

MIGRATION AND SPREAD OF HIV/AIDS: A VIEW FROM MEDICAL GEOGRAPHY

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"A Physician can't understand the essence of disease unless he is a geographer too." –Paracelus

Introduction

Acquired Immunodeficiency Syndrome (AIDS) was first recognized in 1981. Strictly speaking, the term AIDS refers only to the last stage of the HIV (human immunodeficiency virus) infection. Within a short span of time, AIDS spread rapidly and currently affected individuals in over 168 countries on all the continents of the world. In Nepal, as elsewhere, the AIDS problem is growing.

Migration is a geographical phenomena that seems to be a human necessity in every age. Migration may be permanent or temporary. Man has a tendency to leave the areas in which life is difficult, he migrates to the areas where life may be easier and better. Migrants may suffer from new infection agents with them from their origin place and introduce them into their place of destination. Thus, with the movement of the people, diseases of various types also move from place to place. There exist certain recognizable foci of disease. The movement of the people helps to spread faster of these diseases. Sometimes, the physical contact of the people belonging to two different racial or ethnic backgrounds may change the biological characteristics of the people. For instance, greater interaction between the people of Africa and that of Americans and Europeans has affected the racial characteristics of these people. Consequently, some of the diseases like AIDS, which were inoffensive formerly, have become now deadly (Husain 1994: 138-139).

The study of geography of diseases is essential to understanding and revealing a true picture of diseases patterns as they are today. The mechanism, which causes the growth and variation of the diseases within a

spatial unit, has recently drawn the attention of geographers. In fact, such variations are primarily governed by the socio-economic and behavioural factors, the aspects of which are mostly neglected by medical scientists. To emphasize these aspects we have to go into the field of medical geography, which focuses its attention towards the preventive aspects of diseases. This is particularly true for the current epidemic HIV/AIDS. It is because treatment of HIV/AIDS merely temporarily extends lives of the victims, and hope for a vaccine against infection remains remote. There is only way to take prevention from the suffering of this disease. We agree with the statement of several epidemiologists: in this disease "geography is destiny, it is not just what you do, but where you do it". The statement rigidly focuses our attention towards the essential knowledge of geography to identify the factors of spreading HIV/AIDS in a realistic way. In this way, migration mainly being a geographical phenomena and AIDS as a preventive type of diseases till now, the tool of medical geography can definitely serve us in this regard in comparison to other any discipline. The encyclopaedic meaning of Medical Geography, "as the study dealing with the geographic arrangement of diseases and with the factors relevant to the incidence and spread of diseases" justifies the relevancy of this discipline for the study of such diseases like HIV/AIDS. However, the present study attempts to analyse the migration and spread of HIV/AIDS in the context of world as well as Nepal. It also makes efforts to present the pattern and trend of HIV/AIDS in global and Nepalese context simultaneously.

The Concept

The term 'migration' is used broadly here to refer to any form of population mobility. We know that germs and epidemics travel only as fast as people do. Human beings have always been mobile, colonizing every corner of the planet. People travel for all kinds of reasons: business, pleasure, fleeing from political persecution, seeking a better life, etc. People's mobility tends to follow opportunities, taking place more frequently from rural to urban areas; from poorer to richer countries. But the direction does not necessarily follow the same way. Migrants, who do well in the big city, or in America, will go back to their home villages bringing tales of good life and, sometimes new diseases.

HIV thrives on mobile populations, not just because it has human carriers but also because mobile populations are often in situations that make them more vulnerable to HIV. Cut off from their families and social support systems, the mobile person may engage in unprotected casual or commercial sex or pick up an injecting drug habit.

Coupled with certain human behaviour, population movements are often seen as important factors in disease emergence. An infectious disease may occur in isolated populations and go unnoticed for a long time while the recipients remain isolated. But with increasing movements of people from rural to urban areas, the isolation becomes rare. The same pattern has been theorised regarding the spread of HIV/AIDS. After its first move from a rural area to a city, it may have spread regionally along highways then by long-distance routes, including air travel, to more distant places. The last step of critical for HIV and facilitated today's global epidemic (Ybanez, 1998: 4)

The acceptance of mobility as an independent risk factor and the prevalent view that HIV/AIDS is a 'foreign diseases' have put migrant workers at the center of blame for the introduction or spread of HIV/AIDS. Both the countries where the migrants go and from where they migrate often look at migrant workers as either "Carriers" of HIV and other diseases or the cause of their spread (Ibid). This attitude reflects a lack of understanding of the situation of migrant workers. Examining the factors in migration will show that the migrant workers are not the problem. Rather, it is the realities in the migration process that works and makes them more vulnerable to HIV/AIDS.

The Global Context of HIV/AIDS

An Update: Table 1 given below provides the global summary of the HIV/AIDS epidemic:

Table 1: Global Summary of the HIV/AIDS epidemic. November 2000

Particular	In Million			
	Adults	Women	Children < 15 years	Total
People Newly infected with HIV in 2000	4.7	2.2	0.6	5.3
Number of people living with HIV/AIDS	34.7	16.4	1.4	36.1
AIDS Death in 2000	2.5	1.3	0.5	3.0
Total Number of AIDS deaths (Since the beginning of the epidemic)	17.5	9.0	4.3	21.8

Source: UNAIDS/WHO, Press Release 28 November 2000.

The table depicts the fact that about 36 million persons (34.7 million adults and 1.4 million children < 15 years) in the world are infected by HIV/AIDS as estimated in 2000. Of this, about 16.4 million are females.

Likewise, the people newly infected with HIV in 2000 is 5.3 million of which about half of the total (about 2.2 million) shared by female population. The same table indicates the fact that since the beginning of the epidemic the total number of AIDS deaths constitutes 21.8 Million, of which about 9 million shared by females. The total death by AIDS in 2000 is utmost high (about 3 million). This figure helps us to imagine the catastrophic picture of HIV/AIDS in future.

Migration and Spread of HIV/AIDS: An Interlink: Historically, in developing and developed countries alike, migration has been a major way in which diseases have spread. Communicable diseases usually spread farther and faster as roads and transportation improve. The pattern of spread follows major highways and passes through international airports and seaports.

The more people move the faster AIDS, and like other diseases it can spread. Mobility itself has been considered an independent risk factor for HIV infection. Actually, the spread of HIV often coincides with migration patterns.

Usually, HIV appears first in urban areas and then diffuses to rural areas along major road networks. In Cote d'Ivoire (sub-Saharan Africa), for example, HIV/AIDS has spread outward from the capital city Abidjan, where almost half of the population are immigrants from surrounding countries.

AIDS has spread along transportation routes from Zambia, Zimbabwe, Malawi and Mozambique to South Africa and along the Mombassa highway from the Indian Ocean to the former Zaire.

Many people who move frequently have a high risk of HIV infection, including truck drivers and other transportation workers, sex workers and seasonal agricultural workers and other temporary migrants. For example, among 400 West Bengal long distance truck drivers surveyed, more than 60% reported having visited sex workers, 36% had never heard of AIDS, and only 22% were regular users of condoms (Johns Hopkins School of Public Health 1996: 11).

Many sex workers move from place to place, whatever voluntarily or involuntarily, for example, women from Cambodia, Laos, Myanmar and Vietnam work in brothels in Thailand. Sex workers from Thailand and Philippines work in Japan. Thai women become sex workers in Singapore, and Nepalese women work in India, where 35% or more of sex workers are infected with HIV.

Male migrants who go to sex workers infected with HIV can transmit the virus to their wives or other female partners when they do not use condoms. Refugee movements have also contributed to the spread of HIV/AIDS. Nearly 2 million refugees who had fled in the 1980 to Malawi, which has high HIV rate, returned home to Mozambique, the incidence of HIV began rising in Mozambique, where it was previously rare (Ibid 10-11).

The Nepalese Context

In Nepal, the topography, environmental degradation, poverty and economic migration are all linked, and they combine to increase vulnerability to HIV. More than 80 percent of the rural population has traditionally worked at small agricultural plots, created local crafts and/or been hired out locally for wages. But a combination of forces has been undermining rural self-sufficiency. Most of this population has little or no cash income and lives in absolute poverty. The population of Nepal is growing by 2.1 percent per year. From the perspective of the land's ability to support a population all of Nepal can be considered heavily populated. In more fertile areas, particularly the Terai, much of the land is controlled by relatively few land lords.

In response to their economy, increasing numbers of villagers (predominantly men but often women and sometimes whole families) are migrating in search of work. In some areas, growing numbers of women and

girls choose or are trafficked into full or particular sex-work to generate income. Many Nepalese seeking paid-work turn toward India, with which Nepal maintains an open border and where a major AIDS epidemic has developed over the past ten years. Some 800,000 migrant labours and thousands of Nepali transportation workers regularly cross into India and back and an estimated 100,000 to 200,000 Nepali girls and women are reported to be working in the sex industry in India (Hannum 1997: 33-34).

Nepal reported its first case of HIV/AIDS in July 1988. An increasing trend is being seen in the number of reported HIV/AIDS cases though with fluctuations. This section of the study, primarily focuses the pattern, trend and geographical distribution of HIV/AIDS in Nepal and then, an analysis of migration and HIV/AIDS interlink will be provided in reference to Nepal.

Pattern and Trend: Table 2 indicates that there is an alarming increase in the number of reported HIV/AIDS cases over the years though fluctuations are observed. There have been about seventy nine-fold increase in the number of cases between ten years (1990 to 2000) from 5 to 396 cases. The male to female ratio is 1: 2.37 on an average (i.e., males have more than doubled the HIV ratio than the females).

The data provided by National Centre for AIDS and STD Control (NCASC) in 31 January, 2001, reveals the fact that there are 1807 persons HIV positive including AIDS in total, of which 1271 persons are males and 536 persons females. There are 458 persons with AIDS infection (out of total HIV) in total, of which 303 persons are males and 155 persons females.

Table 2: Year wise detection of HIV/AIDS infection cases by sex in Nepal (1988-2000)

Year	Total Sample tested	HIV Infection			Ratio of HIV+ to those tested
		Male	Female	Total	
1988	9016	3	1	4	0.04%
1989	5180		2	2	0.04%
1990	8619	2	3	5	0.06%
1991	17000	12	14	26	0.15%
1992	33995	39	38	77	0.23%
1993	38228	41	40	81	0.21%
1994	16523	8	22	40	0.24%
1995	21867	71	39	110	0.50%
1996	10457	50	85	135	1.29%
1997	9475	394	95	489	5.16%
1998	3611	166	54	220	6.09%
1999	5170	174	48	222	4.29%
2000	3039	301	95	396	13.03%
Total	182180	1271	536	1807	0.99%

Source: National Centre for AIDS And STD Control, Kathmandu, Nepal, Jan. 2001

Table 3: Cumulative HIV Infection by Sub-Group and Sex

Sub-groups	Male	Female	Total
Sex Workers (SW)	-	413	413
Clients of SWs/STD	1213	34	1247
Housewives	-	124	124
Blood Transfusion/Transplant	2	1	3
Injecting rug use	215	1	216
Perinatal transmission	12	9	21
Total	1442	582	2024

Source: National Centre for AIDS And STD Control, Kathmandu, Nepal, Jan. 2001

Table 4: Cumulative HIV Infection by Age group

Age group	Male	Female	Total
0-5 Years	11	7	18
6-13 Years	3	-	3
14-19 Years	68	143	211
20-29 Years	817	304	1121
30-39 Years	441	106	547
40-49 Years	86	19	105
50-Above Years	16	3	19
Total	1442	582	2024

Source: National Centre for AIDS And STD Control, Kathmandu, Nepal, Jan. 2001

Table 3 indicates that the most frequent means of transmission of HIV/AIDS in Nepal is heterosexual contact (clients of SWs/STD) followed by sex workers (SW).

Table 4 depicts the fact that persons having 20-29 years are predominantly infected by HIV in Nepal followed by 30-39 years group. The male has outnumbered the female in all age group in HIV infection except in 14-19 years age group (male 68 persons and female 143 persons).

Geographical Distribution: Unfortunately, there is no reliable information to cover the geographical distribution of HIV/AIDS in Nepal and so far no scientific surveys have been made in this regard. In this study development regions and number of districts depending upon available information will attempt to show geographical distribution of HIV/AIDS in Nepal.

Nepal is divided into five development regions for political and administrative purposes: East, Central, West, Mid-West and Far West. The following are the summary of these regions with reported HIV infection over the last decade:

**Table 5: Number of district with HIV infected persons
by region over years**

Region/District	Up to July-1992	Aug-1992 July-1994	Aug-1994 July-1996	Aug-1996 July-1998
Eastern	4	5	9	16
Central	13	14	14	19
Western	5	8	12	15
Mid-West	1	2	6	10
Far-West	0	1	2	6
Total	23	30	43	66

Source: Suvedi, Journal of the institute of Medicine, 1999: 138.

Table 5 indicates the fact the number of districts with reported HIV/AIDS is increasing over the years. By the end of the July 1998, almost all the districts of Eastern, Central and Western regions have had HIV/AIDS cases. However, some districts in the mid-west and far-west regions of the country are yet to report HIV/AIDS cases. The information provided regarding the HIV/AIDS status till July 1992 shows that 23 districts of the country were affected by HIV/AIDS. Till July 1994 it spread into 30 districts and there has been continuous spread of HIV/AIDS 66 districts till July 1998. The table also indicates that the HIV infection has spread almost everywhere in the country. Initially the spread seems to affect the central region of the country followed by western and eastern regions and lately by mid-west and far-west regions of Nepal (Table 5).

So far a list of major risk sites of HIV/AIDS in Nepal by districts has been set up by the National Aids Prevention and control programme with a view to formulate its programmes for the coming days. It is as follows:

- | | | |
|------------|-------------------|---------------|
| 1. Nuwakot | 2. Sindhupalchowk | Kailali |
| 4. Dang | 5. Rupandhi | 6. Kanchanpur |
| 7. Mogang | 8. Sunsari | 9. Kaski, and |
| 10. Banke | | |

Almost all these districts are also considered as the major girl trafficking areas of Nepal. Surprisingly, a number of other suspicious districts such as Kavrepalanchowk, Rasuwa, Dhading, Kathmandu, Makawanpur etc. have not

been included. It is to be expected that most of the districts of Tarai are becoming the next risk-sites of HIV/AIDS in Nepal. Almost all urban centres of Nepal are also coming in the grip of this epidemic. Besides, some places especially the tourist centres of Himalayan region have also been affected by HIV/AIDS.

Interlinks between Migration and Spread of HIV/AIDS in Nepal

Mobility itself has been considered an independent risk factor for HIV infection. Actually, the spread of HIV often coincides with migration patterns. The spread of HIV in the country is not entirely 'internal' but in a majority of cases the sources are 'external'. The acceptance of mobility as an independent risk factor and the prevalent view that HIV/AIDS is a 'foreign disease' have put migrant workers at the center of blame for the introduction and spread of HIV/AIDS. There is no authentic data and information in order to analyse the migration and spread of HIV/AIDS in Nepal. Hence, the present study attempts to analyse it in terms of some descriptive base.

Three major routes of HIV transmission have been generally identified as follows:

1. Sexual Transmission
2. Blood Transmission
3. Mother to fetus/infant Transmission

Sexual transmission is the major source of the spread of the virus in most of Africa and Asia, including Nepal. When studying the risk behaviour for the spread of the epidemic in Nepal, it is seen that most of the risk groups fall under this category.

"Trafficking" of young village girls to prostitution centres particularly in India, where they are infected with HIV-once infected or ill, most of these girls return to Nepal. Even if only 5% of the 9000 HIV infected girls have made their way back to Nepal (this is a minimum estimate given that the authorities in India return all Nepali girls identified as having HIV infection) there are at the moment 450 HIV infected India-returned girls in Nepal. And if we assume that only 10% of them are continuing their trade here, there are at least 45 HIV infected girls selling sex for living, and in turn infecting many.

Many migrant labourers stop at the Badi establishments (traditional prostitutes of Nepal) on their way to and from work in India. The migrant labourers could well be a source of infection to the Badis. When that happens, the Badi traditional prostitutes would become a source for rapid spread of HIV/AIDS infection especially in western Nepal.

It is found that 'local girls' of the Kathmandu valley who attend schools and colleges earn side income by selling sex. Many of these girls serve the hotels as call girls and are exposed to non-local diseases such as HIV/AIDS. Likewise the 'non-local girls' or 'migrant girls' those come from the surrounding hills and generally work in garment factory sell their sex in order to supplement their income and become vulnerable to HIV/AIDS. It has been playing a vital role for spreading HIV/AIDS in both places of origin (while they return to home) and destination (while they migrate to work).

Temporary or seasonal migration of rural youths to urban centres within Nepal and abroad (especially in India and Thailand) for employment and study where they are more likely to engage in 'high risk' behaviours such as visiting commercial sex workers have also played a dominant role for spreading HIV/AIDS in Nepal.

The number of migrant workers in India is as much a subject of speculation as is the number of Nepali girls in the brothels of India. There are thousands of Nepalese in India, some living there permanently, and others working seasonally. The estimated number of Nepalese in the Indian army and other security jobs is more than one and half lakhs. An estimate of Nepalese migrating seasonally to Indian towns is about three lakhs. The number of long term migrants in India is said to number in the millions. Data from the Statistical Year Book shows that the number of people migrating for work outside of Nepal are predominantly those from the hills of Western region.

The migrant labourers usually go alone, leaving behind families for months and sometimes for years. Young newly married men have the highest rate of migration, doing hard work in India, away from their spouses. Most of single male migrant workers are known to actively seek sexual pleasures in brothels. Nepali migrants seem to find more comfort with Nepali prostitutes. In such a way, they come into contact of HIV/AIDS infection and when they return to Nepal help to spread it by continuously exposing to other population.

Transport workers particularly the truck drivers enjoy considerable prestige in both Nepal and India and earn high salaries supplemented by

independent hauling contracts. High percentage of truck drivers patronizes sex workers at stops along the major highways and at their final destinations. A NESCORD survey found that 55 percent to 64 percent of long distance-drivers reported visiting sex workers while away from home. Bus driver's risk behaviour may be similar to that of truckers, but they are on tighter schedules and have less opportunity to stop en route.

When the direct air links were established between Nepal and South- East Asia in the 1970s middle and upper class Nepali men have used stopovers to experience the pleasure of the flesh in Bangkok. While this process continues over the last decade, there has also been a dramatic increase in the number of Nepalese who travel as 'traders' or 'porters'. These are mostly single men who travel to South-East Asia and back. The majority of the young males visit prostitutes particularly in Bangkok. There is not much awareness of AIDS transmission among this group, which is young, sexually active and can be thought to be a major factor of spreading HIV to the Nepalese population. Though the intensity of HIV risk of Nepalese 'traders' is utmost high in Bangkok but this does not mean that they have no risk in other countries of the world. For example, the traders who travel to Dhaka and Hongkong also have equal possibilities of HIV risk.

The tourist industries of Nepal have also played a vital role for spreading HIV/AIDS in Nepal. The tourists coming from western countries have a higher prevalence of AIDS. The infected visitors would infect other Nepalese or tourists who come in physical contact with them. Today, perhaps infection is being transmitted from tourists to Nepalese. Very soon, when enough Nepalese in the travel trade are infected tourists are going to be discouraged from coming to Nepal for fear of AIDS by which time it will be too late to act.

Refugees have also contributed to the spread of HIV/AIDS in Nepal to some extent. Not less than one lakh Bhutanese refugees have been settled in Jhapa district of Nepal. Some of young refugees are believed to engage as commercial sex workers to fulfill their economic needs.

Conclusion

Studies of the geography of disease (or geographical pathology) are one of the important dimensions of medical geography. By studying the distribution of disease in different populations we gain perspective on the significant variations in disease patterns not only between countries but also within

countries. The study of spatial diffusion (or spread) of diseases has had a long history within geography. The spread of disease through a biological population is seen as a spatial process, particular attention has been paid to the form of the epidemic wave, to its spread and intensity, and to the geographical pathways it follows. Medical geography has recently emerged as one of the most significant branches of geography that is interested to study the interrelationships between humans, the environment and the disease in a spatial-locational association. Undoubtedly, there exists an interrelationship between migration and the spread of diseases. This is particularly true for the current pandemic (affecting both industrialized and developing countries) of the AIDS that knows no geographic, social, racial or cultural boundaries. Migration mainly being a geographical phenomena and in this HIV/AIDS disease geography is destiny, geographers can do better to search for factors behind the incidence and spread of HIV/AIDS disease and follow preventive measures using the tools of medical geography.

References

- Bhattarai, M. 2052. *Parkhanus! AIDS Rog Tapainkai Pani Aafnai Samasya Ho*, General Welfare Pratisthan, Kathmandu. (In Nepali)
- Hannum, J. 1997. *AIDS in Nepal: Communities Confronting An Emerging Epidemic*, New York: AN AMFAR Publication in Association with Seven Stories Press.
- Husain, M. 1994. *Human Geography*. Jaipur and New Delhi: Rawat Publications.
- Husain, Majid, ed. 1994. *Medical Geography*. New Delhi: Anmol Publication Pvt. Ltd.
- Park and Park. 1989. *Textbook of Preventive and Social Medicine*, Jawalpur, India: M/S Vanarasi Bhanot.
- Suvedi, B.K. et al. 1994. "HIV/AIDS in Nepal: Update." *Journal of the Nepal Medical Association*, Vol. 32, No. 3, July-Sept: pp. 204-213.
- Suvedi, B.K. 1989. "Mapping the trends of HIV/AIDS in Nepal." *Journal of the Institute of Medicine*, pp. 236-242.
- Shannon, G.W. et al. 1991. "The Origin and Diffusion of AIDS: A View from Medical Geography." *Geography*, Annual Edition; The Dushkin Publishing Group Inc., Gulford, Connecticut, pp. 35-52.

Tom, M.L. 1998. "Migration and Risk." *AIDS Action*. Asia-Pacific edition, Health Action Information Network (HAIN). Philippines, Vol. 40, July-Sept, pp. 2-3.

United Nations Secretariat. 1998. *Population Newsletters*. United Nations Secretariat, No.66, December, New York.

Ybanez, R.F. 1998. "Migration and HIV/AIDS." *AIDS Action*, Asia-Pacific edition, Health Action Information Network (HAIN), Philippines, Vol. 40, July-Sep; pp. 4-5.

Population Reports 1999. The John Hopkins University School of Public Health, U.S.A., Vol. 27, No. 1, April, pp. 6-7.

Population Reports 1996. The John Hopkins University School of Public Health, U.S.A., Vol. 24, No. 3, Nov. , pp. 10-12.