Determinants of Urban Health in Selected Towns of Ethiopia

A Collaborative Study between

Addis Ababa University / School of Public Health

and

John Snow, Incorporated (JSI) / Strengthening Ethiopia's Urban Health Program

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November, 2015

Addis Ababa, Ethiopia

ACKNOWLEDGMENTS

Several people and institutions were involved in this study. However, the contribution of some was particularly useful. Thus, we would like to thank Israel Mitiku for his facilitation throughout the process, representatives of town administration who helped us during the identification of study settings and data collectors who dedicated their time at times off working hours to generate relevant information.

We would also like to thank all those who participated in the study and provided us with their candid responses to the questions we asked. The team would like to acknowledge and appreciate the study participants for sharing their experiences. Finally, the team duly acknowledges and appreciates financial support from JSI UHEP and the School of Public Health for facilitating timely response to our financial requests.

ABBREVIATIONS /ACRONYM

AIDS	Acquired immunodeficiency syndrome
ANC	Antenatal Care
EDHS	Ethiopian Demographic Health Survey
FGDs	Focus Group Discussions
HEP	Health Extension Program
HIV	Human immunodeficiency virus
IDIs	In-Depth Interviews
JSI	John Snow Incorporated
KIIs	Key Informant Interviews
NCDs	Non Communicable Diseases
SDH	Social Determinants of Health
SSA	Sub Saharan Africa
STDs	Sexually Transmitted Diseases
TB	Tuberculosis
UHEP	Urban Health Extension Program

ABSTRACT

Background: Although Ethiopia is one of the least urbanized countries in the world, urbanization is increasing in alarming rate. Whilst urbanization is associated with increasing prosperity and good health in general, urban populations demonstrate some of the world's most prominent health disparities. There is a complex interaction of various determinants of health, including insufficient infrastructure and services that particularly impact the health of the poor and slum dwellers. However, there is limited evidence to inform plans and strategies that aims to improve urban health in Ethiopia. Thus, this study aims to explore the social determinants of selected health problems.

Methods: A qualitative study employing focus group discussions and in-depth interview was conducted in six purposively selected cities including Adama, Dire Dawa, Hawassa, Debre Birhan, Gondar, and Mekelle. FGDs were conducted with a total of 150 community members as well as 40 in-depth-interviews with stakeholders and 15 case studies were completed with different section of the population residing in the selected urban quarter. Data so collected was coded and categorized manually and analyzed using thematic content method.

Result: Finding shows that it is not only people who are vulnerable, but also places. While factors of vulnerability for places include overcrowding, being hub of in-migrants and transistors, lack of basic facilities including such amenities as water, electricity and private houses as well as weakened social controls and restraints. Different groups of residents such as daily laborers, Female Sex Workers, students living away from family, widows, separated and divorced women, those who work in restaurants and engaged in petty trade were found to be relatively more vulnerable to HIV infection as well as maternal health problems. It was also gathered that these same section of the population were not using available HIV and maternal health services. Various reasons related to individual such as lack of awareness, competing priorities to generate their livelihood and cost of services; institutional factors related to availability of supplies and equipment as well as doubts on providers competence were found to affect decision to consider service use.

Recommendation: In every town there are settings that are found to be more vulnerable as compared to others and certainly there are population groups that are particularly vulnerable to the health problems that were targeted in this study. This study reveals that every urban need to be mapped to determine which section of the town is vulnerable so that authorities take appropriate action by organizing residents. Besides, this finding shows that vulnerability to specific health problems has roots in various sectors that requiring interventions by diverse sectors.

Vulnerable section of the population does not tend to use available services due to competing priorities and failure to give attention to the problems as much as generating their daily livelihood. Besides, health facilities are not well equipped and professionals are not as friendly as they are expected to provide the services. Thus, engagement of such people in economically gainful activities and provision of outreach services to such people where ever they are, improving availability of supplies and equipment in facilities and empowerment of providers may help.

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1. INTRODUCTION

1.1 Background

Following the population boom, cities become the predominant mode of living and the major challenge for public health in the 21st century[1,2]. Changes in urban setting is mainly occurred due to three concurrent occurrences: cities attract people from the rural area, slums will become home to the world's poor and rural area will change to the urban environment [1,2]. Consequently, not only proportion of urban is growing but also residents in urban setting has expanded.

An estimated 54% of the world's population is residing in urban areas in 2014. This proportion is projected to reach 66% by 2050 [3]. Although Africa and Asia remain mostly rural, with 40% and 48% of their respective populations currently living in urban areas, they are urbanizing faster than the other regions of the world. By the year 2050, 56% and 64% of the two continents are projected to become urban, respectively. With the current pace of urbanization, additional 2.5 billion people are expected to live in urban setting by 2050 with nearly 90% of such an addition occurring in Africa and Asia[3]. This means the currently close to 3.9 billion urban populations is expected to reach 6.3 billion by 2050.

1.2 Global Context of Social Determinants of Urban Health

There is no single definition of social determinants of health. However, for the sake of this study, social determinants of health refers to the economic and social conditions which are shaped by public policies that and distributed among the population to influence vulnerability to disease or injury instead of individual risk factors.

In urban terms, the social determinants approach seeks to improve awareness/education, employment, income, social networks and support, housing and transport that helps to improve the health of urban population. Such expectations however require engagement of various sectors to work together. While urban areas pose a major opportunity to improve health equity, higher levels of literacy, better access to services and high life expectancy[1,2,4], realities on ground especially how the urban setting is organized may have contributed to a growing gap

and inequity between the living conditions of rich and poor and disparities in access to services[3,4].

It is often the case than exception that rapid and unplanned urban growth threatens sustainable development especially when the accompanied necessary infrastructure is not developed or when policies are not implemented to address the demand of the urban population[5].

Even though health is assumed to be better in urban than in rural areas, due to relative access and information, this appears to mask the disadvantage urban residents live with. Consequently, many countries are not keeping pace with ever-expanding needs for infrastructure and services. Consequently, urban residents are facing multitude of social and economic problems making urban life challenging especially for the urban poor who are subjected to sub-standard living[6].

Today, more than one-third of the urban population in many low and middle income countries lives in slums and shanty towns[7]. Many people in such settings live in neighborhoods with little or no provision of education and health services, safe water supplies, poor sanitation and waste management and poor nutritional state. A 2007 analysis of child health outcomes in 47 developing countries found that the risk of stunting and mortality was on average 1.4 times higher in urban than rural areas while, in nine of the 47 countries, urban children from lower socioeconomic households had higher rates of mortality. In sub-Saharan African cities, children living in informal settlements are more likely to die from entirely preventable respiratory and waterborne illnesses than those living in rural areas. In Kenya, for example, not only are there marked inequities in under-five mortality rates within the city of Nairobi, but the rate is far worse in Nairobi's slums and informal settlements than in Kenya as a whole and its rural areas. Rates of communicable diseases such as HIV/AIDS, tuberculosis and malaria in Africa are the highest and with rapidly increasing urbanization in SSA, NCDs are on the rise[8].

Change in life style including unhealthy diets, obesity, sedentary lifestyles and unhealthy habits such as smoking, alcohol, substance abuse, cardiovascular and lung diseases, cancer and mental health problems, diabetes, hypertension, obesity, mental health problems, violence and increased burden of chronic NCDs[8].

1.3 Vulnerability to Health Risks: HIV and Maternal Health

Available studies seem to use risk and vulnerability interchangeably. However, vulnerability is the potential of being susceptible to risks of damage, suffering and death and risk is an outcome of threats/hazars/stressors is the potential for being exposed to and lack of meanses to cope with the threats/hazards/stressors[9]. For so long, vulnerability was defined on the basis of manifestations that were often defined or attributed to individual behavioral[10]. In the era of HIV, infection was documented as an outcome of individual behavioral manifestation such as awareness; attitude and skills[11]. Such risk targeted interventions often neglect the broader framework.

According to Robert Chambers, vulnerability is defined based on exposure and defenselessness with an external threat denoting exposure to shocks, stress and risk and an internal side reflecting defenselessness due to a lack of means to cope with the problem[12]. Failure to cope with problems according to this definition is attributed to the individual for getting physically weaker, economically impoverished and socially dependent, humiliated or psychologically harmed and the community's weak or nonexistent strategy to deal with such problems. Watts and Bohle framed the understanding of vulnerability into three interconnected factors that are believed to facilitate the understanding of vulnerability. These are: risk of exposure, lack of necessary resources to cope and being subjected to the consequences[13]. Several literature has since been produced to justify the fact that there are specific geographic settings, specific groups that are more at risk of exposure, lack the means to cope and are subjects to the outcomes of the threats[14-16].

In view of this, vulnerability to specific health problems or proxy indicators followed the same line of argument to identify social determinants of vulnerability to HIV infection as well as failure to make use of available maternal health services in selected towns in Ethiopia.

1.4 Ethiopian Context

Ethiopia is the second most populous country in Africa with a projected population of over 90 million based on the 2007 census[17]. Ethiopia is one of the least urbanized countries in the world, with an estimated 18 million (19%) people living in urban areas in 2014[18]. According to

the United Nations' Population Division report Ethiopia's population is projected to reach 187.6 in 2050, of which 38% of the population is projected to live in urban areas[19].

Although there is a paucity of data on urban health profile in Ethiopia, it is by no means exceptional than the situations in the rest of the world and Sub-Saharan Africa in particular. Health hazards such as poor housing conditions and lack of access to safe water and sanitation results in ranges of health problems in urban settings in the country. The triple threat of infectious diseases, NCDs and conditions, and injuries (including road traffic accidents) and violence are overwhelming concern in Ethiopia as well. The Ethiopia Demographic and Health Survey (EDHS) 2011 documented HIV as an urban epidemic where its prevalence is five times higher than the rural epidemic (4.2% urban vs. 0.8% rural)[20]. The Ethiopian urban settings are believed to be in an epidemiological transition where infectious communicable diseases and emerging non-communicable diseases are creating double burden to the urban residents.

1.5 Rationale for the Study

In Ethiopia, a great number of urban residents face hardships and inequalities in accessing health services and other infrastructures. The government of Ethiopia has recognized urban health challenges including the double burden scenario which is becoming a case than an exception and as a result the government has implemented urban Health Extension Programme (HEP). Yet, the fact that urban health is broad and complex, health extension workers could not address health problems found in urban settings [21]. In Ethiopia, anecdotes show that urban health is still not fully given attention and the health sector appears to carry the brunt of the problem. As part of USAID's commitment to meet the health needs of urban residents, JSI launched urban health program since 2013. One of the major gaps to meet urban health needs is lack of evidence on vulnerability of urban settings to defined proxy health outcomes identified for this particular study.

1.6 Significance of the Study

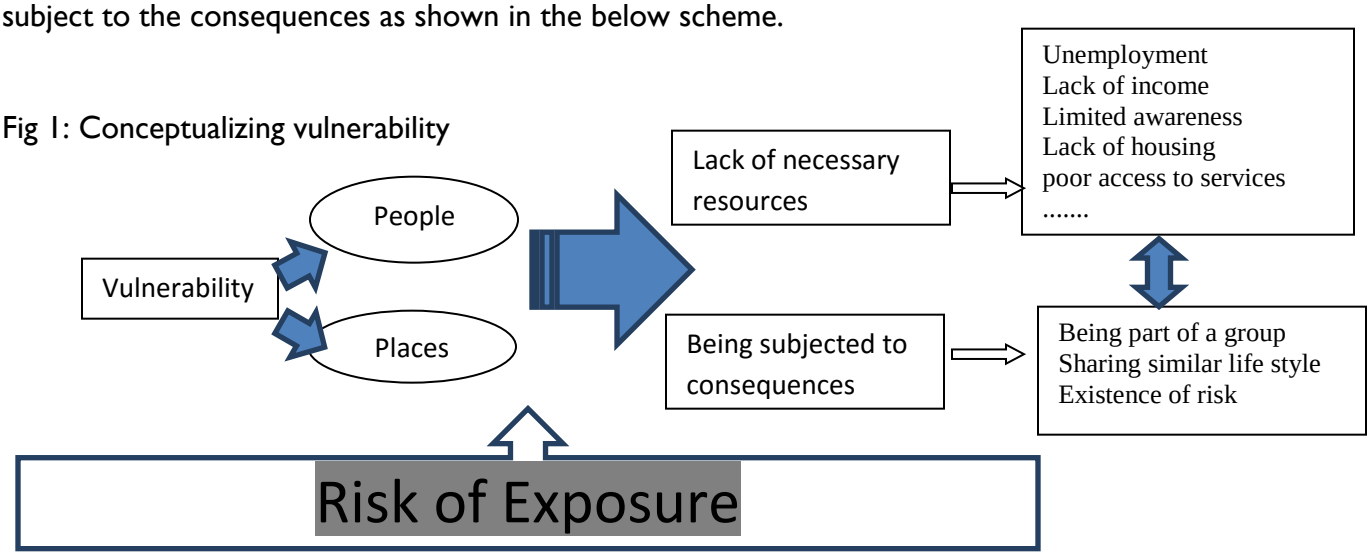
To improve the urban health problems, it is of paramount importance to address societal, individual and service related factors associated with utilization of available health services [1,2].

Therefore, up to date information on the social determinants of health in urban context is important as this help to design effective intervention measures and better understand the burden of health problems and the associated outcomes.

In Ethiopia, where there are no community level studies on the social determinants of major health outcomes, in this case vulnerability to HIV infection and non-use of maternal health services, the output of this study serve as a useful proxy and helps in identifying inputs for intervention plans.

In this study, vulnerability was studied in terms of people and places on the one hand and availability of resources as broader entity to social determinants making places and people subject to the consequences as shown in the below scheme.

Fig 1: Conceptualizing vulnerability



OBJECTIVES OF THE STUDY

1.7 General Objective

The study aimed to explore the social determinants of available health services utilization and explain variations in vulnerability to specific health problems within and between selected cities/towns in Ethiopia.

1.8 Specific Objectives

[1] Identify social determinants of utilization of antenatal care, institutional delivery and post-natal care

[2] Identify social determinants of utilization of HIV related services

[3] Determine the relative vulnerability to health problems among different towns/cities

[4] Explain variation in vulnerability in specific health problems among the different segments population in a city/town

[5] Draw recommendation for programmatic use as well as for future policy and strategic directions.

2. METHODS

2.1 Study Settings

The study was conducted in six selected town/cities of JSI operating sites. The towns/cities included in the study were: Dire Dawa, Adama, Hawassa, Debre Berhane, Gondar and Mekelle. These sites were selected based on the results of prior vulnerability mapping exercise. Selection of these towns based on relative ANC and skilled delivery coverage, prevalence of HIV infection and availability of resources.

2.2 Study Design

Explorative qualitative study design was employed since there has not been such study that has identified vulnerable section of the town and residents at least in Ethiopian setting. Such a design further helps to define who the vulnerable are and why.

2.3 Study Participants

Data was collected from city administrators at *Kebele* levels, community level opinion leaders, Urban Health Extension Professionals (UHE-ps), health care providers at health center level, NGO representatives operating in the selected towns, vulnerable section of the population who lack resources and are subjected to risks and selected individuals opinion makers in the community.

2.4 Methods of Data Collection

Prior to data collection discussions were held with town administrators to identify places where residents are characterized to use available HIV and maternal health services relatively less. During the discussion, town administrators were given hints such as places that are believed to have more HIV infection in the town, where people who are not using available services reside and broadly considered difficult in terms of service delivery. At least two places considered as vulnerable places were selected from the respective towns. Data was collected using focus group discussions (FGDs), in-depth interviews (IDIs) and case studies.

A total of 40 in-depth interviews (IDIs) were completed among health providers, nongovernmental organization representatives, program coordinators and health sector workers. A total of 20 Focus Group Discussions (FGDs) were carried out with a total of 150 selected community members. Moreover, about 15 case studies were completed with selected members of the community (those who are infected by HIV/AIDS, mothers who gave birth out of health facility). Participants for both the IDIs and FGDs were purposively selected based on their particular characteristics and willingness to provide consent prior to interview.

Participants were informed about the research before being asked if they would like to participate. Consenting participants were interviewed and tape recorded. Interviews were conducted by trained research assistants with experience in qualitative data collection. The guides included questions related to vulnerability and health service utilizations for MCH and HIV/AIDS services. Probing questions were included in the interview guide in case the responses of the participants are superficial and/or the answers are conflicting. IDIs lasted approximately 40 minutes and FGDs about 1:30 hours. Interviews were conducted using local language at a place that provided optimum privacy.

2.5 Methods of Analysis

The tape-recorded interviews were transcribed in local language and were later translated into English. Our data consisted largely of interview transcripts, focus group transcripts and field notes. Preliminary data analysis was carried out concurrent with data collection and reflected by the interviewer's field notes. Three members of the research team independently coded the transcripts using the word process and developed a codebook following the objectives and emerging evidences from the data. Accordingly, findings were categorized in to such themes and sub-themes (details in annex 2 and 3). Vulnerable persons, places and determinants of vulnerability and service use and reasons for non-use were identified as outstanding themes. Under each of the themes, sub themes were developed. Findings were categorized under such themes and sub themes. Transcripts were repeatedly looked to understand the data and identify emerging themes. Interpretations of results follow for the respective themes and verbatim were used wherever appropriate to substantiate findings in the view of participants.

2.6 Data Quality

The discussion guides were developed in English and translated into local languages and retranslated back into English to ensure its consistency. Data collectors were selected based on their familiarity with the local culture, fluency of the local languages and experience on qualitative research method. Research assistants, so identified, were trained on the data collection process. At the end of every day debriefing was carried out to exchange notes between data collectors.

2.7 Ethical Considerations

Ethical clearance was sought and obtained from the Research Ethics Committee (REC) of the Addis Ababa University. Official letter was taken from the University to the respective towns to obtain permission. The interviews were also carried out at confidential places where no one could hear what was being discussed. Participation was entirely voluntary and the participants were informed that at any time during the IDI or FGD they could decide to opt out. Participants received an explanation about the purpose of the study, invited to participate and asked to provide oral consent. The data was collected in places where privacy of the respondent could be ensured. Personal identifiers were not tape recorded and used in the report to ensure confidentiality.

3. RESULTS

3.1 Description of Study Participants and Places

There were 20 FGDs with a total of 150 participants, and 40 IDIs with stakeholders and 15 case studies with people infected with HIV and women who had no ANC, and/or facility delivery and/or PNC. The community members who participated in the FGDs were all 18–85 years old; the majority (38.7%) had completed primary education, and 32.7% were housewives. Only 18.7% were employed.

Table 1. Characteristics of participants in focus group discussions

Variable	Number (%)
Age group	
15-24	30 (20)
25-34	50 (33.3)
35-44	36 (24.0)
45-54	16 (10.7)
55-64	12 (8.0)
>=65	6 (4.0)
Sex	
Male	47 (31.3)
Female	103 (68.7)
Education	
No formal education	19 (12.7)
Primary education	58 (38.7)
Secondary	51 (34.0)
Tertiary	22 (14.7)
Occupation	
Housewife	49 (32.7)
Government employee	28 (18.7)
Merchant	23+19= 40 (26.6)
Unemployed	16 (10.6)
Daily labourer	6 (4)
Commercial sex worker	4 (2.6)
Student	4 (2.6)
Farmer	3 (2)

The study participants had different roles in the community such as one-to-five leaders, community leaders, youth representatives, health developmental armies, health workers and health officers. The living characteristics of the study participants in the selected cities are confined with crowded places, lack of sanitation and petty traders like local alcohol and hot drink which in turn creates favorable condition for undesirable health outcomes. Case study participants were non users for specific health indicators for selected health outcomes and all of them were women.

3.2 Vulnerability Assessments

3.2.1 Vulnerability to HIV Infection

Vulnerability to HIV in towns is generally the case in Ethiopia. Anonymous reports show that towns have more HIV infected people as compared settings. Similarly, the study towns were are believed to host more HIV infected people. However, within every town, it was found that vulnerability is not equally distributed since some section of the towns (places) and specific group of people are more vulnerable to HIV infection.

Vulnerable Places to HIV Infection

Evidence generated from all study settings revealed that vulnerability to HIV is not uniformly distributed in towns that were studied. There is specific section of the towns that were argued to be vulnerable to HIV infection. Characteristically, crowded places, quarters of the towns where residents live in rented houses, hot section of the town recognized as centers of entertainment, out-door places where people sleep (Ashoa-Meda in Dire Dawa) and semi-urban part of the town (Mekelle) were found to be more vulnerable to HIV infection.

Determinants of Vulnerability of Places to HIV infection

Crowded (slum) places of the town were argued as places where social established values related sexual engagement and relationships are broken and social restraints are abandoned. It was stressed that

"*The way we live makes it clear that girls learn sex-money transaction from their mothers as good practice and live as such as normal. This was shameful in our culture"* (Adama, CSW)

There were important notes that depict the fact that those who are living in crowded place share same rooms, common toilets and household utensils which are not decent. This is argued non-decent way of living in all the towns studied where women residents often wish to go out with men to get relief from such situations.

"We are living in a crowded house where 10-12 women sleep in a room. This is our routine life and going out with someone is a relief" (CSW, Adama).

Living in rented house also makes it difficult to maintain once pride especially in crowded place where social support networks are weaker.

"Since we live in a rented house you can't be sure when you will be thrown out for different reasons. You can also decide to leave any time you wish to. As a result, you do not care much about what others may say about you and your actions" (Female daily laborer, Gondar).

Sections of the towns where people frequently visit for entertainment are more vulnerable to HIV infection. Such places are visited by new comers to the town, rich people in town and married people who want to go out to entertain and are believed to be a melting point for widespread sexual transactions. One of the participants explained that

"This Kebele is hosting a number of commercial sex workers, it is a center of trade where people are living in crowded set up. At least 3000-4000 people come in and out of this Kebele every day for different purposes: looking for CSWs, do some other businesses, looking for brokers to get employment as CSWs or housemaids. This Kebele is a major hotspot for several problems including HIV" (Health professional, Adama).

"*Those young men who have money who were chewing during the day and who were busy on other tasks as well as those who were waiting for the night to arrive to make business meet in places where night life is hot*" (Housewife, Dire Dawa).

Semi urban sections of the town were identified as places vulnerable to HIV. Migrant workers and transistors to other areas stay in such places since house rent is cheaper and for someone who comes from rural set up or other part of the country it provides easy den. In couple of the cases, such semi-urban settings are located around military camp that brings people from different settings and with diverse interest together.

"Azezo is part of Gondar town where there are several military personnel who often stay away for longer while their wives stay in town, migrants to Matama also stay here for some time. Local drinking establishments are where such diverse groups of people meet" (HDA leader, Azezo).

Findings show that in crowded part of the town, several people share same room which makes life rather difficult but at the same time motivates residents to engage in life threatening activities

"A class room is divided into parts by carpet " shara" where the front part is used for selling "Arake and tella" while the other side of the class is used for commercial sex work which is dominant source of income" (Health professional, Gondar).

Despite relative awareness about HIV and prevention activities, there is a tendency to fail to appreciate that HIV is still a trait. Furthermore, condom use is also not consistent especially among CSWs who tend to negotiate condom use for more pay.

"CSWs more or less use condom with their costumers but whenever the customer agrees to pay more, engagement in sex without condom is obvious. They are interested much about the income rather than impact of the disease" (UHE-P, Dire Dawa).

Although it was not the case in other towns that were involved in this study, finding from Dire Dawa show that hot weather initiates sexual desire. As a result, house girls are

engaged in sexual activity with different men. "In our setting we see girls have more sexual desire which may have to do with the hot weather" (Housewife, Diredawa). Another women argues that "this is not unique to the girls, we all know women in hot places have more sexual desire which makes them engage in sexual activity with different men" (one-to-five network leader, Dire Dawa). The consequences of such sexual desire and subsequent exercise may contribute to increased vulnerability.

Vulnerable People to HIV Infection

It was gathered that research participants identified specific groups of people who are vulnerable to HIV. In all towns studied young people, women and men are vulnerable to HIV infection. Nonetheless, it was found that all young people, women and men were not equally vulnerable.

Of young people finding shows that unemployed youth, university students (Debre Berhane, Hawassa and Adama) and street girls were found to be vulnerable to HIV infection. Of women groups it was found that divorced, separated and widowed women, housemaids, CSWs, local drink sellers and daily laborers at construction sites were identified as vulnerable. Of men on the other hand, long track drivers, migrant workers (Gondar and Mekelle), daily laborers, rich men and brokers (*De'Lalalas*) were found to be more vulnerable to HIV infection.

Determinants of Vulnerability of Groups of People

Factors that facilitate vulnerability were categorized under the following key themes: Economic, social and environmental factors. The effects of each of these are detailed below.

a) Economic Factors

The economic position of individuals was found to positively and negatively contribute to individual's vulnerability to HIV infection. It was found that jobless individuals with no regular income, those who are engaged in transient job, small scale petty trade and consider oneself as source of income (CSWs and street girls), widowed, separated and divorced people were commonly argued as vulnerable to HIV infection. It was

discussed by all participants in every town that lack of reliable means of livelihood is critical factor that makes people to engage in risky venture take that may affect their health. As expressed by one of the participants

"When you do not have much to relay on for living, you tend to take measure that may affect your health. I am sure some of those engaged in sexual activities understand the implications but tend to take risks to survive for today" (Housewife, Hawassa).

Separated, widowed and divorced women were identified as vulnerable group. Arguments anonymously revealed that when the usual support from men is not there for different reasons, women do not have other options than generating income in all possible ways.

It was similarly argued that sometimes it is not lack of means of survival that makes people to engage in risky practices. Rather, the type of activity people are engaged in may as well create favorable opportunity for negative health outcomes.

"Those who are engaged in petty trade and particularly work in cafeterias have opportunity to get to know customers who may give them money in exchange for sex which may put them at risk of acquiring HIV infection" (HDA leader, DD).

It was argued that HIV is most severe health problem among those who are poor.

"As I mentioned earlier, majority of the residents in this Kebele are very poor living on petty trade such as selling tomato and onions on the street as well as boiled eggs and potato by moving around drinking places. These young girls are at risk since they normally are engaged in unsafe sex. This is becoming a normal phenomenon in this Kebele" (Housewife, Adama).

Furthermore, it was gathered that those who are in transition from one place to the other but stays in between may engage in short term – transient job. Such people are often considered to be at risk of encountering HIV. One of the participants substantiated this evidence that

"There are a lot of male and female who are on transit to Humera in search of job. Such people both male and female stay together in one house to minimize their cost of stay. In as much as some are engaged in sexual activities with locals, they also sexually mingle with each other. This is believed to increase their risk of getting HIV infection" (Health staff, Gondar).

b) Social Factors

Findings show that lack of local support at community level, getting away from usual support and oversight due to educational engagement, low awareness especially among non-educated, continued interest of men to have sexual outlet in addition to wife and rich people and returnees from abroad and have money were found to be engaged in frequent sexual activities that may put them at higher risk of HIV infection. Young people, especially girls want to get money and are engaged in sexual activities with the rich ones who give them money for sex.

"In our place with the opening of new university, young girls who come from other places are competing with regular sex workers and are actively engaged in sexual activity to earn money. I think this is because they are far from home and do not worry about being seen" (HDA leader, Gondar and UHE-P, Hawassa).

It is not only university students but also in-school house girls who go out with men for money.

"Girls are getting difficult to manage. They cheat their family and go out with men in pretext of going for study. This is now usual in our area" (HDA)

In places where usual restraints are not any more active, people tend to do what is usually abnormal

"Usually it is an acceptable for an older people to have sexual affairs with young people. This is no more the case. I know a woman who dates young boys because she returned back from Arab country and have money. No one knows whether she has HIV or not and imagine what this means to our sons who may fall prey to her" (1-5 network leader, Dire Dawa).

Similarly, it was argued that rich men are also at risk because they have money and can access women without much difficulty. A housewife in Hawassa stated that

"There are old men who are rich and come to our town just for sexual purpose. They pick young girls often university girls and this is almost getting common in this town" (housewife, Hawassa).

Among other social characteristics, religion was also particularized in several towns as a factor of vulnerability. It was found that followers of Christian religion are relatively more vulnerable to HIV infection as compared to Muslims.

"To me, more Christians are affected by the disease, I saw more Christians than Muslims which could be because the number of Christians in this locality is greater than Muslims" (Business women, Mekelle).

There was exception in Dire Dawa where participants argued there is no difference in terms of vulnerability. "Although Muslim community in our area does not consider VCT as an important practice, they are also equally affected by HIV" (Housewife, Dire Dawa).

3.2.2 Vulnerability to Maternal Health Challenges

Failure to use available maternal health care services such as ANC, institutional delivery and PNC were used as a proxy indicator for vulnerability to maternal morbidity and mortality. This may seem crude and difficult to ascertain level of consequent vulnerability. Nonetheless, anonymous evidence clearly show that good proportion of women die in connection to pregnancy, delivery and postpartum which could be averted with provision of ANC, delivery and PNC services. Unlike for HIV, in this case failure to use available services was not associated to specific places. However, who fails to use available services and face consequences reveals defined group of women.

Elderly and migrant women, daily laborers, housemaids, relatively less educated women, unmarried young girls and those girls who live on street were unanimously identified as most vulnerable groups to maternal health problems in all the urban settings involved in the study.

Determinants of Failure to Use Available Services

Finding from all study settings show that ANC and institutional delivery is not a major problem. All participants argued that changes are apparent. Currently, more women attend ANC and deliver in health facilities. However, there are still few who are not using available services.

It was found that those women who are older and are still getting pregnant and deliver tend to cherish established practices related to pregnancy, delivery and postpartum. A woman participant stressed that

"Why do you have to visit when you do not have serious health problem" (Housewife, Adama).

She eluded to the fact that pregnancy, delivery and upbringing children is normal. In as much as home delivery was taken as normal, looking for vaccination is considered as useful. However, it was argued that

"My reason for not seeking PNC is because I did not have encounter any health complaints. In our locality women are expected to stay at home for 80 days after delivery" (housewife, Debre Berhane).

Some participants argued exposure to wind and sun to affect the health of the mother as well as the new born. Lack of time and competing priorities makes it difficult for daily laborers those on migration from one place to the other and street children affecting consideration maternal health services. Besides, this group lacks awareness about the importance of such services also affect the use of such services.

"Those who come from rural do not have clear understanding about the importance of health care during pregnancy, delivery and postpartum" (HDA leader, Adama).

Informal discussions with street children in all towns show that they tend to discriminate themselves from the services. In as much as they lack appropriate

information about the services and how to access, they do not also feel providers indeed supports them.

"Street girls who get pregnant may not have someone to support them i.e., advise them to visit health facility and escort them to facility for ANC as well as during labor. As a result, they do not visit health facilities for ANC and deliver in the place where they are. The same is true for woman who attended ANC but have no one to help when she is in labor making her to deliver at home" (1-5 network, Mekelle).

Distance to health facilities is still a problem even in urban setting. There are suburbs in Mekelle, Dire Dawa and Gondar that host relatively poor members of the community who not only lack awareness but also cannot afford to visit health facilities. According to a respondent from Dire Dawa,

"Health extension workers do not reach out to women who live in relatively remote areas where transport including Bajaj is not easily available. As a result they are not getting information about the services and do not use available service as well" (Health professional, Dire Dawa).

The finding has also shown that friendliness of providers as well as the facility itself affects the decision to consider services provided at facilities.

"There are some health professionals who do not fulfill their responsibility. They do not respect mothers, do not give equal attention to all women giving better attention to those they know. If there is a health professional you know, you certainly get immediate and better service" (Business women, Debre Berhane).

Another woman felt that there is weak control over health service providers; "To make health professionals responsible and accountable, government should put in place strong control mechanism" (Housewife, Mekelle).

I think those professionals who disrespect and abuse women on labor are those who lack skill and knowledge related problems" (CSW, Hawassa).

This was further substantiated by the fact that providers fail to guide clients.

"We know, at the hospital health professionals return the mother back when she visit the facility for delivery. I know a friend who was sent back home with an appointment to come in few days. However, she delivered her baby in the vehicle on the way back to home" (Housewife, Gondar).

In addition to the above factors, it was found that immediate on set of labor and lack of ambulances was found to affect utilization of available health services. Finding show that at times labor occurs and immediately delivery occurs which does not give time to get to close by health facility.

"Labor is unplanned and we can take it as an emergency. Especially when it occurs in the night then it becomes difficult to seek professional support" (Housewife, Dire Dawa).

Although home delivery was found to have declined, there are still urban women who deliver at home.

"Labor is an emergency condition. If labor intensifies at home it is difficult to take the woman to health facility. Thus, home delivery may not be avoided. I know a young woman who recently delivered at home with assistance from TBA. Since her labor was fast, family and neighbors called local TBA who assisted her to deliver" (Member of HDA, Dire Dawa).

Availability of ambulance was identified as one major problem affecting service use. Even if there is interest to deliver at health facilities, it is not always possible especially when transportation is a major problem.

"At the onset of labor, we called the ambulance and realized it was not functional. There was no option other than delivering at Home (Housewife, Gondar).

There are many problems regarding ambulance. Not picking phone and failing to come in time are common problems identified in all towns studied.

"You call the ambulance and they rarely pick. Even those who pick takes them long to arrive. Meanwhile the women deliver at home as labor at times takes shorter" (Elderly women, Debre Berhane).

3.3 Service Utilization

3.3.1 MNCH Services Utilization

Participants anonymously argued that there are many changes in maternal health services since health extension workers started operating at village level. Such indicators are commonly argued to include more women seeking support from UHE-Ps and health care providers at facility level. Despite such changes, still women are not using available services.

Critical questions on who are not using available services and reasons for this were posed to participants. Available evidences form the field revealed that there are diverse sections of the population who were consistently found not to use available maternal health services.

Findings show that students, teenagers, HIV patients, daily laborers, commercial sex workers, house maids and migrants were found reluctant to use available services. In all cities involved in the study, social norms dictate that pregnant mother out of wedlock should not feel at ease to seek health care services in connection to pregnancy, delivery and postpartum. This is the case mostly among students, teenagers, housemaids and commercial sex workers. One of the participants reported that,

"Unintended pregnancy among students (high school, colleges or university) and housemaids is considered shameful and such people also feel embarrassed to visit health facilities. Daily laborers and CSWs also consider their pregnancy as wrong that that they do not tend to seek care at this time" (Housewife, Hawassa)

Those who are poor, who do not have support from parents, friends and/or partners do not use available services. Such section of the population often keeps their pregnancy secret until it comes out itself.

"For young girls, home maids, daily laborers and generally the poor getting pregnant is not considered normal. This is known by these people. As a result, they keep their pregnancy away and do not take it to facilities" (HDA leader, Dire Dawa).

Care during pregnancy for these people is not considered as a priority. One of the participants argued that

"For the poor it is the time they search for their food that they do not have time to waste on visiting health facility and waiting for the services" (petty trader women, Adama).

In addition to the poor, migrants from rural areas are not using available services. This is not only because they do not know where the service is available but also lack of pertinent information on why health facility should be visited while pregnant may not be known. A participant argues that

"Those women who migrate from rural areas do not know where to get services and more importantly do not have relevant education about pregnancy and delivery related dangers a women could encounter" (housewife, Adama).

It was gathered that the rich ones who have money and could afford prefer to go to private health facilities instead of public health center or hospital.

Reasons for Non-Use of Services

Finding on common reasons of not using maternal health service was documented to be associated mainly to personal characteristics. Besides, there are some other reasons that push potential users away from the services as detailed below.

a) Personal Reasons

As shown above, failure to use available services are attributed to fear of shame, weakened social capital to support those in problem and opportunity cost in connection to seek services. Besides, doubts about the capacity and friendliness of service providers were identified as major reasons for not using available services.

"A girl who is a student and lives with her parents find it difficult to tell her parents about her pregnancy. In fact such girls tend to seek support to abort instead of getting care" (Nurse, Gondar).

Another woman pointed out that

"It is unthinkable for a daily laborer, street girl and sex worker to neither seek support from health facility during pregnancy nor deliver in health facility. There are two reasons for this. Firstly the feeling of guilt and shame about it and secondly lack of time to dedicate for check-up and lack of resources even to pay for transportation" (HDA leader, Hawassa).

Lack of information about reasons on why to visit health facility during pregnancy and why to deliver in health facilities on the one hand and when to visit were not known by this section of the population. Although awareness about ANC and institutional delivery is recognized to have improved, awareness about PNC remains generally limited in all study sites. Limited awareness complemented by cultural belief that women should stay in-door after delivery was found to play important role in making PNC use relatively weaker in all the towns studied.

Thus, it was clear from the finding that personal level reasons play role in whether women tend to use available maternal health services.

b) Institutional reasons:

It was found that use of available maternal health service is compromised by reasons at facility level. Reasons at facility level were attributed to facility's organization and its human resources. How facility was organized was argued to be related to lack of

equipment and supplies. Participants anonymously argued that public facilities are poorly organized in terms of supplies and equipment as compared to private facilities.

"Health center in this village is meant only for those us who cannot afford to pay for the service. The rich ones actually visit private facilities since they provide better care" (Housewife, Dire Dawa).

It was argued that public health facility do not have all supplies and equipment necessary to care for pregnant and laboring women.

"They [public health center] refer woman for ultrasound and other laboratory to private health facility. This is expensive but we do not have other option" (Housewife, Hawassa).

Another participant stated that,

"We took a fried to the health center for delivery. However, we were asked to bring bed sheet and buy glove. This is a serious problem" (Merchant women, Adama).

Such factors affect the decision women may make to visit health facilities in connection to pregnancy and delivery. In as much as availability of supplies and equipment is a problem, how providers deal with clients at facility level was found to affect the interest to consider visit to health facility. Firstly, providers were consistently blamed in all towns for their rude management of clients and for their failures to provide appropriate guidance.

"These nurses do not give you attention. While you are suffering during labor, she does not care much and do not have sympathetic attitude" (Housewife, Adama).

Participant from Gondar noted that

"*The nurses are young themselves and do not know what it means to go through labor. They shout at laboring women who is in pain. For me they give you more pain than expected help"* (Housewife, Gondar).

It was consistently doubted 'if providers are equipped with required knowledge and skills on how to deal with a woman who comes to seek their support'. Although ambulances were found to be available and running in all towns assessed, participants unanimously argued that ambulances are not providing transportation services when needed.

"When you are in labor, you need immediate response for your call of support. Ambulance drivers do not pick their phone and at times they switch their phone off. We were educated that ambulances are available 24 hours which is not true" (HDA leader, Adama)

3.3.2 HIV Related Service Utilization

HIV related services include use of information, VCT and ART. Majority of participants reflected that VCT and ART service utilization has increased although availability of information and use has declined over the years. Although use of VCT and ART has increased, there are still evident problems. To date there are groups of population in towns that are not considering such services as further elaborated below.

3.3.2.1 Information about HIV and Services

It was anonymously argued that information on HIV is not as extensive as it used to be several years. Participants in all towns argued that information about HIV is not consistently provided.

"*There are residents in our village who are positive and are on medication. These people are engaged in sexual activity with others instead of teaching people. I feel they are not aware of their responsibility nor members of the community are aware of prevention mechanisms since there is no education on HIV now a days*" (Business Women, Gondar).

Level of fear of HIV has also declined over the years. People consider HIV as any other health problems.

"*These days, the community does not fear HIV since no one including media speak about it. As a result especially the young are engaged in risky sexual practice*" (HDA, Mekelle).

Such weakened attention to HIV is linked with the availability of ART.
"*Surprisingly the attention given to HIV by residents has declined due to among others improvement of survival among HIV infected individuals*" (Housewife, Adama)

Health Extension Workers used to focus on HIV which is not the case now.

"If I start from UHE-Ps, they are not giving enough attention in awareness creation activities focusing on HIV. Similarly, health facilities and media are not doing anything to improve awareness on HIV" (UHE-P, Hawassa).

Findings have clearly witnessed that awareness creation endeavor has declined with its evident consequences of potential spread of the virus.

3.3.2.2 VCT Service

Although VCT service use is widely recognized as available and been better used, there are still several more who are not using available VCT services. It was found that limited awareness and knowledge for the need of VCT among married couples, fear of test result, stigma and discrimination and shortage of kit for HIV testing were identified factors for low utilization of the services. Furthermore, it was gathered that that widowed, separated and divorced women who were forced to engage in risky sexual activities fear to be tested which contribute to compromised uptake of service. Yet, there are ongoing endeavors to improve VCT service uptake,

"We are teaching people on a continuous basis on the need to get tested for HIV. Now, in our community people know everything about HIV. They know what do to get tested and actions afterwards Family Guidance Association of Ethiopia provides testing services" (UHE-p, Adama).

It is not true that everybody is interested and willing to be tested against HIV.

"Low utilization of HIV testing services is observed in people who do not live with their partners, fear of having it and engagement in multiple sex partner" (Women Adama).

Counseling and testing service is not used by street girls and female sex workers. They do not consider the service due to lack of time

"When the service is available even in their community through outreach, they do not have time because they are always in searching for or engaged in their business" (Security guard, Dire Dawa).

Although stigma is said to have declined, it was found that those who want to know their status seek testing services from far places for fear of stigma.

"Women who want to get VCT service often go to Mojo or Addis Ababa to be checked for HIV as well as for receiving ART" (UHE-p, Adama)

Some married couples were found to be reluctant in using VCT service since marital life is considered as protective.

"The major reason for those who did not test for HIV is that they believe they are less at risk of HIV infection. In fact if did not have sex with someone except my husband, I do not have HIV and I do not need to test for HIV" (Housewife, Mekelle)

In general, the reason for failure of using VCT is explained by one of the participants that,

"In my view, uptake of VCT service is not satisfactory due to lack of awareness about the service, continued fear of stigma and concern over loss of income especially among female sex workers" (UHE-p, Hawassa)

3.3.2.3 ART services

Participants in all towns explained that now a day availability of drug made it difficult to differentiate who has HIV and who does not. This coupled with declining awareness is argued to spread HIV infection in urban areas.

Although the importance of ART is recognized, there are still concerns related to stigma and discrimination as pointed out under VCT section above. Besides, fear of side effects was another major reason for failure to use available ART services. It was found that some positive people collect their medication from the clinic but fail to use it for fear of side effects.

"*I live in a rented house and am always taking as much caution as possible not to be seen when I take the medicine. If I am seen they will throw me out*" (Women living with HIV, Hawassa).

As regards fear of side effects, this was common concern:

"*Adherence to ART is compromised on the pretext that side effect of the drug is not tolerable and also complains of taking it lifelong*" (UHE-p, Gondar).

People are found to have strong preference for religious interventions especially in Debre Berhane, Mekelle and Gondar. Those who are living with the virus still doubt the power of ART as compared holy water.

"They discard the drug in the toilet and go for holy water" (UHE-p, Debre Berhane).

Although this was not common, few participants from Gondar argued that in addition to stigma and fear of side effects, use of ART is compromised by stock out of medications at facility level.

4. DISCUSSION

The UN report states that improving health of vulnerable people living in slums is an essential priority for improving global health. According to the latest Global Report on Human Settlements[22], about 32% of the world's total urban population, lives in slums; some 43% of the urban population of all developing regions combined lives in slums; some 78.2% of the urban population in the least developed countries live in slums. In African cities, an average of 50% of the population lives in slums or vulnerable areas. In a city like Nairobi 60% of the population lives in slums, which occupy about 5% of the land[1].

According to UN-HABITAT[22], vulnerable segments of cities (Slums) are characterized by the following attributes: (a) lack of basic services, (b) substandard housing or illegal and inadequate building structures, (c) overcrowding and high density, (d) unhealthy living conditions and hazardous locations, (e) insecure tenure and irregular or informal settlements, (f) poverty and social exclusion, and (g) minimum settlement size.

Vulnerable Places in the Cities

From the results stated in previous section (section 4), vulnerable places and vulnerable people were identified. We discuss vulnerable places within a city, identify most vulnerable ones and in a way compare these most vulnerable places among cities in order to identify most needy segment of the town requiring intervention.

Among the six cities covered in this study, one or more vulnerable segment of the cities was identified. City health office, FGD, in-depth interviews, case studies and NGOs helped identify the most vulnerable segment (village) among those identified as vulnerable. Vulnerable segments in a given city show mainly similar characteristics but differ in their vulnerable population and level of services. For example, about 20 vulnerable villages were identified by MULU MARPS HIV prevention in Hawassa city, but *Tarkegn* and *Bermuda* villages were identified as the most vulnerable segments mainly due to the fact that most of their residences are engaged in sell of local alcohol drinks such as 'Tella' and 'Areke' which is used as strategy for entering commercial sex activities. On the other hand, in Mekelle a segment in the city that

is most vulnerable could not be identified, it was argued that the rich, the poor, educated/uneducated, the young and the old are all prone to HIV infections without physical border for residence in the city. Although Mekelle, like the other cities, is suffering from unemployment, commercial sex, and lack of awareness of its underserved communities, no vulnerable segment is located. Siddharth Agarwal and team[23] argued that the urban poor in India are not a homogeneous group and that there is a discernible level of disparity in terms of vital development parameters such as access to basic infrastructural facilities, healthcare, education, livelihoods and social capital. Nevertheless they manage to identify vulnerable segments called 'slums' based on location of vulnerable residents and housing.

Abajale, Azezo, Kekros, and Ayer Marefia were identified as most vulnerable areas in Gondar in the order they listed. These locations are the center for commercial sex, crowded residence, lacks proper sanitation and poor housing conditions. Abajale is mainly dominated by sell of beverages and argued as the most vulnerable segment, while Azezo is near military camp and draw much of its income from service men. Although *Addis Ketema, Dechatu, Gendekore*, *Genda Miskin, Khat Tera, Megala* and K*onel* were listed as vulnerable segments of Dire Dawa, Addis Ketema, deprived from most services and crowded by sex workers, petty sell on the street and, beggars was selected as the most vulnerable village in the city. In Adama and Debre Berhane although there could be number of vulnerable segments of the city, only one most vulnerable segment each was selected, these are Ketena 04 (of Kebele 06) and Kebele 02 respectively. In general, methods used to identify vulnerable places in the six cities are similar with those used by Siddharth Agarwal and team[23].

Housing Conditions in the Vulnerable Areas

Most of the houses in the vulnerable areas of the cities are constructed from wood, mud and corrugated iron. Most of the residents live in rented houses from Kebele. Although there could be variations from city to city, very few owned houses which very often are old and sub-standard. Mekelle city entertain two types of housing scheme, in the new residential housing development area standard houses were built which are rented out or used by owners. The other class of housing is mainly made up of mud and rented to migrants from Gondor and Agew. The residences are highly crowded and often not hygienic. Nevertheless, some of the

vulnerable villages in different cities exhibit some peculiar characteristics; like some residents in Ketena 4 in Adama, and Tarkegn and Bermuda villages in Hawassa live in plastic shades illegally on unoccupied land or road side. These makes people of these areas most vulnerable people requiring urgent intervention. It was reported that no roads exits between houses in Ketena 4 village of Adama and impossible to reach them for emergencies. Combined with other issues discussed earlier, this makes Ketena4 of Adama city the most vulnerable segment with respect to housing condition.

According to Siddharth Agarwal and team[23] slums are often located on illegal lands near drains, dumping grounds, roadsides or railway lines making them prone to a number of vulnerabilities like displacement, disease prone or accidents with poor housing condition.

Availability of Basic Services/Amenities

WHO report of 2008[24] argued that the urban setting itself is a social determinant of health. The deteriorating living and working conditions due to unsafe water, unsanitary conditions, poor housing, overcrowding, hazardous locations and exposure to substance use create health vulnerability, especially among the urban poor and vulnerable subgroups such as women, infants and young children, the elderly, the sick and the disabled. Unhealthy living conditions compromise the growth of young children, their nutritional status, their psychomotor and cognitive abilities, and their ability to attend school. This is true with vulnerable people in all the six cities under study, particularly those living with HIV and deprived of health services such as MCH.

Lack of latrine or unhygienic common pit latrine shared by several people is a problem in almost all vulnerable segments of cities under consideration. These facilities are used by several people and located away from residences. Very often they get full very fast and are not emptied quickly. This finding is in line with the result obtained from a work done in Kenya[25] along the same line.

The study finds that in the slums the majority of the residents use pit latrines that are over-used and inadequately maintained. Individual pit latrines are reported to commonly serve 150

people per day. However, the maximum number reported as sharing the pit latrine in the six cities under study is about 60 which shows better situation compared to Nairobi.

Waste disposal is cited as the main problem that affects environmental sanitation (Kerkose, Adama Ketena 4, Tarekegn, Bermuda). Proper drainage systems for liquid waste are not available in most of the cities. Often open channel systems are put in place by municipality (in collaboration with residents) to be used for draining rainwater but untreated wastewater and liquid waste is allowed to be running in the channel often blocked with rubbish and with very bad smell unbearable for a normal person. In the study done in Nairobi, they found lack of proper drainage systems; instead inadequate, hand-dug channels carrying untreated wastewater, which is slightly different from our condition in the sense that channels are hand-dug.

Limited water availability is another problem in most such villages, except in Debre Berhan and Mekelle where no serious complaint was raised. Private piped water is rare in vulnerable areas; water is often fetched from communal water points served by government, private or from river. In some cities like Dire Dawa and Adama there is a serious water shortage; access to drinking water, let alone for pit latrine, is becoming serious challenge. Study in Nairobi shows that in the informal settlements where the majority live, only 22% of households have water connections serviced by the Nairobi City Water & Sewerage Company. Therefore, communal latrine cannot have sufficient water for sanitation and is very unhygienic and at times not usable due to unbearable bad smell form such facilities.

Adama and Dire Dawa have relatively high temperature, hence lack of safe water for drinking and water for sanitation pose danger on health of residents; infants and children are particularly exposed to various diseases. In addition, use of plastic bag by Ketena4 of Adama for waste products and disposing on open field/road, coupled with availability of sub-standard hotels that affect health and safety in the area shows severity of sanitation problem. This result is again in line with findings from Kenya where people are reported to use plastic bags when toilets are not accessible referred to as 'flying toilets'. Once again, this shows that Ketena4 of Adama remains the most vulnerable segment of all cities with respect to service provision.

Source of Income for Vulnerable Group

Most residents in these segments generate income from commercial sex, sells of local beverage (Areke, Tela, *Koreffe*, etc..), petty trade, and daily labour (reported in all cities); under aged children engaged in selling items on street in the night (Adama), and theft (Adama). This witness resource allocation in vulnerable areas of cities is not gender balanced, as most of those deprived of services are female. These results agree with what was reported from study done in Kenya[25].

Health Related Services in the Vulnerable Areas

Study made on global burden of disease[26] showed the importance of malnutrition in children, diarrheal diseases, acute respiratory diseases, HIV/AIDS, tuberculosis, malaria, and various types of injuries in the study of vulnerability to health. Consequently, most of these health problems were identified in all vulnerable segments of the cities under study, although they vary in extent.

Low utilization of services such as HIV testing, ART and MCH services was reported by all cities, on one hand due to use of alcohol, chat, sex and other substances, and on the other hand due to lack of awareness and fear of stigmatization or lack of access to the services. Although a decrease in spread of HIV in general population is reported by all cities, there is high spread of HIV among certain vulnerable subgroup such as daily laborers and commercial sex workers in some cities (Debre Berhan, Hawassa and Mekelle). Child health is perhaps one of the most poignant indicators of vulnerability amongst the urban vulnerable people. Similar study by Oxfam GB in Nairobi[25] highlighted that children are very unhealthy in the slums, with a survey finding that 64% of those under three years of age were ill with fever.

In addition, there is no government health facility in the vicinity of the vulnerable villages (Adama, Gondar-Kerkose) which deprived vulnerable groups from access to health services. This must have exposed the community to private health service provider, which is expensive and beyond the reach of most health vulnerable residents, or give up on their health issue.

Characteristics of Vulnerable Residents

The following describe characteristics of vulnerable residents: Petty trade and local alcohol sell on the street (Adama, Hawassa); widowed, separated or divorced women (all cities) are believed to be prone to HIV infection; women who use Ganja (local stimulant plant) (Hawassa), street and under aged girls, out of school youth (Adama, Debre Berhan, Hawassa), university students (Hawassa, Mekelle) all exposed to HIV infections and underutilized MCH services; children are at risk for HIV due to poor disposal mechanism for condom and other waste (Abajale - Gondar); migrants from other area who come as maids often join sex business (all cities) mainly due to influence of brokers who recruit them and keep them in crowded room on their arrival (Adama, Debre Berhan); existing housemaid converted to commercial sex workers (Hawassa); increased number of young people having sex at road side or open spaces without condom in the evenings (Hawassa).

Age of Vulnerable Residents

In all vulnerable segments of all cities, young people in the age group15-35 years are identified as the most vulnerable group, regardless of health related services. Therefore, age could not be used as criterion to identify most vulnerable segments in the city.

Religion of Vulnerable Group

Problem of HIV is largely identified among Christians (Adama, Mekelle, Dire Dawa), whereas in Gondar-Kekrose Muslim are reported to outnumber Christian residents and stigmatization is reported to be serious. Other cities could not reach conclusion on disparity among religion regarding HIV prevalence and use of MCH services.

Reason for Vulnerability

Several reasons were cited for residents to be vulnerable. The main reasons are related to unemployment and low income situations which lead to commercial sex work, sell of items on the street and migration to cities. Presence of factories (Debre Berhan), bars, shisha houses, chat and other substances (most cities) contributed to vulnerability of segments of population as detailed in previous section in the cities. This situation creates crowding of people in certain corner of the city suitable for their intended business and cheap residence. Low educational

level, lack of awareness, traditional belief about health services also contributed to vulnerability. In their study on social determinants of the health of Urban Populations for several cities, Danielle and team argued that marked disparities were observed by education income level[27].

In Dire Dawa, although we do not have biological interpretation, hot weather is identified as initiating female for sexual engagement which contributed to HIV infections. Marital status of residences, particularly women, such as divorced, separated and widowed are cited as possible case for vulnerability by all cities. With rising cost of life, women who have responsibilities of raising children but turned single for some reason, are tending to engage in sex which may not directly considered commercial but indirectly help them generate income from their clients.

Social Environment and Vulnerability

So many social problems were listed during discussions with different group of people and health service providers. The major ones are discussed here. Vulnerable people living in vulnerable places not only deprived of income and services but also excluded from or discriminated against some valued social activities, that is inability to fully integrate into the community social structure. This group of people may not even captured in census or surveys as they are not officially registered residents. They are also deprived of Idir membership and are not entitled to services and benefit provided by *Kebele* (such as purchase of basic items from *Kebele* shops). Historically, socially excluded people are depressed, often isolated from society and develop criminal mind or revenge. This is because social exclusion is the toughest challenge to human dignity.

Due to use of Chat, Shisha and other drugs combined with alcohol and commercial sex, there are lots of conflicts in Ketenea 4 of Kebele 06 (Adama) where people live in constant fear for their safety. Similarly, violence and crime was reported to be major social problems among slum residents in mot African countries[24]. Adama being the only city reporting conflict in its vulnerable segment shows deteriorating social network and deep-rooted vulnerability of the people. HIV seems to have serious consequences in cities like Debre Berhan; there are considerable number of orphans and bedridden helpless elders above 70. This combined with

serious housing shortage and lack of sufficient income complicated the social problem in this places.

Publicity of health service utilization is reported to be decreasing from time to time in all cities. This shows awareness creation activities among residents is decreasing nationally and it is time to reinstate the program before more damage take place. It is also evident that NGOs previously working in health sector are withdrawing or reducing activity from time to time. As a result, mainly the young and less educated people are not aware of the health services in the city as expected. This is argued to increase health vulnerability in most of the cities considered.

Although stigmatization of HIV positive people are reported to be decreasing in all cities, problem of renting a house remain major problem. This left several HIV positive people in the cities hopeless, which surely increase vulnerability of these individuals. In places like Gondar-Kekrose where Muslims account for majority, HIV positive people are highly discriminated by the society and reported to be serious challenge to the community. This led many positive people to conceal their status and develop tendency to use the disease for retaliation. While support to society is deteriorating in this regard, the only reported current activity is that of local NGO in Dire Dawa providing support to children from families who are classified as poor of the poor. It is important to note that in urban areas, large groups of "street children" orphaned by AIDS can be a threat to the whole community in addition to the health concerns for the children themselves.

Migrants from rural areas are posing serious problem in Hawassa, Debre Berhan and Mekelle. The migrants are often misled by Brokers (Hawassa) and enter cities in large number and mostly confined in small rooms and take jobs in factories, commercial sex, and petty trade on street, begging or theft. This has worsened housing problem and constrained residents on utilization of other resources and facilities.

Nevertheless, Mekelle and Gondar are reported to have social structure that can provide limited support in time of serious problem; credit association who may provide money to those in need (Mekelle); provision of community participation in cleaning the health center and road

in Mekelle. In Gondar, Christian community is expected to support one another in times of difficulty through 'Senbete'. Similarly, for Muslim, 'Jemyia' is expected to provide small financial support during very difficult times. These activities can be viewed as community own effort to fight worst health and income vulnerability in these cities rather than waiting solely for external bodies to come in.

Regarding sanitation, Dire Dawa may be ranked as the most vulnerable in terms of water supply and safety. This led to unhygienic latrine and open defecation despite presence of communal latrines. This seems to be the most serious issue to be solved.

5. CONCLUSIONS

One or more vulnerable places are identified in each of the six cities and listed as follows; *Tarkegn* and *Bermuda* (Hawassa); *Abajale, Azezo* and *Kekros* (Gondar); *Addis Ketema and Dechatu* (Dire Dawa)*; Ketena 4 of Kebele 06* (Adama)*; Kebele 02* (Debre Berhan)*; none* (Mekele). Although intra-city comparison of vulnerable segments were attempted, it was not possible to conclude that one of these cities is the most vulnerable. We found that one city may be more vulnerable than others with respect to one or more social determinants/services but no city was found to be the most vulnerable by all standards.

In each of these vulnerable places vulnerable people of different age, gender, education and social status were identified. We conclude that these vulnerable people have serious economic, health, housing, social and physiological problems to be solved by concerned bodies.

The following are some of the major problems and issues identified by respective vulnerable segments of the cities:

- Lack of awareness on use of health related services by some member of community (all cities);
- Limited access to HIV and MCH services by vulnerable group (all cities);
- Indirect stigma among HIV positive people; that is depriving them from renting house (all cities) ;
- Shortage of latrine and water points (all cities);
- Problem of sanitation for latrine, waste management and disposal (all cities);
- Limited number of testing services and ART clinic (Mekelle);
- Insufficient condom distribution to hotels and shops (Gondar);
- Lack of employment opportunities for vulnerable group (Adama, Debre Berhan, Dire Dawa);
- Serious housing problem created crowding in most of these cities.

The cases for the problems listed above in the society are:

- Insufficient budget and poor governance by city administration
- Lack of timely intervention by NGOs, FBOs and private group
- Rapid increase in number of vulnerable people due to migration from rural areas
- Corruption and mismanagement of public resources in some cities
- Increased use of alcohol and other substances among the youth.
- Selfishness and lack of respect for fellow citizens by brokers

6. RECOMMENDATION

From this study, vulnerability to specific health problem in urban setting was associated to places and specific section of the population. In every town there are settings that are found to be more vulnerable as compared to others and certainly there are population groups that are particularly vulnerable to the health problems that were targeted in this study. This study has also revealed that urban health challenges are multi-faceted requiring interventions by diverse sectors. In order to ameliorate such realities the following were drawn as key recommendation:

[a] Every operational town should be mapped to determine which sections of the population are vulnerable to specific health problems. Such mapping will help to generate evidences to better target places and people with interventions.

[b] Factors of vulnerability were found to be over-crowdedness, in-migration, and lack of basic facilities such as water, toilet facility and housing. As a result important social capitals are compromised in such settings due to lack of organized efforts at community level. Thus, local administration should pay special attention in organizing and supporting residents in such settings to address some of their communal problems.

[c] Vulnerable section of the population includes those who are away from home and usual social restraints (norms), those who are on the move from place to the other, those who are economically impoverished, who are not living with their partners and the rich ones who have money to spend on sex. This calls for calibrating the blanket programmatic interventions in urban settings. More targeted interventions with an application of tools and approaches are required to address vulnerable section of the population.

[d] Addressing vulnerability of sections of a town and/or specific target group residing in the town is beyond the mandate of health sector. Thus, all development actors should be coordinated in order to deal with vulnerability in urban setup.

In addition to vulnerabilities, this study has mapped who are not using available HIV/AIDS and maternal and child health services. Accordingly, the finding shows that service utilization is not uniform in every town. Still there are specific groups of people who are not using available services and there are reasons for that. Thus, the following recommendations are drawn to address such challenges.

[a] Women who generate their livelihood from daily labor work, commercial sex work, working as housemaid, and those who come from rural areas do not tend to consider the use of available services. This is mainly due to competing priorities and failure to give attention to the problems as much as generating their daily livelihood. Thus, engagement of such people in economically gainful activities and provision of outreach services to such people where ever they are may help.

[b] It was gathered that lack of awareness about service provision is another reason why available services are not used by the specific section of the population. Conventional awareness creation approaches may not make sense for this section of the population since they are not visible. As a result awareness creation efforts should give due attention to this section of the population and their contexts.

[c] Availability of supplies and equipment at health facility is still an issue of concern. Clients are either forced to seek services from private health facilities if cost is affordable or tend not to seek services. Building the capacity of public health facilities with supplies and equipment is believed to improve service uptake.

[d] Although there are improvement in mitigating stigma and discrimination against those who live with HIV, it is still an area that needs attention. For fear of stigma and discrimination, people travel long distances for VCT and ART. This calls for consistent educational interventions at all levels.

[e] Health professionals were found to contribute to push potential service users away from facilities. It was gathered that their competence in provision of services and communication with clients was doubted. Thus, at least in service training should be

organized for health service providers to improve their competence and communications skills. In the long run however training curriculums should be revised to meet such gaps.

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ANNEX 1: VULNERABLE PLACES AND CHARACTERISTICS FOR SELECTED SIX TOWNS OF ETHIOPIA, 2015

Town	Vulnerable places	Characteristics
Adama	*Ketena 4 of Kebele 06*	▪ Crowded/slum ▪ No permanent house (rental houses) ▪ Communal toilet
Dire Dawa	Ashoa Meda, *Addis Ketema and Dechatu*	▪ Entertainment places in town (drinking establishments) ▪ Ashoa meda (Dire Dawa) ▪ Lack of access to water
Gondar	Abajale, Azezo, Kekros, and Ayer Marefia	▪ Crowded houses ▪ Rental houses
Hawassa	*Tarkegn* and *Bermuda*	▪ Small local drink sellers, crowded area, many commercial sex workers and sub standardized houses
Mekelle	Semi-Urban part of the town	▪ Outskirts where migrants stay (Tigray, Gondar)

ANNEX 2: SUMMARY OF VULNERABILITY TO HIV INFECTION AND LIMITED USE MNCH

A. HIV

Who are vulnerable	Themes	Sub Themes	Predisposing Factors
A) Section of the population	Young People	University students (Debre Berhan, Hawassa and Adama)	1) Economic factors • Jobless • No regular income • Transient job • Small scale (survival) • Ability to buy for sex 2) Social factors • Weak local support for poor • Low educational status • Away from home (control) especially university students • Low awareness • Men's interest to have alternative sex outlet • Sugar mommies and daddies (DD, Hawassa and Mekelle) 3) Environmental factor • Crowded living space where control mechanisms are loose • Street life • Commercial sex life
		Unemployed youth	
		Street children	
	Women	Married women	
		Divorced women	
		Separated women	
		Widowed (no children)	
		Maids	
		CSWs	
		Local drink sellers	
		Daily laborers	
	Men	High truck drivers	
		Migrant workers (Gondar)	
		Daily laborers	
		Rich men	
		Dalala (Brokers)	
B) Section of the town	Town 1-6	Crowded/slum	
		No permanent house (rental houses)	
		Entertainment places in town (drinking establishments)	
		Ashoa Meda (Dire Dawa)	
		Outskirts where migrants stay (Mekelle, Gondar)	

B. Failure to Use available Health Care (ANC, Institutional Delivery and PNC)

Section of the population	Women	Elderly women	1) Friendliness of providers at health facility 2) Distance to health facility 3) Cost of services 4) Abrupt onset of labor 5) Ambulance driver's failure to pick phone 6) Coming from rural area 7) Limited awareness
		Migrant women	
		Daily laborers	
		Uneducated (illiterate) women	
		No sustainable income	
		Unmarried young girls	
		Street children	
	Places	Crowded places	
		Semi-urban settings	

ANNEX 3: MNCH AND HIV/AIDS SERVICES UTILIZATION AND REASON IN SELECTED SIX TOWNS OF ETHIOPIA, 2015

	Service Utilization	Reasons of Low Utilization
MNCH	▪ The service utilization is improving but some population are still not using the service like, Students/ (unintended pregnancy), HIV positive women, CSWs, housemaids, daily laborers and migrants) ▪ Very low or none for PNC ▪ Women go the health facility only for newborn vaccination after birth ▪ Low uptake of 4th visit of ANC ▪ Low uptake of ANC(daily laborers, students, CSWs,	▪ The norm in exposing themselves among students and teenagers ▪ Being living in the slum area ▪ Very critical provider side problems: disrespect, abuse, skill and knowledge related problems among professionals: ▪ Accessibility issue in newly established area of the city ▪ Cost for transportation or access of transportation (Very critical and mentioned everywhere) ▪ Sending back women in labour saying you came early, ▪ Cultural, religious and privacy issues ▪ Awareness, education and low socioeconomic status ▪ Religion (orthodox Christian), it is not recommended to go anywhere before 80 days(PNC) ▪ No instruction from health providers to women about the PNC schedule ▪ Precipitated labour for home delivery ▪ Pregnancy out of the wedlock for low uptake of all MNCH services ▪ Migration for work or due to different reasons ▪ Delivery coach shortage, sanitation problem in the hospital like cleanness of the bed, underneath covers….
HIV	▪ Problem of accessing the ART ▪ Poor VCT uptake(married, widowed, separated, divorced, general population ▪ Dropout of taking ART	▪ Stock out of ART ▪ (Misconduct)Giving priority for relatives and friends in health providers ▪ Shortage of kit for HIV testing ▪ Preference of religious places like holy water, pastoral services ▪ Fear of stigma and discrimination ▪ Awareness and knowledge for the need of VCT ▪ They do sex first before marriage(widowed, separated, divorced ▪ Shortage of ART clinics ▪ Fear of test result ▪ Boring of taking ART for life long ▪ awareness, fear of side effect ▪ addiction of alcohol, kchat ▪ having prior knowledge of self-status