

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

**ACCESS TO AND UTILIZATION OF HIV SERVICES
BY KEY POPULATIONS IN SUDAN**

Malaz Elbashir Ahmed

Sudan

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Access to and utilization of HIV services by key populations in Sudan

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

Master of Public Health

By

Malaz Elbashir Ahmed

Sudan

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Where other people's work has been used (either from a printed source, internet or any other source) this has been carefully acknowledged and referenced in accordance with departmental requirements.

The thesis "**Access to and utilization of HIV services by key populations in Sudan**" is my own work.

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Abstract

Background: In Sudan despite the low overall prevalence of HIV, the epidemic continues to expand among key populations at higher risk, like men having sex with men (MSM) and female sex workers (FSWs) who have limited access to and utilization of HIV services.

Objectives: The aim of this study is to explore factors affecting access to and utilization of HIV services among key populations at higher risk in Sudan in order to make a recommendation to the Sudan National AIDS control program to improve HIV service utilization among the KPAHR.

Method: A desk review of access to and utilization of HIV prevention and treatment services among FSW and MSM irrespective of time frame, design and language (Arabic & English) was conducted. Analysis was undertaken using a framework adapted from the Andersen Behavioural Model of Health Services Utilization.

Results: Outcomes of this study suggest that criminalization, stigmatization and discrimination of FSWs and MSM are major barriers for the utilization of HIV services in addition to the triad of lack of knowledge and misconception, low risk perception and low perceived need. Even when the HIV services exist they are constrained by inequitable distribution, inadequate quality and occasional breach of clients' confidentiality.

Conclusion and recommendations: The political and cultural environment is not conducive to address the health needs in general and sexual health needs in particular of the key population at higher risk in Sudan. The study recommend evidence-based advocacy in order to enforce the HIV policy. Community mobilization and interventions to improve access and utilization of HIV services by FSW and MSM is all recommended. Furthermore, more research on their typology and health-seeking behaviour are also recommended.

Key words: HIV, FSW, MSM, utilization, access

Word count: 13,166

List of Abbreviations

ACORD	Agency for Co-operation and Research for Development
AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal care
ART	Antiretroviral Therapy
BCC	Behaviour Change Communication
CBO	Community based organization
CCM	Country coordinating mechanism
CSO	Civil Society Organization
EPP	Estimation and Projection Package
FMoH	Federal Ministry of Health
FSW	Female Sex Worker
GFATM	Global Fund To Fight AIDS, Tuberculosis and Malaria
GDP	Gross Domestic Product
HAI	Health Alliance International
HIV	Human Immunodeficiency Virus
HDI	Human Development Index
HTC	HIV Testing and Counselling
IBBS	Integrated Biological and Behavioural Survey
IDUs	Intravenous drug users
IEC	Information, Education and Communication
KIT	Koninklijk Instituut Voor de Tropen
KPAHR	Key Population at Higher Risk
LGBT	Lesbian, gay, bisexual, and transgender rights
MDG	Millennium Development Goal
MENA	Middle East and North Africa
M&E	Monitoring and Evaluation
MoH&FW	Ministry of Health & Family Welfare

MSM	Men who have Sex with Men
NAC	National AIDS Council
NASA	National AIDS Spending Assessment
NECHA	National Executive Council on HIV and AIDS
NGO	Non-Governmental Organization
PHC	Primary health care
PITC	Provider initiated testing and counselling
PLHIV	People Living with HIV
PMTCT	Prevention of Mother to Child Transmission of HIV
PSM	Procurement and Supplies Management
SAN	Sudan AIDS Network
SCBS	Sudan Central Bureau of Statistics
SHHS	Sudan Household Health Survey
SNAP	Sudan National AIDS Control Programme
SMOJ	Sudan Ministry of Justice
STI	Sexually Transmitted Infections
TB	Tuberculosis
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV and AIDS
UNDP	United Nation's Development Program
UNFPA	United Nations Population Fund
UNGASS	United Nations General Assembly Special Session on HIV and AIDS
UNICEF	United Nations International Children's Emergency Fund
VCT	Voluntary Counselling and Testing (for HIV)
WB	World Bank
WHO	World Health Organization

Definitions

Acceptability: The match between how responsive health service providers are to the social and cultural expectations of individual users and communities (Peters *et al.*, 2008).

Access: Actual health services utilization and everything that enables or hinders the use of health services such as environment and system, consumers and providers characteristics (Andersen, 1995).

Affordability: The relationship between the cost of services and the willingness and ability of users to pay for those services, as well as to be protected from the economic consequences of health costs (Peters *et al.*, 2008).

Behaviour change communication (BCC): promotes tailored messages, personal risk assessment, greater dialogue, and an increased sense of ownership. Behaviour change communication is developed through an interactive process, with its messages and approaches using a mix of communication channels in order to encourage and sustain positive, healthy behaviours (UNAIDS, 2011a).

Breach of confidentiality: sharing information verbally or in written form regarding a client with someone who is not on the care team of the client, or who does not have a release of information form from the client (SNAP, 2010f).

Concentrated epidemic: where HIV has spread rapidly in one or more populations but is not well established in the general population. Typically, the prevalence is over 5% in subpopulations while remaining under 1% in the general population. In a concentrated HIV epidemic there is still the opportunity to focus HIV prevention, treatment, care, and support efforts on the most affected subpopulations, while recognizing that no subpopulation is fully self-contained (UNAIDS, 2011a).

Confidentiality: indicates preserving the information gathered from testing or counselling of individuals is kept in strict confidence, regardless of sex, age, ethnicity, profession, or other social-demographic attribute. HIV test results and client records should be kept in a locked file with access limited to VCT personnel. Names and HIV test results should not be recorded on the same pages of documents, and where names of clients are taken by counsellors for purposes of follow up such as home visits, these should be recorded in special notebooks that are kept under lock and key, when not in use. The VCT site should not release test results to anyone other than the client, unless the client requests such release in writing or court order requires it. Counselling must be conducted in an area where privacy and confidentiality can be assured (SNAP, 2010f).

Evaluated need: Professional judgment about people's health status and their need for medical care (Andersen, 1995).

Generalized epidemic: An epidemic that is self-sustaining through heterosexual transmission. In a generalized epidemic, HIV prevalence usually exceeds 1% among pregnant women attending antenatal clinics (UNAIDS, 2011a).

Geographical accessibility: Percentage of Pop. Living within 5 Km from the nearest functioning health facility (FMOH, 2011a).

Key population at higher risk: The term 'key populations' or 'key populations at higher risk of HIV exposure' refers to those most likely to be exposed to HIV or to transmit it – their engagement is critical to a successful HIV response, i.e. they are key to the epidemic and key to the response. In all countries, key populations include people living with HIV. In most settings, men who have sex with men, transgender, people who inject drugs, sex workers and their clients, and sero-negative partners in serodiscordant couples are at higher risk of HIV exposure to HIV than other people. Each country should define the specific populations that are key to their epidemic and response based on the epidemiological and social context (UNAIDS, 2011a).

Perceived need: 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 (Andersen, 1995) .

Provider initiated testing and counselling: PITC refers to an offer of HIV testing and counselling to a patient attending care for an illness that might or might not be attributable to HIV. *The PITC approach observes the principles of voluntary, consent and always providing counselling.* Unlike Client initiated Testing and Counselling (CITC) where the client requests the test motivated by his or her own reasons; in PITC the health care provider suggests the test to the patient and is responsible for offering the test to the patient and to giving the result with appropriate counselling (SNAP, 2009d).

HIV-related stigma and discrimination: a 'process of devaluation' of people either living with or associated with HIV and AIDS. Discrimination follows stigma and is the unfair and unjust treatment of an individual based on his or her real or perceived HIV status (UNAIDS, 2007).

Utilization: percentage of population making use of a particular service in a given year (Berg, 2011).

Voluntary Counselling and Testing: the process of providing counselling to an individual to enable him or her to make an informed choice about being tested for HIV. This decision must be entirely the

choice of the individual, and he or she must be assured that the process will be confidential (UNAIDS, 2000).

Vulnerable population: Vulnerable populations form a subset of the general population and generally are at low risk of HIV exposure but are vulnerable to practices that may put them at a higher risk of HIV infection. Vulnerable populations include prisoners, youths, and mobile populations. Once these vulnerable populations adopt higher-risk practices, they become part of the key population at higher risk (Abu-Raddad *et al.*, 2010).

Introduction

In 2002 I graduated from the Faculty of Medicine, University of Khartoum. After then I worked as a house officer (intern) in different specialties in four Sudanese hospitals in Khartoum state for sixteen months. I served as a Medical Officer in different rural hospitals (River Nile state) in North Sudan from 2004 to 2007. In 2009 I joined Sudan National AIDS Control Program (SNAP) as a planning officer then as monitoring and evaluation (M&E) head of unit.

I joined the HIV program in the same year as the discovery that the pattern of the HIV epidemic in Sudan is concentrated among FSWs, their clients and MSMs. The program started to prepare evidence-based strategic plans focusing on the key population at higher risk. Then debate began with the influential religious and political leaders about the existence of these groups and the interventions to be provided to the arguments that all this was against Islam resulting in the creation of obstacles to the supply and demand sides of services. This led to a decline in access to and use of HIV services.

I joined the master program of the Royal Tropical Institute to gain and expand my knowledge on public health and to use it to enhance my work experience and to maintain a position of leadership in the HIV response.

This study tries to answer the question: What are the factors that affect the access to and utilization of HIV services by FSWs and MSMs in Sudan? I would like to identify and analyse these factors in order to formulate recommendations for improved utilization of HIV services by key populations at higher risk in Sudan.

This paper contains six chapters. The first chapter presents the background of Sudan; the second chapter contains the problem statement and method of this study. The findings are discussed in Chapter Three while the lessons learned from other countries are discussed in Chapter Four. The discussion of the findings is in Chapter five and the thesis concludes with recommendations in Chapter Six.

Chapter 1: Background information about Sudan

This chapter presents background information about Sudan including geography, demography, economy, political, socio-cultural, health system, burden of diseases and national HIV response.

Geography and ecology

Sudan covers 1.8 million square kilometres, and borders Southern Sudan, Central African Republic, Chad, Libya, Egypt, Eritrea and Ethiopia. It's crossed by the Nile and has an 853 kilometre Red Sea coastline. It is characterized by mountains in the northeast, and west, while desert dominates the north (SCBS, 2009). Its geography and ecology are important determinants of health. Coverage of health services is affected by the vast distances and poor roads, while natural and manmade disasters cause human emergencies and environmental factors cause infectious and parasitic diseases (FMOH, 2011a).

Demography

The population of Sudan is 31,797,000 which is growing at a rate of 2.8% annually and 68% are live in rural areas with increasing urbanization (SCBS, 2009). 62% of the population is less than 25 years old with more females aged 20-40 but more males below 20 years (FMOH and UNFPA, 2011).

Economic context

Sudan is prosperous in natural resources including oil, agriculture and animal resources. The gross domestic product (GDP) increased by US\$ 48 billion in the period from 1980 to 2008 but due to the effect of global financial crisis diminished to 52.2 billion in 2009 (UNDP, 2011). However, the economic growth has mainly benefited the state capitals, leading to the increasing disparities between rural and urban areas as well as between states. Poverty remains widespread with Sudan ranking 169th among 187 countries on the Human Development Index (UNDP, 2011). About 46.5% of the population live below the poverty line (FMOH, 2011a). Moreover, the secession of southern Sudan in 2011 has resulted in loss of oil revenues and significant financial challenges.

Political background

In the past years Sudan has seen profound political changes, including the civil war in southern Sudan ended in 2005 after the Comprehensive Peace Agreement signing and the South was given the right to choose union or separation from the north. In July 2011, the referendum was held, which resulted in the separation of South Sudan (FMOH, 2011a).

Sudan is a federated democracy with authority devolved to states under the Local Government Act of 2003. It consists of 15 states each divided into localities. Despite the fact that states have their independence, political authority and resources are still central (FMOH, 2011a).

Most of the budget is allocated to security which neglects important development and social projects. The only advantage of this political situation is the increased number of organizations of civil society that participate in service delivery (FMOH and UNFPA, 2011).

Socio-cultural scene

In Sudan there are hundreds of ethnic, religions, customs, beliefs, tribal divisions and languages. A large majority of the population are Arabic-speaking Muslims (SCBS, 2009). Overall, the adult literacy rate in Sudan is 70% (UNDP, 2011). Family in the Sudanese society is much appreciated and it's important to maintain a reputation, so we find that individuals either maintain good behaviour or hide bad behaviour. Sudanese people generally do not believe in preventive medicine and require medical assistance only when they become seriously ill or cannot be treated at home. Sudan is a society dominated by men, and women are basically mothers and housewives. Sexual relationship is regarded as a private issue, and discussion of sex is taboo in Sudanese communities (McLean, 2005).

Health system in Sudan

The health system in Sudan is organized around three levels: Federal, State and Locality. The Federal Ministry of Health (FMoH) develops the policies while the operationalization of these policies is the function of the states and localities. Early 1990s witnessed two of the organizational changes in the health system in Sudan, which are decentralization and the introduction of user fees. Capacity and the inadequate financial resources at the state and locality levels are challenges of decentralization (FMOH, 2011a).

A Service delivery standard of public sector has three levels: primary, secondary and tertiary care. Other health services providers in Sudan are police, army, railways, large banks, academies in addition to NGOs and the private sector. However, the coordination is poor between these services providers (FMOH, 2011a). In 2008 the health facilities mapping report shows that only 19% of primary health care (PHC) sites delivered the PHC Minimum Package and the geographical accessibility to PHC sites is 1:7,000 (FMOH, 2011c). Information about coverage of other public and private health services is inadequate but Saeed (2011) reveals that 60% out of all patients in Khartoum utilize private health services, directly after feeling of sickness.

Health care system financing is 7% of GDP and 9% of the budget of the government which is far below the target of 15% set in the Abuja Declaration. However, private (out of pocket) spending on health represents about 64% of the total expenditure and the rest is offered by public spending which consist of government, health insurance and donations (FMOH, 2011a).

There are health work force problems of overall numbers, skills, unequal distribution between the rural and urban regions. Career structures and incentives system are not well defined which impede the retention of the health workforce within the country and discourage their distribution in the disadvantaged and rural areas (FMOH, 2011b). There is no appropriate vital registration system in Sudan and private sectors and NGOs are not covered by Health management information system (FMOH, 2011a).

Burden of diseases

Sudan's epidemiological profile is differing between states, and urban and rural areas. Its morbidity table is still dominated by communicable diseases. Tuberculosis and malaria are major public health problems and while HIV prevalence is still low, the threat of generalized HIV problems remains real and inadequately addressed. Evidence from surveys and routine service statistics point to an emerging public health problem from non-communicable chronic diseases as changes in lifestyle occur (FMOH, 2011a).

National Response to HIV and AIDS

The National Response is implemented through a multi-sectorial and decentralized approach coordinated by the Sudan National AIDS Control Programme (SNAP) which was established in 1987 with the introduction of short and long term plans (SNAP, 2010d).

The National AIDS Council (NAC) is the highest policy body in all matters related to HIV with State AIDS Council providing leadership at the state level. Meanwhile the National Executive Council on HIV and AIDS (NECHA), chaired by the Undersecretary of the FMOH, is the body responsible for coordination and overall management of the National Response. Its membership includes United Nations agencies, public and private sectors and national and international stakeholders. Sub-committees were established within the NECHA to support interventions in specific areas. The Country Coordinating Mechanism (CCM) structure is similar to NECHA but was established to coordinate the Global Fund grants to Fight AIDS, Tuberculosis and Malaria (GFATM) (SNAP, 2010d).

SNAP is the technical department with the responsibility for national level policy, planning and coordination. It coordinates and works with the different sectors, including the Ministries of Defence, Interior, Education, Higher Education, Guidance and Endowment, Information and Communication, Culture, Youth and Sports; Labour and the Ministry of Social Welfare, Women and Child Affairs (SNAP, 2010d). SNAP, with support from UNAIDS, has also established the Sudan AIDS Network (SAN) which coordinates non-governmental organization (NGOs). It has also been instrumental in encouraging the establishment of associations of people living with HIV (PLHIV). Further, SNAP is supervising the provision of HIV prevention, treatment and care services (SNAP, 2010d).

Chapter 2: problem statement and method

This chapter aims to explain the HIV epidemic in Sudan, and presents the problem statement, justification, study objectives, method and conceptual framework.

HIV epidemic in Sudan

The first HIV case in Sudan was detected in 1986. Growing evidence from HIV surveillance data, programmatic data and research indicate that there are different types of HIV epidemic in Sudan (SNAP, 2009c).

In 2002 a national survey reported a general HIV prevalence of 1.6% with 1% among pregnant women and higher rates among some of the key populations at higher risk (KPAHR) and vulnerable groups. For example the rate was 4.4% among female sex workers (FSW), 4.0% among refugees and 2.5% among tea sellers. Prevalence among prisoners varies between 2% and 8.6% in Khartoum State (SNAP, 2009c). In addition, a study in Khartoum State among men who have sex with men (MSM) showed a prevalence of 9.3% (Elrashied, 2006).

In 2008 UNAIDS estimated the prevalence at 1.4 % with 320,000 people living with HIV (SNAP, 2009c). SNAP (2009b) conducted an Estimation and Projection of Epidemic (EPP) using the method recommended by UNAIDS/WHO. The overall HIV prevalence was estimated at 1.1% (0.67% in the North) while it is expected to gradually increase to 2.2% in 2015 (1.2% for North). The accuracy of the national HIV estimate depends on the quantity and quality of data from the sentinel HIV surveillance system. In Sudan data was used from three rounds of antenatal clinics (ANC) HIV Sentinel Surveillance in (2004, 2005, and 2007) in addition to programme data on PMTCT, and ART. However, in 2004, there were only in three urban sites, which were expanded to six in 2005 and to 26 sites in 2007 (SNAP, 2010e). A generalized template was applied and estimates disaggregated into North and South regions. National HIV estimation could be improved if population data reflected the population of Sudan (now it includes both Sudan and South Sudan) and the concentrated epidemic template is applied and when more KPAHR data is available. Nonetheless the national HIV estimation is the best available.

SNAP (2010e) reported the overall HIV prevalence among pregnant women to be 0.16%. Sudan HIV data began to improve after 2005 with the introduction of HIV sentinel surveillance among women attending ANC and other KPAHR. In order to improve understanding of the HIV situation, an integrated bio-behavioural survey (IBBS) among FSWs and MSMs is currently on-going with a plan of conducting it in all states of Sudan. A Sudan Household Health Survey (SHHS) conducted in 2010 also included general population HIV estimates and other behavioural parameters (personal observations).

It appears that the HIV epidemic in Sudan is concentrated among KPAHR and therefore the interventions need to be well-focused. The Middle East and North Africa (MENA) is well known for this pattern of HIV epidemic and according to the World Bank, UNAIDS and WHO (Abu-Raddad *et al.*, 2010) the MENA region is comprised of 22 countries including Sudan.

The main KPAHRs in Sudan are FSWs, their clients and MSMs (SNAP, 2010d). FSWs and MSMs are not homogenous groups and overlapping. For instance, FSWs can be categorized according to place of work: street-based or home based. 'MSM' is term used by public health professionals to describe sexual behaviour rather than identity such as homosexual, bisexual or transgender (MoH&FW, 2007). For designing effectively targeted intervention the categories of FSW and MSM should be considered but to my knowledge no studies in Sudan have made such data available and no studies were conducted among the clients of FSWs. That is why I will focus on FSW and MSM in general.

Problem statement

Globally only 51% of MSMs and less than 50% of FSWs have access to HIV services (UNAIDS, 2010). In the MENA region HIV prevention services access and utilization among the KPAHR is still much lower than the needs. Access to HIV treatment differs and they are the lowest in the world (Hermeza *et al.*, 2010).

In Sudan the epidemic of HIV has ranged between 4.4% to 9% among the KPAHR while it is less than 1% among the general population (SNAP, 2010d).

In Sudan 2% of males are MSM and they are involved in many risky practices (Abu-Raddad *et al.*, 2010). A study by Elrashied (2006) among MSMs in Sudan reported high numbers of partners, lack of awareness of the risk of HIV transmission in unsafe anal sex and no condom use. Twenty five per cent (n=713) of MSMs in the study were drug users and only 20% of MSM had been tested before for HIV.

About 1.4% of females in Sudan are sex workers (Abu-Raddad *et al.*, 2010). They are characterized by a high number of clients (ACORD, 2006), non-use of condoms and very few considered themselves at high risk of HIV (Abdelrahim, 2010). Only 6% (n=321) had previously been tested for HIV and obtained results (Abdelrahim, 2010). The only way of HIV prevention mentioned by FSWs in Sudan is reducing the number of sexual partners (ACORD, 2006). Ati (2005) reported that most FSWs engaged in anal and oral sex either to avoid pregnancy, during menstruation or to meet the desire of the client and 5% (n=83) of FSWs were drug users.

Korenromp *et al.* (2000) reported that only 3% of FSWs in Sudan abstain from sex while they are suffering from STIs (cited in Abu-Raddad *et al.*, 2010).

In 2009, 1,300 (0.4%) FSWs and MSMs were tested for HIV out of the estimated KPAHR in Sudan. Based on the HIV epidemic pattern and the feasibility the national target of 6,000 KPAHR was projected to 2011 (SNAP, 2010d). At the end of 2010 only 1,084 (KPAHR) had been tested for HIV. If the progress of this indicator continues at this rate the intended target of 50,000 KPAHRs counselled, tested and given results by 2014 will not be achieved (SNAP, 2011). Sudan does not collect data about antiretroviral therapy (ART) or prevention of mother to child transmission (PMTCT) among the KPAHR. In 2010 SNAP estimated that fewer than 1% of pregnant women needing PMTCT had had an HIV test and 1.5% of HIV-positive pregnant women received ARV prophylaxis in 2012 (SNAP, 2012). Less than 10% of the estimated PLHIV in need of ART received treatment (SNAP, 2012). In Sudan, where the existence of FSWs and MSMs has been denied at all levels and their behaviour stigmatized and criminalized, the utilization of HIV services by these groups is most probably much lower than that of the general population.

Justification

From the perspective of public health, the significant levels of sexual risk behaviour among the KPAHR and low utilization of HIV prevention and treatment services in Sudan is an important issue as there is a potential for further HIV spread among those groups as well as the general population.

HIV services are fundamental tools in preventing and combating HIV and AIDS in Sudan. For example, voluntary counselling and testing (VCT) is a gateway to prevention, treatment and psychological services. It helps KPAHR to start and continue to change risk behaviour and reduce the risk of infection and it helps PLHIVs to avoid infecting others and develop a plan for additional medical care (Mariano, 2005).

HIV services are available in Sudan but many FSWs and MSM do not take advantage of them. To my knowledge there have been no studies in Sudan looking at factors that influence access to and utilization of HIV services among KPAHRs. Failure of KPAHRs to know their HIV status and to address their needs for treatment of HIV can rapidly increase infection rate particularly with lack of awareness and risk behaviour. Therefore, there is a need to recognize the factors affecting MSMs' and FSWs' access to and use of HIV services.

General Objectives

This study aims to explore factors affecting access to and utilization of HIV services among key populations at higher risk in Sudan in order to make a recommendation to SNAP to improve HIV services utilization among the KPAHR.

Specific objectives

1. To analyse the individual and social factors influencing the access to and utilization of HIV services among KPAHR.
2. To discuss the policy and legal factors influencing the access to and utilization of HIV services among KPAHR.
3. To assess the health services factors influencing the access to and utilization of HIV services among KPAHR.
4. To review the evidence for effective interventions aiming to improve HIV services access and utilization among KPAHR elsewhere.
5. To provide recommendations to improve access to and utilization of HIV services among KPAHR in Sudan.

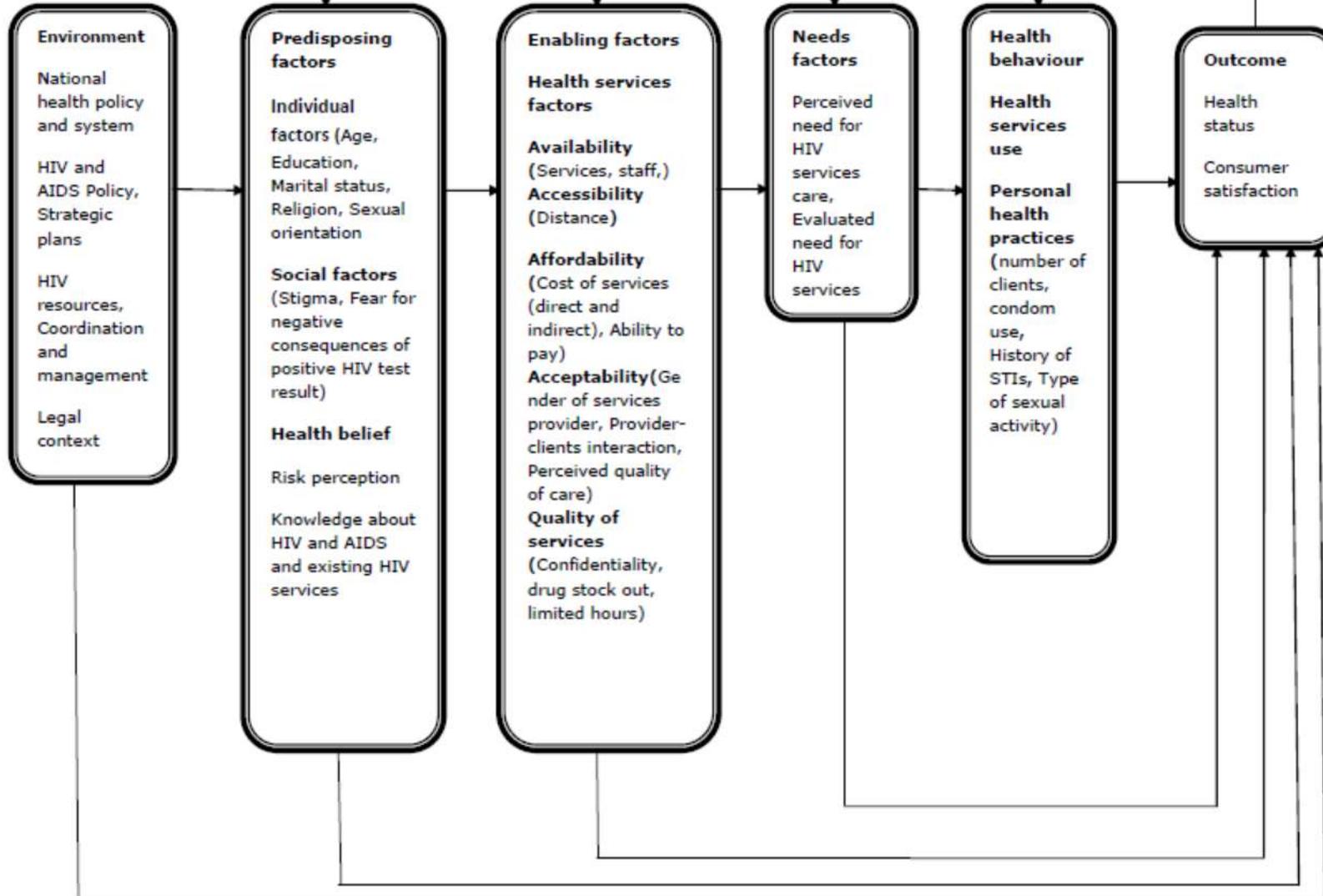
Method

This study analyses key findings from five studies: four on FSWs in Khartoum, Gezira and Red Sea states and one among MSMs in Khartoum. In order to identify more relevant studies, electronic databases — pub med, Google scholar, Google through KIT and VU library - were searched. The general search structure for electronic databases was HIV, AIDS, FSW, MSM, accessibility, utilization, stigma, peer education VCT, ART, condom use, Sudan, and Islam and combinations of these words also used. Further data were identified by a desk review of published and unpublished national documents and by consultation with national experts. Also, reports produced by development partners (WHO, UNDP, UNAIDS, UNICEF, UNFPA, GFATM, and WB) were searched in their websites. Studies of any design that included FSW, MSM or both were included even if they were not the major centre of the study in addition to studies conducted in countries made up the MENA region and sub-Saharan Africa. The languages used for searching were both English and Arabic, and there was no time limit.

Conceptual framework for the study

In order to conduct this study and to find out what is known about factors influencing the HIV services utilization among FSWs and MSMs the literature was searched for suitable conceptual frameworks to guide the study. While searching I encountered frameworks developed by Janz and Becker, 1984, Obrist *et al.*, 2007 and Peters *et al.*, 2008, but I preferred to choose the Andersen's Behavioural Model to explore the utilization of health services. The application of the Andersen model to such groups in the context of Sudan can be useful in discovering the factors that enable or prevent them to use HIV services. Andersen developed this model in 1960 to study the utilization of health services among the general population. With time the Behavioural Model witnessed reviews and updates and suggests that access to and utilization of health services is determined by predisposing, enabling and needs factors (Andersen, 1995). Enabling factors measure potential access while realized access is measured by the actual use of services. Equity depends on which component of the model determines who use the services. When demographic and needs factors are dominant this results in equitable access while inequitable access is defined when the social factors, health belief and enabling factors are the dominant factors which determine health services utilization (Andersen, 1995). Not all the model's components are regarded as mutable, that is to say pointing to short term policy and behavioural change. Demographic and social factors are considered as having low mutability since they are unchangeable or need for long term policy. Health belief factors are considered as medium mutability while enabling factors are considered as high mutability and are strongly associated to the services utilization (Andersen, 1995). This model also acknowledges that personal health practices such as safe sex and the use of health services affect health status. The improved health status and consumer satisfaction are also among the model components which in turn affect the predisposing, enabling and needs factors as well as health seeking behaviour. There are also external factors such as policy and legal frameworks which act as underlying causes of the entire model component and directly affect the service utilization and health status outcome (Andersen, 1995). Each component of the model can explain the use of services independently and at the same time collectively can represent causal ordering of the services utilization. However, to answer my research question I will focus on environmental, predisposing, enabling and need factors as enablers or barriers to use of HIV services by KPAHR in Sudan.

Figure 1 The conceptual framework of the study explaining access to and utilization of services, source Andersen, RM 1995



Chapter 3: Factors affecting access and utilization of HIV services among KPAHR

In this chapter the findings of a literature review looking for factors affecting access to and utilization of HIV services among KPAHR using the conceptual framework will be presented in addition to the concept of access and utilization.

Concept of access and utilization

Some studies defined access as characteristics of people, providers or the system while others argue that the best way to define access is by using outcome indicators such as client satisfaction and utilization rates (Ady and Andersen, 1974). Freeborn and Greenlick (1973) defined access as needy people receiving health care services at the right time and place (cited in Ady and Andersen, 1974). Panchansky and Thomas (1981) define access as a match between the properties of consumers and suppliers. They clustered these properties into Five As; Availability, Accessibility, Affordability, Acceptability and Accommodation (cited in McLaughlin and Wyszewianski, 2002). Peter *et al* (2008) defines access as timely use of services according to need. Andersen (1995) defines the realized access as actual health services utilization and everything that enables or hinders the use of health services and this is what I used for this study. On the other hand, McLaughlin and Wyszewianski (2002) defined utilization of health services as bringing people into the health system and it is the impact of the characteristics of the individuals, service providers and system with four criteria: type, site, purpose and time interval. The type indicates who – doctors or counsellors – who provide the services while the site refers to the place –facilities or outreach - where the services are provided. The purpose of the services could be prevention, treatment or counselling whereas the time interval points to a continuum of care. Utilization of health services also can be defined as percentage of population making use of a particular service in a given year (Berg, 2011) and this is what I used for this study. In my study I used the output and outcome indicators to measure access and utilization among the study population such as percentage of people tested and counselled, currently on treatment and use condom in a given period.

HIV services in Sudan are given through a broad continuum of care including HIV testing and counselling (HTC), PMTCT, behavioural change communication (BCC), sexually transmitted infections (STIs) prevention and control, condom distribution and care and treatment (SNAP, 2010d).

Environmental factors

National health policies strategic plans and health care system factors are important underlying determinants of health services utilization by the population. Moreover, the external environment such as the legal context may better assist in understanding of HIV services utilization by KPAHR in Sudan.

National health policy and health system

The Interim Constitution (2005) requires the state to ensure equal access and free PHC to all Sudanese people. The national health policies are stimulated by the international initiatives for which Sudan is committed such as Millennium Development goals (MDGs). And it is directed by the national commitment to equity, quality of care, realizing MDGs, preserving human rights with emphasis on poor and vulnerable population (FMOH, 2007). However, all health services levels are unequally distributed in the country and focused in the provision of curative services (WHO, 2009). And progress towards achieving the MDGs health related indicators targets are very slow as shown in Annex 1. The policies encourage collaboration with other sectors, donors, development partners, NGOs, private sectors and communities. Also it emphasizes health system strengthening and assuring access to and utilization of health services (FMOH, 2007). But, health system still fragile in Sudan, counting absence of explicit policies, that will guarantee access to health services to the whole population. The main challenges facing the health system are; insufficient funding; shortage of human resources at all level; weak information and management system and fragmented multiple providers and poor coordination among related sectors (FMOH and UNFPA, 2011). As efforts to mitigate the financial access problem that resulted from the introduction of user fees: health insurance has been developed; emergency cases have been exempted and also care for under-fives and pregnant women. However, because of health system weaknesses those free care policies are poorly implemented (FMOH, 2011d).

HIV and AIDS policy in Sudan

After the discovery of the first case in Sudan HIV policy developed immediately to guide and coordinate the multi-sectorial HIV response as well as to achieve the goals of the UNGASS, MDGs and universal access. The policy formulation process was participatory but that took a long time due to the weak political commitment. The policy emphasizes and provides guidance for the implementation of prevention, treatment, care, and impact mitigation as well as protection of (PLHIV) human rights and a stigma reduction program. This policy also emphasizes surveillance and research on the magnitude and trend of the HIV epidemic in the country. Furthermore the policy calls for more attention to the gender issues and women empowerment interventions (SNAP, 2004a).

A legislation/act was drafted to protect the rights of PLHIV and other vulnerable population groups, but this act is still awaiting final approval from Ministry of Justice. The policy recognized the urgency to work with KPAHR; however interventions should be guided by understanding of the legal environment and should avoid misinterpretation of these interventions as legislation or official permission of such practices. Condom is also acknowledged as an effective HIV prevention method in the policy document and encouraged availability and distribution either through health facilities or the community system to the KPAHR. Yet the policy clearly stated that promotion of abstinence should not be influenced by the distribution of condoms for the reason that abstinence is culturally acceptable and embedded in the values of Sudanese society (SNAP, 2004a).

Practically, the policy environment is still unfavourable for the application of this policy. In June 2012 a number of parliamentarians confronted the Minister of Health for advocating the distribution of condoms to prevent the spread of HIV. They argued that it was contrary to Islamic law and contributes to the legalization of sin and promotes the practice of sex outside of marriage. Very few religious leaders supported the use of condom as a medical matter and their vision is based on the floor of juristic and that is the prevention of the damage (Ahmed, 2012). Teaching about AIDS in schools has caused extensive argument in parliament about the importance of the curriculum and there are voices calling for its abolition (Ahmed, 2012). Weak political commitment impedes the execution of HIV policy and ultimately compromises the access to and utilization of services for KPAHR.

Strategic plans

The first strategic plan (2003-07) was based on evidence that Sudan had a generalized epidemic with HIV prevalence of 1.6% followed by the National Multi-sectorial Strategic Plan 2004-2009. The plan focused on sustaining the prevalence of HIV at less than 2% in the general population. However it had no clear prioritization of regions and target groups (SNAP, 2004b).

Recently SNAP has developed and endorsed its second strategic plan for 2010-14 based on the EPP data that indicates no HIV epidemic among the general population. To reduce the risk of HIV infection NASPII Prioritized and focused on KPAHR and geographical areas perceived to have a higher HIV prevalence and where KPAHR exist. The long term target of the strategic plan is to keep the prevalence of HIV at <1% among the general population and <5% among KPAHR to decrease mortality and morbidity associated with HIV and to mitigate the socioeconomic impact (SNAP, 2010d). In order to achieve these targets SNAP should ensure access to HIV services for KPAHR for which strong political commitment and an enabling environment are needed.

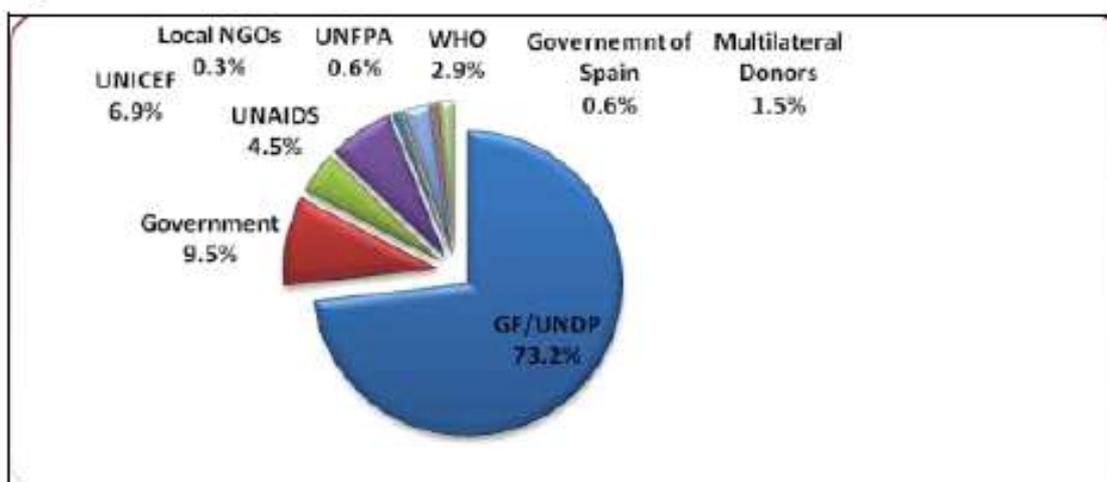
HIV resources

Financing of the current response is donor-based and does not reflect a national priority (Abdesalam, 2011). As per NASA report (FMOH, 2010a) the financing of the HIV response in Sudan is derived from the following sources: 73% GFATM, Government 9.5%, donors 2.1%, 14.9% UN agencies and 0.3% from local NGOs (Figure 1). Sudan is under the safeguard policy that gives more authority to the UN agencies to participate in managing GFATM grants resulting in the perception that the current HIV strategy is owned by SNAP and UN agencies; therefore the government believes that the national contribution must be at its minimum (Abdesalam, 2011). My personal opinion is that on the background of the financial challenges imposed by the global financial crisis, continuous wars and conflicts, the loss of oil revenues, the national contribution on financing of HIV response is expected to remain stable if not to fall. On the other hand the financial challenges may affect family income and the individual, which may reduce the demand for HIV services. From my observation as M&E head of unit currently the R10 GFATM grand is running, which began in 2012, and will end 2016. Sustainability of the donation fund is an issue that for the continuity of HIV services and it should be addressed.

Medicines and supplies for HIV are supported by the GFATM and due to the weakness of the national procurement system SNAP uses the UN agencies procurement system adopted by the GFATM program. However, in 2010 SNAP reported a condom stock out incident and the continuity of the ART , STIs drugs and PMTCT supplies is challenging (SNAP, 2010d).

As we have seen the high turnover and low incentive of staff influences HIV service provision, especially in remote areas causing the need for endless training of staff as they are recruited. If this is not addressed as serious, it is likely to affect the strategies proposed in the new HIV strategic plan (FMOH, 2011b). Abdelsalam (2011) reported that the sense of ownership of HIV response is being replaced by the sense of conducting a paid job which is creating an environment of incentive driven action.

Figure 1 HIV and AIDS financial resources in Sudan.



Source: Abdelsalam 2011

The sustainability of funds and the weak health care system are challenging the quality of care and hence the provision and utilization of HIV services.

Coordination and management of HIV response

Coordination and management of the HIV response in Sudan is insufficient (SNAP, 2010d). While SNAP is mainly a coordinating body, it sometimes has to play the role of implementing due to the weak capacity of state programs and NGOs. Coordination between SNAP and stakeholders is mainly dependent on undocumented irregular meeting with poor attendance by partners. Line ministries and the civil society are suffering from a shortage of HIV staff and absence of guidelines for HIV response coordination. The national M&E system need to be strengthened and improved (Abdelsalam, 2011).

Activities of the private sector in HIV response were only workshops particularly on establishment of the Business Coalition Against HIV and AIDS (BCAA) and introduction of the Global Compact Network to promote human rights for workers. However, only 1% of the businesses were part of BCAA. The private health care institutions are not involved in provision of HIV service. Furthermore, weak coordination between SNAP and the private sector prevents the adoption of national HIV policies and guidelines by private sector (SNAP, 2010d).

As we have seen earlier the Sudanese people prefer to use the private sector, and this is probably due to the poor quality of health services in the public sector which is also true for KPAHR and also due to the stigmatization, criminalization and fear identified in the public sector. So poor coordination between SNAP and partners particularly NGOs and private sector, jeopardize the opportunity to increase the access to and utilization of HIV services among KPAHR.

Legal context

Governments including Sudan committed themselves to the Declaration of Commitment on HIV and AIDS 2001 and Political Declaration on HIV and AIDS 2006 and 2011. They committed themselves to end stigmatization and criminalization of KPAHR and to secure their human rights (UNAIDA, 2001) (UNAIDS, 2006a) (UNAIDS, 2011b).

Sex work and same sex relations are illegal in Sudan (SMOJ, 1991) and their behaviour is considered against religion and morality, leading to criminalization, stigmatization and discrimination of this groups.

In Sudan the justice system is based on the Shari 'a. A number of laws in place prevent FSW and MSM from utilizing health services. The "Sudan Criminal Act 1991" prostitution law article 154 states that anyone found in a prostitution place is probably practicing sexual acts and shall be penalized with lashing or with imprisonment. Article 148 requires lashing and imprisonment for MSMs (SMOJ, 1991). Alsudani (2012) published articles saying that security authorities arrested 10 prostitution networks while National Intelligence and Security announced launching a major campaign to catch the FSW, emphasize the law and form state sub-committees and follow-up mechanisms in coordination with community committees in residential neighbourhoods. In 2010 19 men were lashed in public and fined after being caught celebrating the wedding of two homosexual men in Khartoum (LGBT, 2011). Laws against and criminalization of FSWs and MSMs violate their right to information and education because they will remain hidden as well as alienated from available HIV services for fear of identification and being caught by the police.

Predisposing factors

Predisposing factors are the individual, social and health beliefs factors that already exist prior to their illness.

Demographic and individual factors

These consist of demographic characteristics such as age that can impact HIV services utilization.

Age

The majority of FSWs in Sudan are between 18-30 years of age (Abdelrahim, 2010; ACORD, 2006; Elhadi, 2006; Ati, 2005). Abdelrahim (2010) reported that 68% of FSWs in Khartoum are aged between 18-28 years and only 7.0% were previously tested for HIV. Elrashied (2006) studied 713 MSMs in Khartoum and found that more than 60% were 15-24 years and 80% of them had not been tested before for HIV.

In Uganda and Ethiopia younger men are more willing to be tested for HIV than are older men (Gage and Ali, 2005; Admassu and Fitaw; 2006). Opposing findings reported in Tanzania stated that young MSMs have low HIV risk perception resulting in low condom use and low HIV services utilization (Mmbaga *et al.*, 2012) In Nepal the young age of FSWs acts as barriers for ART services utilization (Ghimire and Teijlingen, 2009). However, irrespective of age characteristics FSWs and MSMs in Sudan have low HIV services utilization.

Educational level

The educational level among FSWs differs between the states and illiteracy is higher among FSWs than among MSMs. ACORD (2006) reported that 15% of FSWs in Khartoum state are university students or have already finished their education compared to 18% reported by Abdelrahim (2010) and only 2.4% in Port Sudan as Ati (2005) declared. In Khartoum ACORD (2006) reported that 20% of FSWs have not received any education at all while Abdelrahim (2010) reported 24%. In Port Sudan 86% of the FSWs are illiterate compared to 67% in Gezira state as explained by Ati (2005) and Elhadi (2006) respectively. Elrashied (2006) revealed that only 6% of MSMs in Sudan are illiterate.

There are many studies that show the association between education level and health services utilization. In Pakistan more than 50% of sex workers are not educated which results in a lack of awareness about HIV, its mode of transmission and low utilization of VCT (Afridi *et al.*, 2010). Surprisingly Stephenson *et al* (2012) reported that more educated MSMs in South Africa are less likely to use HIV testing services. Information services for HIV in Sudan are only available through IEC materials, and not advertised in the media (Jordan *et al.*, 2009) which is not beneficial to the uneducated KPAHR result in lack access to and use of HIV services.

Marital status

In Sudan, small number FSWs were unmarried. A study performed in Khartoum reported that 57% of FSWs are married (Abdelrahim, 2010). Other studies carried out in Gazera and Port Sudan demonstrated that 57% and 58% of FSWs are married respectively (Elhadi, 2006; Ati, 2005). Ati (2005) observed that 80% of FSWs in Port Sudan reporting condom use are married and use it as contraceptive and very few use the condom as an HIV prevention method. In Khartoum the majority of FSWs are cohabitating and the main reason behind not using condom is that they don't remember the condom at the time of contact with the emotional partner. This data indicated that the married FSWs are more motivated to use condoms than cohabitating FSWs.

As Abdelrahim (2010) reports, 50% of married FSWs married when they were less than 18 years old. Marriage of FSWs at an early age may put them at risk of physical violence because of their inexperience in protecting themselves and thus they cannot negotiate condom use with their clients (ACORD, 2006).

About MSMs in Sudan Elrashied (2006) reported 77% of MSMs ever being married, 17.3% currently were married and 61.2% ever having sex with a female. This data indicates the presence of an overlap between homosexual and heterosexual sex networks allowing the HIV spread in Sudan. Marriage to women leads to invisibility of MSMs and in turn difficulty to convey health information to them resulting in low utilization of HIV services.

Religion

Gray (2004) conducted a literature review looking for an association between Islam and HIV and its risk factors and he found that six of seven studies indicated a negative association between HIV and Islam. Islam is against sex outside of marriage for men and women, leading to a reduction in sex before marriage and outside marriage, as well as limiting sexual activity with sex workers. Islam also prohibits homosexuality and alcohol consumption. Commitment to the teachings of Islam gives the benefits of preventive measures against transmission of HIV (Gray, 2004). However, almost all the FSWs (93%) (Abdelrahim, 2010) and MSMs (98%) in Sudan were Muslims (Elrashied, 2006). Social stigmatization linked to HIV is more evident in Muslim cultures because Islam is against FSWs and MSMs so this stigma prevents Muslims who are FSWs and MSMs from using HIV services as it required disclosure of practices that are prohibited religiously (Hasnain, 2005). Nevertheless, in 2008 there was the "Khartoum Declaration by Religious leaders" which is considered to be a leap forward in the HIV response in Sudan and the Ministry of Guidance and Endowment arranged for advocacy and capacity building among religious leaders (SNAP, 2010b).

Sexual orientation

Same sex relations are illegal in Sudan and MSMs face lashes, imprisonment and even the death penalty (SMOJ, 1991). Also it has significant economic and social consequences - it means a loss of works and rejection from family and community. It is considered one of the greatest taboos and sins possible. MSM is an old phenomenon to the Sudanese community, especially among the northern part, where the majority were Muslims, but its existence is always denied (Elrashied, 2006). As a result of all these issues MSM groups in Sudan may have limited access to HIV services. Surprisingly Elrashied (2006) revealed that 78% of MSMs seek medical treatment from health facilities when they developed STIs, but probably without disclosing their sexual orientation, or visited private clinics.

Social factors

Social factors are the factors which control the position of the person in society, his/her capacity in controlling the resources to deal with problems, and how the physical environment is probably to be (Andersen, 1995).

Stigma

HIV Stigma intensifies among HIV positive KPAHRs not only because they are already stigmatized and considered to be responsible for HIV but also because the PLHIV are perceived as part of these groups. Moreover HIV is associated with religious beliefs that believe that to acquire the disease is punishment because of immoral behaviour (UNAIDS, 2005). The causes of stigma in general could be fear, inadequate information and association of HIV with sex which is taboo. Stigma and the resulting discrimination are increasingly regarded worldwide as the two most important barriers for HIV service use (Campbell et al., 2005). Stigma works at individual, family, media and government policy levels (Ogden and Nyblade, 2005). Consequences of stigma on the individual level are loss of jobs, divorce, refused care within health services and internalized stigma that result in loss of hope and sometimes suicide. Moreover, HIV-related stigma extends to the families leading to their loss of reputation. Media also transmit fear-based messages such as HIV being fatal and distorted disease which creates more fear of HIV testing. Furthermore, some government policies require HIV testing for visas for travel, jobs and scholarships which jeopardize the opportunities for PLHIVs (Ogden and Nyblade, 2005). All these forms of stigma and negative consequences have significant effect on access to and utilization of services for PLHIVs and particularly KPAHRs living with HIV.

Research on the stigma situation in the Arab world is limited. In Iran a KAP study conducted among KPAHR found low HIV knowledge level and low Condom use (Revue, 2008).

In Senegal Niang *et al* (2010) reported that MSMs avoid using HIV services for fear of being disgraced, many refused services by health workers, and even more were accused and imprisoned. This is consistent with a study conducted in Namibia, Botswana and Malawi which observed a strong association between stigma and low access to and utilization of HIV services among MSMs (Fay *et al.*, 2010). Another study conducted in India revealed that family level and social level stigma is a major barrier that prevent FSWs from using the HIV services including free ART (Newman *et al.*, 2009).

The Sudan Household Survey (FMOH, 2006) also found a high level of HIV related stigma among the general population. A survey of the private sector revealed discriminatory human resources recruitment and management practices (SNAP, 2010d). There is also evidence from other surveys that there is high HIV stigma among health personnel in health settings (HAI, 2006).

In Sudan none of the research conducted on the KPAHR tried to measure stigma in a standardized manner or used a stigma index (SNAP, 2009a). However, they have all the characteristics that can cause severe stigma. All the studies reported low knowledge levels about HIV symptoms and mode of transmission (Ati, 2005; ACORD, 2006; Elrashied, 2006; Elhadi, 2006; Abdelrahim, 2010). As we have seen earlier FSWs and MSMs are illegal and against religious beliefs, their behaviour is regarded socially as immoral behaviour and taboo all this together with the poor knowledge and misconception lead to daily realities of stigma among these groups and it is more likely to be doubled when they contracted the HIV that hinder their access to and utilization of HIV services.

Fear for positive test result

All human beings have always feared something bad happening to them, such as HIV. Fear of HIV transmission through common interactions is translated into the stigma and discrimination against PLHIVs with negative consequences that prevents them from using HIV services (Campbell *et al.*, 2005). Because HIV and AIDS is incurable and life-threatening one of the main reasons that people do not use HIV services is fear (Obermeyer & Osborn, 2007). In a report from Zambia, Ethiopia and Tanzania by Ogden and Nyblade (2005) it is stated that people avoid taking HIV tests because they fear the positive test result and its negative consequences. Consistent with this a study from Uganda revealed that expected negative outcomes of being found positive would discourage HIV testing. These negative consequences of a positive HIV test result include hopelessness leading to destructive behaviour, premature death due to anxiety, and sometimes suicide. Other negative consequences were stigma from society and rejection from friends, relatives, and sexual partners (Nuwaha *et al.*, 2002). Chakrapani *et al* (2008) explained that married FSWs to obscure their HIV status because it leads to domestic violence by the husband, who discover the nature of her work, and the loss of respect from their children, as well as rejection from their families, friends and community. Meanwhile the main barriers preventing the MSM from using the HIV testing services is fear of rejection by their MSM friend's network if they are identified to be HIV infected.

Sudanese, like other human beings fear the occurrence of bad things to them and as a result may appear have the concerns mentioned above. Moreover, legal consequences of sex work and MSM and religious beliefs may aggravate the fear preventing KPAHR, from utilizing the HIV services including HIV testing.

Health beliefs

This is the knowledge, values and attitudes about health, disease and use of health services that may affect their need perceptions and use of services (Andersen, 1995). The Health Beliefs Model suggests that people will take the right action about their health if they perceive that they are susceptible to the disease which refers to one's risk perception of getting the disease (Janz and Becker, 1984).

Risk perception

An individual's risk perception is a mental process by which people interpret knowledge to identify the risk that they are exposed to (Janz and Becker, 1984).

According to Abdelrahim only 20% of FSWs in Sudan consider themselves at high risk which explain the low utilization of VCT among this group (Abdelrahim, 2010). Elrashied (2006) reported that 94% of MSMs in Sudan are educated but their risk perception toward unprotected anal sex is very low.

These findings are consistent with findings in other Arab and African countries. A study conducted in Iran looked at knowledge, attitude and sexual behaviour, reported that individuals' refusal to admit that they are at risk even when in fact they are hinders the utilization of VCT among FSWs (Revue, 2008). In South Africa MSMs are at high risk of HIV infection however, less than 1% of them perceived infection risk (Lane *et al.*, 2011). In Zambia a population-based HIV survey showed that 40% of the respondents had no self-perceived risk of HIV infection leading to very low (35%) VCT utilization (Fylkesnes and Siziya, 2004).

Knowledge about HIV

Knowledge about HIV and the site of HIV services is a major facilitator of services utilization. Many Knowledge, Attitudes and Practices studies about HIV and AIDS were conducted worldwide. One in Lebanon and Iran suggested significant associations between poor knowledge and misconception about HIV among KPAHRs and poor utilization of preventive services (Revue, 2008, Kahhaleh *et al.*, 2009). Similarly a study in Malawi showed that the key reason for VCT utilization is current knowledge about HIV (Jereni & Muula, 2008). In Uganda a study indicated association between knowledge about HIV, knowledge of testing sites in the neighbourhood and increased utilization of HIV testing (Gage and Ali, 2005). In Northern Nigeria more than 50% of the respondents had adequate knowledge about HIV and willingness to utilize VCT services (Lliyasu, 2006). Consistently a study from Pakistan suggested an association between lack of awareness regarding VCT among KPAHRs and poor uptake of VCT (Afridi *et al.*, 2010).

With regard to Sudan, a study by Abdelrahim (2010) found that only 25% of the FSWs in Sudan had comprehensive knowledge about HIV prevention leading to low utilization of preventive services such as condoms and VCT. Another study by Elrashied (2006) found that 96% of MSMs had heard about AIDS, however, MSMs were still vulnerable to contract HIV because of high rates of ignorance and misconception on methods of prevention.

Lack of correct knowledge about HIV and misconception about the symptoms and signs of the disease makes the KPAHR continue to practice risky behaviours and lower their perceived risk and need for care. Any or all of these conditions lowers HIV services utilization.

Enabling factors

Andersen (1995) defined enabling factors as the logistics of access to health services. For the use of health services well equipped and staffed health facilities in the residential and work areas must be available. To take advantage of those health services they should be accessible, affordable, and provide quality care and be acceptable (Andersen, 1995).

Availability

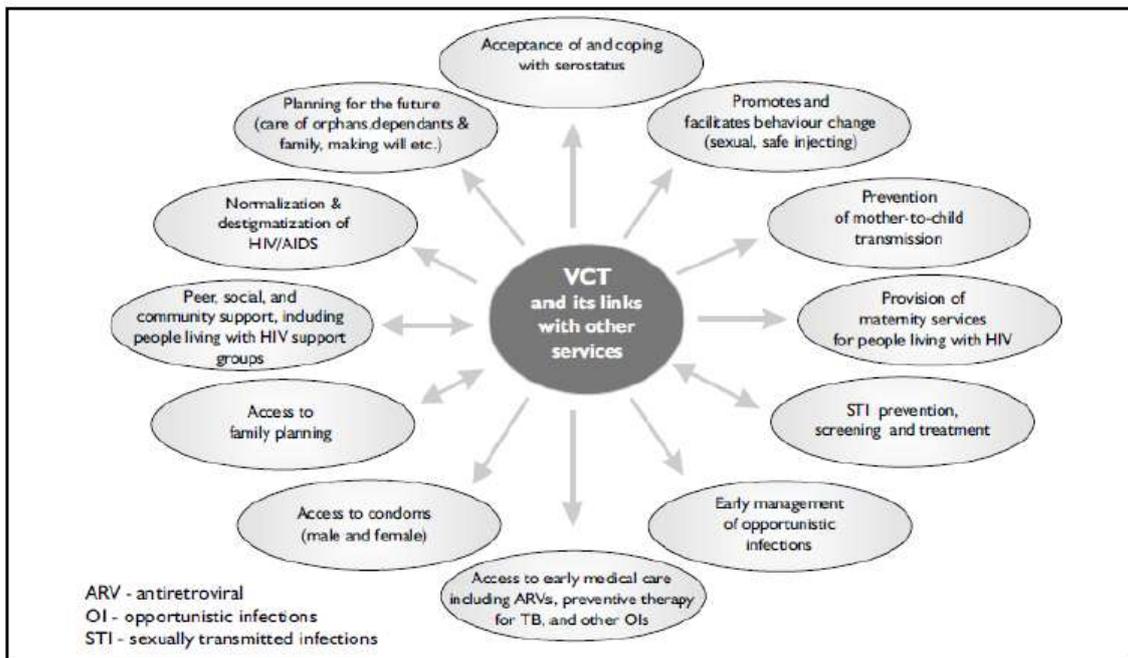
Availability is defined as appropriate health workers and adequate resources available to provide the quality care to those who need it (Peters *et al.*, 2008).

HIV Testing and Counselling services

VCT offers a direct entry point for receiving early access to treatment care and support as shown in Figure 2 (UNAIDS, 2000). It is also showed that VCT is helpful in stimulation behavioural change and assisting decrease the incidence of HIV (Admassu and Fitaw, 2006).

Sudan began providing VCT services in 1992 (SNAP, 2010d). VCT services represent 11% of the total health facilities. There are 144 HTC services provided in a wide variety of settings (SNAP, 2011). VCT exists in PHC centres, in public hospitals, teaching hospitals, through sites providing ART linked to hospitals or stand-alone facilities. Moreover, Provider Initiated Testing and Counselling (PITC) is implemented in 75 TB Management Units in nine states to provide HTC services (SNAP, 2012). About 400 counsellors and 145 laboratory technicians have been trained to provide HTC services (SNAP, 2010d). Although there is expansion in HTC services as shown in Table 1, the utilisation is very low. The services had reached 31,222 clients by 2010, representing 15% of the estimated PLHIV and 33% of the national target (SNAP, 2012).

Figure 2 VCT as an entry point for prevention and care.



Source UNAIDS 2000

Although the overall number of people tested and counselled increasing, the population-based estimate on the coverage of HTC in Sudan is 1% (SNAP, 2012). None of the available VCT services is devoted to KPAHR compromises the opportunity for those who want to undergo HIV testing.

Table 1 HTC services expansion in Sudan 2007-11.

<i>Services</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>
#VCT centres	55	113	132	138	144
#ART centres	21	30	32	29	30
#PMTCT sites	7	20	27	29	70
#People tested in HTC	14,000	28,376	52,770	31,222	32,329
#pregnant women tested	1,608	7,515	19,980	17,263	28,551
#PLHIV currently on treatment	-	1,151	1,996	2,185	2,500

Source: SNAP 2012

Prevention of mother to child transmission of HIV

PMTCT services have been initiated in seven facilities in 2007 (SNAP, 2010b), increasing to 70 all over Sudan by 2011 (SNAP, 2012). PMTCT services are offered primarily at the tertiary level and some pilot PHC sites. In order to achieve universal access and increase utilization SNAP adopted PITC in ANC clinics. However, because of incorrect implementation of the PITC approach, weak involvement of doctors and midwives and dependency on counsellors to offer HIV test, weak referral mechanisms and high default rates (SNAP, 2010b) the utilization of PMTCT is still low among pregnant women including pregnant FSWs.

Behaviour Change Communication (BCC)

In Sudan the national BCC strategy was developed in 2006 to raise HIV awareness among the general population including youth. In 2008 HIV education was included in the school curriculum (SNAP, 2010b). HIV messages are transmitted through HIV hotlines and information centres, radio, TV spots, drama events, music and role plays in public places as well as public awareness sessions aiming young people. The language of the messages is local language and contains only basic information about modes of transmission and ways of prevention (SNAP, 2010b). However, according to SHHS 2010 only 7% of the general population have correct HIV knowledge (SNAP, 2012). The problem is that BCC interventions are not targeting KPAHRs in Sudan which results in low knowledge and misconception and consequently low access to and services utilization.

STI Prevention and Control

To ensure wide coverage of STI programs they been integrated in the PHC services all over Sudan. The STIs sites reporting to SNAP reached 390, increasing the number of STIs cases treated from 35,263 in 2009 to 89,625 in 2011 (SNAP, 2012). This wide availability of STI programs may facilitate access for KPAHRs.

Condom distribution

The main outlets for free condom distribution in Sudan are VCT, PMTCT, ART, STIs, family planning and TB facilities and outreach interventions for KPAHRs. (SNAP, 2010c). Government policy allows for condom distribution but not condom promotion in the media or commercial advertising (SNAP and UNFPA, 2009). The police only allow condom distribution in health facilities and sometimes interfere with outreach activities leading to limited access among the KPAHR.

Peer education

Outreach interventions targeting KPAHRs comprise of a comprehensive package of services include BCC, condoms, IEC materials, mobile VCT and referral to more care services. In Sudan these services are provided by peer educators guided, coordinated, and supervised by NGOs and CBOs (SNAP, 2010b). NGOs and CBOs in Sudan face many challenges interfering with targeted interventions and subsequently access to and services utilization for KPAHRs. For instance, peer education sometimes faces difficulties with police when providing services such as education or condoms for FSWs and MSMs. Likewise, their capacity is weak, and they have restricted access to information on HIV response, difficulty of obtaining funds, and poor coordination with SNAP. Very few have M&E systems and reporting is usually based on donor requirements (Abdelsalam and Ali, 2009).

Antiretroviral services

ART services have been introduced in all 15 States of Sudan but only in 30, mainly tertiary and secondary hospitals, representing about 1.8% of the health facilities in Sudan. Viral load machines are located in reference laboratories while CD4 machines were installed in all ART sites (SNAP, 2011). The few numbers and inequitably distributed ART services result in low access and utilization for the general population including KPAHR.

Accessibility

Accessibility, or geographic accessibility is defined as the distance from service location to the consumer (Peters *et al.*, 2008). A study conducted in Zambia found that in developing countries where most of individuals live under the poverty line, poor infrastructure and large distances between service locations and users is a significant determinant of health services utilization (Hjortsberg, 2002). VCT and ART services are established all over Sudan but are mainly located at existing governmental health facilities and in capital cities or along major roads (SNAP, 2010d). Only 1.8% of health facilities offer ART and about 11% offer VCT. Each VCT site covers more than 100,000 adults and ART coverage is probably far less (SNAP, 2011). This unequal distribution will negatively affect services access and utilization particularly among people living in rural areas including KPAHRs.

Affordability

Affordability, also known as financial accessibility (Peters *et al.*, 2008), involves the direct cost for health service management and indirect cost such as time and transport cost for patients and co-patients. In 2007 an evaluation study conducted to discover the effect of a cost Sharing Policy introduced in 1992 in all public health services in Sudan. One of the consequences was that access and utilization of health services was reduced (Khalafalla *et al.*, 2007).

All HIV services in Sudan are free of charge, however, because the services are located within the existing health facilities the patients have to buy tickets for entry. Moreover, patients have to pay for medications and investigations not related to HIV such as X-rays. Referral between HIV services also has financial implications for the patients as there are only 32 ART sites, mainly at the secondary and tertiary level, and the care services like socioeconomic and impact mitigation interventions are available in fewer than 10% of facilities (Jordan *et al.*, 2009). If anyone including KPAHRs use these services or are referred they must buy entry tickets, and services other than HIV and transportation that may endanger their financial access to and utilization of services.

Quality of services

Good quality care includes proper and effective treatment and referrals and ready access to necessary medicines and medical supplies as well as respect for client confidentiality. It also includes providing information about HIV and its prevention, including condom demonstration and promotion (UNAIDS, 2002).

VCT services are offered in a specified place, usually one room, within the health facilities either separately or together with ART. Doors and windows of the VCT centre are not transparent to ensure confidentiality of the sessions (SNAP, 2010f). VCT centres work from 7:30 a.m. to 3:30 p.m. except Friday and Saturday which are the official weekly holidays (SCBS, 2009). In some of the VCT centres there is waiting room with audio and video tools like TV to deliver learning messages and IEC materials. The VCT staff include a counselling supervisor, two counsellors, laboratory personnel, a records assistant, a receptionist and volunteer lay counsellors / community outreach workers. The two counsellors are preferred to be male and female and not to see more than eight clients per day. Furthermore, there may be a medical doctor, nurse and pharmacist if it is VCT/ART and a midwife in case of PMTCT (SNAP, 2010f). All the staff is governmental and all except the counsellors are involved in other tasks within the health setting. Unlike counsellors there is high staff turnover among medical doctors because they are basically nominated to this job as part of their national services which is maximally one year (Jordan *et al*, 2009). Test results are given only to the client on the same day. The counsellors fill the recording and reporting tools manually and keep them in lockable drawers that no one except VCT staff can access. Testing and counselling guidelines are there (SNAP 2010f), however, some counsellors violate confidentiality between them which may bother KPAHRs and affect their health seeking behaviour. Because KPAHRs are highly stigmatized and criminalized their fear of being identified while visiting the clinic is a major barrier to HIV services utilization.

Jordan *et al*. (2009) reported that stock-out of HIV testing kits is common, resulting in lost chances for those who want to be tested. She also mentioned that condoms and the models for condom use demonstration were unavailable in the tables of the counsellor. VCT services in any health setting are considered isolated islands and not part of the setting services. Supervision visits to ensure adequate performance and provision of high quality care were found to be unplanned, segmented, not joined to different parts within the HIV program or between different partners and focused mainly on on-site data verification and managerial issues rather than technical support and in services training (Jordan *et al*., 2009).

According to FMOH (2011c), 29% of the PHC facilities are not fully functional because of human resources shortage and physical infrastructure condition such as buildings which reflect the poor quality of STIs services. In 2008 STIs a facilities assessment conducted by FMOH and UNFPA revealed 70% of STIs sites consist of diagnosis and treatment of STIS and 55% encourage partner notification. There was no proof of safe sex promotion however, 83 % of services had condoms and 64 % had IEC materials (FMOH and UNFPA, 2011).

All the quality issues mentioned including turnover of trained staff, limited opening hours, breached confidentiality, drug and supplies stock-outs and lack of supervision jeopardize the access to and service utilization for the general population including KPAHR.

Acceptability

Perceived quality care, provider-client interaction and gender of the provider are crucial for promote satisfaction and acceptability of health services (Peters *et al.*, 2008).

Younes *et al* (2008) studied the PLHIV who utilized VCT/ART services in Khartoum and conveyed concern about high doctor's turnover in ART clinics which forces frequent explanations of medical history to new doctors. PLHIVs also voiced their dissatisfaction at the unqualified doctors in VCT/ART centres. They also perceive that doctors appointed to the HIV clinics are trainees and not HIV doctors. Participants also mentioned that doctors do not prescribe the right medication and do not inform them about HIV issues other than ART. Participants also perceive that the counsellors are more qualified, than the doctors. However, some participants stated that some counsellors showed uncertainties about PLHIV marriage or childbearing, and there were a number of reported violations of client confidentiality.

More than 50% of PLHIVs in Sudan suffer discrimination from the health care providers in health settings other than HIV clinics. Treatment or services in health facilities has been blocked from PLHIV, left unattended by hospital staff, denied access to health facilities after disclosing their status, and – in some cases – were subjected to public disclosure, humiliation and unnecessary infection-prevention measures while undergoing treatment (Younes *et al.*, 2008).

SNAP (2010a) reported that 68% of the reported STIs cases were females. However, the STIs services staff is medical assistant and nearly all of them are males even though more women than men utilize STIs services and most are 20-39 years old.

Perceived poor quality care and discriminatory attitude of providers which is harder for KPAHRs, result in low acceptability and low HIV services utilization.

Needs factors

Need factors are the most direct motivation for health services utilization. There are two types - perceived and evaluated need (Andersen, 1995). ACORD (2006) and Elhadi (2006) reported that most of the FSWs in Khartoum and Gezira have the misconception that PLHIVs look ill or are dying; others think that clients who appear in good physical shape cannot transmit HIV. In 2010 Abdelrahim reported that 25% of FSWs showed comprehensive knowledge. Elrashied (2006) reported that more than 65% of MSMs they have the misconception that PLHIVs never appear healthy. Based on the lack of comprehensive knowledge and misconception among KPAHRs in Sudan we can say that even if they are infected they will not perceive the need to seek care in the absence of symptoms of illness. With regard to evaluated need factor, in Sudan many Sudanese doctors are not interested to be involved in HIV management activities because of the stigma and gaps in their knowledge about HIV. So even if the clients are aware of the need for care and seek health services, physicians either refuse to treat them or miss the diagnosis (HAI, 2006). Sallam *et al* (2010) reported a knowledge gap among doctors in Egypt and Saudi Arabia resulting in missed diagnosis. Low perceived and evaluated need can lead to low HIV services utilization.

From the author's observation until 2011 the KPAHR population in Sudan is unknown. IBBS began in 2011 and is likely to give more valuable information about their size and networking which will provide a proper estimate of their care needs.

Chapter 4 Evidence for effective interventions aiming to improve HIV services access and utilization among KPAHRs

In this chapter I will present the effective programs among KPAHRs from other countries. Lessons learned will be used to make recommendations to be implemented and adapted to the local context of Sudan. It is difficult to find documented best practices among KPAHRs from Arab-Muslim countries so the selection of countries in this chapter was based on three criteria namely, similar epidemic situation, low income or percentage of Muslims greater than 50%.

Avahan India AIDS Initiative

In India the HIV epidemic is concentrated mainly among FSWs and their clients, MSMs and IDUs (Chandrasekaran *et al.*, 2006). Avahan is a large scale HIV prevention program established in 2003 with financial aid from the Bill AND Melinda Gates Foundation. It works in six states that represented 83% of HIV prevalence in India at that time. Avahan provides monthly HIV services for FSWs, MSMs, IDUs and truck drivers to reduce the burden of HIV in India (Avahan, 2008). Avahan works with governmental bodies and more than 100 NGOs and other groups. It is directed by a team of national public health professionals and business leaders. Also nine lead partners at the state level provide financial and technical assistance to the local implementing partners. For guiding and monitoring the program Avahan developed a "Common Minimum Program" which is a living document that includes standard operating procedures, guidelines and tools for interventions, project targets, management, and M&E (Avahan, 2009). The aim of the program is 80% prevention coverage of KPAHRs and bridge population (Avahan, 2008).

HIV prevention services include peer education, STI management and control, condom distribution and access to HIV testing care and treatment. In addition, structural interventions and community mobilization for empowerment to curb stigma and violence and economic interventions are also available. Avahan carried out comprehensive KPAHR mapping for intervention prioritization to reach maximum impact (Verma *et al.*, 2010).

Avahan developed a robust M&E program including size estimation and mapping to measure the denominator, routine monitoring system for routine data collection on service provision and utilization and moreover it supported an IBBS to measure trends in KPAHR (Avahan, 2008). Three years later Avahan had achieved the true size of the infrastructure, and after five years it was able to meet 75% of the estimated target every month.

By the end of 2008 hundreds of NGOs were contracted for program implementation and hundreds of STI clinics and drop-in centres were established. Moreover, for each 50 FSWs and 55 MSMs there was one peer educator. Distribution of condoms has exceeded the estimated monthly need per FSW and MSM. Outreach coverage at STI clinics is because the large number of peer educators are able to reach FSWs and MSMS and motivate the use of HIV services (Verma *et al.*, 2010). Findings from recent studies show a 4% reduction in HIV prevalence among FSWs as well as 20% increase in condom use with clients in South India by the end of 2009 (Ramesh *et al.*, 2010). The main limitations of this impact evaluation are the dependence on size estimation which does not catch the changes in size of KPAHR which basically are hidden and mobile.

Lessons learned: The "Common Minimum Program" was developed with involvement of all partners after one year and it is continuously updated by integrating local views and ideas shared between partners during regular meetings. However, the program could have achieved more if this document were developed earlier. The program also focused on management capacity building of NGOs. Periodic size estimation and routing program monitoring helped in measuring the coverage scale and restructuring of the program. Furthermore, the initiatives engaged the KPAHRs from the mapping exercise to the services delivery which helped in the identification of their needs and increasing the utilization of services. For sharing of information and lessons learned the program developed a system of regular meetings between the staff at all levels and between partners.

Bandhu Social Welfare Society (BSWS), Bangladesh

Islam is predominant in Bangladesh. Bangladesh has a low HIV epidemic concentrated among FSW, MSMs and IDUs (UNAIDS, 2010). Same sex relations are illegal in Bangladesh, however, we find MSMs widely represented. (UNAIDS, 2006b). In 1997 the Bandhu Social Welfare Society (BSWS) established community-based sexual and reproductive health services for MSMs in six cities (UNAIDS, 2006b).

The field services include outreach activities, community mobilization, awareness raising, condom distribution and referral to STI facilities including HIV services. MSMs are involved in outreach interventions as peer educators and links between the staff and the target group. The facility services include drop-in services, regular social gathering, capacity building, sexual health education, distribution of condoms, HTC and a telephone hotline. The (BSWS) participated in research about MSM and worked in close cooperation with the government and NGOs (UNAIDS, 2006b).

A program review was conducted in 2003 and it recommended planning more strategically to guarantee that the needs of MSMs would be addressed effectively. The review reported increased distribution of MSM-specific IEC materials, increased condom distribution and increased use of MSM for the HIV services and general health services (UNAIDS, 2006b).

Lessons learned: The success of the (BSWS) program is attributed to community mobilization, provision of friendly used services, involvement of MSM in the provision of services and research projects, creation of communication with the government and NGOs and adjustment of the program to the local political environment (UNAIDS, 2006b).

Chapter 5 Discussion

National studies and HIV estimation have revealed high epidemic levels of HIV in KPAHRs in Sudan. With high risk practices and unrecognized infection compromises the health of individual's leads to further spread of HIV. Even with the availability of free HIV services the real use of the service has been low, extremely restricting the overall effectiveness of the HIV response. This study identified the factors influencing HIV services utilization by KPAHRs in Sudan. The findings were presented in four groups based on the conceptual framework: environmental factors, predisposing factors, enabling factors and need factors. They will be discussed with respect to how they influence both KPAHR as part of general population and KPAHR specifically.

Factors influencing general population including KPAHR

This study suggests that lack of clear policies and the weakness of the health system endanger access to health services including services for HIV. Sustainability of HIV services provision and client utilization is challenged if international donors stop donating money to the HIV response. SNAP should develop a national plan for the mobilization of resources, and the government should be committed to support the response to HIV.

Availability of free HIV services cannot solve the problems of risk perception and fear of positive test results which are the main reasons for not using VCT sites. Low risk perception is mainly due to lack of correct knowledge about HIV and about the existing HIV services. This triad of low risk perception, lack of correct knowledge about HIV and existing HIV services is also one of the major barriers to HIV services utilization by KPAHRs in Sudan. In line with other study findings low HIV risk perception is associated with a high risk practice and low utilization of HIV services particularly condom use and HTC (Revue, 2008). Lack of comprehensive knowledge among both clients and health care provider's leads to low perceived needs and evaluated need prevent the HIV services utilization. These findings are also in accordance with studies conducted in Egypt and Saudi Arabia (Sallam *et al.*, 2010). As shown in the best practice chapter peer-mediated intervention is very effective for improving knowledge and changing behaviour.

Other factors suggested by this study as barriers are health services related as inadequate and inequitable distribution of health services, cost of entry to the health facilities, cost of transport, cost of treatment not related to HIV, perceived low quality of care, poor patients-provider communication, and inadequate training in sexual health provision.

Moreover, the issues which are threaten the quality of services like high staff turnover, limited opening hours, drug and supplies stock-outs and lack of supervision. And they are preventing access to and use of HIV services.

Factors those are specific for KPAHR

The use of KPAHR for HIV services is affected by the political, cultural, religious antagonism and the criminalization of their behaviour. There comprehensive HIV policy and Strategic Plan in Sudan documents but the execution is the challenge. The current HIV response focuses on KPAHR interventions while the politicians and the religious leaders refuse to accept that FSWs and MSMs exist in Sudan not to mention recognize their importance in the prevention of HIV. They impede implementation of the interventions particularly condom distribution. It is unlikely that SNAP can provide effective interventions to KPAHRs without addressing this issue through extensive advocacy. Similarly criminalization of KPAHRs lead to disruption of HIV outreach activities, promoting negative attitudes and discrimination from health workers and discourages KPAHRs from disclosing their risky behaviours that are criminal and ultimately impede HIV services utilization. The findings also suggest that being Muslim and living in Muslim cultures prevents KPAHRs from services utilization as their behaviour is prohibited religiously. Also some religious leaders use Islam to prevent availability and distribution of condoms which compromise the access to and utilization of HIV services for KPAHRs. These mixes of conditions make the KPAHRs hidden and not use the HIV services.

Demographic characteristics of KPAHR such as age and marital status are minor barriers to HIV services utilization. HIV service utilization is low in all age groups. Reports from other countries suggests that youth is positively associated with HIV services utilization by KPAHR (Admassu and Fitaw, 2006) while others report negative associations (Ghimire and Teijlingen, 2009). Lack of education among KPAHR is associated with misconception and misunderstanding of health messages and prevents people from making good decisions. This observations is also reported by other countries (Afridi *et al.*, 2010). Married FSWs as Ati reported are knowledgeable about HIV and they have the motivation to use the condom for contraception which indicates the importance of the programmatic link between the HIV and sexual and reproductive health program.

Stigma and discrimination is prevalent throughout Sudanese society and within health services results in low access to and utilization of HIV services. It disproportionately affects the KPAHRs due to the fact that their behaviour is against Islam and illegal. This finding has also been reported in many other countries (Fay *et al.*, 2010 , Newman *et al.*,2009).

Unexpectedly, this study revealed that sexual orientation is not a barrier for HIV services access and utilization and this is attributed either to not disclosing their behaviour or they are using private health facilities. Weak coordination between SNAP and partners - particularly private sectors and NGOs - compromises the access to and utilization of services as people in Sudan prefer to seek care in private health facilities which is more relevant for KPAHRs because of the double stigma and confidentiality breach in public sector.

The most relevant enabling variable to KPAHR is the confidentiality because FSWs and MSMs are highly stigmatized; fear of being identified while visiting the health facilities is a major barrier to HIV services utilization. The concern of confidentiality is also reported elsewhere (Ghimire and Teijlingen. 2009). Other factor related to service delivery is poor coordination among NGOs/CBOs and between them and SNAP, difficulty in obtaining funds and sustainability issues which drastically affects the HIV services promoted by NGOs/CBOs for KPAHR.

The two programs from India and Bangladesh considered in this paper provide diverse visions and interesting designs and implementations of HIV programs KPAHR. These can be modified to make it relevant and practical for the Sudan context. In all cases, the fundamental principles for success are working with the government and NGOs and engagement of the FSWs and MSMs in the planning, operation and evaluation of programs. Sudan successfully applied to the Global Fund Round 10 using the national HIV strategic plan which prioritizes the activities among the KPAHRs and so can ensure the existence of funds for the interventions (CCM, 2010). Currently there are 35 NGOs working in the area of HIV and 15 PLHIV associations. Some of the NGOs already have the capacity to become sub-recipients in Round 10 however, the majority of NGOs in Sudan are still weak (Abdelsalam and Ali, 2009). SNAP, with donors, can strengthen and build the capacities of the NGOs, CBOs and PLHIV associations to implement effective interventions and provide friendly services for the KPAHRs. In Sudan we can make use of the FSWs and MSMs in the studies and the on-going IBBS and engage them in peer education. Moreover, the multi-sectorial approach can be used and SNAP and Ministry of Guidance and Endowment perform advocacy among the policy makers particularly parliamentarians and other influential religious and community leaders to protect the rights of PLHIV and KPAHR.

A number of limitations impacted this study. Issues are that KPAHRs in Sudan are hidden and hard to reach and study because of criminalization of and stigma linked to their behaviour, and because of low levels of self-identification. These barriers probably restrict both the number and quality of studies in the literature. Furthermore the majority of the studies available from the MENA region including Sudan are only about HIV prevalence, knowledge, attitude and behaviour rather than HIV services utilization or accessibility. Furthermore, studies reviewed from Sudan are of limited generalizability as most were done in urban areas while KPAHRs existing in rural areas are underrepresented.

Although the study findings were presented as independent, in fact there are significant relations among the various factors. For example, social factors of fear of negative consequences of being tested HIV positive are related to double stigma and discrimination faced by KPAHR living with HIV. Similarly, the health services factor of confidentiality and fear of being identified is closely related to the important external factor of criminalization of KPAHR factors. Based on the conceptual framework used for the study the dominant factors determining the HIV services utilization by the KPAHR are evidence of inequitable access. To ensure equity SNAP should focus urgently on the health belief factors and enabling factors which are considered as medium and high mutability policy and strongly associated to the services utilization.

Chapter 6 conclusions and recommendations

Conclusion

This is one of the first studies to explore factors influencing the utilization of HIV services by KPAHR in Sudan. This study has shed light on the different policy and legal, individual, social, health beliefs and structural factors that prevent KPAHR from using HIV services.

This study suggests that youth, ever married and sexual orientation are not major barriers for accessing and using HIV services. Unlike lack of education, being Muslim and living in Muslim culture which leads to low access and use of services.

Apart from weak health system, other environmental factors are interrelated with social factors. A group of harmful laws and pieces of legislation, and the cultural and political context in Sudan led to the stigmatization, discrimination and criminalization of KPAHR that created their fear of using the services of HIV. They are afraid of negative consequences if they are identified while they are visiting the HIV services or when tested HIV positive . In addition to the lack of knowledge and misconception, lack of knowledge about existing services, low risk perception and low perceived need of the most important impediments to the use of HIV services.

The availability of HIV services in Sudan is an opportunity for good sexual health of the KPAHR however, cost, quality of care and confidentiality are issues affecting the utilization this services. Moreover, KPAHR are afraid of discriminatory treatment by health care providers because they are part of the Sudanese community and have the same attitude toward these groups.

The evidence of effective interventions among KPAHR from other countries is from different contexts. It can still be adapted and implemented in Sudan If SNAP is succeeded to work through the community; strengthen the political commitment; build the capacity of NGOs; sensitize the religious leaders and improve the coordination among related sectors and stakeholders.

Recommendations

In order to increase the utilization of HIV services by KPAHR in Sudan the following recommendations are made based on the findings of this study.

Enabling environment interventions

Advocacy: SNAP with other sectors should sensitize religious, political and community leaders on the nature of the HIV epidemic in Sudan to accept that sex work and sex between men exist, and is significant to HIV prevention and to ensure they support implementation of culturally sensitive interventions such as condom promotion and distribution, and address HIV stigma and discrimination in the community.

Involvement of FSW and MSM: SNAP should make use of the respondents of the on-going IBBS in the planning, operationalization and the evaluation of HIV programs targeting KPAHR to increase the effectiveness of the interventions.

Involvement of NGOs/CBOs: SNAP with UN agencies and the GFATM should develop the capacities of NGOs/CBOs to provide services for KPAHR and motivate NGOs/CBOs for better coordination.

Strengthening involvement of private sector in HIV response: SNAP should strengthen BCCA to coordinate private sector interventions and develop strategies to involve the private providers in delivery of HIV services.

Interventions recommendations

Focus information, education and communication (IEC): SNAP must take into account the KPAHR when designing IEC programs. SNAP can address stigma by providing proper information about HIV that mitigate fear and remove misconception.

Provide effective outreach peer activities: SNAP, in collaboration with other sectors, UN agencies and NGOs should work through KPAHR to understand how their peer can be best accessed, educated and supported. SNAP should provide training, incentives, materials for peer educators and conduct supportive supervision for peers outreach activities. Provide STIs, HTC services and information through outreach activities and referral to treatment , care and support services.

Ensure access to HIV prevention and treatment services: SNAP should ensure training of the health workers at the services delivery level on sexuality and human rights for better understanding of and communication with these groups. Moreover SNAP can hire FSWs and MSMs in the HIV facilities. Also SNAP should ensure the availability of drugs and supplies in all facilities.

Monitoring and evaluation and Research recommendations

- Supportive supervision from SNAP to state and frontline workers should be conducted regularly for quality of services, data verification and identification of challenges.
- SNAP should conduct more studies on typology and health-seeking behaviour of KPAHR and utilization of HIV services.
- No information does not equal to no problem so SNAP should conduct a study among IDUs to find out risk behaviour practices and transmission dynamic and HIV prevalence.

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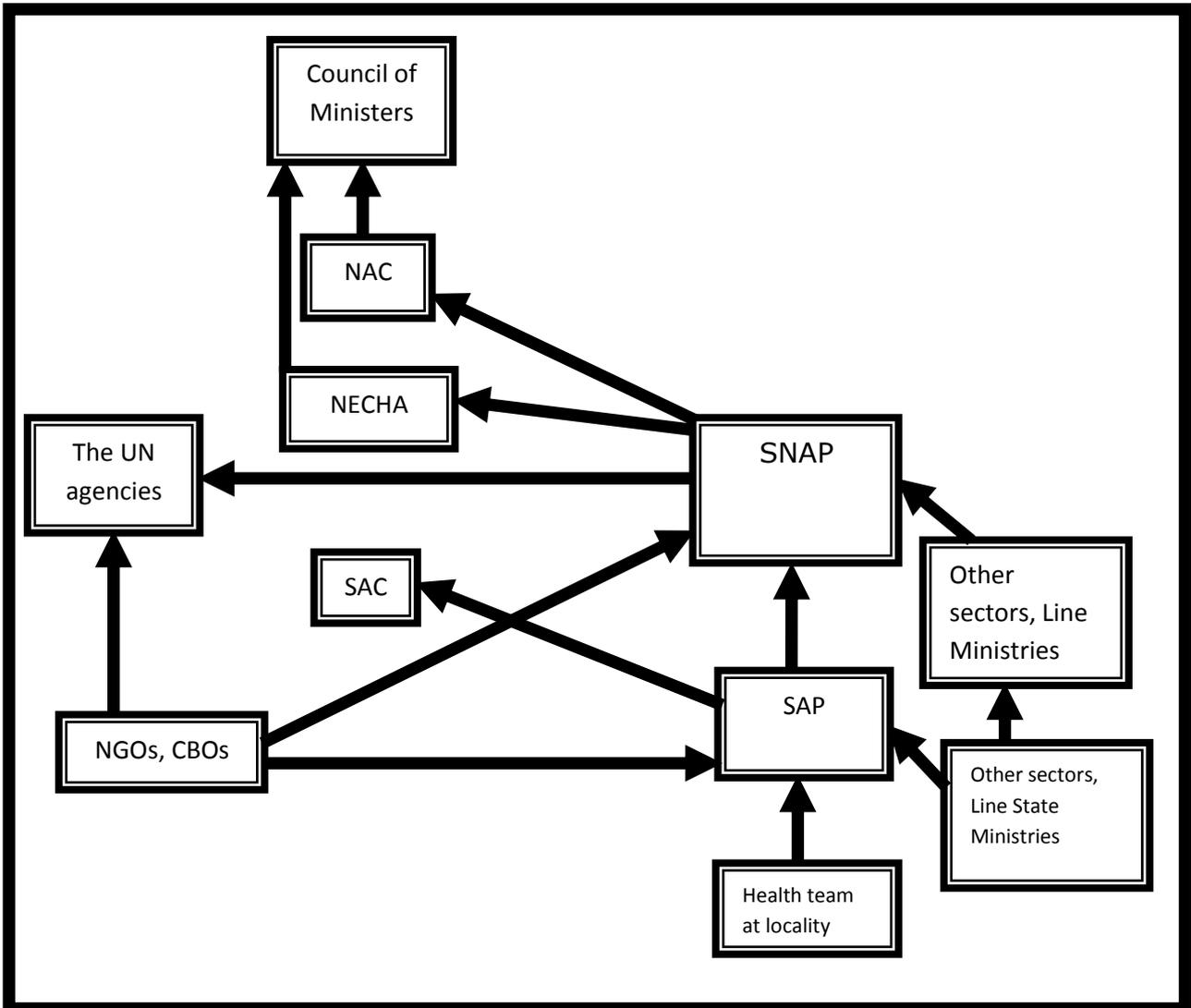
Appendices

Annex 1: Sudan achievements on selected MDGs indicators (I, 2, 3, 4, 5, 6).

Goals	Indicators	Baseline	Achievement		Target 2015
			Current	Year	
Eradicate Extreme Poverty and Hunger	Proportion of population below minimum level of dietary energy consumption	90%(1990)	46.5%	2009	NA
Achieve Universal Primary Education	Adult literacy rate	27%(1990)	70%	2009	100%
Promote Gender Equality and Empower Women	Proportion of seats held by women in parliament	7.8%(2004)	25%	2010	100%
Reduce Child Mortality	Infant mortality/1000 live birth	80(1990)	71	2006	53
	Under5 mortality/1000	123(1990)	102	2008	41
Improve maternal Mortality	Maternal mortality ratio	537 (1990)	537	2006	134
	Proportion of birth attended by skilled birth attendance	24% (1990)	24%	2006	NA
	Contraceptive prevalence rate	7.0% (2000)	7.0%	2006	NA
	Antenatal coverage(at least I visit)	70%(2000)	70%	2006	NA
Combat HIV AIDS, Malaria and other diseases	HIV prevalence among general population	NA	0.67%	2009	<1%
	% of young women and men aged 15-24 who both correctly identify ways of preventing the sexual transmission and who reject major misconceptions about HIV transmission	7.3%(2006)	6.7% (Male) 5.3 (Female)	2010	NA
	Percentage of eligible adults and children currently receiving antiretroviral therapy	8.41% (2010)	9.46%	2011	NA
	Proportion of children under 5 sleeping under insecticide treated bed nets	21% (2005)	41%	2009	NA
	Proportion of tuberculosis cases detected and cured under directly observed treatment short course	NA	81.8 %	2009	NA

Source: FMOH, 2010b and SNAP, 2012.

Annex 2: Sudan HIV and AIDS coordination organ-gram



Source: Abdesalam, 2011

Annex 3: Sudan map



Source: <http://www.state.gov/p/af/ci/su/>