

CHAPTER VI

DISCUSSION

6.1 Introduction

This chapter addresses the research question to describe how the results of the study answer the question. It also explains the relationship among the findings and compares these with findings of other related studies. The findings from a) prevalence study, b) focus group discussions, c) univariate analyses and d) multivariate analyses have been compared with those from other studies. In order to draw the best conclusion an extensive literature review was done. The literature on access to and utilization of TB services in the areas with and without civil conflict is scanty. Only a few (6) succinct reviews on epidemiological and public health sectors were found to be useful. Thus, it was necessary to supplement the data from the research articles, with the data from official reports, and field reports to compare the similarities or differences in terms of the findings of this study.

6.2 Discussion of Findings

6.2.1 Socio-Demographic Factors

Kumar (1998) reported that the global case finding ratio between male and female was 2:1. The paper reviewed the relationship between TB and Gender in SAARC countries. It reported that the case finding ratio between male and female was

2.6:1. The prevalence study carried out in this study demonstrated that male and female ratios among the smear positive cases were 2.972: 1 in the Conflict Area (CA) and 2.156:1 in the Non-Conflict Area (NCA). The findings indicate that male and female ratio in case findings are different in both study areas. In NCA the case finding ratio is lower than national as well as CA. In comparison to both the national and NCA level the case finding ratio in CA is different and the gap is higher. FGD indicated that this is due to the gender discrimination in the community and housewives having less access to DOTS Treatment Centers and Sub-Centers for diagnosis.

A retrospective cohort study (308 samples) carried in Nepal showed that there were no differences in compliance or treatment success between male and females. Despite that, this study also explained that males were more likely to have treatment failure, and default than females (Stebbing, 1999). Univariate analysis demonstrated that female patients were more compliant than male in both NCA and CA. Compared to the females of NCA, females from CA were found to be less compliant (94.6 percent females from NCA and 74.4 percent females from CA are taking drugs every day). FGD also indicated that due to the threat of, divorce, neglect, and care of baby housewives were more compliant with the treatment than males in both NCA and CA. This finding suggests that if the TB control program increases the access for the females the non-compliance rate will be decreased in CA.

6.2.2 Burden

Christopher, (1999) reported that the TB incidence rate of Nepal was 211 (per 100,000 population). NTC (2003) mentioned that there were 40,000 active TB cases

each year in Nepal, giving an incidence rate of 172 (per 100,000 populations) in the year 2003. The above findings suggested that incidence rate has been decreasing in Nepal. The prevalence rate calculated in this study revealed that the prevalence rate (per 100,000 populations) in NCA was decreasing (219.96 in 2000/2001, and 202.81 in 2002/2003), which is positively related to the national finding. However, study in CA demonstrated that the prevalence rate has been increasing (194.43 in 2000/2001 and 208.24 in 2002/2003). Although the incidence and prevalence rates are different, both show the burden of disease. The study identified the increasing burden of disease in Dang. FGD indicated that the higher level of the conflict and lack of availability of TB services in adjoining districts of Dang, a) Salyan, b) Rolpa and c) Rukum is causing higher internal migration. The migrated people who have a history of TB stay in the slum areas which also contributed to spread the TB. The FGD also indicated that the quality and quantity of physical services in CA are impeded. That causes the higher burden of TB in CA.

6.2.3 Physical Availability

A retrospective cohort study conducted (among 101 TB patients) in the Capital City of Guinea- Bissau West Africa, interruption of treatment had a impact on mortality among TB patients during the war and it crucial to ensure the availability of drugs (Gustafson et. al, 2001). Zwi and Jimenez (2002) reported that in conflict, the quantity and quality of health care availability was usually reduced. Like wise an interventional study conducted in North-East India, (Churachandpur District) reported that the conflict severely affected the provision of health care; most community health programs, including TB programs were abandoned in the rural areas (Aliso, 2002). A study

conducted in Ethiopia demonstrated that in conflict the quantity and quality of health services in conflict is greatly reduced (Kloos, 1992).

Univariate analysis suggested that in NCA knowledge about TB service, availability of microscopy in HF, knowledge about TB drugs and separate examination room were found to be statically associated with access (P-value.007,<.001,<.001, and .010). Likewise, the knowledge about and TB service, separate examination room were found to be statically associated with utilization (.012,. and 011) in NCA.

The Logistic Regression model used in this study showed that the patients' knowledge of the TB drugs (P-value .008) contributed to increase the access to TB services in both NCA and CA. The univariate analysis demonstrated that the availability of separate examination rooms for males and females in CA was less than in NCA. The similarity of the aim of this study and above-mentioned studies, suggests that the availability of the TB services in CA is weaker than in the NCA.

The FGD indicated that the knowledge about TB drugs, availability of health staff, quantity and quality of microscopy, and monitoring by district level authorities were seriously affected in CA. A study on Conflict and Health in Nepal conducted in eleven Districts of Nepal reported that the health workers faced harassment, intimidations, mental stress when carrying out their duties in conflict areas (DFID/DHSP,SDC/RHDP,GTZ/HSSP, 2003). The study further documented that the due to the conflict health professionals are afraid to provide treatment and local people

References

- Abbas, A., Walker, GJ. (1986). Determinants of the Utilization of Maternal and Child Health Services in Jordan. International Journal of Epidemiology 15 (3): 404-7.
- Achary L.B, John C. (2000). Maternal and Child Health Services in Rural Nepal: Does Access or Quality Matter more. Health Policy and Planning 15(2): 223-229.
- Aliso J. Rodger, Mike Toole, Baby Lalnunluangi, V. Muana and Peter Deutsch Manm (2002). DOTS Based Tuberculosis Treatment and Control During Civil Conflict and HIV Epidemic, Churachandpur District, India. Bulletin of WHO. 80 (6): Geneva.
- Amnesty International (2002). A Spiraling Human Rights Crisis: Nepal, Amnesty International Secretariat, Eastern Street WC1X8DY, London.
- Andrew A. (2001). An Introduction to Health Planning in Developing Countries. Oxford University. Press.
- Andrew F., John L. and John S. (1983). Hand Book for Family Planning Operations Research Design.
- Anita Gibbs (1997 Winter). Focus Group: Social Research Update, Winter Issue. University of Surrey (UniS): United Kingdom.
- Annual Review of Public Health (2002). Stephen F., Mark A., Schuster, Jonatha E, Steven M., Public Health Quality Measurement: Concept and Challenges.: California. Palo Alto

are afraid to seek the treatment. It has also been reported that rebels take away the health workers, drugs and medical equipments.

A team from DFID-GTZ visited the Mid Western Development Region of Nepal from 24 Feb to 8 Mar 2003. They traveled by car and by foot, visiting the Dang, Pyuthan, Rolpa, Rukum, Salyan, Surkhet and Dailekh Districts. They identified that the health care outreach was poor. Sub-health posts rarely had their full complement of staff. The team reported that Maoists used to take 30 percent of all drugs/medicines. (DFID-GTZ, 2003). Likewise a qualitative study conducted in 4 districts and 16 VDCs of Nepal identified that in the conflict affected areas, availability of services was reduced because the health staff had left their postings due to harassment by Maoists. The security forces restricted the delivery of medicines. The study also revealed that the unavailability of batteries and fear of listening to radio during curfew hours limited the effectiveness of health information delivered by audiovisuals (Neupane, 2003).

FGD in this study revealed that the information on TB services through audiovisuals in NCA is better than CA. Due to the security reasons, batteries were not allowed to be taken into the highly affected areas. The lack of health staffs in remote areas, poor drug supply and poor use of microscopy were found to be the major problems of CA. The above mentioned facts suggested that the physical availability in CA was reduced.

6.2.4 Financial Affordability

Neupane, and Beun (2003) reported that in highly conflict-affected areas the loan agreements has been destroyed by Maoist. The local small businesspersons and wealthier families tend to keep smaller cash reserves in their homes, as they were afraid to loose it in forced donations. Therefore the availability of cash in the conflict areas has decreased, making it more difficult to find money to borrow, even if people are willing to borrow or loan money. Most banks had closed either after looting or as preventive measures. The study revealed that the affordability of the rural poor people in conflict was greatly reduced.

FGD of this study has similar findings with the above mentioned study a agricultural occupation is also reduced as landlords have often left the villages, and Maoist also announced the share of agriculture product (TIKUR System: 1 for landlords, 1 for farmer and one for Maoist) which, caused higher level threats from both armed forces. At the same time, prices of basic things have sometimes doubled. FGD indicated that the hungry stomach couldn't go to the health facilities. In comparison to NCA, the patients from CA were facing the problem of reductions of daily income. The study suggests that the due to affordability problems patients were facing problems in access to and utilizing of TB services in CA.

The World Bank (2001) reported that annual per-capita output fall down by 2 percent in conflict areas. WHO (2004) mentioned that loss of harvest, animals and seeds caused the problems in affording health services. The univariate analysis of this

study revealed that more patients in CA (25.6 percent males) than NCA (17.0 percent males) are facing problem of affordability. Smith (2001) reported that due to the TB, patients' lose 20 to 30 percent of their annual household income. Univariate analysis demonstrates that (45.6 percent males and 21.8 percent females) from CA and (14.2 percent males and 16.2 percent females) experienced the 100 percent reduction of daily income during intensive phase. The findings of this study agreed with the findings of WHO that TB causes a reduction of income. More importantly, in NCA patients have less reduction than CA. It is established that more patients in CA are facing the problem with affordability than in NCA.

6.2.5 Acceptability

Neupane and Beun (2003) reported that on July 2002, the Prime Minister of Nepal decided to dissolve Local Governments (District Development Committees (DDC) and Village Development Committees (VDC)), which has posed some problems regarding the effective management of health posts and peoples participation in local level health planning. The VDC chairmen also served as the Health Post Support Committee Chairmen, these support committees became without a leader and meetings were no longer organized. The committees oversee issues like medicine supply and requests for staffing, which were badly impeded. The FGD indicated that more patients were satisfied with TB services in NCA than in CA. Likewise more patients visits traditional healers in CA than in NCA. Gender discrimination is causing problem in getting access to services in CA and in NCA. The FGD findings shows that TB and poverty (less than 1 US Dollar per day) has two fold relationship with TB that cause

lower acceptability to go health facilities. The poor people are more focused on hand to mouth issues, thus there is lower acceptability than that of non-poor.

A study conducted in South India reported that 29 percent of the patients delayed seeking health care for a month, out of them 40 percent delayed due to the lack of awareness and about TB (Rajeswari et. al., 2002). An annual report of International Nepal Fellowship (INF), working in Midwestern Development Region including Dang District reported that there were reductions in training of basic health staff because of restrictions on movement.

The univariate analysis suggested that the dogmatic behavior of health workers and access were found to be statistically associated in both NCA and CA (P-value.011, and <.001). In CA the satisfaction of patients, and female staffs in HF were identified to be statistically associated with access (P-value .004, and .016).

The Logistic regression model of this study demonstrates that dogmatic (non-supportive) behavior (P-value .004) is associated with access to TB services. There were no studies identified which have either the exact similar or opposite findings. Training of health staffs and awareness among the patients can reduce the dogmatic behavior of health workers. A part from that Logistic Regression Model demonstrated that satisfaction of patients (P-value .039) is associated with utilization of TB services. No studies were identified while doing the literature review. The study suggests that the behavior of health workers and satisfaction of patients are associated with access to and

utilization of TB services. Positive behavior of health workers and satisfaction of health workers needs to be promoted.

Nepal Human Development Report (NHRD) mentioned that 3 out of 5 household consult with the modern health practitioners. The univariate analysis found that 40 percent males and 58.2 percent females were visiting traditional healers' first then modern health workers in CA. In contrast to that, 18.9 percent males and 17.8 percent females from NCA visits traditional healers. It shows that the acceptability to the modern medicine in CA is weaker than in NCA. More patients in NCA mentioned that the behavior of health workers is not good than in NCA. More patients from CA are not satisfied with TB services in NCA. The availability of services and health workers, health workers behaviors, satisfaction of the patients and awareness on TB caused the patients to accept the TB services in both study areas.

6.2.6 Geographical Accessibility

Health care outreach is poor and villagers have to travel long distances for primary health care services. Sub-health posts rarely have their full complement of staff, and the staffing problem is particularly acute in Civil Conflict areas (DFID-GTZ, 2003).

Neupane and Beun (2003) reported that the intensity of the conflict the security check post and patrolling, travel at night is hardly possible in many areas. In the high conflict affected areas people lock themselves in their houses for the whole night. The

study explored that the torches and other lights are not permitted, complicating movement along narrow paths and in hilly areas. Walking in bigger groups on the one hand is felt to be less frightening because of the protection offered by the others, but on the other hand it adds more danger because of suspicion that any group may be a combat or patrol unit.

The FGD indicated that both armed forces especially Government armed forces had cut down almost all village telephone connections. More importantly restriction on local transportation in rural areas can lengthen the time required to visit health facilities. All the patients can access to TB services within 30 minutes in NCA but more than 2 third of the patients need to walk more than 30 minutes in CA. In CA patients have to cross the jungle where there were chances of crossfire between armed forces and have to cross streams that cause problems in the rainy season. The FGD indicated that the patients in CA are facing more problems from geographical accessibility than NCA.

It has been mentioned that 45 percent of population is getting basic health services within 30 minutes distance in Nepal (DoHS, 2000). The Logistic Regression model demonstrated that health facilities in walking distance (30 minutes or less) contributes to increase the utilization of TB services. The above mentioned facts show that remaining 55 percent of the population still needs to travel more than 30 minutes to access the services.

The univariate analysis demonstrated that health facilities in walking distance were statically associated with access (P-value.012). Likewise the analyses showed that (44.8 percent males and 60.0 percent females) in CA have to travel 1 hours or less to get the TB services. However almost all of patients in NCA can access the services within 30 minutes. The study has different findings than DoHS. The study has been covered more than 80 percent of the DOTS treatment centers and Sub-Centers in CA. Both study tools suggests that the patients in CA are facing problems from geographical accessibility than NCA.

6.2.7 Civil Conflict

A study identified that in some health facilities in conflict affected areas were opening regularly and had better staffing than in the past, due to the Maoist's local Government's directive forbidding health workers from being away from their posts for more than five days (DFID/DHSP, SDC/RHDP, GTZ/HSSP, 2003). The same study indicated that in conflict areas, transportation of drugs involves delays and requires lengthy coordination with security forces. More importantly, in most of the areas porters take the drugs to the peripheral health facilities, where they were at risks of encountering Maoist with whom they must negotiate, porters were worried about receiving the payment (wages) if the drugs were confiscated by security forces or by the Maoists.

Another study reported that, the security forces have established check posts along the roads for all passing vehicles which often doubled the travel time by public transport to hospital. The time depends upon the number of passengers in a vehicle,

their luggage and, number of vehicles in line for the check post. In highly conflict affected areas people were not allowed to get out of their waiting vehicles, so they could not easily request priority for emergency patients (Neupane, 2003). The peripheral health institutions in the highly affected areas were having problems with absence of staff and restrictions in medicine supplies. At the hospitals of district headquarters where water or electricity was cut off or that were under attack and where hospital staff tended to disappear, these additional problems in service delivery are affecting the immediate care of patients and supply of the drugs.

The FGD indicated that the support from the Government security forces was crucial for the health workers. FGD identified that the mass campaigns organized by Maoist forced patients to go to their campaigns, curfews daily declared by Government, closure declared by Maoist, casualties by armed forces and killings by armed force in the patient's communities and families resulted in them to be unable to comply with the TB treatment. Thus most of the participants mentioned that DOTS is not practical in CA. However no problem related to the conflict has been mentioned in NCA. FGD revealed that the tight security check-up, abduction of the health workers, presence of the armed forces in health facilities were causing problems for TB patients in getting access to and utilization of TB services in CA.

A retrospective study conducted in Guinea-Bissau demonstrated that the mortality rates for patients undergoing treatment in the war and peace cohorts were 34 and 12 per 100 person-years, respectively corresponding to a 3-fold higher mortality in the war cohort, adjusted MR, 3.12 (95 percent CI, 1.20-8.12). The greater impact was

among the patients in the intensive phase of treatment, for which the adjusted MR was 3.30 (95 percent CI, 1.04-10.50). Patients with the TB were forced to temporarily abandon treatment, which was associated with increased mortality (Gustafson, 2001). An interventional study carried out in North East India, Churachandpur District reported that refugees and displaced people are at increased risk of developing active TB as consequences from nutritional deficiency, crowded living conditions, and lack of access to TB services. The study estimated that 50 percent refugees are infected with TB (Aliso, 2002).

The univariate analysis demonstrated that, in CA, the closures and killings were found to be statistically associated with access (P-value .046 and .023). Like wise the analysis suggested that killings happened in patients' families and communities were found to be statistically associated (P-value .047) with utilization.

A Logistic Regression Model demonstrated that killing which happened in the patient's communities or in their families cause to reduce the utilization of TB services. Though the study areas are different, there are similarities in that the forceful abandon most of the treatment can cause the higher mortality in Nepal. The univariate analysis demonstrated that the mass campaigns, curfews, closures, casualties, and killings are forcing patients not to access to and utilization of TB services. The study suggests the access to and utilization of TB services in conflict areas is highly affected by the factors related to conflict.

6.2.8 Conclusion

The FGD indicted that all the factors related to access to and utilization of TB services are different in NCA and in CA. However, an univariate analysis showed that except the financial affordability the factors related to access to and utilization of TB services are different in NCA and in CA. A multivariate analysis demonstrated that, knowledge about TB drugs and dogmatic behavior of health workers are statistically associated with access to TB services. In addition to that satisfaction to the services, health facilities in walking distance and killings are statistically associated with utilization of TB services.

Due to the lower number of research studies related to the public health field in conflict settings, comparing the results with limited number of studies, the discussion was done. All the tools of analysis of this study suggested that the conflict is affecting the TB service delivery in civil conflict, which has positive relationship with the literature reviewed in this study and answered the research question and hypothesis.