FACTORS INFLUENCING ACCESS AND UTILIZATION OF HEALTHCARE SERVICES IN YEMEN

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Yemen

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Factors Influencing Access and Utilization of Healthcare Services in Yemen

A thesis submitted in partial fulfillment of the requirement for the degree

of Master of Public Health

By

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Yemen

Declaration:

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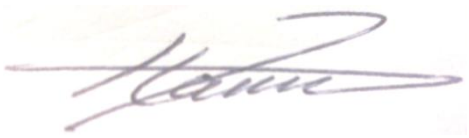
Signature: 

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List of Abbreviation

MDGs	**Millennium Development Goals**
MOPHP	**Ministry of Public Health and Population**
OOP	**Out of Pocket Expenditure**
IMR	**Infant Mortality Rate**
U5MR	**Under the age of Five years old Mortality Rate**
MMR	**Maternal Mortality Rate**
ANC	**Antenatal Care**
MICS	**Multiple Indicators Cluster Survey**
ORS	**Oral Rehydration Salts**
DTP	**Diphtheria, Pertussis, and Tetanus**
BCG	**Bacillus Calmette–Guérin Vaccine**
ARI	**Acute Respiratory Infictions**

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Abstract

Background: Access and utilization of healthcare services in Yemen is very low.

Objective: To explore factors affecting access to and utilization of health care services; especially among disadvantaged people, and formulate policy recommendations to improve health services utilization in Yemen.

Methodology: literature review of access and utilization of healthcare services in Yemen and analyzing the findings using a framework adopted from the Andersen Behavioral Model for Health Services Utilization.

Findings: There is a general low coverage and utilization rates of essential healthcare services such as maternal and reproductive health, child health, and disease control services, this is due to factors that inhibit access and utilization of health services both in demand and supply sides. Lack of knowledge and affordability are the major barriers to access health services in Yemen. Even where services are available, they are constrained by low quality, shortage of staff, lack of essential supplies, and lack of confidentiality between healthcare user and provider.

Conclusion and Recommendations: needs and affordability factors are found to be the most important factors to access and utilize healthcare services. The study recommends strong government commitment to allocate more resources to health and improve quality of healthcare. More researches on factors influencing access and utilization of healthcare services are needed.

Key words: Access, utilization, demand, supply, factors, Yemen

Word Count: 11242

Introduction

According to the World Health Organization, in order to achieve universal health coverage, people should receive the healthcare services they need and benefit from financial risk protection. Access is one mean to achieve these two objectives. Access to needed health services improves health outcomes which allow people to be productive and earn incomes, children to continue education – providing community with essential means to escape poverty. In addition coverage with needed health services and coverage with financial risk protection to everyone prevent people from being pushed to poverty because of high out of pocket expenditure for health.

There are several factors that people face when it comes to access healthcare services, these factors can be geographical accessibility, financial accessibility, availability and acceptability of health services, and socio-cultural factors that exist prior the illness. This study explores these factors using Andersen Behavioral Model for Health Services Utilization and proposes recommendations to improve access and utilization of healthcare services in Yemen.

Yemen currently undergoes major political transitional change and currently conducting National Dialogue to reform governmental constitution. One of the major changes are reforming the health sector and analyzing where Yemen is now in achieving universal health coverage, at least for basic healthcare services. I hope the outcomes of this study help in understanding the factors influencing the low access and utilization rates of healthcare services. The findings of this study will be shared with policy makers at the Ministry of Health. This may influence further research since Yemen has limited literatures regarding this topic, and influence policy makers to design feasible interventions which will close the gaps in accessing health services and encourage people to use them.

The structure of the thesis is as follows; Chapter 1 gives the background information about Yemen that is relevant to the topic. Chapter 2 starts by explaining the problem statement and justification of choosing this topic and explain the methodology and analytical framework used to guide analysis in the thesis. Chapter 3 gives an overview about the coverage and utilization rates of some of the fundamental healthcare services indicators. Chapter 4 outlines and discusses the factors influencing access and utilization of healthcare services in Yemen. Chapter 5 gives an overall discussion of the findings and illustrates some interventions from other developing countries. Finally chapter 6 gives conclusion and overall recommendations for improvements.

CHAPTER 1: BACKGROUND INFORMATION ON YEMEN

The aim of this chapter is to present back ground information about Yemen including Geography, Demographic information, Education, Political and security context, socio-economic context, health system, and burden of diseases.

1.1 Geography

Republic of Yemen is located in the Middle East at the southern tip of the Arabian Peninsula. It is situated at the entrance to the Bab- el Mandeb passage which links the Red sea to the Indian Ocean via the Gulf of Aden. Yemen has an area of 527,970 square kilometers[1], including the islands of Perim at the southern end of the Red Sea and Socotra at the entrance to the Gulf of Aden. Yemen borders Saudi Arabia to the north, Oman to the northeast, and the red sea to the Indian Ocean to the southeast. Yemen's topography is varied with coastal lines in the south and west of the country and hills and mountains towards the middle. Yemen also has desert plains which stretch from Far East of the country towards Saudi Arabia. Physical map of Yemen is shown in Figure 1.

Figure 1: Map of Yemen. Source: Physical maps of Yemen http://www.ezilon.com/maps/asia/yemen-physical-maps.html

1.2 Demographic Information

The total population in Yemen estimated in 2011 is 24,799,000[2]. The population growth rate is 3%[2] which place pressure on educational and health services. Sex ratio is 101.3 male to 100 women[2]. Population aged (0-14) represents 44% of the total population in 2011 and population aged 60 and above represents about 5%[3]. Life expectancy remains low compared with other developing countries; it is estimated as 63 years for males and 66 years for female, or 64.5 years overall[4]. The fertility rate was 5.1 children per woman in 2011[5].

1.3 Education

Over the last three decades, illiteracy rate was halved to 45% from over 90%[2]. However, many challenges still exist including reaching the Millennium Development Goal (MDG) of achieving universal primary school enrollment and education by 2015[6]. These challenges are due population growth and poverty. Gender equity also plays a role since very few girls than boys enroll in school, particularly in rural areas, and most drop out before completing basic education. Lack of teachers and insufficient teaching materials are also challenges towards the quality of education in Yemen. The sector faces poor quality of student learning achievement, and weak linkages between what students learn and what the labor market demands[6].

1.4 Political and Security Context

The modern Republic was born in 1990 after unification of North Yemen and South Yemen. Yemen faced several regional tensions which led the country to undergo civil war in 1994 and another tension in 2009 which resulted in clashes between the military and Shia Zaidi rebels in northern Yemen.

Yemen was affected by political disruption in early 2011 when youth protesters, inspired by the Arab Spring uprisings movements in Tunisia and Egypt, rallied against nearly three-decades-old rule of president Saleh and demanded him to step down. After almost a year of the crisis, Yemen has embarked political transition. A transitional government was formed and confirmed by the parliament in 2011. Yemen is currently undergoing a transition period where government expects to hold National Dialogue to draft the new constitution and reform of army and security establishment until February 2014 where legislative presidential election will be held. Security in Yemen remains calm but fragile and tension among head tribes has risen recently. The political transition is supported by international community and aim to successfully reform military and security structures to enhance access to basic services, job, and income opportunities.

Most of the governmental budget is allocated to improve security which neglects other important development sections such as health and education[7].

1.5 Socio-Economic Context

Yemen is one of the poorest countries in the Middle East where percentage of poverty is 37%[2] and GDP per capita at USD 1360[8]. Although there has been an increase in the GDP per capita, health indicators are some of the lowest in the world, and the task of improving them is daunting, particularly in light of the difficult economic situation. Total health expenditure was 5.5% of GDP in 2011 and the total expenditure on health per capita was US$152[4].

Yemen is a lower middle income country; ranked as one of the least growing countries in the world with Human Development report of 2011 placing it 154 of 187 countries[9]. Issues such as poverty (37%), growing unemployment, public debt, and gender inequity are still challenging Yemen development. About 70% of the population lives in rural areas where access to basic services is limited[2,10].

The sources to support Yemenite economy vary; Oil productions and natural gas account for 28% of GDP[10] Agriculture and fisheries accounts for 9% of GDP in 2006 and manufactures account for only 9.6%[10].

1.6 Healthcare System Context

The Ministry of Public Health and Population (MOPHP) oversees healthcare services according to laws governing health sector in Yemen. There are three levels of health care governance including the Ministry which develops national strategies, policies, and monitoring and supervision plans for lower levels. The second level is governorate office level, which consists of governorate health office in each governorate in Yemen, total of 20 governorates, and they are responsible for developing plans and policies health services activities and delivery at governorate level. The third level is district office level and it is based on district health system and it is responsible for overseeing health activities and services delivery. There is a weak coordination between these three levels and imbalance in resource allocation since the system is still not fully decentralized[7].

There is four-tier structure in delivering health services in Yemen:

- Primary which are first line health units and health centers;
- Secondary which are hospitals in governorates and districts;
- Tertiary which are reference hospitals,
- Fourth level is specialized health facilities such as cardiovascular, cancer, and blood banks.

In addition, health services delivery is provided by the private sector health facilities and other public health facilities that are financed by Ministry of Defense and Ministry of Interior[10].

There are also the vertical health programs which deliver focused health services such as Extended Program of Immunization, National Malaria

Control Program, National AIDS Program, and the National Tuberculosis Control Program. There is little information about the organizations in private sector and the functional relationship between MoPHP and private sectors is unclear. However, MoPHP does the registration and issuing of licensing of private health sector entities[7,10]

The share of health spending of the total governmental budget is 4.5%[7]; which is considered to be very low since Yemen agreed on Abuja declaration to increase government share on health up to 15%. Out of pocket (OOP) spending on health represents 78% of the total expenditure on health and the rest is supported by government (20.9%) and donor fund (1.1%)[10]. The government introduced user fees in 1990's to support healthcare financing system. There is no national insurance system in Yemen, apart from private companies' insurance to cope with high OOP and effects of user fees on access and utilization of healthcare services.

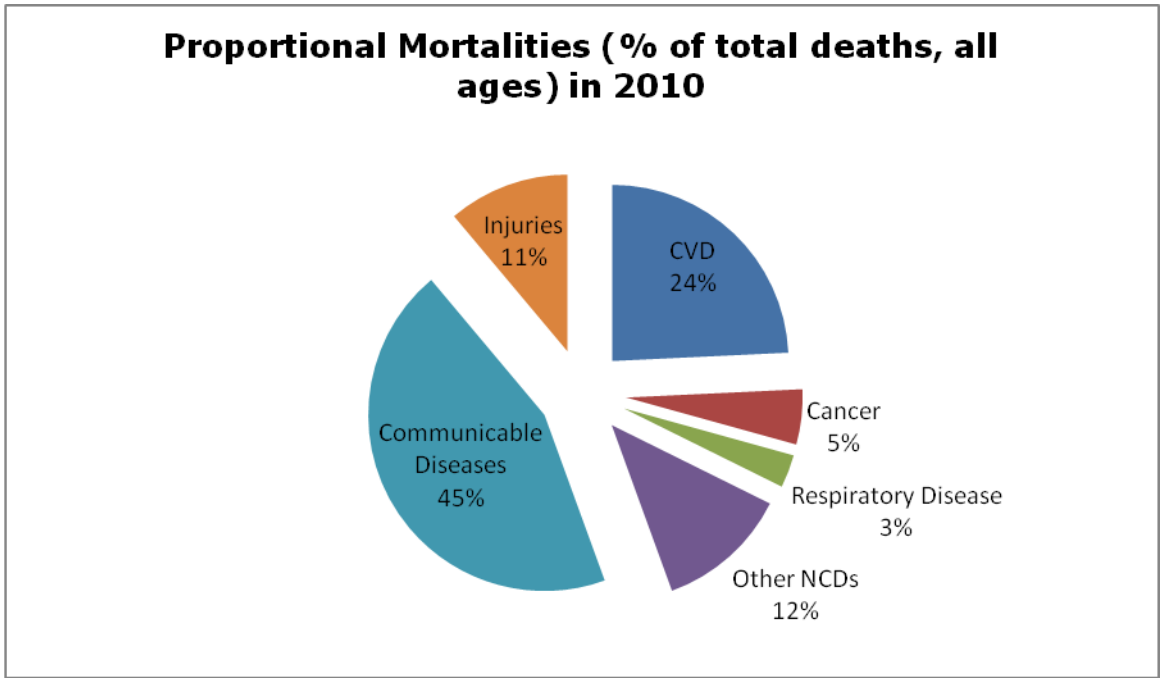
There are several health work force problems related to the overall numbers, competence of staff, and unequal distribution of health staff in rural and urban regions. There is no human resource for health strategy that defines career structure and retention of health workforce within the country[7,10]. The health information management system is weak which results in lack of information for important health indicators and lack of unified and updated information across the country[7]. Data generated by private health sectors are not covered by health management information system[7].

1.7 Burden of Disease

Findings from the global burden of disease table 2010 show the epidemiological profile in Yemen is still dominated by communicable diseases. Lower respiratory infections and Diarrheal diseases still maintained in top position in the table since 1990 despite healthcare interventions that have targeted them[11].

Non-communicable chronic disease (NCD) also placed itself in list of burden of disease of the country and list of proportional mortalities. According to WHO, NCDs are estimated to account of 45% of all deaths[4].

Figure 2: Shows the Proportional mortality based on type of disease in Yemen.



Malnutrition has become one of the top health priorities to tackle recently. In the latest National Family Health Survey 2003, it is estimated that 53% of children under the age of five are stunted and 46% are underweight[12]. Causes of malnutrition are various and include determinants of health such as age, sex, life style, socio-economic, and political conflicts. It has been reported that some cases of malnutrition become chronically malnourished in parts of rural Yemen due to inability of household to treat their children because they cannot afford treatments and are unable to access health facilities[13].

CHAPTER 2: PROBLEM STATEMENT, JUSTIFICATION, OBJECTIVES AND METHODOLOGY

2.1 Problem Statement and Justification

Good health is an investment. It enables people to be productive, effective, and enjoy life. Illness leads to losses in productivity, money, time, and can result in poverty[14]. One way to assure good health is by ensuring access to qualified health services and making sure that people are using them.

The precise coverage of population with health services both by public and private health sectors is unknown; however estimations suggest that only 30% of rural population have access to healthcare services due to low geographic access[14] and hence coverage of health services is inequitable between urban and rural areas. In addition there is a lack of affordability and financial access for the poor, having the poorest quartile population to use health facilities 35 to 65% less than the most well off quartile[14].

The infrastructure investment has witnessed a considerable expanding in the last decade, and geographic coverage has risen from 45% in 1990 to 50% at 2000 and to 65% in 2009 (real access to services, as measured by the presence of services within health facilities, rather than simply the presence of health facilities themselves, is unknown but believed to substantially less**)**[7]**.**

This poor access and utilization of health services contributes to poor health indicators where Infant mortality rate (IMR) is estimated to be 57/1000 births, under age of five mortality rate (U5MR) is 77/1000 births, and maternal mortality rate (MMR) is 365/100,000 live births[4].

These indicators show an urgent need to improve access and utilization of health services, while at the same time, and as population grows, meeting the rising demand for qualified health services specially that Yemen is facing a typical pattern of having double challenges of high rate of infectious diseases and an increase in chronic diseases rate.

The gap in meeting health needs of the people has put Yemen's health system in a difficult position. On one hand, the system is trying to create a national health system that is affordable and accessible and making politicians and decision-makers to face the unmet needs of the poor and rural population and improve primary and preventive care. On the other hand, lacking access and utilization of qualified public health services resulted in rapid growth of private sector in the urban parts of the country, and these private services cannot be affordable by the majority of the population.

Several factors contribute to lack of access and low utilization of health services in Yemen. They range from demand side factors such as education, social constrains, individual characteristics to supply side factors such as availability of health services and quality of the services provided. This thesis will give an overview of these factors and demonstrate how they can either facilitate or hinder access and utilization of health services.

Gaining a broad understanding about healthcare seeking behavior of Yemenite costumers from point of view of access, costs, healthcare services quality, and utilization rates is crucial at this time for public policy because Yemen is currently undergoing political transitional state which will reform governmental systems and policies including health. Exploring the factors hindering or facilitating access and utilization of healthcare services will make a first step into conducting further country-owned researches since there are very limited researches in this field in order to make them evidence for policy makers to develop suitable and effective interventions that serve the Yemenite people.

2.2 Overall Objective:

To explore factors affecting access to and utilization of health care services; especially among disadvantaged people, and formulate policy recommendations to improve health services utilization in Yemen.

2.2.1 Specific Objectives

1. Describe and analyze current coverage situation of health services and its trends.
2. To analyze the socio-cultural factors (Demand factors) affecting access and utilization of health care services in Yemen.
3. To analyze health care system factors (Supply factors) affecting access and utilization of health care services including policy and legal factors.
4. To provide recommendations to Ministry of Public Health and Population on how access and utilization of health services can be improved in order to achieve better health outcomes and status for the population.

2.3 Methodology

Methods

This thesis is based on literature review and it is guided by a model which was adapted from the Andersen model of health seeking behavior[20].

Search strategy

A wide range of search engines are used in this thesis mainly Google, Google Scholar, Pub-Med, and Scopus. Reports and studies are also used from

World Health Organization (WHO), World Bank (WB), United Nations Development Programme (UNDP), Social Development Fund (SDF), and Ministry of Public Health and Population (MoPH&P). The key words used to search for information were: Yemen, access, utilization, health services, barriers, gender, rates, demand, supply, strategies, and also combination of these words.

Desk review of published and unpublished national documents was used along with consultation from national experts via emails and phone calls.

Studies done in other developing countries were reviewed and used in this thesis as well. The languages used for searching were Arabic and English. Countries chosen as study examples in chapter four are countries which have similar economic and social contexts as in Yemen.

2.4 Limitations of the study:

- Limited up to date information and data regarding health services utilization indicators and access and utilization rates in Yemen especially for the factors.

- Limited information about access and utilization of healthcare services in Yemen, and most of the reports found focus on financial barriers rather than health system or social barriers.

2.5 Conceptual Framework
Anderson framework of health seeking behavior

The aim of this framework is to describe the factors and conditions that facilitate or hinder access and utilization of health services. This framework was first developed in 1960's and has gone through four phases. The fourth and latest phase was developed in 1990's. It illustrates the interaction between external environment, predisposing, enabling, and needs factors together with personal health practices and how these factors and practices perform towards health outcomes.

There are three main characteristics that shape the individual's access and utilization of health services:

1) Predisposing Factors: these factors are socio-cultural characteristics of the health care seeker and they are existing before using the services and before getting the illness. These factors can be classified as "Demand-side Factors" such as: education, age, gender, occupation, social interactions and network, and cultural beliefs.

2) Enabling Factors: these are the factors that facilitate the health care seeker or user to obtain care such as ability to pay (income), availability of

health services and personnel, waiting time, transportation, and knowledge of potential health services. These factors can be both demand and supply factors.

3) Needs Factors: these factors are based on Perceived needs "How people view their own general health and functional state, as well as how they experience symptoms of illness, pain, and worries about their health and whether or not they judge their problems to be of sufficient importance and magnitude to seek professional help", and evaluated needs "Represents professional judgment about people's health status and their need for medical care".

Health behavior in terms of personal health practices also interacts with above factors and health outcomes. Health outcomes in this framework do not only depend on service utilization but also on health practices.

The Modified Framework

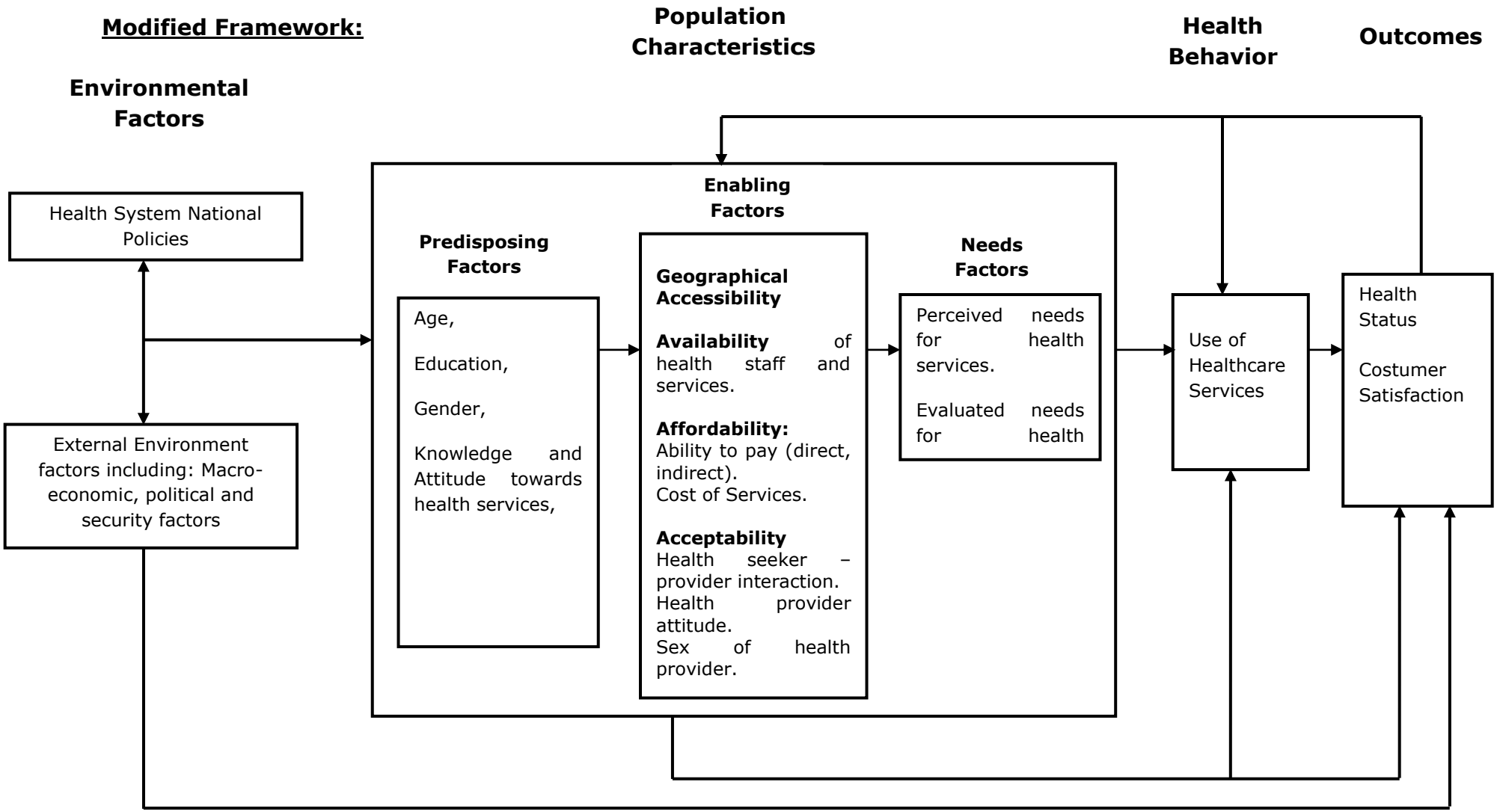
The author made some modifications in the Andersen's health services utilization model to explore factors influencing access and utilization of healthcare services in Yemen. These modifications are as follows:

1) Predisposing factors which include some social determinants of health such as Age, gender inequality, education, and knowledge of healthcare services users. Other determinants such as income and place of residency (urban/ rural) are included in enabling factors.

2) Enabling factors which include the four dimensions that can be in both demand-side and supply-side such as geographical accessibility, affordability availability, and acceptability.

3) Environmental factors include health sector reform strategy and national health strategies that mentioned access and utilization of healthcare services.

Modified Framework:



Adopted from Andersen Framework 1995- Phase 4.

CHAPTER 3: Concepts of Access, Utilization, and Coverage Indicators for Healthcare Services.

The aim of this chapter is to review existing healthcare services indicators and their utilization rates among population. This chapter starts by reviewing important concepts of access and utilization.

3.1 Concept of Access and Utilization

Generally speaking there is no uniformed and generally accepted definition of access. Greenlick and Freeborn define access as people in need receiving healthcare services at the right time in the right place[15]. Another definition by Penchansky and Thomas is that access is a "set of more specific dimensions describing the fit between the patient and the health care system"[16]. These dimensions are availability, affordability, accessibility, and acceptability.

From healthcare user's view (demand-side), access is to have treatment delivered in the best way with lowest possible cost or at no cost through a health system[17]. On the other hand, healthcare provider's view (supply-side) on access is the service provided to all users in a way that meet treatment needs[17]. Peters et al added the value of individual's needs in defining access to be "using healthcare services according to needs"[18]. Donabedian defined access as the fit between need of services and services delivered and included in his definition other non-financial properties such as geographic and socio-organizational properties[19,21] .Finally Andersen definition of access is the utilization of healthcare services and anything that could facilitate and hinder this process[20]. Andersen also investigated the interaction of the individual's with the health system by studying the factors that enable people or prevent them from making "healthy choices" in their life and their use of healthcare[21]. Effective access is the actual use of health care services which lead to improved health status[20]. Andersen definition of access is used in this thesis.

Utilization of healthcare services is used as a measure of access and it is defined as the percentage of population who use particular service in a given year[21]. In this thesis, I used this definition to show common health services indicators to measure access and utilization based on percentage of people using them in a given period.

3.2 Indicators for Service Coverage

The literature suggests that the following indicators to be used as measure for health service utilization[22].

3.2.1 Maternal and Reproductive Health Services Utilization

The indicators used for maternal and reproductive health services are the following:

- Proportion of live births delivered in a health facility (public or private).
- Proportion of live births attended by skilled health provider.
- Percentage of women age 15-49 who give births in previous 5 years and received Antenatal care (ANC) at least once by skilled health provider.
- Proportion of family planning needs satisfied.

***Figure 3*:** Maternal and Reproductive Health Services Utilization Rates[23].

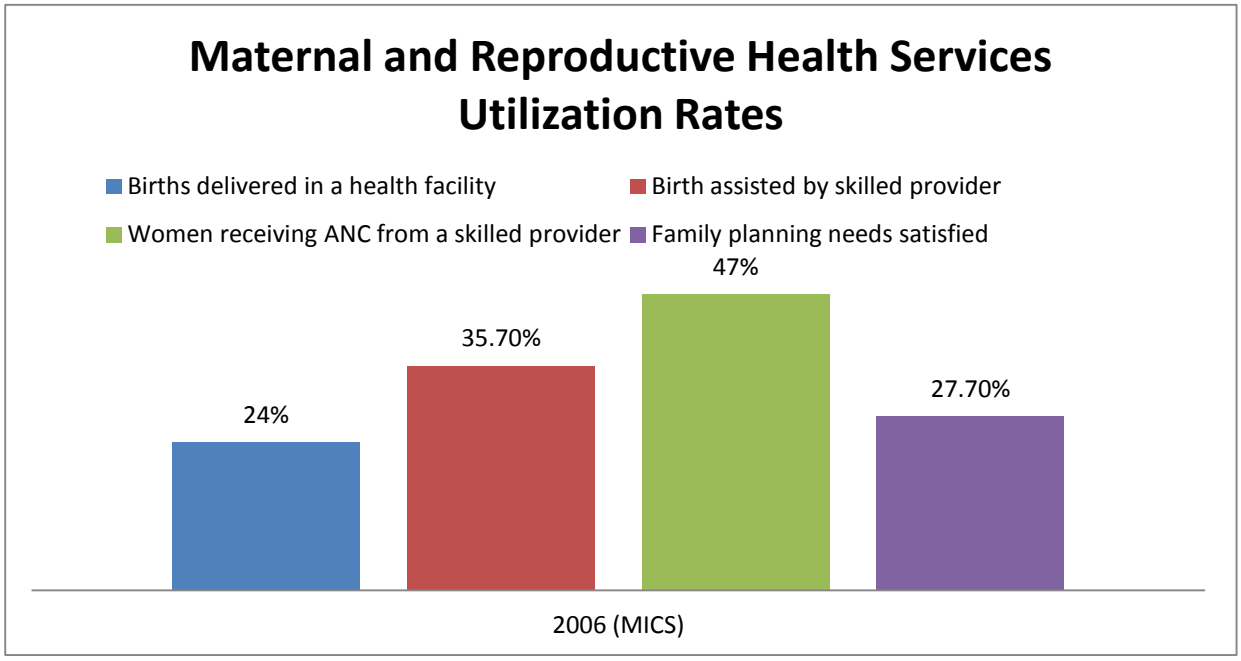


Figure 3 shows the percentage of different maternal and reproductive health indicators and will be reflected in the explanation of each indicator below.

3.2.1.1 Place of Delivery

Delivery at home is still very common in Yemen[24]. The percentage of home delivery is estimated to be 76%, based on the last year prior conducting the Multiple Indicator Cluster Survey (MICS 2006)[23]. Overall the majority of deliveries in rural areas occurred at home is 82% compared to 59% in urban areas and health facility based delivery is common among educated

women[23]. The common reasons for having pregnant women not to deliver at a health facility are:

- Unavailability of delivery services.
- Cost of delivery services.
- Place of health facility is far.
- Cultural perception of women that she should deliver at home among her family. These factors will be explored further in availability and affordability dimensions in chapter 4.

3.2.1.2 Assistance at Delivery

More than 70% of maternal deaths are caused or happen during delivery[25]. The most effective intervention to reduce this risk is the presence of skilled delivery attendance during delivery to reduce risk of complications and infections that cause serious illness and deaths and be danger to both the child and the mother[23,25]. Only 35.7% of births, occurring in the last 2 years prior conducting the MICS survey, were attended by skilled delivery attendant[23]. In rural areas, the proportion of live births assisted by skilled delivery attendance is 26% compared to 62% in urban areas[23]. Among total births assisted by skilled health personnel; 21% of births were assisted by a medical doctor, 8.8% by midwives, and 6% by nurses. There is no data regarding the proportion of births assisted by traditional birth attendants[23].

3.2.1.3 Antenatal Care Services

Regular medical checkups during pregnancy are important to prevent risk of illness and deaths of both the mother and the child[26]. Antenatal care survey was based on number of antenatal care visits (at least 1), type of health facility visited, type of provider, and if pregnant woman receive tetanus toxoid vaccination[23].

According to the data presented, only 47% of pregnant women, during the two years preceding the survey, used ANC services[23]. Urban pregnant women are more likely to use ANC services than rural women (68.2% versus 39.3%)[23]. There is a positive relationship between pregnant women's education and utilization rate of ANC services. Socio-economic status also play role in ANC service utilization; the higher the woman's status, the more likely she will use specific ANC services or even all[23,24].

Reasons for low utilization rate in ANC services vary; they are geographical, unavailability of qualified ANC services, and social factors which includes income and knowledge of the pregnant woman. These factors are further explored in chapter 4. There is a clear low utilization rate in maternal and reproductive health care services based on the indicators discussed, which are reflected to the high maternal mortality rate among Yemenite women.

Knowledge of mother-to-child transmission of HIV is an important step for women to use HIV testing services when they are pregnant so they avoid infection in the baby. The proportion of women who are ever married (age 15-49 years old) that had knowledge about mother to child transmission was 51%[23]. Stigma and discrimination that are associated with the disease play role when using HIV testing services among Yemenite women.

Out of the 47% of women who used ANC services, only 2.1% of women were provided with HIV prevention information, and about 2% of women recalled that they were tested for HIV at ANC visit[23].

3.2.1.4 Family Planning Satisfied Needs

Family planning is important for men, women, and children health for preventing too early pregnancies and spacing between births[27]. The available data illustrated for family planning is for married women only. The current utilization rate of contraceptive methods is 27.7% among married women[23]. This includes both modern and traditional methods. Utilization rate of contraceptive methods in urban areas is double the rate in rural areas (42.3% versus 21.1%)[23]. Income of households is strongly associated with utilization of contraceptive methods; 43.7% of women in rich households status use contraceptive methods compared to 14% in poorest households[23].

Unmet need[(1),28] for contraception in rural areas is 28% compared to 14% in urban areas which indicate that women who live in rural areas do not utilize contraceptive services as much as women in urban areas. The unmet needs for spacing among married women age 15-49 years old is 13% and for limiting is 10.6%. These two indicators revealed about 24% of married women in Yemen have unmet needs for contraception[23]. The demand for contraception satisfied[(2)] is estimated to be just over 50% among married women.

3.2.2 Child Health Services Utilization

The indicators used for these services are the following:

[(1)] Unmet needs for contraception refers to number of married/partnered women who want to space their births or limit number of children and are not currently using any birth control methods. Unmet needs in MICS survey is measured by set of questions showing the current behavior and preferences of contraceptive use among married women. Source: MICS Survey 2006.

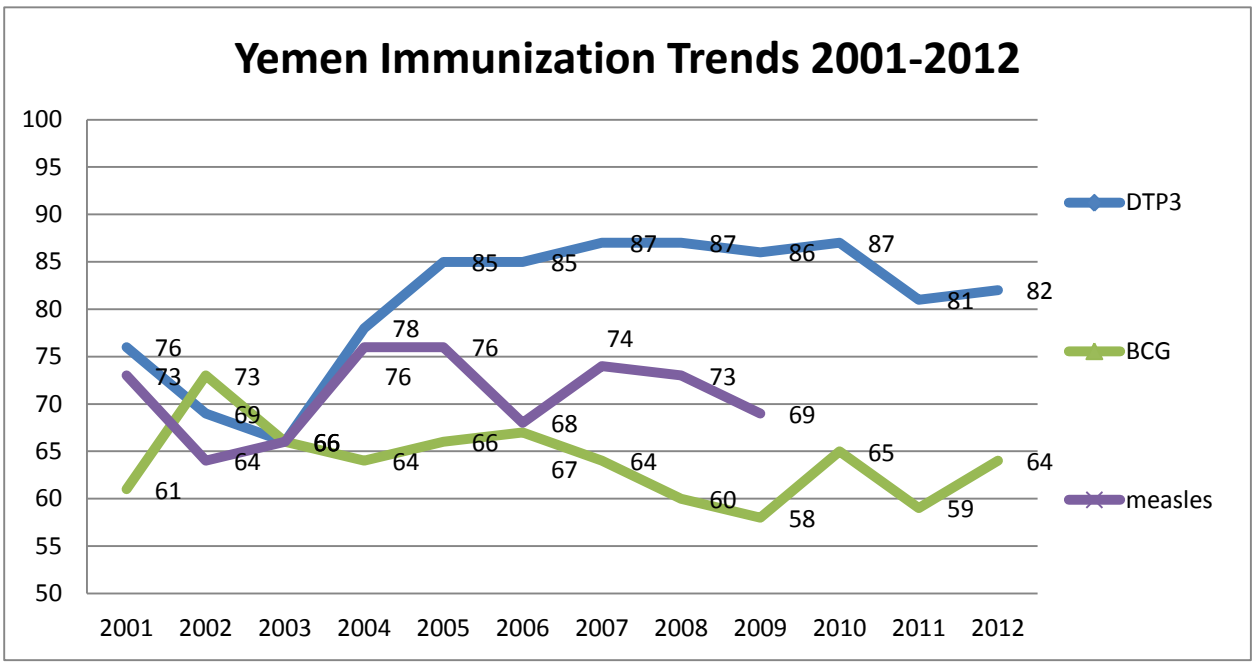
[(2)] Percentage of demand for contraception satisfied is defined as "the proportion of currently married women who are currently using contraception, of the total demand for contraception. The total demand for contraception includes women who currently have an unmet need (for spacing or limiting), plus those who are currently using contraception". Source: MICS Survey 2006.

1. Proportion of children aged 12-23 months who receive all basic vaccines, measles vaccine, BCG vaccines, and three doses of diphtheria, pertussis, and tetanus vaccine (DTP3).
2. Proportion of children under the age of five years old with diarrhea who receive oral rehydration therapy (ORT) and continued feeding for diarrhea treatment.
3. Proportion of children age 0-59months who showed symptoms of acute respiratory infection (ARI), in Yemen case is Pneumonia, and sought care from health provider.

3.2.2.1 Immunization trends

Immunization plays key role in reducing child mortality over the past two decades and saved lives of millions of Yemenite children since the launch of the Expanded Programme on Immunization (EPI) in 1974. The government goal is to ensure full immunization of children under one year of age at 90% with at least 80% coverage in every district.

Figure 4: shows the Immunization trends from years 2001-2012. **Source**:WHO/UNICEF Estimations on immunization coverage[29]



Based on the government routine data shown in figure 4;approximately 82% of children aged 12-23 months recevied the third dose of DTP3 vaccine in 2012[29]. The decline in the percentage in 2011 and back in 2004 was due to political unrest that the country faced so parents could not get their children to the healthy facility to vaccinate their children. Approximately 64% of

children age 12-23 months received a BCG vaccination by the age of 12 months in 2012.

Table 1: Vaccination schedule in Yemen for children less than 24 months. **Source**: MICS

Vaccination	Required age given to child
BCG	At birth
Polio 0	At birth
Polio 1	1.5 months
Polio 2	2.5 months
Polio 3	3.5 months
Pentavalent 1	1.5 months
Pentavalent 2	2.5 months
Pentavalent 3	3.5 months
Measles 1	9 months
Measles 2	18 months

The coverage for measles vaccine by 12 months is at 69% in 2009. Yemen faced measles outbreak in the 2011 resulted in having 4,300 cases and 155 deaths between January 2011 and March 2012[30]. The increase of measles reported cases was due to decline in immunization coverage and the disruption in access to health facilities in most parts of the country during the political unrest[30].

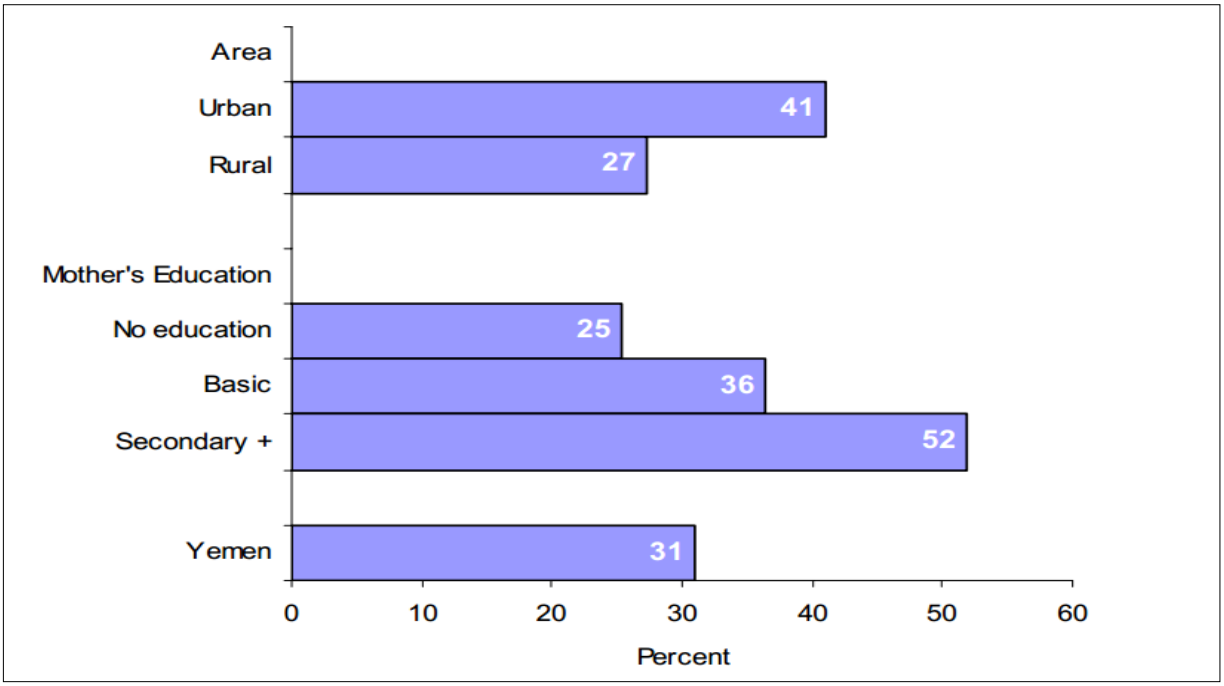
Children who live in urban areas are more likely to receive each of the vaccinations compared to children living in rural areas[23]. It is estimated that 89% of children living in urban areas received BCG vaccine compared to 60% of children in rural areas[23].

The routine immunization data does not show the proportion of children who received all required vaccinations, however, the MICS survey shows that about 18% of children 12-23 months received all required vaccines such as a BCG vaccine, a measles vaccine, and three doses of DTP and Polio (excluding polio vaccine given at birth). This proportion is considered to be very low and just over 1 child in every 10 children had not received any vaccinations by the age of 23 months. Outreach activities are conducted for remote and inaccessible areas in order to increase access and utilization of required vaccines[7].

3.2.2.2 Tetanus Toxoid

In order to prevent maternal and neonatal tetanus, pregnant women should receive at least two doses of tetanus toxoid vaccine[23]. Preferely it is advisable to receive 5 doses so women can be protected for life[23]. Figure 5 shows the percentage of women with a live birth and received tetanus toxoid vaccine in the last 12 months. About 31% of all mothers received and were protected against neonatal tetanus; women living in urban areas were more likely to be receive tetanus toxoid vaccine because they could access it easily in health facilities compared to women living in rural areas (41% versus 27%)[23]. The figure also shows that over 50% of women who have higher education were able to demand and access tetanus toxoid vaccine compared to only 25% of women with basic education[23].

Figure 5: Percentage of women with live birth who were protected against neonatal tetanus. Yemen. 2006. Source: MICS Survey 200623.



3.2.2.3 Treatment of Acute Respiratory Infections (ARI)

Pneumonia is the first leading cause of death in children under the age of five years old[11]. Suspected case of Pneumonia is when a child is suspected to have a cough accompanied by difficulty of breathing and whose symptoms are not due to problems in the chest or/and blocked nose[31].

1 in 10 children under the age of five had suspected pneumonia in the 2 weeks prior conducting the survey (12.9%)[23]; only 37.9% of these children used or received antibiotic treatment by healthcare provider[23]. The percentage of children receiving antibiotic treatment in urban areas is higher compared to children in rural areas (48.6% versus 34.4%)[23]. In general there is a clear low access and utilization of antibiotic treatments in suspected pneumonia cases among children.

3.2.2.4 Oral Rehydration Treatment

As mentioned in chapter 1, diarrhea is the second cause of death among children under five in Yemen[11]. The most diarrhea-related deaths in children are due to dehydration from loss of large quantities of water and electrolytes from the body[31,32]. Oral rehydration treatment is recommended to prevent many of these deaths[31].

Overall, 35.5% of children under the age of five years old had diarrhea in the two weeks preceding the MICS survey[23]. There is not major difference in

diarrhea prevalence in the different settings of Yemen; diarrhea prevalence in rural areas was 35.2% and in urban areas was 29.2%[23]. The survey also found that the peak of diarrhea prevalence occurs in the first year of life (46.6%)[23].

MoPHP recommends that children who have diarrhea to be given good drinking water, rice water, fruit juice, and ORS packets[12]. In terms of service utilization, it shows that 32.7% of children received ORS packets[23]; which indicates very low services utilization in OR therapy. Almost 74% received good drinking water, and 31.1% received fruit juice[23]. Overall, 86.7% of children with diarrhea used or received one or more of the recommended treatments and 13.3% did not receive any treatments[23].

Anti-malaria health services Indicators

The available data for this indicator is from the Malaria Indicator survey 2008-2009[33]. The percentage of children under the age of five years old sleeping under an ITN the night before the survey is 7.8%.The survey showed that the proportion of households with at least one ITN or LLIN at high risk was 15% and proportion of people sleeping under LLINs is 4.2%[33]. The data for percentage of pregnant women who used ITN is not available.

Tuberculosis health services indicators

The percentage of tuberculosis cases detected and cured under directly observed treatment short course (DOTS) in 2006 is 85%[34].

No updated data found from the literature review. Several domestic practices contribute to increase the risk of acute respiratory illness, pneumonia, chronic obstructive lung disease, cancer, and possibly tuberculosis; more than 35% of Yemenite households use solid fuels for cooking[23]. Over half of these households are in rural areas while the use of solid fuel is very low in urban areas (1%)[23].

CHAPTER 4: FACTORS INFLUENCING ACCESS AND UTILIZATION OF HEALTHCARE SERVICES.

The aim of this chapter is to review factors influencing access and utilization of healthcare services based on literature found and to explain the reason behind the low utilization of different healthcare services that were shown in chapter 3.

4.1 Needs Factors

Perceived needs are the starting point for using healthcare services. Any effort in understanding 'why' and 'how' people access and use different healthcare services must consider first how people view their own health status, how they deal or experience symptoms of illness and pain, and if they think that their condition is important enough to seek professional help and go to a health facility[20].

Regarding women's healthcare, Currie and Weisenberg made women's healthcare seeking behavior model which is based on 3 decision making and needs phases[35]. This model explains the phases women go through to access and use health services. Phase 1: "Do I have a health problem?" this phase is based on knowledge of women and the ability for them to recognize the symptoms they are facing. In a study survey done in Yemen regarding women's perceived needs and access to healthcare shows that only quarter of Yemenite women surveyed have completed high education and were able to recognize if they have need to access healthcare services or not. The study concludes that it is acknowledged that education beyond primary level increases women's knowledge and make them more aware of their health and whether they have a health problem or not[36]. perceived needs may also depend on peers; family

Phase 2: "Can I seek and use healthcare service?" this phase is based on women's perception of her cultural and social status and based on that she will seek professional help; for example a study done in the most four rural areas in Yemen showed that women give priority to other family member's needs to seek healthcare over theirs, especially for their husbands and brothers and will delay seeking and accessing healthcare services even if they knew their health status[37]. The third phase is based on suitability of healthcare services facilities and providers[35], and addresses the issue of acceptability which will be discussed further in enabling factors. These phases can be applied in the different women's health issues mentioned in chapter 3 such as delivery and ANC services, and family planning.

Another example for perceived needs is parents' awareness on malnutrition and the ability for them to detect symptoms of malnutrition in their child; an analytical study was done to determine the socio-economic and behavioral factors on childhood malnutrition in Yemen concluded that parents' inability

to recognize signs of malnutrition in their child and delay accessing healthcare services when the child showed symptoms resulted that the child become chronically malnourished[38]. Another example is the issue of low proportion of children who got all required vaccinations; only 18% as mentioned in chapter 3[23]. One of the reasons for this low proportion is that parents do not recognize that their children needs all required doses of different vaccines in time and resulted in giving them some of the vaccines not all[23].

Regarding evaluated needs, where people's health status is judged by health care provider and their needs for medical care; this judgment is based on training and competency of the healthcare provider who is doing the assessment[20]. Poor judgment and knowledge regarding health status and wrong examinations done by health care provides compromised usage of health care services, also there have been some complaints regarding exchanging health information between health care seeker and provider due to provider's attitudes[20]. Very limited literatures found in assessing evaluated needs in Yemen; a study done in rural Yemen on meetings women's health needs by midwives conclude that well-trained midwife can assess and address women's health needs and questions and that high-quality training is required in order for midwives to perform qualified services and fulfill women's health needs[39].

Effective communication is very important between healthcare provider and user in order to encourage them to use essential health services such as vaccination or delivery at health facility. Or after the first consultation, they can advice on further evidence based on further diagnosis.

4.2 Enabling Factors

These factors are the conditions that allow or facilitate healthcare users to access and use healthcare services. These conditions will be demonstrated as demand-side determinants; where factors influencing access and utilization of health care services are at individual, household or community level[40,41], and as supply-side determinants; where factors influencing access and utilization of healthcare services are from health system side[41,42].

4.2.1 Geographic Accessibility

Geographic access is an important part to access healthcare services in lower-middle income countries such as Yemen. Distance or travel time to health facilities is demonstrated to be as an important barrier to access; meaning that there is an inverse relationship between distance to health facilities and use of healthcare services[43,44].

Having good roads is very rare in rural areas in Yemen and they are required not only for people to go to health facilities but also to distribute drugs, vaccines, and other supplies to health facilities and for referrals in cases of

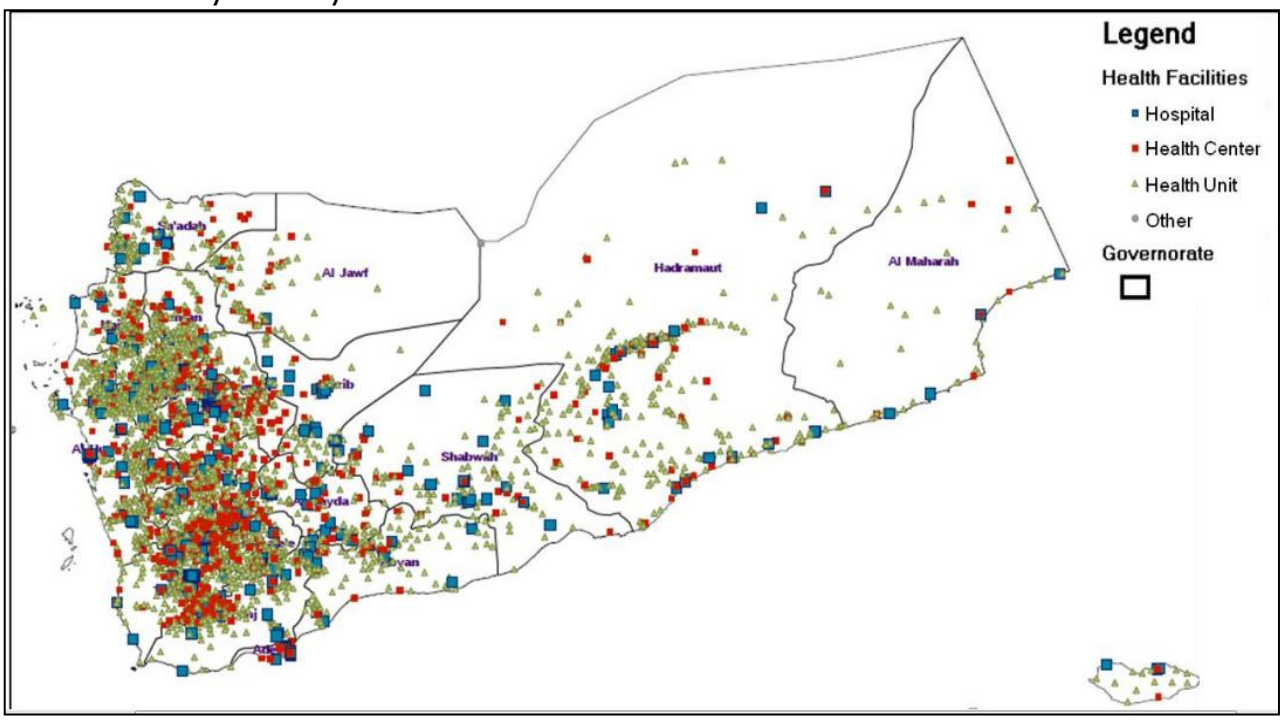
emergencies. As mentioned in the problem statement the majority of the Yemenite population lives in rural areas (70%) where most of it is highlands and about 12% of the roads are paved[45].

Supply-side barriers

Health facility location is an important motivator for people to access healthcare services[18,40]. Remote health units or centers will require people to spend more time and more money on travel expenses and this is considered as burden especially for the poor, and they will miss out on important services such as immunizations. Existing health facilities are relatively evenly distributed across the Yemenite population compared to other developing countries[46]. Despite that they are evenly distributed in terms of location, there are still issues of lack of proper infrastructures, lack of health personnel and essential equipments[46].

Health facility assessment done by USAID on five major rural and semi-rural governorates in Yemen, Marib, Sa'dah, Shabwa, Ammran, and Aljawf, found that public facilities are distributed across the population but are often lacking of infrastructure such as clean water; where it was only available in 58% percent of these facilities, sewage systems, electricity, and telephone lines[47]. Figure 6 shows the distribution of different types of public health facilities in Yemen.

Figure 6: Distribution of Health Facilities across Yemen. Source: USAID Health facility survey 2005[47].



Demand-side barriers

Peter et al considered means of transportation available and the indirect costs to household in terms of transportations are demand-side barriers for the geographic accessibility dimension[18,40,42]. Cost of transportation varies and it is also based on the mean of transportation available, the more advanced mean of transportation, the faster the journey, and the most expensive[48].

Means of transportation to access health facility in Yemen vary; people could drive, ride with family member or friend, transit, taxi, or use animals such as donkeys or horses, and walking. People who rely on only one mean of transportation could have difficulties in emergency cases, for instance, relying and waiting for a ride from a family member or a friend could face difficulties during labor time[26], also a person who is driving themselves could also face difficulties if their health condition is poor and unable to drive.

There is no study found in the literature review regarding distance from household to health facility and utilization of healthcare services, however, Local study in Bangladesh showed that long distance to health facility is associated with reduced access and utilization of health care services and lack of transportation means and cost are the major challenge to get to the facility and the cost of transportation comes as the second most expensive cost after treatment and most health care seekers prefer to go for one-way trip rather than round trip[49].

4.2.2 Affordability

Affordability or financial accessibility is considered to be the most important determinant of access and utilization of healthcare services and it is associated with poverty[42]. It involves direct cost of healthcare services and indirect cost that accompany healthcare services such as cost of transportation and food[18], which in many cases can discourage the poor from using the services because they cannot afford paying these cost and that could lead them to spend high proportion of other household finances (catastrophic spending) or making them borrow money or selling assets (distress financing) both which will push people to have debts and deeper poverty[50,51].

User fees have been a major source in financing public healthcare services in developing countries since the governments have not been able to allocate adequate resources to its health financing system[18,52,53].

Demand-side barrier

An evaluation study was conducted in 2002 to assess the effect of cost sharing scheme found that in Alsabeen hospital for maternal and newborn health, where fees were introduced in 1995; utilization rates for neonatal and maternal services reduced[54]. Another study in Aden polyclinic reported that attendance and utilization rates had dropped after introducing the fees[54].

A study in Aden done addressing the effect of fees on the poor people's attendance at health facilities shows that about 27% of the poor cited "no money for transport" as the main reason for not using healthcare services and fewer mentioned that the fees of service was too high[54].

Alshaibani did an analysis of the use of MCH services before and after the introduction of cost sharing scheme and concluded that there is no effect on the utilization of preventive services and that in the case of hospital care in particular fees tend to be a huge barrier for nit accessing and using service care which affect the poor[55]. Also he concluded that visible improvement of the quality of healthcare services tends to increase utilization of these services and people want to put their money in the best possible value. In contrast reports from Hodidah governorate showed that the utilization of preventive services fell after introduction of the fees[56].

In the two highly populated areas in Yemen, Taiz and Sanaa, it is found that up to 70% of illness left untreated and neglected because it was too costly to continue care[54]. The obvious reasons for seeking health care were illness, which accounts 80-97%, and accidents[57]. However, the reason for not seeking health care and not continuing treatment is the cost.

Hospitalization is considered to be a catastrophic event for most population. About 30% of hospitalization rate in Raimah districts entailed selling off assets and households have no means to protect themselves of getting the risk of such catastrophic event[54].

Pharmaceuticals play a role on adding to the cost of health care services in Yemen. In rural Sanaa, for instance, pharmaceutical costs take from 43% to 72% of the total payment compared to only 20%-42% of the total cost in other MENA region countries[57]. A study done in Taiz, the second most populated city in Yemen shows that medications count for up to 49% of the total expenses per health visit and up to 32% of expenses on food for patient and transport[57].

On the **supply-side barrier**, Peters et al and Ensor and Cooper suggested that costs and prices of services including informal payments belong to the supply-side barrier[18,40], however, no study was found to illustrate this in

Yemen. The supply-side barriers sort of overlap with the demand side, it is found that the second major cost component that health care seeker face is out-of facility costs or indirect costs; these costs are mainly food and transportation costs and could play role in not continuing treatment[57].

4.2.2 Availability

Peters et al defines availability as "having the right type of care available for those who need it"[18]. He also provided a framework on how we can assess availability of services based on some aspects such as waiting time, unqualified health staff, motivation of health staff, availability of drugs and some consumables[18,42].

Availability and access to quality health care services have an effect in all aspects of individual's health. Supply side plays a major role in this part of access more than the demand side.

Supply-side Barriers

Some studies conducted in different parts of Yemen have given reasons and association between availability and low access and utilization of health care services, for instance:

- Poor staff qualifications considered to be important reasons for not using health care.

- Lack of motivation: health care providers lack motivations because of low salaries, lack of updated training, and not getting appreciated by their seniors. This leads sometimes to demand informal payments from health care users and also not willing to work effectively[57]. Unfortunately, the lowest salary and incentives schemes in Yemen are for health care providers and teachers.

- Waiting time: a study shows that health care users have to wait for quite long time to be seen by health care provider; this is probably due to lack of health care personnel as one health provider is swamped with patients and other administrative and desk duties such as reporting, filing etc[58]. The biggest concern is in emergency cases where the patients have to wait unnecessarily.

- Pharmaceuticals quality is poor. This is due to poor planning and supply of adequate drugs and this leads to stock out[57]. People sent to private pharmacies which most of the time cannot afford.

- Lack of necessary equipments: study shows that health care users have to go outside the health facility to get some medical checkups such as laboratory tests and X-Rays[58]. The reason for that is most of health

facilities, especially in rural areas; do not have these equipments or the competences to do so. These checkups are fairly expensive and health care user cannot afford them which results that they do not continue with checkups and go home[58].

On the **demand-side barriers**, Peter et al suggested that information and education are the aspects of availability[18]. Knowledge and information on health care services should be available for health care users in order to access and utilize these services. Not sharing information with health care user about their conditions and suitable treatment considers being one of the factors that hinder access and utilization of health care services. Health care user's knowledge and education is a positive thing in this category to allow them to continue treatment after getting checked and return to facility if further complication may occur. Providing information to health care user is a right; to make them know what they really have and to make them aware of all possible ways for treatment. This will increase satisfaction and trust between health care user and provider.

In Yemen, bypassing of public facilities for outpatient care occurred frequently in rural areas. Despite the preference of healthcare user for nearby services, and despite their perception that the majority of nearby facilities were less expensive than the ones they accessed because they do not intend to pay large amount for transportation, between 42 to 73% of households bypassed these facilities for private facilities[57].

4.2.4 Acceptability

The concept of acceptability of healthcare services is whether health care services are in line with cultural norms of health care user[59]. This part is mostly related to quality of health care services and perception of health care services from demand-side or user's point of view[18].

Health care users have different expectations from providers[18]. Measuring acceptability is quite difficult in developing countries since it differs based on country context and people subjective appreciation.

Healthcare providers' attitudes considered to be important reasons for not using health care. A study done in Hodidah governorate showed that health care users do not seek health care from newly graduated doctors because these new doctors lack of experience[60]. Also another reason is that some health care staff has rough attitudes towards poor people especially in rural areas.

> *" the way they treat us is not good, not human at all.. They treat us as beggars'".*
>
> ***Female health care user in Hodidah.***

Since the attitude of health staff is poor, this will then be reflected on the quality of health care services provided.

There are no further studies regarding the concept of acceptability of healthcare services in Yemen found in the literature review, however, a study in Bangladesh done to demonstrate patient's perceptions of quality of services can be more important factor than prices to access and use healthcare services[61]. In my opinion, some aspects mentioned in the availability dimension such as waiting time, staff's attitude, and bypassing public health facilities and go to private facilities can contribute to the acceptability dimension.

Recently the ministry of health in Yemen has conducted a monitoring study of whether disadvantaged groups such as poor and women are using basic health services or not as well as if they are satisfied with these services. The results of this study are not up yet.

4.3 Predisposing Factors

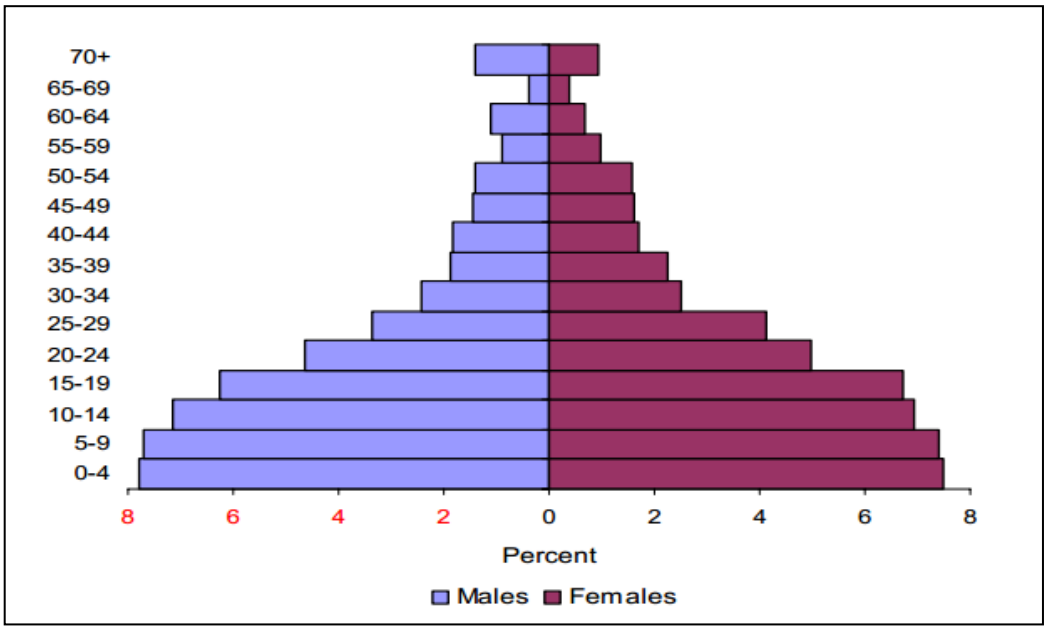
Predisposing factors are the factors that are already exist prior the illness[20].

Age

Age is a factor for vulnerability, as for children under five years or elderly since they are vulnerable for infectious diseases at young age and chronic diseases at older age[62]. Teen age is a health determinant for risky behavior such as engaging in sexual activity, alcohol, drug use, and smoking. Age can be considered as a determinant of health, demography, or social development on its own or integrated with other factors[62].

The Yemenite society is considered to be young, 42% of the total population is at the age of 0-14 and the active proportion of the population whom age is between 15-64 represents 54%[2].

***Figure 7*: Age and sex distribution among Yemenite Population. **Source**: MICS Survey[23]**



The relationship between age and utilization of healthcare services is based on type of service. For example immunization services tend to be received by children and chronic health services by elderly. There is no study conducted in Yemen to show the relationship between age and access and utilization of healthcare services, however, in India elderly tend to use informal health care, home and traditional remedies, and go to traditional and faith healers[63] this is not necessarily due to economic reasons but it is out of habit and personal believes and attitudes[63].

Early marriage is very common in Yemen; girls in some parts in rural areas are forced to get married at early age even before reaching puberty. As mentioned in chapter 3, 27.7% of Yemenite women use contraceptive methods; adolescents are less likely to use contraception than older women[23]. Only 1 in 10 married women age 15-19 use one method of contraception compared to 25% of women age (20-24 years old) and 35% of women age (35-39 years old)[23]; so there older the woman is the higher the chance she uses a contraceptive method.

Education

Like any other determinants, literacy is and indicator to access and utilization of health services and it is tied also with other determinants such as income and gender. Adult literacy rate in Yemen is 60%[2]. In some studies conducted in Yemen it is shown that female illiteracy rate is up to 70% in

rural areas and for male is 30%[2,12], this is understandable since the majority of population live in rural areas and also an indication of high maternal mortality. A study conducted in Yemen showed that there is a positive relationship between women's educational level and utilization of antenatal care services; the higher the educational status of the woman, the higher the chance she demands for services[23,24,26].

MICS survey showed that children who were born to parents who had basic education were still likely to receive all required vaccinations compared to children with parents who had no education[23]. Also the survey showed that over half of the women with higher education received tetanus toxoid vaccine compared to only 35% of women with basic education[23]. Another finding is that education is positively associated with use of contraception; 43% of currently married women with higher education use contraceptive methods compared to 23% of married women with no education[23].

Gender

Gender is defined as the different role, behavior, and expectations that are placed upon an individual by the society and influenced by culture, based on their sex however, does not always refer to the biological differences between a man and a woman. Yemen continues to rank worst (130th) in the global gender gap report[64]. Gender inequality between women and men act as barrier for women to access and utilize healthcare services[65].

The typical ideology in Yemen is that a man is the head of the household and the woman has to take care of children and all house-related chores, especially in rural areas. This give the woman very limited access to use financial resource if she wants to use healthcare services. Also, as mentioned earlier women's needs to seek professional healthcare are put aside in the presence of other member's need.

Yemenite women tend to use health care services that are offered by public facilities because these tend to have Maternal and Child Health Services which are free and also because the public facilities are relatively closer to their home and these MCH services are run by female doctors. However, women's access to health care has further constrained that is due to cultural norms, especially in rural areas, that a male escort should be with the woman and should be seen by female health workers ONLY who are not easily found or available, in most cases if these conditions are not met, the woman tends to return home without getting the proper care[45,58].

There is no study found in the literature review showing the difference in utilization healthcare services between men and women in Yemen, however, a study done in India showed that there is difference in seeking medical

treatment and vaccinations for family members, for instance male children tend to be treated and vaccinated before female children[66].

4.4 Environmental Factors

These factors illustrate healthcare system and external environment factors including political, macroeconomic, and socio-cultural factors of the country.

Health care System Factors

These factors explore national health policies and strategies and show whether the concept of access and utilization of healthcare services is well-addressed in them. Generally national health strategies should underline determinants of access and health service utilization based on the needs, enabling, and predisposing factors.

Yemen adopted Primary Health Care approach in 1978 on the same year of Alma Ata conference and included it in its national constitution that "all citizens should have equal access to free PHC services"[67]. The national health strategies are made in line to achieve national and international health targets such as Millennium Development Goals (MDG), however, the progress towards achieving health-related goals are poor especially for maternal and childhood health[34].

Ensuring access and utilization of healthcare services are mentioned in all national health policies, however, the 'how' component in these policies is missing and they do not tackle their factors.

The main issues that the health system suffers from are; insufficient fund, absence of human resource strategy and shortage of health personnel, weak health management and information system, and poor coordination with governmental sectors, private sectors, NGOs, donors agencies, and communities.

External Environment Factors:

Macroeconomic factors

Yemen faces challenges in maintaining sustainable economic development. Poverty, high unemployment rate, and non-functional financial reform all are indicators for weak macroeconomic system. High out of pocket expenditure and indirect costs that accompany accessing to health care services add burden to household and affect health outcomes. Please refer to chapter 1 for more details.

Political and Security Factors

Yemen has gone through several periods of political instability which have had influence on healthcare system. This influence can be concluded that the government allocates only 4.5% of its national budget to health compared to almost 20% to military and defense. The current security situation in the country and the constant terrorism threats have major impact on access and utilization of healthcare services in some areas in the north and result in low health services coverage. Moreover, health personnel are unable to reach those areas where the need for health care is high and the ability to provide is low. Please refer to chapter 1.

CHAPTER 5: DISCUSSION

Standard indicators for maternal health, immunization, use of family planning, treatment of childhood illness and treatment for communicable diseases such as malaria and tuberculosis are set indicators to measure the utilization rate of essential healthcare services. As it is shown from available country data and findings of this study, there is a low utilization these services which put Yemen in a challenging position to achieve universal health coverage.

Andersen's framework that was used in this study helped in demonstrating several factors that contribute to this general low of access and utilization of healthcare services. These factors can be related to demand-side such as needs and predisposing factors or can be related to supply-side such as environmental factors or be related to both such as enabling factors.

There are several aspects that contribute to the needs of people. These aspects related to society, religion, and culture where people come from. Needs factors are considered to be the first step and the most important factors to access and use health care services because people *may* have all other factors sorted or available but if they do not know and understand the reasons behind accessing and using these services, then they will not use it.

After realizing the needs factors from both side prospective, the health care user's prospective and health care provider's, then enabling factors come into consideration. Four dimensions are proposed to demonstrate the enabling factors; geographical accessibility, affordability, availability, and acceptability of healthcare services. In terms of geographical accessibility and service locations, the government of Yemen has been committed to build health facilities where most population live, however, we must acknowledge the fact that although there is an even distribution of health facilities across the population, there is severe shortage of essential health services resources such as equipments and health staff in most of these facilities, especially female health staff. Nonetheless, effort should be made to ensure that all these areas are serviced by range quality of healthcare services as necessary by the government.

Improving the availability of essential health services such as hiring more healthcare providers, buying more drugs and supplies and make them available in all health facilities is one way to improve the quality of healthcare services, however, this method requires a lot of resources[60]. Another way to improve health services quality is by improving skills and capabilities of existing healthcare providers. Due to shortage of fund, MoPHP faces a challenge in implementing a health services quality management

strategy which will be very helpful in setting standards and monitoring of current quality of health care.

WHO encourages countries to take crucial steps towards the achievement of universal health coverage, which mean providing all people with access to qualified health services without having financial hardship[68,69].

The most important finding in the enabling factors is affordability or financial accessibility. The low government share in health and high out of pocket expenditure for health show an excessive burden placed on Yemenite household to access and utilize health care services. A further indicator that was found to the lack of affordability is that it is necessary for the household to borrow money or sell off assets in order to continue treatment, and most of the time healthcare users do not continue treatment because it is too costly and therefore their health needs are not being met.

Introducing cost-sharing scheme in the form of user fees has not solve the financial burden that household has when they access healthcare services. The current cost sharing scheme that is applied in Yemen needs to be reconsidered by the government and structured in a way that healthcare services become less affordable. If this current scheme resulted in providing better healthcare services and make them available for all population especially for the poor and people living in rural areas then it will have resulted in better healthcare outcomes.

Indirect costs such as food, accommodation, and transportation cost also add financial burden to the household and can be reduced by ensuring adequate healthcare services closer to where people live especially in rural areas and this will encourage greater utilization of services. A method that is called " bringing services to people"; the government was very successful in bringing immunization services to people in all over the country by outreach activities and extensive immunization campaigns which increased immunization coverage more than 85%. However, government should ensure adequate level of security in some conflict places so people can access freely those services. Currently there are undergoing discussion with government of Yemen, WHO, and UNFPA on how they can do such similar method for maternal and reproductive healthcare services.

The government needs to increase its share and allocate more resources to healthcare to relief financial burden that population face when they access healthcare services. Yemen agreed on the 2001 Abuja Declaration and needs to follow all its terms to "set a target of allocating at least 15% of their annual budgets to the improvement of the health sector"[59]. This can be done by using current additional resources and effectively redesign them towards health. Several developing countries such as **Rwanda** and **Republic of**

Tanzania[70] have had followed this step and some countries such as **Chile** has allocated 16% of its government share to health[68].

There are several reasons why Yemen, does not prioritize health sector and allocate for it very small share; these reasons are political especially in countries where security is an issue and government needs to allocate the largest share in it. Another reason is that is that Ministry of Finance does not see healthcare services as effective so they allocate the smallest share to it. The government needs to prioritize health and treat it as national security and important issue and should care about the health of their people.

Government needs to redesign aspects in its health financing system to ensure financial protection and equity to its population. Such financial protection scheme is introducing national health insurance scheme. Yemen has established solidarities and local associations overtime for teachers, fishermen, lawyers, farmers, accountants and medical staff. In addition the government started deductions from salaries for health insurance and still not health insurance benefits are return[71]. Several developing countries have tackled the issue of affordability in order to increase access and utilization of healthcare services. One of the best examples found is the introduction of mutual health insurance scheme in **Rwanda**.

Rwandan's population is enrolled in one of the three health insurance schemes. The first one called *Rwandaise Assurance Maladie* which is a compulsory social health insurance for government employees and their families. The second scheme is the *Military Medical Insurance* which is a scheme for military personnel and their families. The third scheme is called *Assurance maladies communautaires* which is an insurance for people living in rural areas and work in informal sector[72]. Studies show that this mutual health insurance scheme has expanded over the past decade and currently it covers more than 80% of Rwandan population[72]. 50% of the funding resource for this mutual scheme comes from members premiums; the rest is subsidized by government through tax revenues and donor fund. Still the Rwandan population has to pay some of the health costs out of their pockets since the mutual insurance scheme does not comer all health services.

Financial risk protection study showed that this mutual scheme has positive impact and strong increase in access and utilization of healthcare services[72]. Government has increased their support for health and there is a noticeable decline in child mortality due to increase use of healthcare services.

There are some challenges in developing this mutual insurance scheme such as making services more affordable for the poorest group, increase healthcare services provision, and ensuring the best quality of care.

Predisposing factors have low mutability such as age and gender[20]; which means that age and gender cannot be changed in order to increase or decrease utilization of healthcare services. Health belief and knowledge, on the other hand, can be changed and affect utilization by proposing health education and awareness[20,41,42].

Gender and age-related differences are small but still exist. Based on availability of services both women and men access them and use them. Males are more likely to walk to health facility whereas females are more likely to use transportation such as car or taxi and to be accompanied by family member. In my opinion, gender variable in access and utilization of healthcare services is not as important as other variables such as economic status and geographical accessibility. The cultural explanation behind this is that women from wealthier families in Yemen can use healthcare services more and without any constrains than women who are considered poor and the same explanation goes for men.

Knowledge and educational level of individuals has clear effect on healthcare seeking behavior and utilization of healthcare services. The more illiterate the individual is, the lower their perception to seek care and the lower the level of household expenditure.

The numbers of health related surveys were carried out mostly with external assistance such as Family Health Survey (FHS) 2003 and MICS survey 2006, however, in the MoPHP there is unified database available to use for decision-making[73]. Data allocated in health facilities are not accurate and sending of statistical reports from district, to governorate, to central level is not regular[73]. Many other problems face Health Management information system such as lack of supervision, lack of sufficient training, and lack of financial support.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

Based on the literature review and available data, the author concluded that there is a low utilization of essential healthcare services such as maternal and reproductive health, child health, and disease control services. Different factors influence this low in access and utilization of healthcare services. Using the conceptual framework helped in analyzing these factors both from the demand and supply side.

Needs factors are the starting point for using healthcare services since it depends on how people first view their own health status and whether they need to seek for professional help or not. The most important finding in the enabling factors is affordability or financial accessibility; high out of pocket expenditure place financial burden on households, especially the poor who most of the time have to borrow money or sell off assets in order to continue treatment which contribute in pushing people into poverty hence, government needs to allocate more resource to health care which will help in improving quality of healthcare services.

There is even distribution of health facilities among population in terms of location, however, some of these facilities in rural areas lack of essential infrastructures such as clean water, sewage systems, and medical supplies. There is weak distribution of health providers in rural areas, especially female health providers.

National health policies need to address the component of access and utilization of healthcare services in an effective way. So government is required to collaborate with all sectors, (health, education, infrastructure, social affairs, environment, finance etc) to implement existing health policies.

6.2 Recommendation

The recommendations are based on priority areas that will help in increasing access and utilization of healthcare services and help to increase utilization rates for essential health services in Yemen.

General Recommendations:

- The government needs to allocate a larger proportion towards health care as per the agreement during the Abuja declaration.

- As community participation is a key to address health issues, the government should involve them in planning and implementing of health activities.

- The government should consider applying health insurance scheme since Yemen has already started making the first steps for it.

- Provision of specific courses on health ethics to healthcare providers. and learn that health is a human right and should be served to everyone.

- Provision of in-service trainings to health care provider to improve their capacity and skills.

- The government should strengthen health promotion activities in order to encourage the use of preventive services.

- The government should strengthen the existing integrated outreach activities as it tackles the issue of geographical accessibility cost of transportation.

- The government has to improve health facility infrastructure such as sewage system, provision of clean water, and establishment of communication system.

Recommendations for Future Research:

This study provides basic information about factors influencing access and utilization of healthcare services in Yemen based on literature review and available data. Research should be done based on primary data to explore these factors further and update current health indicators.

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