plastering the houses and immediate vicinity; cooking their food very well and other related activities are inherent to many cultures.

• **Biomedical preventive methods**
Exclusively mothers of vaccinated children mentioned measures related to modern health care, such as vaccinations, injections or simply visiting health units (including outreach sites). The reasons for practising these measures were not principally for the purpose of protecting children from getting
sick. Some used them because they were asked to do so by health workers visiting the villages on irregular intervals. Others were advised by their relatives or parents to get their children vaccinated. This practice for most of the mothers was related to visit of a health unit when their children were sick. So even if vaccination was mentioned as a method, it doesn't necessarily mean that a mother used it consciously for the purpose of protecting her child from acquiring an illness. It is their exposure which made them mention modern health care-related measures rather than an actual awareness of the protective effect of vaccination.

The fact that many mothers visited modern health care when their children got sick and got them vaccinated at the same time makes them identify vaccination as a treatment method. True, they might have been told that it protects from diseases. But at the same time, it is an injection the children are receiving (probably with other injections or medicines for curing the presenting illness), and they know that injections are given for cure. Even OPV is identified with cure as it is given by mouth to sick children (note that mothers visit health units when children are sick), it is interpreted as something helpful to cure throat problems and prevent such conditions in the future. Such interpretations or misconceptions, as will be seen later, could affect acceptability of modern health care if it is found not to bring the hoped-for or expected result.
Chapter 5. Risk perception and management

Risk, vulnerability and susceptibility

The terms ‘risk’ or ‘vulnerability’ are related to a chance of being damaged, injured, or being easily hurt or open to dangers. The concept of risk is used in four different ways in the health field: at population, clinical, individual and political levels (Maine et al 1995). At population level epidemiological research is used to quantify risk by examining ‘risk factors’ and outcomes. Such correlations are used as evidence of causation. At clinical level, health professionals translate epidemiologic risk measurements into guidelines for counselling or treating individual patients. This is a process full of uncertainty because, while data is available on which kinds of people are most likely to experience a given outcome, information on us whether a particular individual will experience that outcome or not is unavailable.

At the individual level, risk is a personal issue for each person. Lay people are not just the receiver of information on risk and vulnerability from health professionals, rather they form or construct their own opinions regarding the different risks as defined by others. Certain defined (socially and culturally) risks may not have any relation to real dangers but are identified as important among the particular groups. At the political level on the other hand, data on risk can be used for decision in resource allocation, but can also be used to support or even disguise political agenda (Maine et al 1995).

Biomedically or epidemiologically speaking, an individual or a community is ‘at risk’ when it has an increased probability of developing a condition when compared with the parent population. By the same token, an individual can be said to be vulnerable when he is predisposed to harm. Conditions or factors whose presence in an individual or a community is associated with an increased probability that disease will develop later are called ‘risk factors’ (Mausner and Bahr 1985). However, the mere presence of a particular risk factor in an individual or a community does not guarantee the development of a disease, nor does its absence rule it out. Other factors, usually unknown, also play an important role. Though ‘risk’ in itself seems a more abstract concept, the terms ‘at risk’ and ‘vulnerable to’ are somehow used synonymously in the field of public health. A lot of overlap is seen in their usage. A person or a community with some ‘risk factors’ is said to be at risk of developing the condition, or vulnerable to developing it. Both expressions transmit the same message.
Similarly, an overlap is seen in the use of the terms 'vulnerability' and 'susceptibility' in the biomedical field. The latter is literally defined as liability or vulnerability to develop, or risk of contracting a condition. The term is also famous in social psychology. The extent of perceived susceptibility has been used in many health belief models to explain peoples' health behavior (Rosenstock 1990). In these health belief models, in addition to perceived seriousness of the condition, the degree to which an individual feels vulnerable or susceptible to it is taken as an important dimension in determining whether a state of readiness to act exists.

Risks are locally interpreted differently by different people. Likewise, there is a wide individual variation in the acceptance of personal susceptibility to a medical condition. At one extreme there is an individual who denies the possibility of his contracting a condition, and even the presence of the risks at all. In a more moderate position is the person who admits the presence of the risks but who does not really believe it will happen to him. At the other extreme, a person may express a feeling that he is in real danger of contracting a condition. In essence then, what people consider risky, or the perception of vulnerability or susceptibility to a condition is related to what is perceived as dangerous.

People in all cultures, as part of their day-to-day life, try to avoid or prevent dangerous conditions. Thus culture is basically a way of preventing, solving or avoiding problems and dangerous situations. Following this argument then, one can say that peoples' preventive behavior or practice is shaped by what they consider as risky or dangerous. Though the perception of a condition as dangerous or risky is key for action, its proximity, its seriousness, the magnitude of threat attached to it and the availability of ways to avoid or prevent it are important points people consider in practising prevention (Colson 1971; Ngnbane 1977). So how does the Soddo's concept of risk and vulnerability relate to prevention of common VPDs if at all it does?

For the obvious reason of breadth of the terms and difficulty translating them in a simple and easily comprehendible manner, it was not possible to directly assess how the concepts are understood. The question 'who is at risk of' or 'vulnerable to' for the common VPDs elicited a general response "all children who were not attacked by the diseases are at risk" from the mothers.
The ‘at risk’ or ‘the vulnerable’

Children who are ‘always sick’, those ‘not well nourished’, those ‘who are not well cared for’, and those very young ‘who have not started to eat well’ are considered to be more vulnerable to measles and pertussis than other children. It is not that the illnesses attack these children more frequently than the others. Rather, it is that the illnesses will be very serious, take long to recover or may result in death. It is generally believed that measles and pertussis must ‘come out’ for all children, meaning that it is inevitable and even desirable (to ‘ensure’ life-long immunity) that all children contract them. So the concept of risk or vulnerability in these communities does not strictly follow its original meaning. Everybody is liable to fall for the illnesses. However, there are a group of children who are ‘at risk’ of developing a serious illness or complication or who are ‘vulnerable’ to developing the more serious form.

When it comes to prevention, it is not very clear whether these concepts were important as such. Even though mothers claim that the very young ones, those poorly nourished and chronically sick are more at risk of developing serious illness, it looks like there is nothing they do to reduce the risk in these children. Perhaps this has to do with the general poor socio-economic condition of the people. Even if they know that the children are at risk, there is no alternative left for them except to wait and see what will happen. There are a lot of other issues that need to be solved and require immediate attention: making ends meet in the day-to-day life is a lot of hard work by itself, which does not leave time to think about something which is not very close. There is always tomorrow to think about such things, and tomorrow will bring another tomorrow, and another and another. In the mean time, the condition of the children will deteriorate, and the mothers will lose hope in trying anything at all. This was what a mother of seven (one died) and pregnant, with her two youngest children chronically sick (the youngest with kwashiorkor) literally said. Fortunately her children were not ‘attacked’ during the last measles epidemics in December-January. When she mentioned that her children are at risk of serious complications and even death, I asked her what she did to protect them from being attacked. She said:
"What is there to do? It is God who protected them. He is by my side. If it was not for Him, my kids would have been dead by now. What is there to do? Do you think I have time to think of what to do for them? I have to feed other mouths as well. Making ends meet is not an easy task... being very pregnant. And this year, we missed the small rain, so life has been very difficult. .... I know that the outcome will be bad if they get attacked with measles. But what else can I do? You know what? I wanted to have an abortion when I went to the health centre last time. I really wanted to, but couldn't discuss the issue with the 'hakim' (health worker) since my husband was with me. What is the use of having another child when life has been very difficult for the ones I already have...."

So, even though the presence of a dangerous or risky situation and its perception as such is said to be important in practising prevention, it is not always true that this is followed by action. Even if the threat upcoming with the danger is high, its proximity (relative to other priorities) and the availability of practical measures to deal with it are important considerations.
Chapter 6. Vaccination: A Biomedical Initiative

Local interpretation
People tend to reinterpret many ideas and practices in a way that they fit their own theories of explanation. This was especially seen with modern health care ideas and practices in the process of acculturation in many traditional societies. Being one of the modern health care practices, vaccination also shares this fate. It is interpreted in such a way that the technology itself, why and who gets it, how often it is administered, and the route and the frequency of its administration fit the local ideas, beliefs and perceptions of the communities. Such reinterpretation may originate from misinformation, misunderstanding of the right information or understanding a 'foreign' idea or information from one's own perspective. Once reinterpreted, an idea will become part of the local belief system and view.

Vaccination (locally known as "kitibat") in Soddo is reinterpreted in such a way that it fits the local belief system. Actually, the term kitibat is related to another term kitab which is a name given to amulets of different kinds worn around the neck or arm for the purpose of protection. Looking at the relation of the terms, one can conclude that vaccination is identified with protection. But being injections (except OPV), vaccinations are more identified with cures. Of course, they might as well be understood as capable of protecting children from illnesses in the future, but as injections they are expected to cure whatever problem the child has at that moment.

What is vaccination to the Soddos?
Almost all interviewed mothers and key informants have heard about the term ‘kitibat’ regardless of their acceptance. Even those mothers who said that they know nothing about vaccination at least know that something called ‘kitibat’ exists. A difference between mothers of vaccinated and non-vaccinated children was seen when it came to the ‘details’. Mothers of vaccinated children were found to have better knowledge on what vaccination is all about compared with those of non-vaccinated ones. However, this does not mean that all mothers of vaccinated children were well knowledgeable about vaccination. In fact, they were far from it. Knowledge here means that they had something to tell us about vaccination the way they understand it, in contrast to mothers of non-vaccinated children, whose response was invariably, "I do not know anything about it".

Vaccinations are perceived both as a method of prevention and cure. Biomedically speaking, vaccinations are a form of primary prevention. But they are not being considered as such among the
Soddos. This could probably be related to the fact that many mothers visit health institutions when their children are sick, and usually get their initial doses of vaccines. Being injections, and given at the time when the child was sick then, the primary function of vaccination is perceived as 'curative'. A majority of the mothers with vaccinated children gave sickness of their children as the reason for their first contact with the service. Absence of sickness, on the other hand, was the main reason given by mothers of non-vaccinated children for non-acceptance.

At times, we had difficulty of discerning whether mothers were telling us about their experiences of vaccination or other injections when talking about 'seven or nine vaccinations' in a week's time. In such instances the injection sites could have given us some clue. However, as the responses we got were not specific (which included 'shoulders', thighs and buttocks), it was difficult to label them as vaccinations or other injections. Mothers do not necessarily differentiate between different kinds of vaccines. The major groups—the orals for throat illnesses, and the injections for all other diseases—are differentiated. The one who defaulted at DPTI says that her child is 'vaccinated' the same way as the one with a child who has completed all the required vaccinations for his age. This is probably related to the information they receive from the health workers (or the way it is interpreted).

The identification of vaccinations with injections for cure has got its own influence on acceptance of immunization. Mothers get their sick children vaccinated with a conviction that they will be cured from whatever sickness they already have. But they find that it doesn’t help them get cured. They probably try it a second time but see no change. Then they will come to a conclusion that "vaccinations do not help; it is a waste of time going to get children vaccinated leaving all the household chores."

What the Soddos know about vaccination

A question dealing with knowledge of vaccination was presented to all mothers involved in the study. Though a semi-structured interview guide was used, the flow of the questions was very much dependent on the responses of the informants. For instance, questions on what vaccination is all about naturally follow when a mother starts talking about it spontaneously relating it to past experience or hearsay. In cases where it was not mentioned spontaneously (with mothers of non-vaccinated children), a question was posed at an appropriate moment to fit in the flow of the discussion.
All but two mothers of non-vaccinated children said "I do not know anything", even after probing. One of these said "it helps to cure all kinds of childhood illnesses" and the other said "I know it is not useful, my child died after taking nine vaccinations".

The responses of mothers of vaccinated children were:

"It is useful not to catch any disease including malaria, kwashiorkor, chickenpox",
"Prevents from diseases, but do not I know more",
"A child grows healthy and with quality if immunized",
"It helps cure all kinds of diseases that attack children",
"Children will have only a mild form of any illness if at all they are attacked",
"It cures any illness the child has and protects from future attacks".

Health workers were mentioned as the main source of information though neighbors and relatives had some role. Looking into this element of the response, one can conclude that mothers are either being misinformed or are misinterpreting the information they receive. Whichever is the case, the significance of such knowledge ‘deviation’ for immunization acceptance must be appreciated.

Misconceptions
A lot of misconceptions related to vaccination were observed in the communities. Taking into account the general poor quality of vaccination service in the area, one can easily say that the 'misconceptions' are one of the reflections of the poor quality. This might not always be true. Even when no information but only the injection is given, mothers perceive something through non-verbal communication or from the contextual condition. While discussing about the vaccination status of her son, a mother told me that he had been "given drops by mouth when they [the vaccinators] came to the house last month". When I next asked her about injections, she said:

".... No, he never took an injection. But I got an injection when the health workers were here the other time. When they saw me breast feeding, they just asked me to bare my shoulder and injected me."

I was curious and asked her what they said when they gave her the injection. She said:

"They didn't tell me anything. But I think it is meant for the child, as he gets the medicine from the milk. Maybe I should get another one soon".

Apart from what I mentioned earlier, there are other misconceptions related to tetanus toxiod vaccinations. In general it seems that many mothers take TT vaccinations while pregnant. Even
though I was not able to counter-check this using coverage figures from the clinics (generally very poor record keeping), the health workers said that antenatal follow up is good. There is a general perception among the mothers that getting vaccinated while pregnant will help the child grow healthy. While discussing vaccinations, many mothers talked about their own vaccination status. Many non-vaccinated mothers were blaming themselves for their children’s sickness during the last measles epidemics. The general belief regarding tetanus toxoid vaccination is that:

"... It is no use getting the children vaccinated if you are not vaccinated yourself while pregnant" and "... it is not always necessary to get the children vaccinated if they are breast-feeding. A mother can get vaccinated and it passes through the milk to protect the children from different illnesses".

Another point I want to mention here is that many mothers, including those with vaccinated children believe that vaccines can protect children from many illnesses. ‘Protect’ here doesn’t mean that they will not be attacked, rather it means that the illnesses will pass ‘unnoticed’, without putting them to bed. Many were referring to their recent measles experience in their area. They said "those who were vaccinated had mild fever and some flu-like symptoms, but it didn’t even keep them from playing outside".

Acceptance of Vaccination

Why do mothers in Soddo accept vaccination if it is not to protect their children from illnesses? There are various reasons why mothers in Soddo accept vaccination. As an injection, vaccination is a much valued way of cure for different illnesses. It is an appreciated and trusted modern technology to cure various ailments. When a mother visits a modern health unit with her child, it is usually after she has tried everything at home and with a hidden agenda that she gets an injection. So, an injection, be it vaccination or otherwise (why should she care as long as it is an injection) is very much appreciated. After the initial acceptance, whether or not she will continue depends on her experience with it and some other factors.

Those who initially accepted vaccinations at the outreach site did so either because their children were sick or because "others do it, so why don’t I?", or "it must be something useful if the government is sending the medicines all the way to our villages, so why not try it?", or "after all it is medicine they are giving, why not try it? I don’t want to later regret if something happens to my child for not getting vaccinated", or mostly "because I was asked to do so by the health workers who came to the village with it". Only two mothers of vaccinated children accepted it to prevent their
children from illnesses. Both got information from 'town people' (one used to live in a town and was informed by health workers, the parents of the other are living in a town).

Conversely, why didn't mothers accept vaccination? The main reasons given were:

"My child was never sick, so why vaccination?"

"My other child was very sick after getting vaccinated, so why should I get the others vaccinated?"

"I was busy [with other social activities] when they came to the village, so I missed it."

"The clinic is too far."

"It didn't help the other time he got an injection, so why bother to do it again?"

From the responses, it seems that no one has a strong negative attitude towards vaccination based on beliefs and ideas about the illnesses. It rather seems that the technology in itself is appreciated, but there appears to be some doubt about its efficacy which originated when it failed to produce the expected result.

Looking at who the non-acceptors are, it is difficult to find any base-line difference with the acceptors. They have similar beliefs about causes of VPDs, their treatment, and prevention, except that they mentioned less modern health care-related measures of prevention and cure probably related to their 'non-exposure'.

As to the socio-economic and demographic factors, it would be difficult to use them as major variables in such a small sample size. Age, occupation, ethnicity, religion, education, socio-economic status and number of children ever born were some of the background variables taken into consideration in the study to see if they bring any effect on the notions. Religion, occupation and ethnicity were excluded from the analysis as they were the same for everybody. Although all but one mother were below the age of thirty years, the relatively young ones seem to have more traditional ideas or said "do not know" compared with the older ones. This may be related to their lack of experience as analysis with number of children ever born showed the same result. Those with few children tended to say "do not know" or give more traditional responses than those with more than three children.

As mentioned in another section, education and socio-economic status also showed some association with notions. Those with some form of formal education and economically better-off tended to
mention dirt, malnutrition, breath, flies and the likes as causes of VPDs; cleanliness, contact prevention and other modern health care-related measures were stressed as preventive measures than in the other groups.
Chapter 7. Conclusive Remarks

Soddo is a Woreda that is relatively close to Addis Ababa, the Capital City of Ethiopia. It is also located along a dry weather road which has allowed the Soddos to have easy communication with others, opening ways to cultural diffusion and transfer of technology.

This study was conducted in Soddo with an attempt to fill an information gap detected in SSIRP. In conducting the study, I tried to broaden the work to look into notions of prevention of VPDs in two rural villages, and if and in what way their notions could influence immunization acceptance. As the study period was short, I cannot claim that I have done a thorough anthropological work. However, I believe the use of multiple data collection tools have given me valid information related to my topic.

It is obviously somewhat artificial to group together the six VPDs except that they predominantly affect children and vaccines are available for their prevention. The VPDs differ in a number of ways, some of which are related to the causative organisms, who they affect and environmental factors which facilitate or hamper their spread. There is no way lay people, like the rural mothers in this study, could group these diseases together. Based on their own life experience, they have grouped measles and pertussis as common illnesses affecting children though there is a wide-spread belief that they are not preventable. Tuberculosis is considered a disease of adults, polio and tetanus rare diseases of children, and diphtheria is believed to be non-existent at all. Though all are perceived as serious in terms of leading to disability or death, primary prevention seems a remote idea.

Since many mothers think measles and pertussis are an inevitable part of growth in children, their prevention is basically directed towards halting the progress of the diseases rather than preventing the 'attack' in the first place. Even vaccinations for them, which they are told are useful to protect children from these diseases, are medicines which help to reduce the severity of the diseases but never to stop them all in all. This may be related to the general belief that the causes somehow exist in the air everywhere and thus no one can do anything about them.

When it comes to polio and tetanus, like kwashiorkor or malaria, they are believed to be a result of likift, a work of an evil spirit, which at times is not easy to fight with. As the diseases are rare, people might consider the amulets, the herbal drinks and smokes they have been using for as long as they remember somehow effective in preventing the illnesses. The fact that no one tried to
associate lameness with polio in spite of the three-round national immunization campaign against the disease (the last one very recent) should be a point of concern for program managers.

On the other hand, very common children’s problems in the area like infestations with lice, jiger fleas and even scabies were not considered as problems. Even the few mothers who mentioned scabies as a common illness never mentioned the others. This could be related to the fact that the illnesses do not lead to grave outcome such as death and severe disability (of course, jiger flea infestation leads to physical deformity which has more of a cosmetic effect than functional). It seems that no one never thought of preventing these problems as they are considered an inevitable part of growing up like teething or crawling. Their 'lack of concern' for such problems should not be surprising in the face of the presence of many other killing diseases.

Though the government is the major provider of health service in Soddo, it is the last option to be used in the studied communities. Geographic and economic accessibility were two of the factors, but not the major. Many illness-related factors, including beliefs and ideas, seriousness, perception of threat or danger associated with it, presence of other priorities and past experiences were found to be important. On top of that, power difference in decision-making (which is closely related to economic dependence of women in the area) should not be neglected. Even if women have money at hand, they cannot decide by themselves on such an issue and travel such a long distance without getting permission from the husband, if not accompanied by him.

Self-care, in the form of home remedies and herbal drinks, was found to be used abundantly. This is especially true for childhood ailments. Every woman knows how to treat or what to do with some common ailments of children. It is after trying something herself that she consults others. There are also cultural or traditional ways of making a child strong to fight of diseases. Newborns should especially 'swallow' butter to make them strong and grow well. In addition, a mother should stop breast-feeding as soon as she knows that she is pregnant, lest both the fetus and the baby on breast be endangered.

Etiology was found more important in illness prevention. People try to interfere with the development of an illness based on the perceived cause. However, one should not expect methods of prevention whenever people are able to give some explanation for illnesses. Some illnesses are unavoidable, so people do not bother to interfere with the causal factors. Instead, they either try to avoid the unfavorable outcome after getting ill or try to reduce the vulnerability. Additionally, the
presence of a proven way to avoid the illness was found important. Even if there are causal explanations for a condition, people do not bother to deal with them unless there are socially proven ways of avoiding it. Even when the illnesses were perceived as serious and killing, the proximity of the threat was found to influence preventive behavior. For instance in the case of measles, though mothers know that the disease is serious, they don't bother to use any preventive measures as 'they don't know when it will come'.

Perception of risk and vulnerability in the studied communities is related to unfavorable outcome of the illnesses. There is a wide-spread belief that every-body is at risk of getting measles and pertussis, and of these, there are a group of children who are at risk of dying from it. Mothers clearly identify these group based on their lived experience. Yet, the mere fact that they can identify them doesn't guarantee that they practice special preventive measures. Other factors like mothers’ workload, economic capacity and imminence of the illness are important factors that are considered in decision making.

Mothers of vaccinated children mentioned vaccinations and injections as one method of prevention of VPDs. But mentioning per se didn't relate to good knowledge about vaccination. On the contrary, one can say that they do not have any knowledge about it at all. Their acceptance was basically a passive one. In general, active resistance against immunization was not seen. Major reasons of non-acceptance were past experiences or inconvenience. Notions related to VPDs were not found to have an important place in vaccination acceptance.

When one specifically looks into the notions alone, it could indeed be easy to say that they affect acceptance of vaccination. However, one should be able to look into the reasons for acceptance or non-acceptance before making a valid conclusion. Non-acceptance in no way was related to notions, but to the technology itself. There is neither active resistance nor active demand for vaccinations. It is just passive acceptance of a technology when asked to do so by 'knowledgeable' people. Only two mothers demanded it actively. Mothers are generally receptive of modern health care. This was reflected by their view of tetanus toxoid and wide-spread acceptance of OPV and vitamin A supplementation during the national campaigns. Here, I am not trying to minimize the role of power difference on passive acceptance. But the fact that many mothers, especially those that had newly delivered, wanted to take the medicines for themselves (during the campaigns), might indicate that it is not purely due to their position that they accepted. There is more to it than that.
In the studied communities, there was absolutely no visible correlation between acceptance and notions, or between acceptance and background variables. But it could be difficult to conclude that notions or background variables do not have any relation with vaccination acceptance as generalization would be difficult with such a study. Yet, the findings are valid as they represent the idea of key informants in the community in addition to the mothers. True, it is needless to say that ideas, beliefs and perceptions related to illnesses are important in therapeutic decision making. Nevertheless, they were not found to be the main factors influencing immunization acceptance in this study. Perhaps at this moment one can ask "then why don't they accept?". This indeed is a difficult question to answer at this point. But I can argue that it is not only social and cultural factors that are important in immunization acceptance, but service-related factors as well. There should be provision of the service on one hand and the demand for it on the other hand to discuss about acceptance. There is no point in discussing one without having enough information about the other. In fact, the central point of discussion here should be what happens during the interface of the service with the local ideas and beliefs. Thus it is important to understand the structural, environmental and socio-cultural context in its totality in order to understand why or why not vaccination is accepted in a community.
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Annex II: National Immunization Schedule

Children

BCG and polio-0 at birth
DPT-1 and polio-1 at six weeks of age or first contact
DPT-2 and polio-2 at ten weeks of age (interval of four weeks)
DPT-3 and polio-3 at fourteen weeks of age or next contact (minimum interval of four weeks)
Measles at nine months of age or first contact thereafter

Pregnant women

TT-1 in the second trimester of pregnancy (4-5 months)
TT-2 one month after the first injection

Non-pregnant women

TT-1 at first contact
TT-2 after four weeks
TT-3 after six months
TT-4 after one year
TT-5 after another one year
Annex III: Interview Guide

Ideas and beliefs

What are the most common/serious childhood diseases in this area?
  Probe for VPDs
Why are they serious (or dangerous)?

What are the causes, treatments and prevention of the VPDs (mentioned above)?
  Probe: different methods known; methods used by self and others

Where (from whom) did you get this information about prevention from [probe for each method mentioned]? How did you come to know about it (when, what, etc..)?

In what way (how) do the different methods protect [probe for each]?  
  Probe: any experience? Any possible reason for non-use?

How do you (or people) see the effectiveness of the methods [probe: if there is difference in perceived effectiveness]? Explain how.

Perceptions of danger

Do people use these methods [ask for each] for all children equally [probe if specific methods are used for specific children]? Explain how.

Are children equally vulnerable? What determines their vulnerability? What are risk factors?

What makes children resist diseases?
  Probe: Inherent capacity if present

Why do people bother to prevent these diseases [probe for each]?
  Probe for: Disease related factors: severity, contagiousness, etc.
  Child related factors: age, sex, birth order, health status, etc.
  Illness/death in the family or elsewhere
  Any other liminal stage of parents (adultery, pregnancy, breast feeding, menstruation)

Do all people use the different methods [probe for each]? How and why?
  Probe for: possible reasons for use or not
  side effects with prevention techniques
  encounters with practitioners
  efficacy, suitability, convenience, preference
  role of other family members
  other experiences
**Practice/ experience**
Had any of your children suffered from VPDs? When?
   Probe: which disease, what did you do to treat? Would it have been prevented? Why or why not? [why did prevention failed?]. Get as much detailed information as possible on what happened to be used as a case study.

Have you used any other preventive methods [methods not mentioned in responding for the previous question but mentioned as 'methods’ earlier] for your children?

Where did you get the methods from?

Why did you decide to use it/them?

How do they work?
   Probe: Perception of strengthening the body, fence around, etc..

Do you have any preference? Why or why not?

What do you do when a neighbor’s child gets sick with one of the VPDs?

What did you do to protect your child against diseases at the time of birth or during pregnancy?
   Probe: Why did you do it? From which diseases? [what do they fear; beliefs]

**Background information**
Socio-economic and demographic characteristics of mothers.
   Age, education, occupation, marital status, religion
   Income ?, housing condition

Maternity history
   Number of children
   Index child = child in the second year of life :birth order, place of delivery,
   immunization status, perceived health condition

**Observation**
General: Distance of village from the district capital, type of road.

Housing: Construction material, size and/ or number of rooms, ventilation,
   garden, kraal separate or in the house, etc

Attend a child sick with one of the VPDs in case there is one (and if possible).
   Observe: what they do for treatment &/or prevention
   how they deal with uninfected children (prevent contact or allow it); ask why they do what they do.

**Key informants**
General information: about the area, health condition, major health problems, health care, health institutions, recent outbreak of any diseases.

**Note:** The sequence of questioning was different with different mothers depending on the flow of their responses
Annex IV: Map of the study area