

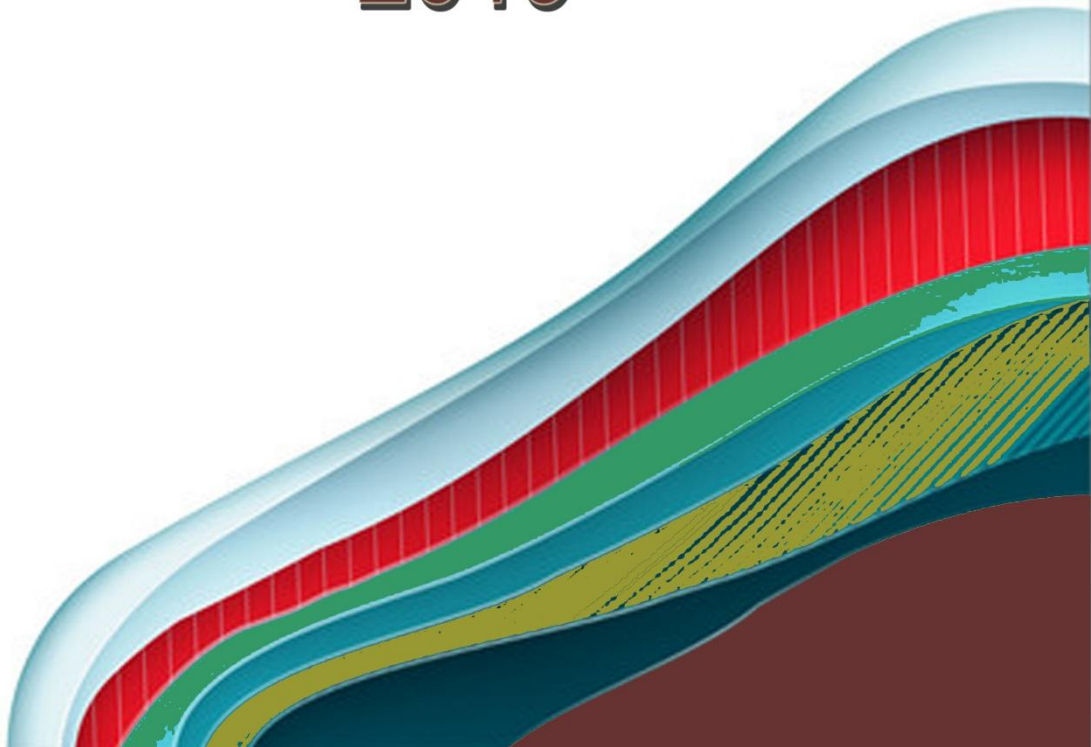


SAARC

SAARC TB and HIV/AIDS Centre

Annual Report

2019



Preface

The SAARC comprises Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. With the determination of the people of South Asia to work together towards finding solutions to their common problems in a spirit of friendship, trust and understanding, SAARC Tuberculosis and HIV/AIDS Centre (STAC) was established in 1992. It has been working with mission to make the region free from TB and HIV/AIDS. SAARC TB and HIV/AIDS Centre has been organizing numbers of activities such as meetings, researches, seminars, trainings and workshops to support the National Programme of Member States. The STAC has been able to accomplish almost 80% of its planned activities for the year 2019. During the year, the Centre has conducted trainings for human resource development meeting/ workshops for the strategic and policy issues, research & monitoring, awareness and advocacy, as well as dissemination of information through its journals, epidemiological reports and its website.

The Annual Report of SAARC TB and HIV/AIDS Centre (STAC) is being presented with the details of programme activities and achievement for the year 2019. The report also includes the Centre's introduction, goals, objectives, vision, mission and its achievements.

I would like to take this opportunity to offer my gratitude to the managers of national TB and HIV/AIDS programmes of SAARC Member States, for their cooperation and support in organizing these activities. I wish to express my sincere thanks to the dignitaries of Ministries of Foreign/External Affairs of the SAARC Member States, His Excellency the Secretary General of SAARC and respected Members of the Governing Board of STAC. I would also like to acknowledge the Director, Social Affairs Division, SAARC Secretariat for continued support and guidance in the implementation of the programmes.

We are committed in our endeavor to provide support to SAARC Member States in the mission of elimination of TB and HIV/AIDS. The Centre looks forward to receiving suggestions, guidance and feedback on our activities so we can serve better in the coming days.

Director, STAC

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South Asian Association for Regional Cooperation (SAARC)

SAARC is a manifestation of the determination of the people of South Asia to work together towards finding solutions to their common problems in a spirit of friendship, trust and understanding and to create an order based on mutual respect, equity and shared benefits.

The objectives of the Association as outlined in the SAARC Charter are: to promote the welfare of the peoples of South Asia and to improve their quality of life; to accelerate economic growth, social progress and cultural development in the region and to provide all individuals the opportunity to live in dignity and to realize their full potentials; to promote and strengthen collective self-reliance among the countries of South Asia; to contribute to mutual trust, understanding and appreciation of one another's problems; to promote active collaboration and mutual assistance in the economic, social, cultural, technical and scientific fields; to strengthen cooperation with other developing countries; to strengthen cooperation among themselves in international forums on matters of common interests; and to cooperate with international and regional organizations with similar aims and purposes.

SAARC is an organization of eight countries located in the South Asia and it stands for the South Asian Association for Regional Corporation (SAARC) was established with the signing of the SAARC Charter in Dhaka on 8 December 1985. SAARC comprises of eight Member States: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. This is an economic and geopolitical organization, established to promote socio-economic development, stability, welfare economics, and collective self-reliance within the Region. The first summit was held in Dhaka, Bangladesh on 7–8 December 1985 SAARC respects the principles of sovereign equality, territorial integrity, and national independence as it strives to attain sustainable economic growth.

Tuberculosis Epidemic in SAARC Region

BURDEN OF TUBERCULOSIS IN SAARC REGION-2019

The SAARC region, with an estimated annual incidence of 3.7 million TB cases equivalent to 206 cases per 100 000, carries 37% of the global burden of TB incidence. Three of eight Member States in the SAARC Region are high TB and MDR-TB burden countries among 30 high burden countries. India accounting for 27%, Pakistan 6% and Bangladesh 4% of the world's TB Cases. An estimated 0.5 million (30 cases per 100 000) TB deaths in the region, however, India accounted around 37 % of Global TB deaths.

Estimates of the burden of diseases caused by TB in the SAARC Region 2018

Country	Population ('000)	Incidence		Mortality (Excluding HIV)	
		Number ('000)	Rate	Number ('000)	Rate
Afghanistan	37000	70	189	11	29 (17-44)
Bangladesh	161000	357	221	47	29 (18-42)
Bhutan	826	1.1	149	0.12	16 (10-23)
India	1353000	2690	199	440	32 (30-35)
Maldives	402	0.17	33	0	0.15 (0.04-0.36)
Nepal	28000	42	151	5.4	19 (13-26)
Pakistan	212000	562	265	43	20 (16-25)
Sri Lanka	21000	14	64	0.81	3.8 (3.1-4.6)
Total	1813228	3736	206	547	30

TB Case notifications (2018) and Treatment Success Rate (2017 Cohort) in SAARC Region

Country	Population ('000)	Total Case notified	Total (New and relapse cases)	Treatment Success (%)
Afghanistan	37000	48800	48420	91
Bangladesh	161000	268596	267143	94
Bhutan	826	918	898	93
India	1353000	2155894	1994000	81
Maldives	402	138	138	68
Nepal	28000	32474	31855	91
Pakistan	212000	369548	360472	93
Sri Lanka	21000	8856	8620	85
Total	1.81 billion	2885224	2711546	84

BURDEN OF HIV/AIDS IN SAARC REGION-2019

HIV epidemic in SAARC region is also a collection of diverse epidemiological situations in countries, provinces & districts. HIV/AIDS continues to be a major public health problem in the SAARC Region. All eight Member States of the SAARC region are designated as low prevalence countries. On the basis of latest available information this region is home for an estimated number of 2.35 million HIV infected people and 0.07 million AIDS deaths in 2018. Three countries namely India, Nepal and Pakistan account for majority of the regional burden.

Estimated number of PLHIV, New HIV Infections, AIDS Deaths, Prevalence rate and incident rate in SAARC Region-2018

Country	Population('000)	Estimated No. of PLHA	HIV Prevalence Rate (%)	Estimated New HIV infection in (all ages)	HIV Incidence per 1000 population	AIDS- related Deaths
Afghanistan	37000	7200	<0.1	840	0.02	<500
Bangladesh	161000	14000	< 0.01	1600	0.01	580
Bhutan	826	1300	0.3	<100	0.11	<100
India*	1353000	2140000	0.22	87580	0.07	69110
Maldives	402	N/A	N/A	N/A	NA	NA
Nepal	28000	30000	0.1	900	0.03	910
Pakistan	212000	160000	0.1	22000	0.11	6400
Sri Lanka	21000	3500	< 0.1	< 200	0.01	<200
Regional	1813 million	2.35 million		0.1 million		0.07 million

Estimated size of population in key populations in SAARC Region-2018

Country	Sex Worker	Men who have sex with men	People who inject drugs	Transgender	Prisoners
Afghanistan	12500	10700	40900	NA	28000
Bangladesh	132037	101695	33067	10199	NA
Bhutan	1044	72	55	22	240
India	868000	257000	177000	70000	433003
Maldives	NA	NA	NA	NA	NA
Nepal	67300	60333	30868	21460	22000
Pakistan	230000	830000	110000	53000	78000
Sri Lanka	30000	74000	2700	2200	NA
Regional	1340881	1333800	394590	156881	561243

Programmes of STAC for the year 2019 Recommended by the Twenty-Eighth Meeting of the Governing Board of STAC

On the invitation of SAARC Secretariat and SAARC Tuberculosis and HIV/AIDS Centre (STAC), the Twenty-eighth Meeting of the Governing Board of STAC was held on 4-5th December, 2018 in Dhulikhel, Nepal. The following Governing Board Members from the Governments of Afghanistan, Bangladesh, Bhutan, India, Nepal and Pakistan along with representatives of SAARC Secretariat and Ministry of Foreign Affairs, Government of Nepal, participated in the meeting. Mr. Mohammad Al Alamul Emam, Counselor & Head of Chancery, Embassy of Bangladesh, Kathmandu, opened the Meeting as Chairperson of the Board. Dr. R. P. Pant, Director, STAC while delivering his opening remarks thanked the Member States and SAARC Secretariat for excellent support and cooperation for all the activities. Ms. Rishfa Rasheed, Director, Social Affairs, SAARC Secretariat delivered her remarks and conveyed the best wishes of His Excellency the Secretary-General of SAARC for successful organization of this meeting and fruitful deliberations. She highlighted the long pending issue of SAARC Supra-national Reference Laboratory for TB and HIV/AIDS

The Board reviewed the activities carried out by the Centre in 2018 and recommended the programmes & budget (Institutional and Programme Cost) for 2019 submitted by STAC to Programming/Standing Committee of SAARC for approval.

The list of activities of the Centre for the year 2019

1. SAARC Training of Mid-level Clinical Managers on Programmatic Management of Drug Resistance TB (PMDT) - Bangladesh
2. SAARC Training on Gene-Xpert Machine Operation and Maintenance for Laboratory Personnel- Bhutan
3. SAARC Regional Workshop for Implementation on TB-Tobacco Collaborative Activities and Development of Guidelines on TB-Tobacco- India
4. SAARC Parliamentarians meeting on TB and HIV/AIDS- Nepal
5. SAARC Training on Gene-Xpert Machine Operation and Maintenance for Laboratory Personnel- Nepal

6. SAARC Regional Workshop on Latent TB Infection for Finalization of Guideline on Latent TB Infection- Pakistan
7. SAARC Regional Workshop for the mid-level HIV/AIDS managers on Community Led Testing (CLT) on HIV/AIDS- Pakistan
8. SAARC Training of Trainers (ToT) on Diagnosis Treatment and Programmatic Management of Pediatric TB- Sri Lanka
9. SAARC Regional Meeting of Programme Managers on TB and HIV/AIDS Control Programmes- Sri Lanka
10. SAARC Regional Workshop to develop SOP on Cross Border/Migrant Health issues on TB and HIV/AIDS- Maldives
11. SAARC Expert Group Meeting to Develop Common Mechanism on Logistic Management System for National TB and HIV/AIDS Control Programmes of SAARC Member States- India
12. SAARC Regional Training on ART- Nepal

Research Activities

13. Bacterial risk factors responsible for unfavorable treatment outcome in Multi Drug resistant Tuberculosis infected patients, Bangladesh
14. Occupational risk (prevalence and risk factors) of Latent Tuberculosis Infection among Health Care Workers, Nepal
15. Trend (frequency and distribution patterns) of opportunistic infections associated with HIV/AIDS – A multi-centric study, Afghanistan, Bhutan and Nepal
16. HIV Prevalence Study in key population in Afghanistan
17. Assessment of compliance of shorter Regimen of MDR -TB Treatment in Bhutan

Regular Activities, Commemoration/Celebration of:

18. World TB Day, World AIDS Day and SAARC Charter Day
19. Appraisal/Monitoring on TB and HIV/AIDS in SAARC Region
20. Video Conferencing on Cross border, migrant health and other issues on TB and HIV/AIDS in SAARC Member Countries
21. Participation and presentation of scientific papers in International Conferences on TB-Tobacco, HIV/AIDS and STI by STAC

22. Participation/presentation of scientific papers in the SAARC Regional Conferences/workshops/meetings/consultations in the Member States Director/Professional/GSS
23. Participation in the Review of activities NTPs and NACPs/Communicable diseases in the SAARC Member States by Director/professional STAC
24. Participation in Meeting of collaborating Institutions for Strengthening of Networking WHO/UNAIDS/UNFPA & other collaborating institutes.
25. Review of Articles of SAARC Journals of TB, Lung Diseases and HIV/AIDS
26. Skill enhancement of GSS in Trainings/Workshops/Conferences etc.
27. Procurement of Laboratory consumables

Printing of STAC Publications

28. STAC Journal of Tuberculosis Lung Disease and HIV/AIDS
29. SAARC Regional Strategy on HIV/AIDS
30. SAARC Regional Strategy on Elimination of TB
31. SAARC Regional Strategy on ACSM
32. SAARC Regional Strategy on Migration Health
33. Vision Document of SATC
34. SAARC Guidelines for Private- Public Mix approach for National TB Control Programmes
35. SAARC Regional Guidelines Pediatric TB
36. SAARC Regional Training Manual on Pediatric TB
37. Printing of Wall Calendar 2020
38. SAARC Epidemiological Report on Tuberculosis & TB/HIV Co-infection 2019
39. SAARC Epidemiological Report on HIV/AIDS 2019
40. Annual Report- 2018
41. STAC E-Newsletters
42. Strengthening of STAC Library
44. Establishment of Digital/Record Archives in STAC (Internal)

Reviewing progress of activities of 2019 by of Twenty-ninth Meeting of the Governing Board of STAC

Twenty-ninth Meeting of the Governing Board Meeting of STAC was held in Kathmandu on 20-21 November 2019. The Meeting was attended by Prof. (Dr.) Md. Shamiul Islam, Director MBDC & Line Director TB-Leprosy and ASP, Government of Bangladesh , Mr. Rixin Jamtsho, Chief Program Officer ,Department of Public Health, Ministry of Health, Communicable Diseases Division, Government of Bhutan Bhutan, Dr. Ali Nazeem ,Director Medical Services, Indira Gandhi Memorial Hospital , Government of Maldives, Mr. Sharad Kumar Sharma, Under Secretary (Statistics), National Tuberculosis Control Center, Government of Nepal ,Dr. Anuj Bhattachan ,Director, National Centre for AIDS and STD Control (NCASC), Government of Nepal, Ms. Pramita Adhikari, Under Secretary, Ministry of Foreign Affairs (MOFA), Government of Nepal, Mr. Adnan Javed Khan , Counselor Embassy of Pakistan in Kathmandu, Government of Pakistan , Dr. Nirupa Pallewatte, Deputy Director, National Programme for Tuberculosis Control & Chest Diseases, Government of Sri Lanka and Ms. Rishfa Rasheed, Director, Social Affairs, SAARC Secretariat.

The Meeting was chaired by the Governing Board Member from Government of Bangladesh. The Board reviewed the ongoing and current activities Progress of the Centre.



Twenty-Ninth Governing Board Meeting 2019

The Board recommended list of Activities along with Programme and Institutional Cost Budget of the Centre for year 2020 for approval of Programming Committee.

Recommended Programmes of the Centre for the year 2020

1. The SAARC Meeting of Programme Manager of National TB and HIV/AIDS Control Programmes
2. Sharing/learning of Best Practices on TB in the SAARC Member States by Experts/Officials of National Programmes Through the Observation Visits
3. Sharing of Best Practices on HIV/AIDS in the SAARC Member States by Experts/Officials of National Programmes Through the Observation Visits
4. SAARC Regional Meeting to develop appropriate mechanism for Regional Drugs/Logistic (TB and HIV/AIDS) procurement
5. SAARC Parliamentarian's meeting on TB and HIV/AIDS
6. The SAARC Regional 5th Meeting of Heads/Chief of Identified National TB and HIV/AIDS Laboratories.
7. SAARC Regional ToT on Latent TB Infection.
8. SAARC Regional Training on Operational Research on Methods and Data Analysis in TB and HIV/AIDS
9. SAARC Seminar to develop/finalization of SOP on Cross Border/Migrant Health issues on TB and HIV/AIDS
10. Meeting of Assessment of Cross Border situation on TB and HIV/AIDS Afghanistan and Pakistan
11. Meeting of Assessment of Cross Border Situation on TB and HIV/AIDS India & Nepal
12. Meeting for Assessment of Cross Border Situation on TB and HIV/AIDS Bhutan and India

Research Activities

13. Bacterial risk factors responsible for unfavorable treatment outcome in Multi Drug resistant Tuberculosis infected patients, Bangladesh- carry forward from 2019
14. Estimating tuberculosis cases and their additional economic costs incurred by TB Patients and their Families for TB Diagnosis and Treatment- A multi centric study (3 countries) Bhutan, Nepal and Sri Lanka
15. Operational Research on Evaluation and Effectiveness of oral/newer drugs of shorter Regime of MDR-TB Treatment in Bangladesh

16. HIV and STI Sero-Prevalence Survey and risk factor analysis among Prisoners in Nepal
17. Assessment of compliance of shorter Regimen of MDR -TB Treatment in Bhutan
18. Piloting of active case finding in most risk populated district of Nepal to trace missing TB cases (Two Districts) and development of guidelines.

Regular Activities

18. World TB Day, World AIDS Day and SAARC Charter Day
19. Regular Works/Activities in SAARC Supra-National Reference Laboratory for TB and HIV/AIDS
20. SAARC regional Consultation/Workshop/Conferencing on TB and HIV/AIDS (through Video Conferencing methods) -2 in STAC (migrant health issue and TB/HIV co-infection issue)
21. Participation and presentation of scientific papers in International Conferences on TB-Tobacco, HIV/AIDS and STI by STAC
22. Participation/presentation of scientific papers in the SAARC Regional Conferences/workshops/meetings/consultations in the Member States Director/Professional/GSS
23. Participation in the Review of activities NTPs and NACPs/Communicable diseases in the SAARC Member States by Director/professional STAC
24. Participation in Meeting of collaborating Institutions for Strengthening of Networking WHO/UNAIDS/UNFPA & other collaborating institutes.
25. Review of Articles of SAARC Journals of TB, Lung Diseases and HIV/AIDS
26. Skill enhancement of GSS in Trainings/Workshops/Conferences etc.
27. Procurement of Laboratory consumables
28. Meeting/consultation with the editors of the medical journals published in the valley to Enhance SAARC journal of Tuberculosis, Lung Disease and HIV/AIDS

Printing of STAC Publications

29. STAC Journal of Tuberculosis Lung Disease and HIV/AIDS
30. SAARC Curriculum of different level Training on TB and HIV/AIDS in the SAARC Region
31. SAARC Guideline and SOPs for Health Response on natural and epidemic Disasters in SAARC Member States
32. Printing of Wall Calendar 2021

33. SAARC Epidemiological Report on Tuberculosis & TB/HIV Co-infection 2019
34. SAARC Epidemiological Report on HIV/AIDS 2019
35. Annual Report- 2019
36. STAC E-Newsletters
37. Strengthening of STAC Library
38. Establishment of Digital/Record Archives in STAC (Internal)

Activities under External Funding

39. SAARC Regional Meeting to Develop and Finalize the Protocol for Tuberculosis Patient Cost Survey Study
40. SAARC Regional Meeting for Mapping and Identifying to designate the referral sites across the borders in Member States.
41. SAARC Regional Training of the Trainers on HIV and Social Protection

Activities carried out by the STAC in 2019

1. SAARC Regional Training of Trainers (ToT) on Diagnosis, Treatment and Programmatic Management of Pediatric TB

Introduction

A “SAARC Training of Trainers on Diagnosis, Treatment and Programmatic Management of Pediatrics TB” was organized jointly by STAC and National Programme of Tuberculosis Control and Chest Diseases (NPTCCD), Ministry of Health, Nutrition and Indigenous Medicine, Government of Sri Lanka in Colombo from 17th to 21st April 2019.

Participation

Eighteen participants participated in the programme. Participants were Pediatricians, Chest Physicians, Medical Officers, Health Officers etc. from seven SAARC Member States, namely Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal and Sri Lanka.



Facilitators and Resource Persons of the training included Consultant Respiratory Physicians, Pediatricians, Consultant Microbiologist, Consultant Radiologist, Consultant Pathologist, Consultant Community Physician Health, Consultant Pediatric Respiratory Physician, and Consultant Venereologist working in Government Child Hospitals in Sri Lanka facilitated in the programme.

Objectives

- To strengthen participants' capacity in the clinical management of Pediatric TB
- To discuss and share experiences of clinical management, challenges to be faced in diagnosing & treating of childhood TB and
- To provide Training of Trainers

Opening Ceremony:

Opening Ceremony started with the traditional blowing of Conch. Dr. Lakhmi Somathunga, Additional Secretary, Public Health Service (PHS), Ministry of Health, Nutrition and Indigenous Medicine, Government of Sri Lanka inaugurated the Training Programme by lighting beautifully decorated lamps on the different symbolic bowl-ponds representing the seventh SAARC Member States. All dignitaries from dais joined in the inauguration to light-up the lamp.

The opening session was started by National Anthem of Sri Lanka. Dr. M. A. C. M. Refai, Director, NPTCCD delivered welcome address and welcomed all participants, resource persons, guests, dignitaries and officials in the programme. He expressed his happiness to be the focal person for hosting such important training. He also thanked the Government of Member States for their great support by sending high level participants to make the programme a grand success.

Dr. Rajendra Prasad Pant, Director, STAC delivered his remarks and expressed his gratitude and happiness for the presence of high-level dignitaries from Government of Sri Lanka which reflects that there is strong commitments for prevention & control of TB & HIV/AIDS in the SAARC Region. He also expressed his gratitude to all SAARC Member States for their Ending TB targets and ending TB by 2025 taken by the Government of Sri Lanka its really tough task. He highlighted the challenges to be faced in management of childhood TB and role to be played by STAC to support the Member States. He thanked officials of NPTCCD, Sri Lanka for working hard since last one month for making the programme successful.

Dr. Ajanthan Rajarathnam, President Sri Lanka College of pediatrics, Government of Sri Lanka also delivered his remarks in the inaugural ceremony of the programme. He mentioned that Sri Lanka is one of the low TB prevalence countries among the SAARC Member States and informed that Sri Lanka has improved early suspicion and diagnosis of pediatric TB.

Dr. Aflah Sadeek, Consultant Respiratory Physician Secretary, Sri Lankan College of Pulmonologist delivered his remarks. He thanked to the organizing committee for conducting such useful training in Sri Lanka.

Dr. Lakhmi Somathunga, Additional Secretary Public Health Service (PHS) delivered her remarks to the audience. She highlighted that out of 44% of Global cases, quarter of the cases are in the Region and among them Sri Lanka has low prevalence rate. She emphasized that only collective efforts and coordination could get its achievement for ending TB target, as Government of Sri Lanka has targeted to end TB by 2025.

Dr. Rajendra Prasad Pant, Director handed over the souvenir on behalf of STAC to the delegates on the Dias. Dr. Sumudu Avanthi thanked the delegates and participants of the programme and the session closed with the Group photo.

Technical Sessions

First Day

The technical session started with the briefing of the first Day agenda by Mrs. M. K. Dhakal, SPA and self-introduction by the participants.

Dr. Rajendra Prasad Pant, Director, STAC made a presentation on introduction of STAC, its vision/mission, objectives along with its achievements, progress and forthcoming activities to be held in 2019. He also informed that we have more Experts in Asia as well as more people die due to TB in Asia so it's high time to work collectively to fulfill its targets.

The country presentations started in alphabetical order of the member country where the participants presented their presentations on the status of childhood TB in respective country.

Second Day

The session started with recapped the first day plenary session by Dr. Tenzin Lhadon, Pediatrician, Jigme Dorji Wangchuk, National Referral Hospital, Bhutan and made discussions among the participants. The second day plenary sessions made a presentation on different topics related to childhood TB, its diagnosis and treatment.

Dr. Rabeya Sultana, Research Officer, STAC made a presentation on "Epidemiology of TB and Childhood TB in the SAARC Region". Dr. Mizaya Carder from NPTCCD, Sri Lanka presented Efforts of NTP Sri Lanka in Diagnosis and Treatment of Childhood TB. On the same day Dr. R. M. D. Madagedara, Consultant Respiratory Physician made presentation on Maternal and Child/infant TB including IMCI.

Dr. K. N. D. A. Anuradha, Acting Consultant Respiratory Physician made presentation on Diagnosis of TB in Pediatric. The presentation was followed by Guideline page 6-14 and participants discussed the Guidelines and its chapter 2. Followed by tea break Dr. Anuradha made a presentation on Treatment of TB in Pediatric. The presentation was followed by Guideline page 15-21 and participants discussed the Guidelines and its chapter 3.

Dr. Channa De Silva, Consultant Pediatric Respiratory Physician made a presentation on Malnutrition and TB in pediatric. She emphasized the Management of severe acute malnutrition in infants and children which is a one of the major contributing course of childhood TB. She also made a presentation on “History Taking in Pediatric TB”. The presentation was followed by Manual reading and participants discussed the manual and its chapter 4.

Dr. Uditha Kodithuwakku, Consultant Radiologist made a presentation on Radiography of Childhood TB. The presentation was followed by Manual reading and participants discussed the manual and its chapter 9.

The last presentation of the second day was Pediatric TB Programmatic Management within NTP presented by Dr. Sumal Nandasena, Consultant Community Physician, NPTCCD, Sri Lanka. He explained in his presentation about the NTP initiatives, recording and reporting, indicators in routine NTP, supervision, monitoring, training and evaluation etc. Participants took part in discussion and impart the knowledge regarding the matters.

The presentation was followed by Manual reading and participants discussed the manual and its chapter 14.

Third Day

The day started with the presentation of Dr. Niranjan Dissanayake, Consultant Respiratory Physician on “Management of DR TB in Pediatrics”. The presentation was followed by the Manual Reading. Participants discussed the matters and acquainted with the possible problems while handling the DR-TB in Children. The second presentation was on “Prevention of Pediatric TB”. The presentation was followed by Manual reading and participants discussed the manual and its chapter 3.

Dr. Ramani Punchihewa, Consultant Pathologist presented her presentation on “Pathology and Pathogenesis of Pediatric TB”. The topic is available on chapter 2 of Training Manual. The participants discussed the presentation as well the chapter 2 in detailed.

Dr. Dushani Jayawardhena, Consultant Microbiologist, NTRL, Welisara presented her presentation on “Laboratory Aspects of Pediatric TB”. The topic is available in Manual chapter 3. The presentation and chapter 3 was discussed in detailed among the participants.

Dr. Batuwanthudawa, Consultant Community Physician, Health Promotion Bureau, presented her presentation on “Counseling in Childhood TB”. The presentation was related to the Chapter 11 of Training Manual. The participants participated in the presentation along with the manual reading.

The last presentation of the 3rd day was done by Dr. Refai Carder, Actg. Director, NPTCCD, Sri Lanka on “Community Participation in Childhood TB”. Participants discussed the information related with the information displayed in his presentation which is explained in manual chapter 14.

Fourth Day

The day started with field visit of Kalutara Chest Clinic as curative service. Participants observed all sections/divisions in the chest clinic. Dr. U. I. Ratnaike, Regional Director briefed about the services for the Centre and explained the procedures they were following during the treatment of the patients. The Participants observed the facilities of the Centre, the laboratory and recording/reporting system. They were impressed with the filling system in the laboratory.

The participants were divided into small groups, discussed and prepared the points for discussion.

Fifth Day

The day started with the presentation of Dr. Thilani Rathnayaka, Consultant Venereologist on “Pediatric TB/HIV Co-infection”. The presentation was followed by the Training Manual reading, chapter 12.

After the technical session, all participants evaluated 5 day training programme by filling up the evaluation form. The participants in alphabetic order presented/ shared their experience, knowledge gained from this training.

Closing Ceremony

Dr. M. A. C. M. Refai, Director, NPTCCD, Government of Sri Lanka delivered the closing remarks. He expressed his happiness that the training has completed successfully. He presented a brief report on this five-day SAARC Training of Trainers on childhood TB.

Dr. Rajendra Prasad Pant, Director, STAC delivered his remarks. He thanked Government of Sri Lanka for the concurrence to organize the training programme in appropriate time. Dr. Pant highlighted the importance of ToT on childhood TB in the SAARC Member States as well as appealed to the respective participants from the Governments of SAARC for the nomination of participants for the STAC activities timely.

Outcome of the Training

The participants updated their skills to provide the health care delivery especially to the children with TB, TB/HIV as well as DR-TB. SAARC TB and HIV/AIDS Centre provided ToT to 18 participants and impart the knowledge regarding childhood TB. It is believed that the participants certainly will implement the knowledge and skills gained in this training in the country where they work. It is also believed that as it was a Trainers' Training, so they must communicate their information related to childhood TB with their staff who needs all these kinds of information and skills to work with children with TB.

List of Participants and resource persons

Afghanistan:

Dr Shafiq Ahmad Shafiq,
Provincial TB coordinator, Kabul
Ministry of Public Health

Bangladesh:

Dr Muhammad Shafiqul Haque Sharif
Residence Physician, Pediatrics
Mymensingh Medical Collage Hospital

Dr Rupali Sisir Banu
National Programme Coordinator
National TB Control Programme.

Bhutan:

Dr. Tenzin Lhadon,
Pediatrician, JDWNRH

Dr. Kinzang Wangdi
GDMO, ERRH Mongar

India:

Dr. Chaman Prakash
Additional DDG (Joint Secretary)
MOHFW, Nirman Bhawan, New Delhi

DR. Sanjay Kumar
Sr. CMO, Director
MOHFW, Nirman Bhawan, New Delhi

Maldives:

Dr. Nazmy Abdul Latheef,
Consultant in Respiratory Medicine,
Indira Gandhi Memorial Hospital

Dr. Mihunath Musthafa,
Medical Officer, Department of Child Health
Indira Gandhi Memorial Hospital

Nepal:

Dr. Pramod Kumar Yadav,
Director, Provincial Health Directorate
Province No. 2, Nepal

Dr. Prakash Joshi
Chief Consultant Pediatrician
Kanti Children's Hospital, Kathmandu, Nepal

Sri Lanka: Host Country

Local Resource Person:

Dr. Dhanushka Gamage , DTCO/ Chest Clinic –
Kalubowila

Dr. Mizaya Carder / NPTCCD

Dr. R.M.D. Madagedara,
Consultant Respiratory Physician

Dr. K.N.D.A. Anuradha,
Acting Consultant Respiratory Physician

Dr. Channa De Silva,
Consultant Paediatric Respiratory Physician

Dr. Uditha Kodithuwakku, Consultant Radiologist.

Dr. Sumal Nandasena, Consultant Community Physician,
NPTCCD

Dr. Neranjan Dissanayake, Consultant Respiratory Physician

Dr. Ramani Punchihewa, Consultant Pathologist.

Dr. Dushani Jayawardhena,
Consultant Microbiologist,
National Tuberculosis Reference Laboratory

Dr. Batuwanthudawa, Consultant Community Physician,
Health Promotion Bureau.

Dr. Refai Carder, Actg. D/ NPTCCD

Agenda

Day I: 17-04-2019	
09.00-09.30	Registration
09.30-10.15	Inauguration
11.00-11.15	Refreshments/Tea Break
Technical Sessions:	
	Introduction and Adaptation of agenda Brief Introduction of the participants - facilitated by SPA, STAC
11.15-12.45	Inauguration of technical session and Introduction of STAC- Director, STAC Challenges of Childhood TB in SAARC region – RO, STAC
12.45- 14.00	Lunch Break
14.00-15.00	Country presentations on childhood TB- by participants of Afghanistan, Bangladesh and Bhutan
15.00-15.15	Tea Break
15.15-16.15	Country presentations on childhood TB- by participants of India, Maldives and Nepal
16.15-17.00	Country presentations on childhood TB- by attending participants Sri Lanka
Day II: 18-04-2019	
09.00- 09.20	Agenda of day 2 by SPA, STAC
09.20-09.30	Epidemiology of TB & Childhood TB – RO, STAC
09.30-10.00	Efforts of NTP Sri Lanka in Diagnosis and Treatment of Childhood TB by Dr. Mizaya Carder/ NPTCCD
10.00-11.00	Presentation on Maternal and Child/infant TB including IMCI by Dr. R.M.D. Madagedara, Consultant Respiratory Physician
11.00-11.40	Presentation and Diagnosis of TB in Pediatric – (guidelines - page 6 to 14) by Local Resource Person, Sri Lanka
11.40- 12.00	TEA- BREAK
12.00-13.00	Presentation on Treatment of TB in Pediatric and Pediatric Guidelines reading (page 15-21) by Dr. K.N.D.A. Anuradha, Acting Consultant Respiratory

	Physician
13.00-14.00	LUNCH-BREAK
14.00-14.30	Malnutrition and TB in pediatric by Dr. Channa De Silva , Consultant Pediatric Respiratory Physician
14.30-15.00	Presentation and Manual Reading on History Taking in Pediatric TB Dr. Channa De Silva, Consultant Pediatric Respiratory Physician (SAARC Pediatric Training Manual) Chapter-4
15.00- 15.15	TEA BREAK
15.15-15.45	Radiography of childhood TB- Chapter 9 Training Manual By Dr. Uditha Kodithuwakku, Consultant Radiologist.
15.45-16.45	Pediatric TB within NTP (SAARC Pediatric Training Manual chapter-14 Dr. Sumal Nandasena, Consultant Community Physician, NPTCCD <ul style="list-style-type: none"> ◆ NTP initiatives ◆ Recording and reporting ◆ Indicators in routine NTP ◆ Supervision, monitoring training and evaluation
Day III: 19-04-2019	
09.00- 09.10	Recap of the previous day and discussions by RO, STAC
09.10- 10.00	Presentation and Manual Reading on Management of DR TB in Pediatric- by Dr. Neranjan Dissanayake, Consultant Respiratory Physician
10.00-10.30	Prevention of Pediatric TB Chapter 3 Training Manual by Dr. Neranjan Dissanayake, Consultant Respiratory Physician
10.30-10.45	Tea Break
10.45-12.00	Pathology and Pathogenesis-Pediatric TB SAARC training manual page Chapter – Dr. Ramani Punchihewa, Consultant Pathologist
12.00-13.00	Presentation on Laboratory aspects of Pediatric Tuberculosis by Dr. Dushani Jayawardhena, Consultant Microbiologist, National Tuberculosis Reference Laboratory Training Manual Chapter 3
13.00.14.00	Lunch-Break
14.00-15.30	Presentation and Manual Reading on Counseling in Childhood TB Regional Resource person and Local Resource Person (Chapter-11 SAARC pediatric

	Training Manual)- by Dr. Batuwanthudawa, Consultant Community Physician, Health Promotion Bureau.
15.00-15.30	Tea Break
15.30-16.00	Community participation in Childhood TB (Chapter 14) by Dr. Refai Carder, Actg. Director/NPTCCD
16.00-16.30	Summing up of the day
DAY IV	
08.00-13.00	Field Visit- Kalutara District Chest Clinic
13.00-14.00	LUNCH BREAK
14.00-15.00	Preparation of field visit report by groups, facilitated by RO, STAC
15.00-15.30	TEA- BREAK
15.30-16.00	Preparation of field visit report by groups
DAY -V:	
09.00-11.00	Presentation on Pediatric TB/HIV Co-infection by Local Resource Person Module reading-SAARC Pediatric Tr. Manual(Chapter 12)
11.00- 13.00	Preparation of field visit reports by groups facilitated by RO, STAC
13.00-14.00	LUNCH BREAK
14.00-15.00	Presentation on field visit reports by the participants (2 groups)
15.00- 16.30	Closing Ceremony

2. SAARC Regional Meeting of Programme Managers on TB and HIV/AIDS Control Programmes- Sri Lanka

Introduction

On the invitation of the Government of Sri Lanka, SAARC Meeting of Programme Managers on TB and HIV/AIDS Control Programmes was held on 20-22 June, 2019 in Colombo, Sri Lanka. The SAARC Tuberculosis and HIV/AIDS Centre (STAC) received confirmations of participation from the National programmes of Governments of Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. However, the participants of Afghanistan, Bangladesh and Pakistan were not able to participate due to unknown reasons at the last minute.

Inaugural Session of the Meeting:

The inaugural session was started with lighting the lamps by the Mrs. Wasantha Perera, Secretary, Ministry of Health, Nutrition and Indigenous Medicine as Chief Guest, Dr. Anil Jasinghe, Director-General, Department of Health Services, Government of Sri Lanka, Director, STAC and all the participants of the Meeting from Governments of Bhutan, India, Maldives, Nepal and Sri Lanka.



The Secretary, Ministry of Health, Nutrition and Indigenous Medicine thanks STAC for organizing the important Meeting in Sri Lanka. She highlighted importance of this meeting

as the Regional is a home of large numbers TB cases. She requested the Meeting for fruitful discussions and deliberations in line with set national and regional targets for elimination of TB and HIV/AIDS.

The Director-General, Department of Health Services highlighted services delivery system in Sri Lanka and national targets for TB and HIV/AIDS. He also focused that if the SAARC Member States will able to achieve the target for elimination of TB and HIV/AIDS it will be great global achievement.

Dr. Rajendra Pant, Director, STAC, in his remarks, he welcomed the delegates from the Member States of SAARC to the meeting. He also expressed gratitude to the Government of Sri Lanka for the warm reception and the generous hospitality extended to the delegates and for the excellent arrangements made for the Meeting.

Dr. Nirupa Pallewatte, Deputy Director, National Programme for Tuberculosis Control & Chest Diseases, Manager delivered the vote of thanks.

TECHNICAL SESSION

Election of Chairperson

As per the SAARC practice, Dr. Rsanjali Hettiarachchki, Director, and Dr. Lilani Rajapaksa, Deputy Director, National HIV/AIDS Control Programme, Government of Sri Lanka were elected as Chairpersons for chairing of the Meeting.

Adoption of Agenda

The Meeting had before it, the Provisional Agenda and Annotated Provisional Agenda circulated by STAC to the Member States and Meeting adopted the Agenda of the Meeting.

STAC's Presentation and Discussion:

The Director, STAC made a presentation on Introduction of STAC, current situation of TB, HIV/AIDS and regional efforts for achieving the regional target on TB and HIV/AIDS. He also highlighted the key achievements in the year 2018 and 2019.

Country/STAC's Presentations and discussions:

The country presentations on Achievements, innovations, challenges in the National Programmes along with National Reference Laboratories networks in the countries were presented as per following;

- i. Mr. Ugyen Dendup, Senior Program Officer, Communicable Disease, Division,

- Department of Public Health on behalf of National TB control Programme and Mr. Kinley, Senior Program Officer, Communicable Disease Division, Department of Public Health on behalf of National HIV/AIDS Control Programme Government of Bhutan made a country presentation.
- ii. Dr. Anoop Kumar Puri, Additional Deputy Director General, NACO, Government of India on behalf of National HIV/AIDS control Programme, Government of India made a country presentation.
 - iii. Dr. V.S. Salhotra, Additional Deputy Director General, RNTC on behalf of National TB control Programme, Government of India made a country presentation.
 - iv. Mr. Abdul Hameed, Programme Manager, on behalf of National TB and HIV/AIDS control Programmes, Government of Maldives made a country presentation.
 - v. Dr. Nirupa Pallewatte, Deputy Director, National Programme for Tuberculosis Control & Chest Diseases, Government of Sri Lanka, on behalf of National TB Control Programmes, Government of Sri Lanka presented a country presentation in the Meeting.
 - vi. Dr. Lilani Rajapaksa, Deputy Director, National HIV/AIDS Control Programme, Government of Sri Lanka, on behalf of National HIV/AIDS Control Programme, Government of Sri Lanka made a presentation.
 - vii. The Director, STAC presented the implementation status of recommendations of last Meeting of the Programme Managers. While discussing in the presentation, the Director, STAC also highlighted the some challenges like epidemiological data, low participation in the activities, unduly delayed completion of researches in the National programmes under STAC's Budget etc.

Presentation and Discussion for demand driven activities of STAC for the year 2020

The STAC presented the list of Regional Activities of the STAC for the Year 2020 in the Meeting. While discussing, activities of the Centre, it is known that the National Programmes have been conducting the numbers of Training Programmes in country level. Therefore, it is recommended that in place of routine trainings, STAC can propose, exposure trainings/visits/learning from best practices of National Programmes.

The meeting discussed and recommended following activities of the Centre for the year 2020;

- i. The SAARC Meeting of Programme Manager of National TB and HIV/AIDS Control Programmes (3 days)- Bhutan
- ii. SAARC Seminar to develop/finalization of SOP on Cross Border/Migrant Health issues on TB and HIV/AIDS-Duration (4 days)- Bangladesh
- iii. Sharing/learning of best practices on TB in the SAARC Member States by Experts/Officials of National Programmes through the observation visits (3 working days in each country, 3 countries-Bhutan→Nepal →India→Bangladesh)
- iv. Sharing of best practices on HIV/AIDS in the SAARC Member States by

- Experts/Officials of National Programmes through the observation visits (3 working days in each country, 3 countries- Sri Lanka→Bangladesh→Pakistan-Afghanistan)
- v. The SAARC Regional 5th Meeting of Heads/Chief of Identified National TB and HIV/AIDS Laboratories (2 days)-Nepal
 - vi. Establishment/setup of Video conferencing networks with National TB and HIV/AIDS Control Programmes in SAARC Member States for Meetings, consultations and trainings. (Withzooms technology).
 - vii. SAARC Regional Meeting to develop appropriate mechanism for Regional Drugs/Logistic (TB and HIV/AIDS) procurement
And
SAARC Regional Consultation Meeting on ARV to review the gaps in ARV, opportunistic Infections, procurement and supply chain issues. (3 days)-Maldives
 - viii. SAARC Regional ToT on Latent TB Infection (3 days)-India
 - ix. Situation assessment of Cross Border situation on TB and HIV/AIDS between India & Nepal and Bhutan & India.

Research

- x. TB Patients Cost Survey in Bhutan, Nepal and Sri Lanka in collaboration with WHO and other Agencies (funding for Protocol development, with Managerial and operational responsibility by STAC)

The Meeting discussed other research titles proposed by the Centre in the Meeting for conducting in national level. The meeting recommended STAC to request the National Programmes for submission of their research proposal/Concept to the Centre within July, 2019 for submission in the forthcoming Governing Board of STAC.

Any other matter(s)

The Meeting discussed the following draft documents, developed by the Centre under the Activities of the Centre for the year 2018;

- i. SAARC Guideline and SOPs for Health Response on natural and epidemic Disasters in SAARC Member States.
- ii. SAARC Curriculum of different level Trainings on TB and HIV/AIDS in the SAARC Region

The Meeting recommended for effective implementation of following SAARC Regional Strategies. The Meeting also recommended STAC for annual implementation status/progress reports of Strategies in regional and national level.

- SAARC Regional Strategies on HIV/AIDS (2018-2023)
- SAARC Regional Strategy on ACSM (2018-2023)
- SAARC Regional Strategy on Elimination Tuberculosis (2018-2023)
- SAARC Regional Strategy on Migration Health on TB and HIV/AIDS (2018-2013)

Adoption of the Report

The Meeting adopted its Report with recommendations.

Closing of the Meeting

At the invitation of National Programme, Ministry of Health, Nutrition and Indigenous Medicine, H.E. Prof. Bishwanbher Pyakuryal, Ambassador, Embassy of Nepal in Sri Lanka attended in the closing ceremony of Meeting as Chief Guest. He shared his experiences of numbers of SAARC programmes. He suggested STAC for establishing of linkage with other regional bodies like Colombo Plan.

The Participants of meeting from Governments of Bangladesh, Bhutan, India, Maldives, Nepal and Sri Lanka spoke in closing and they thanked the organizers for excellent arrangements and warm hospitality. They also appreciated the excellent work done by STAC and SAARC Secretariat for the meeting.

Dr. R.P. Pant, Director, STAC delivered vote of thanks. He thanked the Government of Sri Lanka for hosting the Meeting, and for the warm welcome and generous hospitality. He also thanked the Chairpersons for facilitating the deliberations, which resulted in fruitful outcome of the Meeting. He also thanked the delegations from the Member States their active participation, discussions and deliberations.

At the end, the Chairperson declared the meeting closed.

List of Participants

Bhutan

Mr. Ugyen Dendup,
Senior Program Officer,
Communicable Disease
Division, Department of Public Health

Mr. Kinley,
Senior Program Officer,
Communicable Disease Division,
Department of Public Health

India:

Dr. V.S.Salhotra,
Addl. DDG (TB),
Room No. 532-C, Nirman Bhawan, Maulana
Azad Road,
Ministry of Health & Family Welfare, New
Delhi

Dr Anoop Kumar Puri
Deputy Director General
National AIDS Control Organization, Ministry
of Health & Family Welfare, Government of
India

Maldives:

Mr. Abdul Hameed,
Senior Public Health Programme Officer,
Health Protection Agency,
Ministry of Health,
Government of Maldives

Nepal

Mr. Hem Bahadur Bhujel,
Third Secretary,
The Embassy of Nepal,
Colombo, Sri Lanka

Pakistan

Conveyed the confirmation by Ministry of
Foreign Affairs
(Not able to participate due to unknown
reasons at the last minute)

Sri Lanka

Dr. R. Heftiarachchi,
Director National STD/AIDS Control
Programme

Dr- N. Pallewatta,
Deputy Director,
National Programme for Tuberculosis Control
and Chest Diseases

Dr. Mizaya Cader,
Consultant Community Physician,
National Programme for Tuberculosis Control
and Chest Diseases

Dr. Sumudu Hewage,
Senior Registrar in Community Medicine,
National Programme for Tuberculosis Control
and Chest Diseases

Dr. G.D.K. Neranjan,
Medical Officer,
National Programme for Tuberculosis Control
and Chest Diseases

Dr. Kishan Suriaaratchie,
Medical Officer,
National Programme for Tuberculosis Control
and Chest Diseases

Dr. Himali P. Perera,
Consultant Venereologist,
National STD/AIDS Control programme

Dr. L.N. Siriwardana,
Consultant Venereologist,
STD Clinic, Badulla

SAARC Tuberculosis and HIV/AIDS Centre (STAC)

Dr. Rajendra Prasad Pant,
Director

K.B. Basnet,
Admin Officer

3. SAARC Regional Training on Anti-retro Viral Treatment (ART) to HIV/AIDS Control Programmes



Introduction

SAARC Regional Training on Anti-retro Viral Treatment (ART) to HIV/AIDS Control Programme was jointly organized by SAARC TB and HIV/AIDS Centre (STAC), Kathmandu and National STD & AIDS Control Programme, Government of Nepal organized a three days training on 13-15 June 2019 in Dhulikhel, Nepal.

The **objectives** of the program were:

- To strengthen the skills of the participants in managing HIV infected people who need ART treatment.
- To strengthen the capacity of the participants in implementation and monitoring of ART Programme and imparting training to health care providers in this respect.

The training was facilitated by national resource persons and technical people trained on ART Management. Handouts of each presentation and training module (soft copy) were provided by STAC to each of the participant. 14 nominated participants from five SAARC Member States participated in the training. Initially two participants from Afghanistan were nominated but due to some ministerial deferral of Visa they could not participate.

Day 1

Inaugural Session:

Dr. Tara Nath Pokhrel, Director, National STD & AIDS Control Programme, Government of Nepal welcomed the participants. He briefed about the necessity of human resource development to implement, sustain and scale up HIV/AIDS control activities (i.e. training on Anti Retro Viral therapy). He also appreciated activities carried out by STAC in relation to prevention and control of TB and HIV/AIDS.

Dr. Rabeya Sultana, Research Officer made a presentation on Introduction of STAC, as well as objectives and methods of the training. She highlighted the achievements made by STAC so far. Dr.Rabeya also acknowledged the support rendered by SAARC Member States to achieve the activities of STAC.

Technical session

Dr. Fuad Abdul Hamid, & Dr. Sheikh Sultan Muhammad Hejbullah, Bangladesh presented “ART PROGRAM of Bangladesh” They also highlighted the situation of HIV/AIDS and Recent Initiatives to Reach Global Target in Bangladesh.

Dr. Shanika Jayasena and Dr. Ahangama Arachchilage Indika Niroshan Jayasekara from Sri Lanka highlighted the activities and situation of HIV/AIDS Control Programme.

In the second half Dr. Durga Bhandari, Technical Advisor, LINKAGES, Nepal presented and discussed on “Approaches for HIV Case finding, treatment enrolment and Viral Suppression to meet the Ending AIDS targets by 2030”

Mr. Madan Kumar Shrestha, Sr. Public Health Administrator, National STD & AIDS Control Programme (NSAC), Government of Nepal presented on “HIV Background and Epidemiology” in Nepal. He elaborated the efforts of NCASC toward prevention and control of HIV/AIDS in Nepal. All the session were followed by discussions.

Day 2

Dr. Rajya Sri Kunwar from NCASC presented on “ART in Nepal”. She highlighted the situation of ART in Nepal.

Dr. Rajendra Pd. Pant, Director, STAC joined the session after having MoU with the HITES in New Delhi in relation to establishment of SAARC Supra Reference Laboratory, at the STAC. Dr. Keshab Deuba, from, National STD & AIDS Control Programme, Nepal presented on “overview of ART Recording and Reporting” was discussed. Dr. Pankaj Pant, TUTH, Kathmandu, presented on “Respiratory manifestations of HIV, TB and HIV-Co-infection, Nutrition in HIV”

After lunch hour the participants were taken to one of the ART Centre at Dhulikhel Hospital. Ms. Ruku Bhujel, counselor of the Centre shed light on the activities, achievements and constraints of the Centre. The participants observed the activities of the ART Centre and discussed on various issues.

Day 3:

Mr. Jurmi Dukpa, Counselor & Ms. Dechen Mo, Health Assistant from Bhutan, presented on “Epidemic situation of HIV/AIDS in Bhutan”

Dr. Saiprasad P. Bhavsar, India highlighted the situation of HIV/AIDS in India. He explained the Anti-Retroviral Treatment situation in India. He further mentioned in order to make treatment more accessible ART centres are located in medical colleges, district hospitals and non-profit charitable institutions providing care, support and treatment services to PLHA. A PLHA network person at each of the ART centre facilitates access to care and treatment services at these centres. ART centres also provide counseling and follow up on treatment adherence and support through community care centres.

Dr. Sabin Thapaliya, from TUTH, Nepal presented on “RP3 (TB and HIV, Hepatitis and OI, PrEP, PEP and Comprehensive Care”

Dr. Lekhjunga Thapa, Consultant Neurologist and Director, UDM-NINAS, Kathmandu, presented on “Neurological manifestations of HIV/AIDS”. He discussed on neuropathogenesis, etiologic agent, presentation, diagnostics, and treatment.

Closing

Closing session started by offering Khaada to all the participants and Resource persons by Dr. Rajendra Pd. Pant Director, STAC. He also distributed the certificates to all the participants and resource persons.

All the Resource persons and Participants appreciated the programme. They highlighted the importance of training and its value especially for the management of ART. They also thanked organizers for the success of the program.

Dr. Rabeya Sultana, Research Officer, STAC thanked all the participants for their active participation to make the training a grand success; She also acknowledged the useful as well as informative presentations made by Resource Persons.

Dr. Rajendra Pd. Pant Director, STAC highlighted the importance of this training and thanked the participants for their enthusiasm and devotion. He expressed gratitude on behalf of STAC to the Governments of SAARC Member States and participants for valuable contribution for the completion of this training successfully. He congratulated all.

Conclusion

Participants have been successfully trained for Technical and Operational aspects of Anti Retro Viral Therapy

List of Participants and Resource persons

Bangladesh

Dr. Faud Abdul Hamid,
Deputy Programme Manager (TCS),
AIDS/STD Programme (ASP), DGHS,
Mohakhali, Dhaka-1212

Dr. Sheikh Sultana Muhammad Hejbullah,
Manager (QA/QI), Save the Children, HIV/AIDS
Program,
House-35, Road-43, Gulshan-2,
Dhaka, Bangladesh

Bhutan

Mr. Jurmi Dukpa,
Counselor (Staff Nurse) Care, Support and
Treatment Unit,
Jigme Dorji Wangchuk National Referral
Hospital,
Ministry of Health, Bhutan

Ms. Dechen Mo,
Health Assistant, (counselor)
Health Information and Service Centre
Ministry of Health, Thimphu

India

Dr. Saiprasad P. Bhavsar
Deputy Director, NACO, New Dehli

Nepal:

Ms. Sarita Pandey
ART Counselor
Kanti Children Hospital Maharjung
Kathmandu, Nepal

Ms. Nabina Maharjan
ART Counselor
Paropakar Maternity and Women's Hospital
Kathmandu, Nepal

Ms. Kamala Subedi, ART Counselor

Ms. Sabitra Dhakal
ART Counselor,
Sukraraj Tropical and Infectious Disease
Hospital (STIDH)
Kathmandu, Nepal

Ms. Shristi Aryal
ART Counselor,
Bhaktapur Hospital ART Centre,
Bhaktapur, Nepal

Sri Lanka

Dr. Shanika Jayasena
MBBS, Dip Ven (Col.), MD (Col.), DFSRH (UK)
Acting Consultant Venereologist
National STD/AIDS Control Programme,
Colombo -10

Dr. Ahangama Arachchilage Indika Niroshan
Jayasekara,
Ac. Consultant,
Venereologist STD Clinic Hambanthota,
Colombo 10,

Resource Person:

Dr. Rajendra Pd. Pant, Director, STAC

Dr. Rabeya Sultana,
Research Officer, STAC

Dr. Pankaj Pant
Assistant Professor
Department of Pulmonology & Critical care,
TUTH, Kathmandu

Dr. Lekhjunga Thapa,
Consultant Neurologist,
Director, UDM-NINAS, Kathmandu

Dr. Durga Prasad Bhandari,
Technical Advisor, LINKAGES, Nepal

Dr. Rajya Shree Kunwar,
Technical Expert, NCASC, Nepal

Mr. Madan Kumar Shrestha,
Sr. Public Health Administrator, NCASC, Nepal

Dr. Keshab Deuba, NCASC, Nepal

Dr. Sabin Thapaliya Sr. Resident Department
of Internal Medicine, Infectious
Diseases.TUTH, Nepa

Agenda

Day 1 (13 June 019)

09.30 - 10. 30	Registration and Opening of the programme
10.30 - 11.00	Tea/Coffee Break
11.00 – 11.15	Introductions of STAC, Objectives and Methodology of Training, by: Dr. Rajendra Pd. Pant, Director, STAC
11.15 - 11.30	Global/SAARC Situation of HIV/AIDS, TB HIV co infection by; Dr. Rabeya Sultana, Research Officer, STAC
11.30 - 13.00	Overview of ART Programme in SAARC Member States: Country Presentations (by respective participants)
13.00 - 1400	Lunch Break
14.00-16.00	Approaches for HIV case Finding, treatment enrolment and Viral load Suppression to meet the Ending AIDS Targets by 2030 by: Dr. Durga Bhandari, Technical Advisor, LINKAGES, Nepal
15.30-15. 45	Tea/Coffee Break
16. 00-17.00	HIV Background and Epidemiology by, Mr. Madan K. Shrestha, Sr. Public Health Administrator, National STD & AIDS Control Programme, Nepal

Day 2 (14 June 019)

09.00 – 09.15	Recap of the previous day
09.15 – 10. 15	ART in Nepal by: Dr Rajya Sri Kunwar, Technical Expert, National STD & AIDS Control Programme, Nepal
10.15- 10.30	Tea/Coffee Break
10.30-11.30	Respiratory manifestations of HIV, TB and HIV Co-infection, Nutrition in HIV by Dr. Pankaj Pant, TUTH, Kathmandu
11.30- 12.30	Overview of ART Recording and Reporting, Dr. Keshav Deuba, National STD and AIDS Control Division, Nepal
12.30- 13.30	LUNCH BREAK
13.30-17.00	Field visit to Dhulikhel Hospital to observe the ART services –ART Centre- Dhulikhel - Ms. Ruku Bhujel, Counselor, Dhulikhel Hospital.

Day 3 (15 June 2019)

09.00- 10-30	Country presentation by Bhutan
10.30-11.00	Tea Break
11.00- 12.00	- RP3 (TB and HIV, Hepatitis and OI, PrEP, PEP and Comprehensive Care, by; Dr. Sabin Thapaliya, TUTH, Kathmandu
12.00-13.00	Neurological manifestations of HIV/AIDS by Dr. Lekhjunga Thapa, Consultant Neurologist, Director, UDM-NINAS, KTM
13.00-14.00	Lunch Break
14.00 - 16.30	Closing Ceremony & Certificate Distribution
16.30 - 17.00	Tea/Coffee

4. SAARC Training on Gen-Xpert Machine Operation and Maintenance for Laboratory Personnel



SAARC Regional Training on Gen-Xpert Machine Operation and Maintenance for Laboratory Personnel- 6-8, August, 2019- Thimpu, Bhutan

Background

To achieve the end TB targets in 2030 the global priorities for tuberculosis care and control are to improve case-detection and to detect cases earlier, including cases of smear-negative disease which are often associated with co-infection with the human immunodeficiency virus and young age, and to enhance the capacity to diagnose multidrug-resistant tuberculosis (MDR-TB). MDR-TB poses formidable challenges due to the complex requirements for diagnosis and treatment, and HIV-associated TB is often misdiagnosed due to the limitations of conventional diagnostic techniques. Alarming increases in MDR-TB incidence, the global emergence of extensively drug-resistant TB (XDR-TB), documented institutional transmission, and rapid mortality in patients with MDR-TB or XDR-TB who are co-infected with HIV have highlighted the urgent need for rapid diagnostic methods.

The World Health Organization (WHO) has endorsed the use of commercially available liquid culture systems and molecular line probe assays (LPAs) to rapidly detect MDR-TB; however, due to the tests' complexity and cost, as well as the need for sophisticated laboratory infrastructure and trained personnel, uptake has been limited in many resource constrained settings.

Genotypic methods have considerable advantages in terms of scaling up the programmatic management and surveillance of drug-resistant TB, offering quicker diagnosis, standardized

testing, the potential for high throughput, and having fewer requirements for ensuring laboratory bio-safety.

The most important revolutionary tool that has changed the diagnostic landscape of TB diagnosis is the Xpert MTB/RIF, an automated cartridge based nucleic acid amplification test (CB_NAAT) that has been endorsed by WHO for use as a primary tool for rapid identification of rifampicin resistance and diagnosis of TB in relevant settings. The Xpert test is amenable to placement at sub-district level and has been shown to improve TB case finding especially among HIV infected, pediatric age group, extra-pulmonary TB.

The Gene X-pert system consists of an instrument, personal computer, barcode scanner and preloaded software; single-use disposable cartridges contain lyophilized reagents, buffers and washes. Target detection and characterization is performed in real time using a six-color laser-detection device. Xpert MTB/RIF detects *M. tuberculosis* as well as mutation that confer rifampicin resistance using three specific primers and five unique molecular probes to ensure a high degree of specificity. The assay provides results directly from sputum in less than 2 hours. The GeneXpert system and the Xpert MTB/RIF assay remain the only self-contained cartridge based fully automated DNA testing platform that can accurately detect both TB and resistance to rifampicin, and it is the only mature technology among a new generation of automated molecular diagnostic platforms. As of now all SAARC member states have using this test extensively. In 2016 STAC has carried out study on challenges in diagnosis of TB and MDR TB by Gene-Xpert in Bangladesh and Nepal and results showed that most common problem laboratory personnel encounter during performing the test was module failure, followed by delay in maintenance support. Therefore STAC has initiated to train laboratory personnel in the SAARC member states on Gene X pert Machine Operation and Maintenance starting from 2019. Hence 28th Governing Board of the STAC and 56th session of the programming Committee of the SAARC has approved this activity to be held in Bhutan from 6th to 8th August 2019.

Accordingly, 3 days programme on “SAARC Training on Gene X pert Machine Operation and Maintenance Training for Laboratory Personnel”, 6-8 August 2019 was organized by SAARC Tuberculosis and HIV/AIDS Centre, Kathmandu, Nepal in collaboration with the National Tuberculosis Control Programme of Royal Government of Bhutan, it was held at The Pema by Realm, Thimphu, Bhutan.

Objectives:

1. To know about the global updates on recommended technologies to strengthen case finding.
2. To comprehend Xpert MTB/Rif technology, system and algorithms.
3. To set-up and install GeneXpert machine.
4. To follow Bio-safety and Good Laboratory Practices in performing Xpert MTB/Rif procedures.

5. To demonstrate accurate results and interpretation.
6. To record and report Xpert MTB/Rif results according to NTP guidelines.
7. To exhibit acceptable competency in troubleshooting Xpert MTB/Rif.

Participants:

Twenty one participants from National TB Control Programmes (NTP) from six SAARC Member States attended the training.

Resource Persons, Facilitators and Coordinator

Dr. Vithal Prasad Myneedu, Microbiologist (SAG) and HOD, Department of Microbiology & NRL (RNTCP), National Institute of TB and Respiratory Diseases from New Delhi, India is the Regional Resource Person. Mr. Karchung Tshering, Sr. Laboratory Officer, RCDC, Bhutan and Mr. Ugen Dorji, Sr. Laboratory Technician, RCDC, Bhutan were the Local resource person. Dr. Ramesh Kumar Kharel, Director, Dr. Rabeya Sultana, Research Officer, STAC were the facilitators. Mrs. Srijana Dhakal, P.A., STAC was the focal person from STAC for this training. Mr. Ugyen Dendup, Sr. Program Officer, National TB Control Program, Communicable Disease Division Department of Public Health, Ministry of Health, Royal Government of Bhutan was the main Coordinator for this programme.

Agenda

Each participant was provided training manual and necessary training materials.

Day 1

Inaugural Session:

Hon'ble Health Minister Royal Government of Bhutan, Her Excellency Lyonpo Dechen Wangmo had graced the occasion of inaugural session as Chief Guest.

Dr. Karma Lhazeen, Director, Department of Public Health, Ministry of Health Bhutan delivered the welcome address. She mentioned the collaboration between STAC and Ministry of Health, Royal Government of Bhutan has been conducting many regionally relevant programmes. She assured full cooperation from the Royal Government of Bhutan and her support in future for STAC activities.

Hon'ble Health Minister Royal Government of Bhutan, Her Excellency, Lyonpo Dechen Wangmo, delivered her opening remarks. During her speech she had explained about Bhutan's health system in which she had informed that Royal Government of Bhutan has kept health issue in the top most priority area and as per government policy every health facility free of cost for all citizens. Her Excellency also highlighted about the stigma, discrimination, social barrier associated with TB and HIV/AIDS. H. E had expressed that STAC will be the Centre of excellence in the region from which SAARC region can be benefited to achieve the sustainable Development Goal in near future. H. E. had advised the participants

to grab the opportunity by using the platform for knowledge sharing and fertilization of new ideas during this training with the house full of experts from the region.

Dr. Ramesh Kumar Kharel, Director, STAC, Nepal delivered his remarks along with brief introduction of STAC and overview of the training. Dr. Kharel appreciated the presence of Her Excellency Health Minister of Bhutan during the inaugural session which reflected high level commitment from Royal Government of Bhutan for SAARC activities.

Mr. Rixin Jamstho, Chief programme officer, communicable Diseases Division, Royal Government of Bhutan delivered vote of thanks and Ms. Rada Dukpa was the Master of Ceremony for the both opening session and closing session.

Technical sessions

Mr. Karchung Tshering, Sr. Laboratory Officer, RCDC welcomed the participants for the technical sessions. Participants, organizers, resource persons and facilitators introduced themselves to the gathering by giving a brief account of self. Dr. Rabeya Sultana, Research Officer-STAC highlighted about the current situation of MDR-XDR TB and TB/HIV Laboratory networking in the region and objective and Methods of the training. There were brief presentation from participants on Situation of culture and DST and Gene-xpert sites, Challenges faced about the operation of the gene-xpert machine and how the country minimize those challenges.

Ms. Umme Tasnim Maliha, Microbiologist, Bangladesh, Mrs. Rinzin Wangmo, Senior Laboratory Technician, Jigme Dorji Wangchuk, National Referral Hospital (JDWNRH), Thimphu, Bhutan, Dr. Mahmud Hanifa Kader Mahmud, Bacteriologist, IRL, New Delhi Tuberculosis Centre, Delhi, India, Ms. Meera Hada, Medical Laboratory Technologist, National Tuberculosis Centre, Nepal and Mr. Rajeev Udayakara, Medical Laboratory Technician, Weelasara, Sri Lanka had presented their country presentation. During the presentation, there was very good interaction among participants and they raised their queries and expert along with presenter resolve their queries.

First day training was conducted by giving introduction of Gene Xpert Machine by Regional Resource Person Dr. Vithal Prasad Mynnedu. He also demonstrated the Gene X-pert machine to the participants.

Day 2

The Technical session of day 2 started with summarizing the previous day work by a Regional Resource Person Dr. Vishal Prasad Mynnedu. On 2nd day of training participants were mostly engaged in the practical session run by the resource persons. For practical session participants were separated in two separate groups. With the help of resource person, participants were benefited to tackle the common Problem facing by the Lab

personnel during operation the machine, participants of each group were selected for the practical. In practical, participants were involved in sample processing and test run. To get result from machine, it will get around 2 hr. Local resource person, Mr. Karchung Tshering, Sr. Laboratory Officer and Mr. Ugyen Dorji, Sr. Laboratory Technician also shared their knowledge about Gene Xpert machine.

Technical resource person Vikash Kumar, Field application scientist from Cepheid, India gave his presentation on Application and Maintenance/Trouble shutting of Gene xpert machine by doing practical. Two Gene X-pert machines had been borrowed from National Tuberculosis Control Programme, Nepal for this training

Day 3:

The technical session continue, the session was continued by the presentation of Afghani participant. Very active interaction and practical session was run by the all resource person and the programme was successfully conducted. At the end of the programme, participants were provided Group photo along with resource material in Pen drive.

Closing session

The closing session of the training programme was chaired by Dasho Dr. Ugen Dophu, Secretary, Ministry of Health, Royal Government of Bhutan.

At the beginning, on behalf of participants from Nepal and Bhutan had Share their opinion and experience of this training programme.

Dasho Dr. Ugen Dophu, Secretary, Ministry of Health, Royal Government of Bhutan and Dr. Ramesh Kumar Kharel, Director, STAC awarded certificates and momentos to the participants, resource person and coordinators of the Gene Xpert training.

Dr. Ramesh Kumar Kharel, Director, STAC, Nepal delivered his remarks during closing session. He extended thanks to Resource Persons and participants from National TB Control Programme (NTP) and all supporting staff for their hard work to make the training successful. Dr. Kharel expressed gratitude on behalf of STAC to the Royal Government of Bhutan, Ministry of Health, Ministry of Foreign Affairs, National TB Control programme.

Dasho Dr. Ugen Dophu, Secretary, Ministry of Health, Royal Government of Bhutan, delivered Closing Remarks. He had congratulated Dr. Ramesh Kumar Kharel, Director STAC and his team for the successful completed the training. He expressed his happiness that STAC is doing very well in SAARC Member States. It is always focusing on time driven activities in Member States, this Gene Xpert training was one of them. He has expressed that, although Bhutan has very few cases of Tuberculosis, but it is very big challenge to control TB, different type of public health challenges has to face by Bhutan, to tackle with

these issues. H. E. has congratulated all the working group of this training for making this event possible. Ugyen Dendup, Programme officer gave vote of thanks to all who involved directly and indirectly to make the training success.

List of Participants and Resource persons

Afghanistan

Mr. Najibullah Zahir,
Head of Microbiology,
Hartal bridge (Pole Hartal) near Inne sina
emergency Hospital,
Kabul- Afghanistan

Bangladesh

Dr. Kamrun Nahar,
Microbiologist, National Tuberculosis
Reference Laboratory,
National Tuberculosis Control Program.

Mohakhali, Dhaka 1212 ,Bangladesh

Umme Tasnim Maliha,
Microbiologist, NTP
Bangladesh

Bhutan

Yeshey Wangmo,
Laboratory Technician,
ERRH, Mongar, Bhutan

Chabilal Pradhan,
Laboratory Technician,
Central Referral Hospital, Gelephu, Sarpang
Bhutan

Tashi Sonam ,
Sr. Laboratory Technician,
General Hospital,
Samdrup Jongkhar, Bhutan

Nar Bahadur Limboo,
Medical Laboratory Technician,
Samtse General Hospital,
Bhutan

Tshewang Dorji,
Sr. Laboratory Technician,
Phuntsholing General Hospital,
Bhutan

Kaka Dukpa,
Asst. Engineer,
BMED DOMSHI,
Ministry of Health, Bhutan

Pema Lhaden,
Laboratory Technician,
Royal Centre for Disease Control, NTRL
Serbithang, Bhutan

Rinzin Wangmo,
Sr. Laboratory Technician,
Central laboratory Microbiology,
JDWNRH, Thimphu, Bhutan

India

Halumatha Devaraj Surendra,
Senior Medical Technologist,
No.8. Avalon.National.TB.Institute.
Banhalurf.Karnataka.
India

Dr Rajesh Mondal,
Scientist and Head Bacteriology,
Bacteriology Department ICMR-National
Institute for Research in Tuberculosis
Chennai, India

Dr. Mahmud Hanifa, K.M.
Bacteriologist,
New Delhi TB Centre, J.N. Marg,
New Delhi-110002, India

Nepal

Suraj Baral,
Sr. Medical Lab. Technologist,
Dhaulagiri Zonal Hospital, Baglung NTP, Nepal

Meera Hada ,
Medical Lab. Technologist,
National Tuberculosis Center, Bhaktapur,
Nepal

Krishna Adhikari,
Lab Technician Officer,
National Tuberculosis
Center, Bhaktapur, Nepal

Sri Lanka

G. Rajeewa Udaya Kumara,
Medical Laboratory Technologist,
National Tuberculosis Reference Laboratory,
National Chest Hospital Premises Welisara, Sri
Lanka

G.A.C.P Wimalarathne,
Medical Laboratory Technologist,
Central Chest Clinic,
Colombo-08, Sri Lanka

H.C. K Perera,
Medical Laboratory Technologist,
Prison Hospital,
Colombo Sri Lanka

Regional Resource Person

Dr. Vithal Prasad Myneedu,
Microbiologist (SAG) and HOD,
Dept of Microbiology and NRC NITRD,
New Delhi

External Technical Resource Person

Vikash Kumar,
Field Application Specialist,
Cephied India Pvt Ltd,
New Delhi, India

Local Resource Person from Bhutan

Ugyen Dorji,
Sr. Laboratory Technician,
Royal Central For Diseases Centre, Thimphu,
Bhutan

Karchung Tshering,
Microbiologist,
National TB Reference lab, RCDC, MOH,
Bhutan

Coordinator from Bhutan

Mr. Ugyen Dendup,
Sr. Programme Officer,
National TB Control Programme,
Communicable Disease Division,
Bhutan

SA ARC TB and HIV/AIDS Centre

Dr. Ramesh Kumar Kharel, Director

Dr. Rabeya Sultana, Research Officer

Mrs. Srijana Dhakal, PA

Agenda

DAY I

08.30- 09.00	Registration
09.00-10.00	Inaugural Session
10.00-10.30	Refreshments
Technical session:	
10.30- 10.45	Self-introduction of the participants
10.45- 11.00	Introduction of STAC by Director, STAC
10.45-11.30	Current situation of MDR-XDR TB and TB, HIV Laboratory networking in the region Objective and Methods of the training by RO STAC
11.30-13.00	Country Presentation-Situational report on national Microscopy, culture and DST AND Gene X pert networks in SAARC member countries (Participants from member countries approx. 10 minutes for each member states)
13.00-14.00	LUNCH BREAK
14.00-15.30	Introduction of Gene X pert by Regional Resource person
15. 30- 15.45	TEA -BREAK
15.45 -17.00	positioning the test and selecting a site by local Resource person

DAY II

09.00-09.30	Recap of previous day –by one of the participants/local coordinator
09.30-10.30	Testing and managing patients (Selecting individuals to be tested)/ Test – By performance) –by Local Resource person
10.30- 11.00	TEABREAK
11.00- 13.00	How to run the Machine / Common problem facing during operating the machine and out to overcome these problems Interpreting results from Xpert MTB/RIF by Regional Resource person
13.00- 14.00	LUNCH BREAK
14.00-17.00	Practical Session on Gene X pert by Regional Resource person

DAY III

09.00-9.15 Recap of day II

09.15-10.30	Practical Session on Gene Xpert, challenges faced and ways to minimize those by Regional Resource person
10.30- 11.00	TEA BREAK
11.00-16.00	Field visit/site seeing with Lunch- Local coordinator
16.00-17.00	Certificate distribution and closing of the Training

5. SAARC Training of Mid-level Clinical Managers on Programmatic Management of Drug Resistant TB (PMDT) 15-19, Sept. 2019, Bangladesh



Introduction:

Multi-drug-resistant Tuberculosis (MDR-TB) refers to Mycobacterium Tuberculosis isolates that are resistant to at least the two most powerful anti-TB drugs, Isoniazid and Rifampicin. The emergence of resistance to anti-tuberculosis drugs and particularly of MDRTB has become a major public health problem in a number of countries and an obstacle to effective global TB control in several settings. Treatment for MDR-TB has proven to be feasible and effective in limited resource settings. Case management of MDR-TB needs to be simplified and standardized, as in many countries they cannot receive individualized attention from specialists.

The severity of National epidemics varies widely among countries. Worldwide in 2017 558,000 people developed TB that was resistant to Rifampicin (RRTB) which is the most effective first line drug, and of these, 82% had MDR TB. Thus, urgent action is required to improve the coverage and quality of diagnosis, treatment and care for people with DR TB (Global TB report by WHO, 2018). The SAARC region, with an estimated annual incidence of 3.7 million TB cases equivalent to 212 cases per 100 000, carries 37% of the global burden of TB incidence. Three of eight Member States in the SAARC Region are high TB and MDR-TB burden countries among 30 high burden countries worldwide. In the year 2017, the SAARC region has 101,198 total number of an estimated MDR/RR-TB cases among notified pulmonary TB cases. In the Region, laboratory confirmed cases in the same year were 43,691 MDR/RR-TB cases and 2,802 XDR-TB cases. However, 40,661 MDR/RR-TB and 2,933 XDR-TB patients started on treatment.

Human resource development is essential to implement, sustain and scale up TB Control activities. In view of controlling emerging new problems on MDR-TB, and XDR TB and train the member states TB managers, 28th Governing Board meeting of STAC recommended to organize this Training in Bangladesh. Accordingly, training was organized in Dhaka, Bangladesh from 15 to 19 September 2019.

Objectives of the Training:

The objectives of this training were:

- To update global/regional MDR/XDR and principals of MDR TB control Programme
- To discuss evidence-based management of MDR/XDR
- To update recent advances in rapid diagnosis of Drug Resistance
- Introduce programmatic Management of M/XDR-TB in resource limited settings
- Describe current global and regional epidemiology of TB, DR and XDR-TB ☐Describe the *M. tuberculosis* and new developments in laboratory aspects.
- Foresee the strengths and weakness of diagnosis approach to DR-TB

The training was facilitated by national resource persons and technical people trained on MDR TB Management. Handouts of each presentation and training module (soft copy) were provided by STAC to each of the participant. 19 nominated participants from five SAARC Member States participated in the training. Initially two participants from Afghanistan and one from Pakistan regretted to join the training a day before because of visa problem.

Topics that were covered in the training

Following Topics were covered in training sessions:

- General Information on TB and drug-resistant TB
- Epidemiology of TB, MDR and XDR TB
- Mechanism of drug resistance
- Case finding strategy
- Principles of contract investigation
- Laboratory aspects, organization & development of the Lab. network
- Principles of anti-TB chemo-therapy
- Management of MDR- and XDR TB patients
- Use of operational research in DR- TB
- New diagnostic tools, Culture & DST, Quality Assurance and Sputum Smear Microscopy
- DR-TB in children
- Adverse events of second line anti-TBdrugs and their Management
- Review the special management of MDR -TB in special conditions such as HIV TB co-infection, pregnancy etc.
- Monitoring of treatment
- Recording & Reporting on "Management of MDR-TB Patients"
- Discussion the common constraints and potential solutions for managing TB programmatic aspects.
- Enhance skills in health communications and health literacy; provide psychological nutritional and social support to the patients
- Logistic Management & Drug Supply
- Community engagement in PMDT

Day 1

Inaugural Session:

The inaugural session was presided over by Dr. Md. Aminul Islam Miah, Director, National AIDS, STD Centre, DGHS, MoHFW, Bangladesh.

Prof. Dr. Nasima Sultana, graced the occasion as Chief Guest. On behalf of the Government of Bangladesh, she welcomed the participants and briefed about the necessity of human resource development to implement, sustain and scale up TB Control activities. She also appreciated activities carried out by STAC in relation to prevention and control of TB and HIV/AIDS and extended to gratitude to the STAC for selection of the venue in Bangladesh.

Dr. Ramesh Kumar Kharel, Director, STAC delivered welcome address. In his address, he put light on the emerging situation of MDR TB in the SAARC region and progress in TB control since implementation of the DOTS strategy. He mentioned about the problem of MDR TB in the region and need of organizing TOT on MDR TB. He also highlighted the activities done by STAC and future plan. He expressed gratitude to the Member States, Secretary General SAARC, Director SAARC Secretariat and the participants. He appreciated the efforts of the Government of Bangladesh towards scaling up the MDR TB in the country. He thankfully acknowledged that the nicely organization of the training.

Dr. Rabeya Sultana, Research Officer made a presentation on Introduction of STAC, as well as objectives and methods of the training. She highlighted the achievements made by STAC so far. Dr. Rabeya also acknowledged the support rendered by SAARC Member States to achieve the activities of STAC. Participants, Organizers, Resource Persons and Facilitators introduced themselves to the gathering by giving a brief account of self.

Technical Session

The training was conducted at the conference room of Hotel Lake Castle, Gulshan-2, Dhaka from 15 to 19 September 2019. On day-1, the participants arrived at the venue by 9.00 am and started registration. The inaugural ceremony started at 09.30 after arrival of Chief guest and special guests. The guests of the inaugural ceremony were as follows-

After the inaugural session and speeches by guests, technical sessions started as per attached agenda annexed. As there was no international /regional consultant available, local resource persons who were internationally trained on MDR-TB conducted all the sessions. To fill the gap of international/regional consultant, the number of local resource person was increased from three to five after consultation with Director STAC. The resource persons were from MoHFW, DGHS, MDR-TB focal person of NTP, rGLC member of SEARO, GLI member, Professors of Respiratory Medicine and Pediatrics, consultants from international and local NGOs. Case study and open discussions were conducted after every session. On day-4, field visits were conducted in National TB Reference Laboratory (NTRL) and MDR-TB and XDR-TB wards at National Institute of the Diseases of Chest and Hospital (NIDCH) where the participants got practical experience of laboratory and treatment of

drug-resistant TB. Participants were also learned about DR-TB management using newer drugs with theoretical and practical exposure. On day-5 the training started with case presentation from previous day field experience followed by future progress and innovations in TB diagnosis and treatment.

On the 4th day of the training, all the resource persons and participants were made filed visit to the national TB Reference Laboratory, Mohakhali Dhaka. The participants observed the activities of the MDR Treatment Centre.

Resource materials

Training Manual, MDR-TB management guidelines of SAARC and the member states were provided. All the PowerPoint presentations made by experts and soft copies of relevant technical documents were provided to all the participants in a pen drive.

Closing Ceremony

Dr. Md. Shafiqul Islam, Deputy Director, National Leprosy Program, DGHS, MoHFW Chaired the session. Dr. Islam in his closing remarks mentioned that we should strengthen DOTS, so the development of drug resistance be minimized. One should be compassionate towards MDR-TB patients who are though optimistic but depressed, he added. He said that participants have learned many new things during training and are very much satisfied from technical aspects of training. Participants are inspired from the efforts done by both the institutes STAC and NTCP Bangladesh.

Khanodoker Md. Zakir Hossain, Dy. Secretary. Health Services Division, MoHFW graced the occasion as Chief Guest.

Dr. Ramesh Kumar Kharel, during closing remarks appreciated the enthusiasm and zeal of the participants in training. He said that the participants' feedback would help us in improving modalities of programs to be organized in future. He expressed thanks to Member States, HE Secretary General, SAARC, Director SAARC Secretariat, participants and facilitators. He also appreciated the efforts put by the Line Director and NTCP, Programme Manager, of Bangladesh and their team in completing this training with success.

In the end the Chief Guest of the event distributed certificates among participants and facilitators of the training.

The Director, STAC offered momentum to all the dignified guests and participants during the event.

Outcome:

All the participants from SAARC Member Countries have been trained in managing MDR TB programme implementation, its evaluation and enhance to manage in special condition.

List of the Participants and Resource Persons

Bangladesh

Dr. Pronab Kumar Modak
Deputy Programme Manager (Training),
NTP, DGHS

Dr. Md. Asaduzzaman
Deputy Programme Manager
(Admin and Finance),NTP, DGHS

Dr. Md. Monjur Rahman
Medical Officer, NTP, DGHS

Dr. Fahim Abrar Hossain
Medical Officer, BRAC

Dr. Anika Hossain
Medical Officer, Damien Foundation,
Netrokona

Dr. Ahammad Shafiq Sikder Adel
Research Investigator, icddr

Dr. Tanha Sultana
Medical Officer, end TB Project,
IRD Bangladesh

Dr. Vikarunnesa Begum
Consultant, WHO country Office

Dr. Subrata Kimar Gain
Registrar, NIDCH, Dhaka

Dr. Tanveer Ahmed Chowdhury
Resident Medical Officer,
NIDCH, Dhaka

Dr. Nigar Sultana
Emergency Medical Officer,
NIDCH, Dhaka

Dr. Anonnya Rahamn

Registrar, NIDCH, Dhaka

Dr. Md. Shakhawat Hossain
Medical Officer, NIDCH, Dhaka

Bhutan

Dr. Tandin Zanpo
Medical Officer,
Dechencholing Basic Health Unit, MoH

Mr. Rinchen Wangdi
Staff Nurse, Gidakam Hospital, MoH

Nepal

Mr. Satya Shakya
Sr.AHW, Lumbini Provincial Hospital

Dr. Durga Khadka Mishra
Associate Professor, MMIHS, Nepal

Sri Lanka

Dr. ARM Thowfeek
Director,
National Hospital for Respiratory Hospital

Dr. U. E Dharmawansha,
MO, Chest Hospital, Gampha

AGENDA

Day 1 (15th September, 2019)

Time	Schedule	Facilitator
9.00- 9.30	Registration	
9.30 – 11.00	Inauguration	MoHFW, NTP, STAC
	Introduction of STAC	Director, STAC
11.00-11.45	Tea Break	
Technical session		
11.45-12.00	Objectives and Methodology of Training	RO, STAC
12.00- 12.30	Global scenario of TB and DR-TB	WHO
12.30- 13.00	Regional epidemiology of TB and DR-TB	RO, STAC
13.00- 14.00	Lunch and prayer break	
14.00-16.00	Country presentations and discussion	Member states
16.00-16.15	Tea break	
16.15-17.00	General Information on DR TB, Definition, Prevention, Causes addressing source of DR TB	NTP

Day 2 (16th September, 2019)

9.00 – 9.30	Recap of the day 1	Participants
9.30- 11.00	TB Laboratory services, infection control and QA	GLI member
11.00-11.30	Tea break	
11.30- 12.00	Case finding strategies for DR-TB	NTP
12.00-13.00	Mechanism of drug resistance	NTP
13.00- 14.00	Lunch and prayer break	
14.00-15.00	Updates on WHO recommendations	NTP
15.00- 16.00	Shorter MDR-TB regimens	rGLC member
16.00-16.15	Tea break	
16.15-17.00	Updates on newer drugs	IRD

Day 3 (17th September, 2019)

9.00 – 9.30	Recap of the day 2	Participants
9.30-11.00	Newer Diagnostic tools and connectivity solutions	GLI member
11.00-11.30	Tea break	
11.30-12.00	Formulation of an MDR-TB regimen and treatment monitoring	NTP
12.00-13.00	Management of adverse events	NTP
13.00- 14.00	Lunch and prayer break	
14.00-15.00	DR-TB in children	Prof. Shakil Ahmed
15.00- 16.00	aDSM	NTP/ IRD
16.00-16.15	Tea break	

16.15-17.00	Logistic management and QuanTB	mTaPS
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Day 4 (18th September, 2019)

9.00 – 9.30	Recap of the day 3	Facilitator
9.30-10.30	Case study	NTP
10.30- 11.00	Tea break	
11.00-13.00	Field visit to NIDCH	NTP
13.00- 14.00	Lunch and prayer break	
14.00-15.00	Discussion of interest and group work	STAC, NTP
15.00- 15.15	Tea break	
15.15- 17.00	Group work and preparation of presentation	All

Day 5 (19th September, 2019)

9.00 – 10.00	Group presentation	All
10.00-10.30	Community based programmatic management of drugresistant TB (CPMDT)	NTP
10.30- 11.00	Tea break	
11.00-13.00	Research and Innovation	NTP
13.00- 14.00	Lunch and prayer break	
14.00- 15.00	Discussion of interest	STAC, NTP
15.00- 15.15	Tea break	
15.15- 17.00	Wrap up of the sessions (Success story, future plan for MDR, XDR-TB Management) Closing Ceremony & Certificate Distribution	STAC, NTP, MoHFW

6. SAARC Regional Workshop for the Mid-level HIV/AIDS Managers on Community Led Testing (CLT) on HIV/AIDS- 11-13, Nov. 2019, Pakistan



Workshop for the Mid-level HIV/AIDS Managers on Community Led Testing (CLT) on HIV/AIDS, Islamabad, Pakistan

Introduction:

Community-led HIV Testing (CLT) is a part of community HIV screening test, following the ‘test-for-triage strategy,’ as screening and referral approach. The objective of CLT is to improve uptake of HIV counseling and testing, increase case finding, provide opportunities for early detection and care, prevent ongoing transmission of HIV, and contribute in reduction of the “diagnostic gap” among key populations. Community-led HIV testing service is an approach to expand uptake of community-based HTS among populations with higher risk of HIV, particularly those who may not otherwise test for HIV. As recommended by WHO, trained lay providers conduct a screening test, using a HIV Rapid Diagnostic Test Kit (RDT). There has been significant progress in implementing community-led HIV testing in sub-Saharan Africa and in some parts of Asia. It is noteworthy that such evidence is from countries with a high HIV prevalence, and where the health system is more willing to share its tasks, due to shortages of health workers. HIV testing conducted by trained lay providers is accurate as testing by laboratory staff and health-care providers. The vision is to have the SAARC region free of AIDS epidemic and to help to end the AIDS epidemic target of 90-90-90 by 2020. The Twenty-eight meeting of the Governing Board of STAC (STAC) had recommended organizing the workshop “SAARC Regional Workshop for the Mid-level HIV/AIDS Managers on Community Led Testing (CLT) on HIV/AIDS” in Islamabad Pakistan while conducted from 11-13th November 2019.

Objectives of the Workshop:

- To discuss on strategic approach to enhance knowledge and skills to the Mid-level Managers for delivering CLT services

- To share the knowledge and recent practices regarding community level testing for HIV/AIDS in SAARC Member Countries
 - To foresee the recent progress of laboratory testing of HIV/AIDS
- To discuss about the expansion of CLT and share knowledge and experiences for delivering CLT services in Member Countries

Topics covered in the workshop

- Situation of HIV/ AIDS in SAARC region and background, objectives, expected outcome of the workshop
- National HIV testing and treatment Guidelines and National Community Led Testing Guidelines Provisions and Safeguards (HIV testing strategies and Algorithms)
- Effective communication with and key populations
- Explaining screening and diagnosis process and the difference between the screening and confirmatory test
- Engaging clients and providing accurate and complete information to obtain consent for an HIV screening test (Pre-test information, Ethics, Confidentiality and Consent)
- Obtaining, preparing, carrying, storing and safeguarding the community HIV screening test supplies, including test kits and assuring the quality of the test
- Recording and reporting
- Personal protection and Universal Precautions, biohazards and risk of the Hepatitis virus transmission by contaminated blood, PEP and waste management, risk reduction and scheduling a follow-up HIV test, active case finding and use of networks
- Interpreting and explaining test results and creating supportive environment for HIV testing in the community, focusing on the prevention of HIV and promoting CLT
- HIV testing and counseling
- Efforts of best practice in control of HIV/AIDS in Pakistan
- Association of people living with HIV/AIDS in Pakistan
- Community Led Testing in Nepal
- Epidemiological status of HIV and its response

Day 1

Inaugural Session:

Dr. Malik Muhammad Safi, Director, Ministry of National Health Services, Regulations and Coordination, Pakistan graced the occasion as the Chief Guest. On behalf of the Government of Pakistan, he welcomed all the participants of the member countries for the CLT workshop in Pakistan. He expressed his happiness to organize such an important workshop for the mid-level managers on community led testing (CLT) on HIV/AIDS. He said that SAARC countries could have better use of these trainings and combat the fast growing HIV epidemic in most countries of the region. He said that the main reason for community led testing was always to benefit to the high risk individuals that are tested and improve health outcomes at the population level. HIV testing services needs to be expanded not merely to achieve testing uptake or the meet HIV testing coverage, but primarily to provide access for all people in need to appropriate quality HIV testing services that are linked to prevention,

treatment care and support services. He emphasize that the HIV/AIDS was an important issues in the member states. He also appreciated activities carried out by STAC and assured that the Ministry of National Health Services, Regulation and Coordination would work with the member states in the prevention and control of TB and HIV/AIDS and wished a happy and safe stay in Islamabad.

Dr. Ramesh Kumar Kharel, Director, STAC delivered his welcome address and thanked all the member countries for actively taking part in the workshop by nominating the participants. He also thanked the Government of Pakistan, Ministry of National Health and Services, Regulation and Coordination, Common Unit Manage Global Fund (CMU) for their support to organize the workshop in Pakistan. He said that STAC works with the mission to make the SAARC region free of TB as well as HIV. He said that this workshop was focused for the community led testing (CLT) which would be benefitted by the individuals tested and improves the health outcomes at the population level. He said that HIV testing for diagnosis must always be voluntary; the testing must be linked to prevention, treatment, care and support services to maximize both individual and public health benefits. He informed that the Centre had developed the SAARC regional strategy for HIV/AIDS 2018-23 to address the different issues related to HIV. He also requested all the participants to take the opportunity to share, interact and gain the maximum knowledge from the workshop and go back to their home country and share it among their colleagues.

Technical Session of Workshop:

The training was conducted at the conference room of Islamabad Hotel Islamabad, G-6, Civic Center, Islamabad from 11 to 13 September 2019. On day-1, the participants arrived at the venue by 9.00 am and started registration. The inaugural ceremony started at 09.30 after arrival of Chief Guest. The guests for the inaugural ceremony were as follows-

- Dr. Malik Muhammad Safi, Director, Ministry of National Health Services, Regulations and Coordination (Chief Guest)
- Dr. Sabaien Afzal, Deputy Director, Ministry of National Health Services
- Dr. Ramesh Kumar Kharel, Director, STAC
- Dr. Sofia Furqan, Consultant, NACP
- Dr. Razia K. Fatima, Chief Research, CMU
- Dr. Saima Iqbal Paracha, HIV Prevention Specialist, CMU for Global Fund

After the inaugural session and speeches by guests, technical sessions started. The workshop was facilitated by Dr. Sofia Furqan, Consultant, NACP and Dr. Saima Iqbal Paracha, HIV Prevention Specialist, CMU. Nineteen participants from six SAARC Member States (Afghanistan, Bhutan, Maldives, Nepal, Pakistan and Sri-Lank) participated in the workshop. Dr. Sofia Furqan, Consultant, NACP and Dr. Saima Iqbal Paracha, HIV Prevention Specialist facilitated the programme as the local resource persons. The programme started with the recital of the Quran.

Dr. Ramesh Kumar Kharel, Director, STAC gave the brief introduction of SAARC TB & HIV/AIDS Center (STAC). He described about the vision, mission, goals and objectives of the Center. He also briefed about the various activities undertaken by the Center.

Dr. Rabeya Sultana, Research Officer, STAC made situation of HIV/AIDS in the member countries. She informed that as per the SAARC demographic, one in every 5 people is malnourished and 31% of the total population lived below poverty line. She briefly discussed about the beginning of CLT services in Asia and in Nepal, the importance of this service and some research outcome which was done in Vietnam. She said that the objective of the workshop was to share the knowledge and recent practices regarding community level testing for HIV/AIDS, to discuss about the recent progress of laboratory testing of HIV/AIDS, to discuss about CLT and share knowledge and experiences for delivering CLT services in SAARC countries and the expected outcome was that the participants will understand recent practices regarding community level testing for HIV/AIDS of SAARC member states and will be able to know about CLT and its importance and about the national algorithms.

Dr. Malyar Kareemzai, Afghanistan, Ms. Karma Choden, Bhutan, Ms. Milna Rasheed, Maldives, Mr. Nand Raj Awasthi, Nepal, Mr. Mehnood ul Hassan, Pakistan and Dr. Diliya Peiris, Sri Lanka made their country presentation in the beginning of the programme.

Dr. Razia K. Fatima, Chief Research, CMU, Islamabad made her first presentation on "SORT IT" (Structured Operational Research and Training Initiative) developed by The Union and MSF, and WHO. SORT IT supported organizations, projects and countries to undertake operational research in accordance with their own priorities, develop adequate and sustainable operational research capacity, and create an organizational culture of policy and practice being informed by operational research, leading to improved programme performance.

Dr. Quaid Saeed, HIV Advisor, CMU, Islamabad made his presentation on efforts of best practices in the control of HIV in Pakistan. He gave information on the National HIV response focusing on efforts and resources such as epidemic overview, Pakistan response in light of IBBS-2016-17, prioritized population for Location approach and services to the community by the community through Community-based organizations (CBOs) in key population specific prioritized cities to ensure geographical coverage to high prevalence cities and the adaption of WHO "Treatment for All" guidelines. He said that the main challenges were extremely low programme coverage, limited financial resources and Monitoring & Evaluation.

Day 2

Mr. Nand Raj Awasthi, Nepal made his presentation on community led testing in Nepal. He informed about the vision of ending the AIDS epidemic as a public health threat in Nepal by 2030 and the targets was to identify, recommend and test 90% of key populations and to reduce 75% of new HIV infections. He said that CLT in Nepal was still less than 90% especially HIV testing and the reasons behind lower HIV testing may be that cost of

transportation, long distances to HIV testing services, fear of test results and social prejudice.

Mr. Asghar Satti, National Coordinator, APLHIV, Islamabad made his presentation on accelerates HIV response through effective prevention, treatment, care & support intervention for KPs. He informed about the strategy of the Association of people living with HIV (APLHIV) which death with advocacy, research & evaluation, independence & empowerment, monitoring and system strengthening in Pakistan. He also informed about the key achievements APLHIV such as revision of by-laws, development of manual of operation, finalization & launching of strategic plan, launching of semi-independent networks and emergence as a strong research agency.

Field visit:

The field visits were conducted in Dareecha Male Health Society: a community based organization in Satellite town, Rawalpindi, Pakistan.

Mr. Muhammad Usman, Program Manager briefed the visiting team about the various activates performed by the society. This society mainly works for TG group people but also giving services to others whoever comer here to seek health care. He informed that the society was delivering services to the community in a variety of ways i.e. registering clients through behavior change communication (BCC), provide clients with HIV screening and STI/STD treatments. He said more than 27000 clients had been registered by Dareecha through BCC of which more 7000 clients went through HIV screening and almost 5000 clients were given STI/STD treatment and about 107 PLHIV were registered. He also explained about the Dareecha experience in implementing MSM and transgender focused HIV programs. The program was implementing for MSM/transgender community in Rawalpindi and included HIV testing and counseling services that involve behavior change communication along the pre and post-test counseling. He also informed that the society had provided care and support to clients by referring and registering them to government facilities. He also highlighted some of the major activities planned for MSA program.

The visiting team had an interaction with the staffs of Dareecha and made the observation of the different facilities provided by the society. The team had a hands on experience regarding how community based layman could be mobilized in the treatment care and control of HIV/AIDS. After returning from the field visit the workshop continued with the discussion on availability of the field visit.

Ms. Syeda Shazia Adel, Manager, Quality Assurance Department, NIH, Islamabad made her presentation on personal protection and universal precautions, biohazard and risk of the contaminated blood, PEP and waste management. She emphasized the importance of personal protection and the protection of worker from workplace hazards. She said the Blood Borne Viruses (BBV) such as HIV, Hepatitis B virus (HBV), HCV was very important to be considered in personal protection. She also said that the Biosafety of an individual was

important as it describes containment principles, technologies and practices implemented to prevent unintentional exposure to pathogens and toxins, or their accidental release. She also said that the focus of universal precautions was on selected body fluids such as cerebrospinal fluid, pleural fluid and amniotic fluid. She also informed about the different personal protection gear that should be worn for such biohazard and risk of the contaminated blood, PEP and waste management.

Ms. Zurva Ashraf, Scientific Officer, Public Health Laboratories, NIH, Islamabad made her presentation on steps to take in cases of occupational exposure to contaminated blood. She said that preventing transmission of blood borne viruses in healthcare settings, preventing transmission of blood borne viruses in healthcare settings was very necessary. She said the prevention of percutaneous injuries such as elements of post exposure management presence of HBsAg, presence of HCV antibody, presence of HIV antibody should be taken inconsideration. She said that the post exposure management of unknown or un-testable source should consider information about exposure about where and under what circumstances and prevalence of HBV, HCV, or HIV in the population group. She also discussed about the waste management and the steps of health care in waste management.

Day 3

A presentation was made on HIV/AIDS Management Information System in Pakistan. It provided information on National AIDS Control Programme implemented its activities through 44 ART Centers and 17 CBOs throughout Pakistan. It also informed that the main challenges included possible breach in data security, errors in reporting, not efficient for real-time situation analysis, only aggregate data was reported and data analysis and use was difficult. The presentation gave information on the challenges of MIS were parallel information system, readability of existing data from parallel systems, integration with other systems such as DHIS-2, skills/capacity of the data entry operators and data use for management personnel. It also introduced the road map to MIS were by National MIS & DHIS-2 integration via Web-APIs, data recording & reporting (R&R) tools revision, analysis for provincial level access.

Mr. Fahad Hafeez, Manager MIS, CMU, NACP made his presentation on HIV Testing & Counseling (HTC) among people who inject drugs (PWID) and their spouses in Pakistan. He said that the goal and objective of HTC was to reduce the number of new HIV infections and increase uptake of HIV preventive and treatment services with a high impact HIV response to improve the health and quality of life of people living with and affected by HIV in Pakistan. He also introduced the apps developed by Nai Zindagi Trust known as NZMIS for HIV testing and counseling (HTC) services. He also informed about some of the lesson learnt from HTC such as it could not be expected to get them tested. He said the HTC data can be utilized to measure the efficacy of prevention efforts by looking at the incidence and HTC was the gateway for prevention and treatment services among key populations.

Feedbacks from the participants:

An evaluation sheet was circulated to have the evaluation and recommendation from the participants regarding the workshop. As community led testing was a new concept for most of the country, everybody expressed their satisfaction to acquire much knowledge about this and recommended to have more hands on training/workshop like this in coming years. They also expressed that more interactive sessions and some practical experience would increase the quality of this workshop.

Closing:

Dr. Aurangzaib Quadir Baloch, National Manager, National TB Control Programme, Islamabad graced the occasion as Chief Guest of the Closing Ceremony.

The Director, STAC, National Manager, National TB Control Programme, Chief Guest, Resource Persons and other dignitaries of closing ceremony distributed Certificate to the participants and Resource Persons of the workshop.

Dr. Ramesh Kumar Kharel, Director, STAC delivered his remarks and thanked Government of Pakistan for the concurrence to organize the workshop in a very short notice. Dr. Kharel explained the need and the importance of the community led testing as it was a part of community HIV screening test following the test for triage strategy screening and referral approach. He highlighted the main reasons for CLT as it is benefitted both by the individuals tested and the health outcomes at the population level. He said that such type of workshop help the member countries to share their experience and the best practices that is available among them. He also emphasized that by working thorough a small scale such as in the community level member countries would be able to prevent, care and support and treat HIV in the SAARC region.

Mr. L. Michael, WR Representative, UNAIDS, Islamabad expressed his happiness that STAC (STAC) had organized the CLT workshop and hoped that the member countries would benefit from it.

Dr. Rajwal Khan, Strategic Information Adviser, Pakistan and Afghanistan congratulated Director STAC and the Centre for organizing such an important workshop. He said that HIV/AIDS was of the most prevalent diseases in the world and we all should work together for the prevention, control and treatment of the diseases.

On behalf of the participants one representative from each participating member states delivered their remarks in the closing ceremony.

Dr. Sofia Furqan, Consultant, NACP, delivered Vote of Thanks. She thanked all the participants of the workshop. She said that the NACP Pakistan was always ready to support and help to organize the activities of SAARC.

List of Participants and Resource Persons:

Afghanistan:

Mr. Mohammad Basir Hamidi
Program Director for AIDS
Ministry of Public Health

Mr. Malyer Kareemzai
Treatment Officer for AIDS Program
Ministry of Public Health

Bhutan:

Ms. Karma Choden,
Senior Health Assistant II (Sr. Counselor),
Phuntsholing Hospital

Ms. Tashi Wangmo,
Senior Health Assistant II (HIV/AIDS
counselor),
Zhemgang Bhutan

Maldives:

Ms. Milna Rasheed,
Senior Laboratory Technologist,
Ministry of Health, Maldives

Mr. Hassan Fiyaz,
Program Officer,
JOURNEY (NGO)

Nepal:

Nandaraj Awasthi,
Public Health Officer,
National AIDS/STD Control Centre Teku, Nepal

Pakistan: Host Country

Facilitator

Dr. Sofia Furqan, Consultant, NACP
Dr. Saima Iqbal Paracha, HIV Prevention
specialist,

Participants

Dr. Umair Malik, Treatment Specialist, NACP

Mr. Mehmood ul Hassan, Med. Lab
Technologist, HIV Treatment Centre, NACP

Mr. Hafiz Muhammad Usman, Med. Lab
Technologist, HIV Treatment Centre, NACP,

Mr. Hayat Mir Tariq, Med. Lab Technologist,
HIV Treatment Centre, NACP,

Dr. Adnan Fida, Provincial Coordinator (KPK,
Baluchistan),

Dr. Amber Jamsheed, PPTCT Coordinator,
PIMS,

Mr. Nadeem Younas, Staff Nurse, HIV
Treatment Centre, NACP,

Ms. Iqra, Staff Nurse, NACP,

Ms. Ashifa Yaqoob, Biostatistician, CMU,

Sri Lanka:

Dr. Diliya Peiris
Medical Officer, National STD/AIDS
Clinic, Nuwaracliya

Dr. Tissa Senevirathne
Medical Officer,
National STD/AIDS Clinic, Nuwaracliya

Agenda

Day 1	
9.00 –9.30	Registration
9.30 -10.30	Inauguration of Programme
10.30– 11.00	Tea Break
	Technical session:
	Adaptation of the agenda and self-introduction of the participants – facilitated by focal person, STAC
11.00-11.20	Introduction and activities of STAC (STAC) - Director STAC(10 mins) Lecture1: Situation of HIV/ AIDS in SAARC region and Background, objectives, expected outcome of the training – professional, STAC (15 mins)
11.20-11.40	Efforts and best practices of NACP for the control of HIV/AIDS in Pakistan
11.40 – 13.00	Lecture 2: Introduction to Community Led HIV Testing (CLT) and importance - Local Resource Person (45 mins)
13.00 - 14.00	Lunch Break
14.00-15.30	Lecture 3: National HIV testing and treatment Guidelines and National Community Led Testing Guidelines Provisions and Safeguards (HIV testing strategies and Algorithms) – Local resource person (45 mins)
15.30-16.00	Lecture 4: Effective communication with and by key populations (20 mins)
16.00 – 16.15	Tea Break
16.15- 17.00	Lecture 5: Explaining screening and diagnosis process and the difference between the screening and confirmatory test (45 mins) Lecture 6: Engaging clients and providing accurate and complete information to obtain consent for an HIV screening test (Pre-test information, Ethics, Confidentiality and Consent) (30 mins)
Day 2	
9.00- 9.30	Recap of day 1 – Professional Lecture 7: Obtaining, preparing, carrying, storing and safeguarding the community HIV screening test supplies, including test kits and assuring the quality of the test (45 min)

9.30-10.30	Lecture 8: Performing tests, including procedures performed before, during and after a test (60 min)
10.30-11.00	Tea Break
11.00 -12.45	Lecture 9: Recording and Reporting (45 mins) Lecture 10: Personal protection and Universal Precautions, biohazards and risk of the Hepatitis virus transmission by contaminated blood, PEP and Waste management (40 min) Preparation and briefing about the field visit – local coordinator and focal person, STAC
12.45 - 14.00	Lunch
14.00 -17.00	Field visit in one of the CLT Centre in Pakistan
Day 3	
9.00- 10.00	Lecture 11: Risk reduction and scheduling a follow-up HIV test Active case finding and use of networks Interpreting and explaining test results and Creating supportive environment for HIV testing in the community, focusing on the prevention of HIV and promoting CLT (60 mins) Discussion and Preparation of field visit report by participants – facilitated by professional
10.00-11.00	Presentation of field visit report by participants
11.30-11.45	Tea Break
11.45 -13.00	Drafting of recommendations and finalizing it
13.00-14.00	Lunch Break
14.00 -14.30	Closing ceremony

7. The SAARC Regional Workshop for implementation on TB-Tobacco collaborative activities and development of Guidelines on TB-Tobacco, Jaipur, India



Workshop for implementation on TB-Tobacco collaborative activities and development of Guidelines on TB-Tobacco on 04-05, Dec. 2019, Jaipur, India

Background

In compliance with the decision, the Twenty-eighth Meeting of the Governing Board of SAARC Tuberculosis and HIV/AIDS Centre (STAC) 04-05 December, 2019 in Dhulikhel, Nepal, the SAARC Regional Workshop for implementation on TB - Tobacco collaborative activities and development of Guidelines on TB – Tobacco was held on 04-05, Dec, 2019 in Jaipur, India.

The SAARC Tuberculosis and HIV/AIDS Centre (STAC)/SAARC Secretariat received confirmations of participation from the Governments of Afghanistan, Bangladesh, Bhutan, India, Maldives, Pakistan and Sri Lanka. However, the delegations of Afghanistan, Bangladesh, Maldives and Sri Lanka were not able to participate due to unknown reasons at the last minute. Further, nominations have not been received from the Government of Nepal.

Introduction

Studies consistently show a strong link between smoking behavior and TB infection, and related health outcomes. Tobacco consumption is a major cause of TB infection and disease progression and is associated with poorer treatment outcomes, including delayed sputum conversion and greater risk of relapse after initial treatment. More than 20% of global TB

cases can be attributed to tobacco use. Second-hand smoke exposure also increases the risk of TB infection.

Reducing smoking prevalence can reduce the risk, susceptibility and progression of TB infection. Preventing smoking behavior or helping people to quit smoking can reduce the number of TB infection. However, most TB clinics lack experience or tools to address tobacco use.

Integration of tobacco control and cessation programs into TB treatment provides a unique opportunity for public health. Collaboration and inter-division partnership will result in mutual benefit. The integration is expected to increase the quality of early detection, case identification and treatment for TB as well as other chronic lung diseases.

The objectives:

1. Increase awareness and sharing of best practices regarding the important of integrating tobacco cessation into TB programs
2. Enhance leadership skills to affect policy development, implementation, monitoring and evaluation as well strategic communication
3. Establishing partnership and knowledge sharing between tobacco control and TB experts

DAY-1

Inaugural Session:

The Director of STAC and Chairman of IIHMR welcomed to each other. Dr. Ramesh Kumar Kharel, Director, STAC graced the occasion as Chairperson. The programme was inaugurated by lighting the traditional lamp jointly by Dr. S.D. Gupta, Chairman, IIHMR, Dr. Ramesh Kumar Kharel, Director, STAC.

Dr. P R Sodani (Co-President IIHMR), India, delivered the welcome address. He mentioned the collaboration between STAC and IIHMR has been conducting many regionally relevant programmes. He assured fullest cooperation from the Government of India and his support for future STAC activities. He welcomed all the delegates and participants and was hopeful that through this workshop some important guidelines will develop.

Dr Pankaj Gupta (President IIHMR) talked about tackling Non communicable diseases to win fight against diseases. He said that there is strong link between TB and smoking behavior. He had highlighted the declaration of Indian Prime Minister to make India TB free by 2025. At the end, he concluded by saying that let's make the most successful of this conference.

Dr S D Gupta (Chairman IIHMR) has highlighted the continuous support from STAC to organize different activities in IIHMR and gave thanks to director STAC and his team. He said that leadership is important to implement and promote TB control and smoking control

programs. He said that leadership and partnership are both important dimensions of this workshop.

Dr. Ramesh Kumar Kharel, Director, STAC delivered the inaugural address along with brief introduction of STAC and overview of the workshop. He highlighted about the importance of TB/Tobacco and reliability of data. He also highlighted the activities of SAARC TB and HIV/AIDS Centre. He said that TB is related to poverty and a common guideline for TB and Tobacco is very important and we have assembled here to address this issue.

Dr Sanjay Kumar Mattoo (Joint Director, TB, CTD) gave thanks to STAC to provide such opportunity to organize workshop in India and thanked to IIHMR for co-hosting the event. He talked about Public health challenges and issues are highest among TB, HIV and Malaria wherein TB comes first due to high mortality and morbidity.

Vote of Thanks was extended by Dr. Piyush Kant Pandey, Dean Academics, IIHMR University.

Technical Session:

Understanding Tuberculosis and Tobacco Control in SAARC Region

The session included presentation by Dr Ramesh Kumar Kharel, Director STAC. Dr. Kharel said about SAARC and its establishment. He gave a background of STAC along with its objectives. He also talked about functions of STAC which have 7 components: policy and strategy, Human resource and development, regional awareness and advocacy, coordination and networking, dissemination of information on TB and HIV/AIDS, research and survey of TB, SAARC Super national reference laboratory for TB and HIV/AIDS. He has focused, partnerships are required to combat the disease and health people alone cannot eliminate it. He mentioned that STAC is supporting the countries through a vision document and SAARC regional strategy on elimination of TB, arranging workshops and providing technical support to member states to implement strategies.

The next session for Tobacco Control Program in SAARC, was led by Dr Sanjay K Mattoo, Joint Director TB, CTD. He talked about the burden of tobacco usage in the region. He explained 3 tier structures in Tobacco control programme. He also mentioned the Acts/ rules/ regulations related to tobacco control and COTPA – 2003.

Dr. Deepak Balasubramaniam, National Consultant - TB Co morbidities has presented TB and tobacco Association. During his technical session he asked the question to the participants does smoking cessation works?

He began with relationship between TB and tobacco and its relation with achieving SDG Goals. He has defined the term Smoking and talked about important measures of Tobacco control. He also discussed different studies conducted in the SAARC region.

Dr S D Gupta (Chairperson, IIHMR University, Jaipur) / Prof. Nutan Jain (IIHMR University, Jaipur) had started the new session about developing a strategic leadership mindset. They have talked about different leadership styles, qualities and their management. They also talked about the twin epidemic of TB and Tobacco, Strategic key and role of leader.

The last resource person Dr Kiran Katoch (Chair ICMR at IIHMR University, Jaipur) of first day's technical session started a new technical session for creating tobacco free health care environments and burden of Tobacco usage. She elaborated the tools 5A and 5R. She gave the examples of different states of India about TB/Tobacco and explained impact on economic condition. She focused on implementation strategies for RNTCP and NTCP of SAARC member countries.

DAY 2

The second day session was started with a recap of the first day. Dr Nutan Jain continued the session of developing a strategic leadership mindset. She talked about competition, cooperation, collaboration, convergence 4 words which are quite similar yet so different. She said in partnership all are required. In leadership, if a high level of trust is there nurturing behavior will develop. She mainly focused on leadership style.

The new session was started by Dr. Vinod Kumar Garg on TB and Smoking. He talked about the main diagnostic tool and some minor changes. He said that after WHO declared to eliminate the epidemic of TB by 2030 major changes were made again, Govt. of India declared to achieve the target by 2025. He talked about new guidelines. By 2017-18 new guidelines were made containing new terminologies and guidelines. Pulmonary TB suspects (old term) - new term - presumptive TB (Pulmonary, extra pulmonary {lymph node is most common TB target after lungs}), pediatric, drug resistant TB {patient failed with first line of treatment}). He said that now every patient diagnosed with TB is presumptive DR, New case definition developed for: Microbiologically confirmed TB, clinically diagnosed TB.

The technical session on monitoring and evaluation presented by Dr. Anoop Khanna, IIHMR. He said there is a strong association between tobacco and TB. Monitoring and evaluation can provide policy makers and public health authorities with essential information on: Extent of tobacco epidemic, Public awareness of epidemic, Changes in tobacco use following implementation of policies and programs. Dr. Khanna had discussed different tools and techniques which applied to monitor the tobacco free health care. During his session a worksheet was provided to the participants for the practical.

Presentations of day 1 activity

After lunch, the first day assignment for the participants was presented by Bhutan, Pakistan, India representatives in the light of shared vision, current scenario, and root cause analysis for TB and tobacco management. During the presentation Strategic objectives and identifying gaps & problems in implementation of Tobacco cessation into TB control programs were discussed.

The last session of second day Developing strategy/ discussion to proceed for Development of TB - Tobacco guideline session was conducted by Dr. Vinod Kumar SV (State program manager at JHPIEGO) – He has discussed about TB epidemiology and figures related to smoking and deaths globally as well as Indian scenario. He also talked about requirement of joint efforts for both TB and tobacco which causes the increase of mortality and morbidity. He had also highlighted about existing collaborative efforts. Regarding TB tobacco joint strategies, he had explained about Joint TB tobacco actions and Integrated or patient centered care and prevention.

At the last of the session, Dr Rabeya Sultana, Research officer, STAC has summarized the two day workshop with its importance.

Closing session

The closing session of the workshop was chaired by Dr. Pankaj Gupta (President IIHMR). He has highlighted about the core importance of TB-tobacco management.

Dr. Ramesh Kumar Kharel, Director, STAC, Nepal delivered his remarks during closing session. He extended thanks to Resource Persons and participants from SAARC member states and all supporting staff of IIHMR for their hard work to make the workshop successful. Dr. Kharel expressed gratitude on behalf of STAC to the Government of India.

Feedback from Participants:

The participants expressed their gratitude to STAC for arranging such important workshop. They also gave feedback that the duration of workshop should be at least of three days and it is important to conduct such workshop in near future to develop the SAARC regional guideline for TB – Tobacco for common use in the region. They suggested to making working group during the development of the guideline so that they can also actively take part and give technical feedback for the development of the TB-Tobacco guideline.

Outcome of the workshop:

The workshop has successfully completed with following output to include in the TB-Tobacco guideline.

- ❖ To Lay down Managerial processes to implement the guidelines
- ❖ Need to Specify coordination mechanisms at various levels

- ❖ Designate responsibilities to NTP and TCP for implementing training , supervisions logistics, communication & M&E actions
- ❖ Designate share of budgetary needs
- ❖ Provide sufficient timetable for implementation
- ❖ In country technical and operational policy and frameworks for integrating TB Tobacco control in primary health settings
- ❖ TB – Tobacco operational plans to be included in the National Strategic plans with provision of adequate funds
- ❖ Establish a Joint working group with technical experts from both entities (eg TAG members)

List of Participants and Resource Persons:

Bhutan

Ms. Radha Dukpa,

Programme Officer, NTP, Department of
Public health

Mr. Ugyen Norbu,

Information & media office, NTP,

Department of Public health

India

Dr. Sanjay Kumar Mattoo,

Joint Director (TB),

Central TB Division (CTD), MoH&FW,

Government of India

Mr. Veeraiah S Hiremath,

NC for Planning & Donar Coordination, CTD,

MoH&FW, Government of India

Dr. Deepak Balasubramaniam,

NC for TB-comorbidiites, CTD, MoH&FW,

Government of India

Dr. R Sudheer Babu,

District TB Officer, Anantapur,

Andra Pradesh

Dr. Ashok Kumar Singh,

District TB Officer, Darbhanga,

Dr Kiran Katoch,

Chair ICMR at IIHMR University, Jaipur

Dr Vinod Kumar Garg,

Principal Specialist (TB & Chest),

Upper Director & State TB Officer,

Rajsthan

Dr. Anoop Khanna,

Bihar, India

Dr. Minaxi Chauhan,

District TB Officer, Vadodara,

Gujarat, India

Dr. Anu M S,

District TB Officer, Kollam,

Kerala, India

Dr Vikas Dhir,

DTO Sangrur, Panjab State

India

Dr. R. C. Meena,

District TB Officer,

Pakistan

Mr. Nusrat Waheed,

Research officer,

NTP, Pakistan

Resource Person

Dr S D Gupta,

Chairman IIHMR University

Prof. Nutan Jain,

Associate Professor, IIHMR University

Professor,IIHMR University, Jaipur

Dr Vinod Kumar S V,

State Program Manager at JHPIEGO

SAARC TB and HIV/AIDS Centre

Dr. Ramesh Kumar Kharel, Director

Dr. Rabeya Sultana, Research Officer

Agenda

Day 1	
04, Dec, 2019	
09:00 – 09:15	Program Registration
09:15 – 10:00	Welcome Address: Introduction (get to know each other) and program highlights (objectives and schedule)
10:00 – 11:00	<p>Understanding Tuberculosis and Tobacco Control in SAARC Region Panelist:</p> <p>Tuberculosis Control Program in SAARC (SAARC TB and HIV/AIDS Centre): Dr Ramesh K. Kharel / Dr Rabeya Sultana (STAC) (Director, STAC, Kathmandu, Nepal)</p> <p>Tobacco Control Program in SAARC: Dr Sanjay K. Mattoo (Joint Director – TB, Central TB Division, MoHFW, GoI)</p> <p>TB and Tobacco Association – Does smoking cessation work?</p> <p><i>Format: Three 15-minute presentation; 15 minutes for discussion Learning objectives - the participants should be able to:</i></p> <ol style="list-style-type: none"> <i>1. Describe tuberculosis burden, determinants to TB, interventions and priority stakeholders in TB Control in SAARC region</i> <i>2. Describe the health burden associated with different types of tobacco products and tobacco control interventions and stakeholders</i> <i>3. Describe association between TB and Tobacco</i>
11:00- 11:15	Health Break
	Developing a strategic leadership <i>Format: 10-minute interactive</i>

<p>11:15 – 13:00</p>	<p>mindset....</p> <p>Developing a shared vision: where do we want to go? Identifying gaps and problems in implementation of tobacco cessation into TB Control:</p> <p>Dr S D Gupta (Chairperson, IIHMR University, Jaipur) /</p> <p>Prof. Nutan Jain (IIHMR University, Jaipur)</p>	<p><i>presentation and discussion for each topic, 40 minutes of group work and 20 minutes plenary presentation and discussion</i></p> <p><i>Learning objectives – the participants should be able to:</i></p> <ol style="list-style-type: none"> 1. <i>Frame a shared vision for TB-Tobacco Control with focus in integration of tobacco cessation into TB Control Program</i> 2. <i>Assess current situation and identify gaps and core problem/s</i>
<p>13:00 – 14:00</p>	<p>Lunch break</p>	
<p>14:00 – 15:45</p>	<p>Developing a strategic leadership mindset....</p> <p>Identifying objectives and stakeholders for tobacco cessation into TB Control):</p> <p>Dr S D Gupta (Chairperson, IIHMR University, Jaipur) /</p> <p>Prof. Nutan Jain (IIHMR University, Jaipur)</p>	<p><i>Format: 10-minute interactive presentation and discussion for each topic, 40 minutes of group work and 45 minutes plenary presentation and discussion</i></p> <p><i>Learning objectives – the participants should be able to:</i></p> <ol style="list-style-type: none"> 1. <i>Identify objectives that can be achieved by implementing tobacco cessation</i> 2. <i>Identify partners and stakeholders those are needed for the intervention</i>
<p>15:45 – 16:00</p>	<p>Health Break</p>	

<p>16:00 – 17:00</p>	<p>Identifying actions</p> <p>Creating tobacco free health care environments:</p> <p>Dr Kiran Katoch (Chair ICMR at IIHMR University, Jaipur)</p>	<p><i>Format: 15-minute interactive presentation and discussion, 25 minutes of group work and 20 minutes plenary presentation and discussion</i></p> <p><i>Learning objectives – the participants should be able to:</i></p> <ol style="list-style-type: none"> <i>1. Identify actions to create tobacco free healthcare</i> <i>2. Identify individuals/organizations with roles and responsibility</i>
<p>17:00 – 17:15</p>	<p>Wrap of the day and close day 1</p>	
<p>Day 2 05, Dec, 2019</p>		
<p>09:30 – 11:30</p>	<p>Identifying actions</p> <p>ABC for TB: an approach to tobacco cessation:</p> <p>Dr Vinod Kumar Garg (STO – Rajasthan)</p>	<p><i>Format: 30-minute interactive presentation and discussion, 60 minutes of group work and 30 minutes plenary presentation and discussion</i></p> <p><i>Learning objectives – the participants should be able to:</i></p> <ol style="list-style-type: none"> <i>1. Apply ABC approach in TB Clinics (TB symptoms to TB treatment)</i> <i>2. Identify actions, role and responsibility of the person/organization to be engaged in ABC</i>
<p>11:00- 11:15</p>	<p>Health Break</p>	
	<p>Monitoring and Evaluation</p>	<p><i>Format: 15-minute interactive</i></p>

	<p>Monitoring Tobacco free health care:</p> <p>Dr Anoop Khanna (Professor, IIHMR University, Jaipur)</p>	<p><i>presentation and discussion, 30 minutes of group work and 15 minutes plenary presentation and discussion</i></p> <p><i>Learning objectives – the participants should be able to:</i></p> <ol style="list-style-type: none"> <i>1. Identify key elements of monitoring tobacco free healthcare</i> <i>2. Apply monitoring tools and techniques to assess tobacco free health care</i> <i>3. Identify actions and responsible person/organizations</i>
<p>13:00 – 14: 00</p>	<p>Lunch break</p>	
<p>14:00 – 15:30</p>	<p>Monitoring and Evaluation</p> <p>Monitoring ABC intervention:</p> <p>Dr Anoop Khanna (Professor, IIHMR University, Jaipur)</p>	<p><i>Format: 30-minute interactive presentation and discussion, 30 minutes of group work and 30 minutes plenary presentation and discussion</i></p> <p><i>Learning objectives – the participants should be able to:</i></p> <ol style="list-style-type: none"> <i>1. Identify key elements of monitoring ABC interventions</i> <i>2. Apply monitoring tools and techniques to assess ABC intervention</i> <i>3. Identify actions and responsible person/organizations</i>

15:30 15:45	Health Break	
15:45 16:30	<p>Developing strategy/ Discussion to proceed for development of TB-Tobacco guideline:</p> <p>Dr Vinod Kumar S V (State Program Manager at JHPIEGO)</p>	<p><i>Format: 30-minute interactive presentation and discussion, 15 minutes wrap up</i></p> <p><i>Learning objectives – the participants should be able to:</i></p> <ol style="list-style-type: none"> <i>1. Identify key elements of communication for tobacco healthcare</i> <i>2. Identify key elements of communication for ABC intervention</i> <i>3. Identify key elements of communication for tobacco free home</i>
16:30 17:00	Wrap up and closing of the workshop	

8. SAARC Training on Gen-Xpert Machine Operation and Maintenance for Laboratory Personnel- Nepal



Training on Gen-Xpert Machine Operation and Maintenance for Laboratory Personnel, Nepal

Background:

The most important revolutionary tool that has changed the diagnostic landscape of TB diagnosis is the Gene Xpert MTB/RIF, an automated cartridge based nucleic acid amplification test (CB_NAAT) that has been endorsed by WHO for use as a primary tool for rapid identification of rifampicin resistance and diagnosis of TB in relevant settings. The Gene Xpert test is amenable to placement at sub-district level and has been shown to improve TB case finding especially among HIV infected, pediatric age group, extra-pulmonary TB.

The Gene X-pert system consists of an instrument, personal computer, barcode scanner and preloaded software; single-use disposable cartridges contain lyophilized reagents, buffers and washes. Target detection and characterization is performed in real time using a six-colour laser-detection device. Gene Xpert MTB/RIF detects tuberculosis as well as mutation that confer rifampicin resistance using three specific primers and five unique molecular probes to ensure a high degree of specificity. The assay provides results directly from sputum in less than 2 hours. The GeneXpert Xpert MTB/RIF assay system remains the only self contained cartridge based fully automated DNA testing platform that can accurately detect both TB and resistance to rifampicin and it is the only mature technology among a new generation of automated molecular diagnostic platforms. Considering the importance of training in operation and maintenance of the Gene Xpert machine, the 28th Governing

Board of the SAARC TB and HIV/AIDS Centre (STAC) has recommended this activity which was held in Nepal from 13th-15th December 2019.

Objectives:

- To set-up and install Gene Xpert machine.
- To operate and the maintenance Gene Xpert MTB/RIF machine.
- To demonstrate accurate results and interpretation.
- To record and report results according to NTP guidelines.
- To exhibit acceptable competency in troubleshooting Gene Xpert MTB/RIF.

Topics covered in the Training Programme:

- Training on Gene Xpert Machine Operation and Maintenance for Laboratory Personnel
- Airborne infection control in Tuberculosis health care setting
- GeneXpert machine Issues, challenges and way forward
- Cartridge Nucleic Acid Amplification Test (CBNAAT)

The training was facilitated by the Regional Resource Persons Dr. Rohit Sarin, Director, NITRD, India, Dr. V.P. Myneedu, Microbiologist (SAG), Department of Microbiology and NRL, Mr. Vikash Kumar, Field Application Scientist, Cepheid India and the Local Resource Persons Mr. Birendra Kumar Yadav, Medical Technologist, NTCC, Nepal and Mr. Krishna Adhikari, Gene Xpert Focal Person, NTCC, Nepal.

Seventeen participants from Bangladesh, Bhutan, Maldives, Nepal and Pakistan attended the training programme.

Day I

Inaugural Session:

The training was conducted in the conference room at Hotel Shankar, Kathmandu from 13 to 15 December 2019. On the first day, the participants arrived at the venue by 9.00 am and started the registration. The inaugural session started at 9.30 am after the arrival of the Chief Guest. The guests of the inaugural ceremony were as follows:

- Ms. Rishfa Rasheed, Director (SA), SAARC (Chief Guest)
- Dr. Ramesh Kumar Kharel, Director, STAC
- Dr. V.P. Myneedu, Microbiologist (SAG), Department of Microbiology and NRL, NITRD, India
- Dr. Sarad Kumar Sharma, Under Secretary, NTCC, Nepal
- Dr. Rabeya Sultana, Research Officer, STAC

Dr. Ramesh Kumar Kharel, Director, SAARC TB and HIV/AIDS Centre (STAC) extended a warm

welcome by offering Khada to all the dignitaries and participants of the training programme. He delivered welcome remarks. He highlighted the role of laboratory as an important means to diagnose TB. He informed that the Nepal had installed the first Gene X-pert machine in 2009. He said that TB and HIV is a serious threat in the SAARC Region. Therefore, to reach the Global target to End TB by 2035 and the Regional target of SAARC by 2027, all member countries must work together. He highlighted the challenges of the region and hoped that this training would be able to help in some ways to fight against the spread of TB. He requested to the participants to take active participation and share the knowledge gained from the training to their community after going back to their respective countries.

Ms. Rishfa Rasheed, Director (SA), SAARC delivered her remarks. She expressed her appreciation by congratulating STAC Director and his team for organizing the STAC activities. She also mentioned about World AIDS Day and SAARC Charter Day which was recently well organized with a grand success. She also requested to the participants, after going back to their respective countries and request to their Programme Managers to take active participation to fulfill the required quorum of the STAC activities. She also highlighted some issues regarding TB and the burden carried out by the SAARC member countries. She hoped that this type of training programme would help to solve some of the problems faced by all the member countries especially in the laboratory diagnosis of TB. She also expressed her thanks to all the participants who had come to the training programme and wished a pleasant stay in Kathmandu.

Dr. V.P. Myneedu, Microbiologist (SAG), Department of Microbiology and NRL, Regional Resource Person from India highlighted the importance and the objectives of the training. He informed that the Gene Xpert is the latest new technology for the rapid diagnostic treatment for TB and Drug Resistance TB (DR-TB). He expressed that the participants will learn how to install the Gene X-pert machine and understand, operation procedure and regular maintenance of the Gene X-pert machine in this three day's training programme. He also mentioned that the training would also provide necessary skills on trouble shooting errors, if any, occurred while working and operating the Gene X-pert machine.

Dr. Sharad Kumar Sharma, Under Secretary, NTCC, Thimi, gave his remarks by thanking STAC for organizing such important training programme. On behalf of NTCC Director, he welcomed all the participants to the training Programme. He discussed about the importance of Gene X- pert technology that has come to use in Nepal. He informed about the different sites where the GeneXpert machine has been installed in the country and some more places where it would be expanded in near future. He also informed that there were many challenges in the maintenance of the machine that included warranty, calibration and temperature maintenance etc. He said that there were 3 million missing TB cases in Nepal and hoped that this Gene X-pert technology would help to identify these missing cases and to reduce the challenges caused by tuberculosis short span of time. He wished for the success of the training programme and a pleasant stay to all the participants in Kathmandu.

Dr. Rabeya Sultana, Research Officer, STAC, delivered vote of thanks. She extended heartfelt thanks to the Member States for sending the Participants and the Resource Persons to the training programme. She expressed her happiness that such an important training on Gene Xpert could be conducted with the active participation from the member countries. She also thanked the SAARC Secretariat for their support in organizing the STAC activities. She also thanked the staff of STAC for their hard work and the excellent arrangement made for the training programme. She also thanked to the hotel personnel for providing good facilities.

Technical Session:

Dr. Ramesh Kumar Kharel, Director, STAC gave a brief introduction of STAC. He explained the historic background and the establishment of SAARC TB and HIV/AIDS Centre. He informed that the Centre is initiating to establish the SAARC Supranational Reference Laboratory for TB and HIV/AIDS in near future which would be beneficial to all the member countries. He also described the vision, mission, goals and objectives of Centre. He said that the Centre was working towards to fight against TB and HIV/AIDS in the close cooperation with National TB and HIV/AIDS Control Programmes of the member countries. He explained about the various activities carried out by the Centre. He also informed that the STAC publishes many important documents on TB & HIV/AIDS which could be very important resource materials for the member countries. He introduced the STAC journal and its relevance as publishes research articles on TB, HIV/AIDS and Lung diseases. He also gave information on different researches presently done by the Centre with the member countries. He highlighted some of the important activities such SAARC Goodwill Ambassador programme, SAARC prize for TB and HIV/AIDS and the two historic International conferences organized by the Centre in 2004 and 2008 respectively. He also informed about the programs that the Centre had conducted till date.

Dr. Rabeya Sultana, Research Officer, STAC made her presentation on SAARC Training on Gene Xpert Machine Operation and Maintenance Training for Laboratory Personnel. She informed that 1.5 million people died due to TB in 2018 and among 0.5 million with MDR TB only 56% were successfully treated. She said that Bangladesh, India and Pakistan were the high burden countries of TB in the SAARC region. She said that India alone had 27% of the global burden of TB and 47% death due to TB globally. She said although most of the SAARC countries have reached the treatment success rate to 90% and above, India and Maldives still had lower treatment success rate in comparison to others. She also discussed about different strategies starting from DOTs to Stop TB and End TB epidemic by mentioning the sustainable development goal SDG. She also highlighted on the three important pillars of End TB strategies to End TB by 2035. She told that STAC had made efforts to minimize the gap/ challenges in line with the End TB Strategy (2016- 2030) and has developed SAARC Regional Strategies to eliminate TB from the member countries by 2030. She also highlighted on the objectives of the Gene Xpert machine training and some expected outcomes from it.

Dr. V.P. Myneedu, Microbiologist (SAG), Department of Microbiology and NRL, Regional Resource Person made a presentation on Gene Xpert technology. He said that TB laboratories played important role in TB control by providing bacteriological confirmation on TB and XDR-TB and monitoring treatment process. He explained about different diagnostic methodologies such as microscopy, culture, drug susceptibility, line probe assay and Gene Xpert MTB/RIF assay. He also highlighted on different types of laboratories such as Peripheral laboratories, Intermediate and Central laboratories. He said that WHO diagnostic policies started even before 2007 with Ziehl-Neelson microscopy to present Gene Xpert MTB/RIF. He also provided the historic picture of Gene Xpert system which was launched from 2004. He described the principle design of Gene Xpert and explained about the different technologies used in its functional operation. He also briefed about the algorithm for determination of Xpert MTB/RIF results. He talked about the analytical features of the Gene Xpert MTB/RIF assay and controlled clinical validation trails along with field demonstration studies. He also explained some of the benefits in the implementation of Gene Xpert machines. He shared his experience about the rifampicin resistance detection in NRL NITRD in 2011. He also gave information on WHO recommendation evidence based to support widespread use of Xpert MTB/RIF for TB detection. He also provided information on the advantages and the disadvantages of the machine. Dr. Myneedu also informed about the next generation Xpert MTB/RIF assay (ultra) developed by Cepheid. He discussed about the various key prerequisite that must be available before implementing the Xpert machine.

Dr. Rohit Sarin, Director, National Institute of Tuberculosis and Respiratory Diseases, NITRD, Regional Resource Person from India, gave his presentation on the airborne infection control in Tuberculosis Health Care Setting. He said that it was very important for every laboratory personnel to understand the importance of transmission of TB as they were the most with the high risk of being infected by the disease. He emphasized the importance of this challenging issues to the participants. He discussed about that the administrative, environmental and personal protection measures which were the key factors to control the transmission of the diseases. He informed that simple administrative measures such as covering the mouth while coughing, wearing mask, having a separate room for the suspected patients and a good ventilation system would help in reducing the transmission of the diseases. He said that such small measure would bring large changes and would be very cost effective. Therefore, he emphasized that administrative measure was the most important in comparison to others. He also gave information on how TB would be transmitted in OPD section on a normal setting in hospitals. He said that coughing, sneezing and spitting sputum does not directly get transmitted from one person to another. It is the evaporation of the droplets into sputum nuclei which make it infectious. He said more the exposure higher the chance of being infected by TB and sooner the treatment for the identified patients starts the lesser chance of spreading the diseases. He said that a person with good immunity system but has got infected with TB will get the chance of getting the disease 10% on the first half of their life and the only 10% on the 2nd half of their life. Therefore, he said that personal protection is very important and the setting in the OPD section must have good ventilation. Dr. Sarin also discussed about the host related factors in

a health care facility. He informed that meta-analysis has shown that the risk of getting the disease was very high.

He also informed that laboratory personals have high risk of being infected as they are regularly exposed to it. He said that laboratory person had 80% chances of getting infected by TB. Therefore, it is necessary to take important precautionary measures by not letting the patients visit the laboratory area to collect their report. He emphasized that the use of UV protection light system and their proper installation and regular maintenance in the laboratory is important.

Mr. Vikash Kumar, Field Application Scientist from Cepheid, India also facilitated the training programme by providing technical assistant.

Country Presentation by the Participants

Bangladesh:

Mr. Md. Mamun Hasan, Microbiologist, RTRL, Bangladesh made a country presentation on Tuberculosis control activities in Bangladesh. He informed that the population of Bangladesh is 165 million and the incidence rate of TB around 221/100 000 population. He also informed that the estimate burden of MDR TB is 8415 and the estimated burden of MDR TB among the notified PTB is 5300. He said that Bangladesh has the laboratory network setup starting from the peripheral, intermediate, RTRL and NTRL laboratories. He also informed that there are 219 Gene Xpert machine installed in 190 different sites. He said lab probe assay, culture/DST and Gene Xpert microscopy was done in NTRL laboratories. He also discussed about the challenges faced in the installing the Gene Xpert machine and steps taken to minimize these challenges.

Bhutan:

Mr. Nima, Laboratory Technologist, Bhutan made his country presentation on situational report on national microscopy, culture, DST and Gene Xpert networks. He said that Gene Xpert machine is in very few hospitals like JDWNRH, CRRH, ERRH and Phuntsholing. He said that JDWNRH burden with more number of samples as the machine has only four modules. He said that the culture report of 2018 showed that there were 47.1% PTB, 39.8% with culture positive, 69% with no growth and 4% with culture contamination. He also informed that the total test report done with Gene Xpert during 2017-2018 showed that out of 4920 patients tested 1357 was TB positive and 156 patients had MDR TB. He said that there were more sample pending and required trained technicians to do the laboratory diagnosis.

Maldives:

Ms. Aminath Rasfa, Laboratory Technologist, Maldives made her country presentation on diagnostic tests used in Maldives for TB diagnosis. She informed that the current situation in Maldives, total 63 cases on medication of which 42 Expats and 21 locals in Maldives and 32 cases are smear negative but Gene Xpert positive. She also mentioned the problems

encountered in running the Gene Xpert machine. She discussed about the models of the machine use in Maldives and briefed about the log reporting system with the machine.

Nepal:

Ms. Sujata Shrestha, Medical Lab Technologist, Nepal made her country presentation on Gene Xpert machine Issues, challenges and way forward. She gave a brief description of the laboratory networks within the country. She said that there are 74 Gene Xpert sites available in the country. She discussed about the various challenges such as procurement and supply management issues. She informed that regular maintenance is not done by the Lab. staff on time resulting higher test failure, frequent module breakdown is cumbersome to exchange and release from customs and deliver timely as well as lack of regular monitoring due to insufficient manpower . She also explained some way forwards such as annual Gene Xpert maintenance training for Lab. Personnels, newly developed national database is expected to resolve the duplication of test, regular technical support to Gene Xpert for fixing of machinery problems.

Day II

The second day started with the recap of the previous day working session. All the participants were discussed about the presentations made on the previous day and related questions were discussed with the Regional Resource Person and the Local Resource Persons. After this all the participants were invited for hands on demonstration and the practical sessions in Gene Xpert machine operation and maintenance. The participants were divided into two groups each comprising eight members. Group A had participants from Bangladesh, Bhutan and Group B had Maldives, Nepal and Pakistan.

The participants learnt about the arrangement of the Gene Xpert machine. A proper demonstration was done on how to install the machine. The machine was properly introduced with each accessories and their applications to the participants. Then the local resource person helped to connect all the necessary accessories as per the requirement. It was repeatedly emphasized that the machine required power backups in order to operate smoothly. In the absence of the backups supply in the machine will not be able to provide necessary report. Therefore, the time is the important factor for the diagnosis and function the yield results, otherwise the whole effort would be wasted.

With the help from the National Tuberculosis Control Centre, Nepal, necessary sputum samples was received for the laboratory diagnosis using the Gene Xpert machine. All the participants were fully engaged in the laboratory training procedure. They were asked to wear the necessary protection gear while performing the task. First, the participants prepared the samples for testing procedure. The participant prepared a mixture of 70% ethanol and 0.5% of sodium hypochloride for overall cleaning of the Gene Xpert machine. They were demonstrated the proper steps for cleaning of the plunger, icore, fan filter and cartridges bay of the machine. The participants were also shown the procedure to prepare the sputum sample and testing for processing in Gene Xpert. The participants were

informed about the operating procedure of the Gene Xpert machine and various results and their interpretation that were displayed on the computer monitor. They were also shown the Expert for checking on the calibration of the Gene Xpert machine.

While demonstrating the procedures a hands on training was done to process the sputum sample and test. The result showed, out of the seven samples that were tested in the Gene Xpert machine, two were MTB/RIF positive and the other five were negative. The whole operation for the diagnosis of the sample was conducted within two hours which was 100% authentic and save time and money in comparison to the traditional methods of TB diagnosis.

Day III

Dr. V.P. Myneedu, Microbiologist (SAG), Department of Microbiology and NRL, Regional Resource Person made a presentation on Gene Xpert Operation and Maintenance. He informed that maintenance of the Gene Xpert machine had to be done on daily, weekly, monthly and annual basis. He also informed the instrument procured after 24 April 2012 has an initial 2-year's warranty and if the machine is not calibrated after 1 year, the second year of the warranty is not valid. He also informed that the warranty of Gene Xpert machine covers repairs and the replacement of any parts and the initial warranty was provided free of charge except for annual calibration costs. He also provided information on authorized service provider (ASP) Cepheid that provided certain services will be free of charge which included exchanging or swapping modules after calibration if required , repairing parts of the Gene Xpert instrument, placing orders for Gene Xpert cartridges and on-site installation and 1-day training at the time of installation.

He also explained the necessary accessories of the machines to be maintained in the regular basis. He said that the machine had to calibrate the module annually or after every 2000 test per module. He discussed about the disinfection procedures for the work area, cartridge bay, plunger and instrument surfaces. He said that restart of the instrument and computer was necessary only, if the computer was not routinely turned off at the end of the day. He said the monthly tasks of the machine also included the archiving tests creates copies of test data in .gxx files which allowed back-up your data and ensure it will not be lost if the computer broken down. He informed that if the calibration module failed then the modules must be exchanged or swapped for new or refurbished modules from Cepheid, and the old modules must be sent back to Cepheid. He said that Cepheid was the authorized agent for providing the technical assistant in handling the machine. Other challenges mentioned by participants were also discussed and troubleshooting done by the Regional and Local Resource Persons.

Feedbacks from the participants:

The participants were handed over a sheet of paper to make an evaluation and recommendation of the training programme. Since the operation and maintenance of the Gene Xpert machine was a new programme, all the participants were very happy and

satisfied by getting the exposure from the hands on training in the operation of Gene Xpert machine. They also recommended for higher level training in the next generation Gene Xpert MTB/RIF (Ultra) technology in near future.

Closing:

Dr. Sagar Kumar Rajbhandari, Director, National Tuberculosis Control Centre (NTCC), Nepal, graced the occasion as Chief Guest of the closing session.

Mr. Md. Mamun Hasan from Bangladesh expressed his happiness on being able to participate in such an important training programme. He said that he had learnt a lot about the operation and the maintenance of the Gene Xpert machine would be very useful in his future course of action. He said that such training should be provided on the regular basis and STAC should take the initiation to conduct such activities in near future also.

Mr. Nima from Bhutan expressed his and his team's for taking part in the Gene Xpert training programme and be able to learn detail procedure of operation and maintenance of Gene Xpert machine. He said that such type of training should also include biomedical engineers' in the future to understand about the maintenance of the machine. He also informed that the training had provided information on the advance technology used by the machine and its usefulness in the laboratory diagnosis of tuberculosis.

Ms. Aminath Rasfa from Maldives expressed her happiness and satisfaction by getting the opportunity to learn a lot during this three days training. She said that now on wards she will be able to analyze the errors and getting the knowledge that the fault was not created by the machine but the human handling created the errors in the laboratory diagnosis of the disease.

Mr. Bijendra Bhakta Raya from Nepal said that he was very lucky and happy that he could take the training. He said that he had learnt a lot from the training during these three days and hope that it will very useful for him in the coming days.

Dr. V.P. Myneedu, Microbiologist (SAG), Department of Microbiology and NRL, expressed his happiness the SAARC TB and HIV/AIDS Centre organized such an important training on Gene Xpert machine operation and maintenance. He expected that all the participants have benefitted from this training.

Dr. Rohit Sarin, Director, National Institute of Tuberculosis and Respiratory Diseases, India told that it was a great pleasure to work with STAC. He mentioned about his long association with the organization and thanked the Director of STAC for inviting him for such an important training on Gene Xpert machine operation and maintenance.

Dr. Sagar Kumar Rajbhandari, Director, National Tuberculosis Control Centre (NTCC), Nepal congratulated the Director STAC and his team for successfully completion of an important

training programme in Nepal. He highlighted the importance of operation and maintenance of the Gene Xpert machine. He also informed that Nepal had recently done its prevalence survey by using this machine which was very successful. He hoped that the participants of the training programme had learnt about the operation and maintenance of the machine and would share the information among their colleagues. He wished a pleasant stay to all the participants and resource persons in Kathmandu.

Dr. Ramesh Kumar Kharel, Director, STAC delivered vote of thanks. He informed that the STAC was able to perform such an important activity in a very short period. He also informed that the same activity was also done in Bhutan in August 2019. He said that the operation and maintenance of the Gene Xpert machine was a very crucial knowledge and necessary in the laboratory diagnosis of tuberculosis. It was very important for every laboratory personnel to understand the importance and proper use of the machine. He informed that this machine was the most world widely acclaimed scientific equipment and the latest modern technology available at present. He thanked the Expert from the Region and the local resource persons for their support and active role for the conduction of the training programme. He thanked all the staff members of STAC for the hard work in organizing the programme. He also thanked the hotel management for their good hospitality and space provided to conduct the programme. He thanked the Programme Managers of the Member Countries for facilitating to nominate the participants for this training programme and all the participants from member states for their active participation.

The Director, STAC, National Tuberculosis Control Centre (NTCC), Chief Guest and the Regional Resource Persons of the closing session handed over certificate along with souvenir to the participants and the Resource Persons of the training programme.

List of participants and Resource Persons

Bangladesh:

Dr. S M Masud Alam,
Expert Lab & Infection Control,
NTP, DGHS, Dhaka, Bangladesh.

Mr. Md. Mamun Hasan,
Microbiologist, RTRL,
Khulna Division, Bangladesh.

Ms. Sohana Asma,
Microbiologist, RTRL, General Hospital,
Anderkilla
Chittagong, Bangladesh.

Bhutan:

Mr. Nima
Laboratory Technologist,
Wangdue Hospital, Ministry of Health,
Bhutan

Ms. Chochang Pema
Senior Laboratory Technician,
Eastern Regional Referral Hospital (MRRH),
Mongar,
Ministry of Health, Thimphu

Mr. Cheki Dorji
Senior Laboratory Technician,
Trashigang General Hospital,
Bhutan

Mr. Kaka Dukpa
Assistant Engineer,
Bio Medical Engineering Division
Department of Medical Supplies & Health
Infrastructure,
Ministry of Health,
Thimphu, Bhutan

India:

Dr. Himadri Bhusan Bal
NRL Microbiologist, RMRC Bhubaneswar

Mr. Prashant Upadhyaya
Consultant Microbiologist,
National Reference Laboratory,
JALMA Agra

Mr. Mayank Mittal,
Consultant Microbiologist, LRL Agra

Maldives:

Ms. Aminath Rasfa
Laboratory Technologist
Department of Laboratory Medicine,
Indira Gandhi Memorial Hospital,

Nepal:

Mr. Nabin Khadka
Lab. Technician,
Mangalbare Hospital,
Urlabari, Morang, Nepal

Ms. Sujata Shrestha
Medical Lab. Technologist
Ilam Hospital, Ilam,

Mr. Bipin Kumar Jha
Lab. Technician Officer,
Chandranigahapur Hospital, Rautahat,
Nepal

Mr. Ishori Prasad Bhusal
Lab. Technician Officer,
Dadeldhura Hospital
Dadeldhura,

Mr. Dillu Raj Poudel
Lab. Assistant,
Regional TB Centre,
Pokhara,

Mr. Bijendra Bhakta Raya,
Medical Laboratory Technologist,
Genetup,
Kalimati, Kathamandu

Ms. Samjhana Phunyal
Medical Lab. Technician
National TB Control Centre (NTCC)
Thimi, Bhaktapur

Mr. Manish Shrestha
Lab. Technician,
Bhim Hospital,
Bhairahawa, Rupandehi,

Pakistan:

Mr. Adnan Javed Khan
Counselor, Embassy of Pakistan
Maharajgunj, Chakrapath
Kathmandu, Nepal

List of Resource Persons:

Dr. Rohit Sarin
Director,
National Institute of Tuberculosis and
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Sri Aurobindo Marg
New Delhi 110030 INDIA

Dr.V.P.Myneedu,
Microbiologist (SAG), Professor & HOD,
Department of Microbiology and NRL.
National Institute of TB and Respiratory
Diseases,
Sri Aurobindo Marg,
New Delhi 110030, India

Mr. Vikash Kumar
Field Application Scientist,
Cepheid India Pvt. Ltd.,
New Delhi,
INDIA

Resource Person from Nepal:

Mr. Birendra Kumar Yadav,
Medical Technologist,
National TB Control Centre (NTCC),
Thimi, Bhaktapur

Mr. Krishna Adhikari
Gene-Xpert Focal Person (Lab. Technician
Officer),
National TB Control Centre (NTCC),
Thimi, Bhaktapur

Agenda:

DAY I

09.00-10.30	Registration & Inaugural Session
Technical Session:	
10.30-10.45	Introduction of STAC by Director, STAC
10.45- 11.00	Current situation of MDR-XDR TB and TB, HIV Laboratory networking in the Region -by Research Officer, STAC
11.00-12.30	Country Presentation- Gene X pert machine challenges operation and expectation from this training (Participants from member countries approx. 10 minutes for each member states)
12.30-13.00	Airborne infection control in Tuberculosis by Dr. Sarin, Director, NITRD
13.00-14.00	LUNCH BREAK
14.30-15.30	Introduction, Installation and Calibration of Gene X pert by Regional Resource Person
15.30- 15.45	TEA –BREAK
15.45 -16.30	Positioning the test and selecting a site by local Resource Person

DAY II

09.00-09.30	Recap of previous day – by one of the participants/local Coordinator
09.30-10.30	Testing and managing patients (Selecting individuals to be tested)/ Test – By performance) – By Local Resource person
10.30-11.00	TEA-BREAK
11.00-13.00	How to run the Machine/Common Problem facing during operating the machine and out to overcome these problems Interpreting results from Xpert MTB/RIF by Regional Resource Person
13. 00- 14.00	LUNCH BREAK
14.00 -16.30	Field visit/site seeing

DAY III

09.00-9.15	Recap of day II
09.15-10.30	Practical Session on Gene X pert, challenges faced and ways to minimize those by Regional Resource person
10.30-11.00	TEA BREAK
11.00-12.30	Preparation of Group work – By the Participants
12.30-13.00	Any Other Matters.
13.00-14.00	LUNCH BREAK
14.00-16.00	Presentation of Group Work - By the Participants
16.00-16.30	Certificate distribution and closing of the Meeting

9. Joint SAARC Monitoring Mission for appraisal of TB and HIV/AIDS Control Programme in Bhutan

Introduction:

To monitor the progress of the Tuberculosis and HIV/AIDS program of the member states and to evaluate the achievements towards the end TB and AIDS epidemic targets, Twenty eighth meeting of the Governing Board of STAC and the Fifty fifth Session of the Programming Committee approved the activity of “Joint SAARC Monitoring Missions for appraisal of TB and HIV/AIDS Control Programs in the Region by STAC”. Accordingly, STAC has planned to conduct this activity in Bhutan on 5th August, 2019 with following objectives:

1. To review the progress towards the end TB and AIDS epidemic targets define in the National Strategic Plan of Bhutan
2. To study the situation of prevention and control activities implemented by National and District level TB and HIV/AIDS control Programme
3. To learn about the challenges to meet the national target
4. To make recommendation to the National TB and HIV/AIDS control Programme on the basis of the findings of the situation analysis conducted by the STAC

A team comprised of Director, Research officer visited Bhutan. During this visit, STAC team meet the program people, reviewed the plans; funding; implementation and monitoring strategy; chain of drug supply and referral system, meet the stake holders and identified the gaps and potentials.

Agenda of the visit was as below

- | | |
|--------------|---|
| 10.00-11.45: | Visit NTP and Discussion on TB situation in Bhutan, its activities, Best practices and challenges along with Data/information process, reporting and follow up etc. |
| 12.00-13.00: | Visit National TB Reference Laboratory, Thimphu |
| 13.00-14.00: | Lunch |
| 14.30-16.00: | Visit National HIV/AIDS Control programme and discussion on HIV situation in Bhutan, its activities, best practices and challenges |

The STAC team was welcomed by the program staff. The chief, CDD, DoPH, MoH Bhutan.

The initial meeting was started with the following agenda

Welcome address by chief, CDD, DoPH, MoH Bhutan

Address by STAC Director

Tea/refreshment over meeting

HIV situation in Bhutan presented by Lekey Khandu, Program manager, NACP

TB situation in Bhutan by Ugyen dendup, Program manager, NTCP

Lunch break

Site visit to RCDC (National TB Reference Laboratory, Thimphu

The persons who were present in the meeting

1. Mr. Rixin jamtsho, Chief Programme Office, CDD
2. Lekey Khandu, Program manager, NACP
3. Ugyen dendup, Program manager, NTCP
4. Jigme Thinly, APO, NACP
5. Rada Dhupka, PO, NTCP
6. Mr. Kinley PO, NACP
7. Mr. karchung Tshering, Sr. Laboratory officer, RCDC
8. Mr. ugen Dorji, Sr. Laboratory technician

The meeting started at 11 am. Mr. Rixin jamtsho, Chief Programme Office, CDD welcomed STAC team and expressed high satisfaction by the continuous support and monitoring by STAC. He also thanked STAC team for organizing important training of “SAARC Training on Gene X pert Machine Operation and Maintenance for Laboratory Personnel, 6-8 August, 2019” in Bhutan. He expressed his gratitude and informed that, as the training is on next day, we would be able to meet and discuss the common issues on the next training days with Her Excellency health minister and health Secretary.

In his speech, Director, STAC discussed about introduction, vision, mission, objective of STAC along with the activities; giving importance that STAC working as a regional hub to give guidance for collecting, distributing and sharing all the TB HIV/AIDS related data; giving technical support to develop different strategies or review program; helping the member states by giving technical and financial support to conduct operational researches; playing important role in human resource development by several trainings, meetings etc. He also discussed about the forthcoming activities of STAC which is stated below.

- i. SAARC Regional Workshop for the mid-level HIV/AIDS managers on Community Led Testing (CLT) on HIV/AIDS, 21-23 August, 2019- Pakistan
- ii. SAARC Parliamentarian’s meeting on TB and HIV/AIDS, 9-10, Sept. 2019- Nepal
- iii. SAARC Training of Mid-level Clinical Managers on Programmatic Management of Drug Resistance TB (PMDT), 15-19, Sept. 2019- Bangladesh

- iv. SAARC Regional Workshop for Implementation on TB-Tobacco Collaborative Activities and Development of Guidelines on TB-Tobacco, India (*Date to be announced*)
- v. SAARC Regional Workshop on Latent TB Infection for Finalization of Guideline on Latent TB Infection, Pakistan (*Date to be announced*)
- vi. SAARC Training on Gene-Xpert Machine Operation and Maintenance for Laboratory Personnel, Nepal (*Date to be announced*)

He expressed his satisfaction regarding Bhutan participation in all STAC programs and highlighted to continue the nomination and participation in the upcoming STAC programs also.

Though it was not in the agenda, the research officer discussed about the two research activities which is funded and coordinated by STAC with Bhutan in the year 2019. The researches are;

- i. Trend (Frequency and distribution patterns) of opportunistic infections associated with HIV/AIDS- A multi-centric study- Afghanistan, Bhutan and Nepal
- ii. Assessment of compliance of shorter Regimen of MDR-TB Treatment in Bhutan.

The progress of the research were discussed and found that due to some internal issue, the progress is delayed and still the time line provided by the Focal person is ambitious. There was discussion regarding the previous year (2018) study and its publication policy.

Recommendation by STAC: STAC asked for official communication with the research officer about extension of timeline of the study till April, 2020 to put the matter the governing board for permission.

Mr. Lekey Khandu, Program manager, NACP made an official presentation regarding the scenario of HIV/AIDS situation in Bhutan.

He said that total patient for HIV/AIDS is 627 with 323 male and 304 female patients. Total PLHIV is **487**, Total death **118** and on ART **450** patients. VCT is introduced in Bhutan on 2006 and HIV testing in the private sectors was introduced on 2017. In 2018, **64900** people were tested to detect HIV and there is a huge gap of cases estimated and cases detected. The gap actually remains as **47.6%**. The program is confused that whether this is a true gap or there is over estimation. Thus they were asking for any possible operational research could be done to verify this situation.

Recommendation by STAC: Every year STAC is financing and coordination couple of operational researches to the member states. Thus Bhutan NACP program is asked to submit short proposal along with budget for the year 2020/21

He mentioned that Bhutan has targeted the key achievement as **90-100-90** instead of world key achievement target of **90-90-90**. To reach these achievement, till date they have **52.4%** diagnosed case, **96%** patients on ART and among them **90%** have viral suppression. In 2018, the estimated cases were **1265**, diagnosed **663**, current living cases **505**, among them **485** were on ART and **405** had tested viral load, 364 had viral suppression.

He also mentioned the key achievements and plans of the HIV program as below.

- HIV and STIs testing uptake among the pregnant women is **>95%** and no MTCT of HIV/STI cases were diagnosed for last two years among the ANC attendees.
- Bhutan HIV program adopted fixed dose combination in 2013, treat all policy in 2016 and viral load testing in 2017.
- **96%** of PLHIV is currently on treatment (lifelong ARV)
- **84%** of PLHIV availed viral load testing and 90% of them achieved VL<1000 copies
- Program has introduce condom vending machine and distributed total of gross (400*144=576000 condoms) for key and vulnerable populations
- Program also developed first NSP 2019-23 for prevention and control of viral hepatitis and treatment guideline for HBV and HCV.
- Focus testing will be carried out among the identified high risk population
- The high risk non-vaccinated people will be vaccinated with HBV vaccine
- Both HBV and HCV chronic population will be linked to appropriate care and treatment

He mentioned the key challenges as below

- Case detection gap of **47.6%** as per UNAIDS spectrum estimation of **1265** PLHIV in 2018
- Defaulter and non-compliant cases leading to further transmission of HIV/AIDS
- Diffuse pattern of HIV epidemic in Bhutan leading to unfocused prevention intervention
- Contact tracing
- Sexual promiscuity both in male and female
- Social and self-stigma associated with HIV and AIDS
- No appropriate size estimation of key population

The way forward mentioned by the program as below

- Validation work for triple elimination (e-MTCT)
- Aggressive action plan for mobile van HIV counseling and testing
- Aggressive action plan for contact tracing among the new index cases

- Complete the retrospective study among the living cases to understand the driver of the epidemic in Bhutan
- Endorsement of Hepatitis treatment guideline
- Revision of STI guideline
- Establishment HIV and STI sentinel surveillance system for key population
- Mapping and size estimation of key population
- Reviewing the current routine surveillance system for HIV and AIDS in general
Institute a routine surveillance for Hepatitis B and C
- Implementation of Viral hepatitis treatment guideline and action plan
- To assess the factors for non-viral suppression among those PLHIV on ART treatment

Recommendation by STAC: STAC can provide technical and indirect financial support to Bhutan NTC program by conducting operational researches or training programs. That has to be placed in coming governing board meeting for approval.

Mr. Ugyen Dendup, Program manager, NTCP made an official presentation on Tuberculosis scenario in Bhutan.

He mentioned that, Bhutan is a country with one million population, has divided in 20 districts. The basic health care system started from community outreach clinics to primary, secondary and tertiary referral hospitals where basic health unit is the primary referral hospital, then district, regional and national referral hospital acts as tertiary referral center. Health care delivery system is guided by PHC approach.

He mentioned the **Background and milestones of NTCP** as

- The NTCP was initiated in 1976
- In 1994 Short course chemotherapy (SCC) was implemented nationwide
- 1994 directly observed treatment short course (DOTS) also started.
- 2010 First drug resistant surveillance for TB
- 2012 introduction of liquid culture system
- 2013 development of TB information and surveillance system (TBISS)
- 2014 Introduction of line probe assay (LPA) for rapid MDR-TB detection
- 2016 Introduction of Gene Xpart for rapid MDR-TB screening (5 sites)
- 2017 Expansion of LPA services for rapid XDR- TB detection
- 2018 expansion of Gene Xpart site (Samtse District Hospital)

National Strategic Plan to end TB in Bhutan (2017-2023)

Keeping in view the challenges to NTCP identified in previous year and the principles of addressing the TB problem laid out in the WHO End TB Strategy, this NSP has been prepared for the period 2017-2023 so as to achieve the needed milestones within the given time frame.

Vision

A Nation **FREE OF TUBERCULOSIS** with zero deaths, disease and suffering due to tuberculosis

Goal

To reduce TB and DR-TB burden until it no longer poses a public health problem in Bhutan.

Objectives

- To increase case notification rate of **at least** 90% among estimated TB and MDR-TB cases
- To maintain treatment success rate of at least 90% among drug-susceptible TB and at least 75% among drug-resistant TB cases
- To improve TB/HIV co-infection case detection and register at least 100% of estimated co-infected individuals from 2020 onwards
- To strengthen programmatic management of Tuberculosis at all levels

National burden of TB in 2018

- 918 fell ill with TB
 - Male 446, female 472, children 26 with 17 deaths
 - DR-TB is major challenge with total 63 cases in 2018, with 27 male, 36 female and 3 children
- He mentioned the **Key challenges** as below

- Gaps in TB and MDR-TB case detection
- MDR-TB cases among the new TB cases
- Delay in sample shipment
- Inadequate DOT implementation
- Poor infection control measures

Way forward

- Implementation the plan for active outreach screening for targeted population (e.g., HWs, taxi drivers, monk in high burden cities of Thimphu and Phuntsholing)
- Expansion of Gene Expert sites
- Universal Gene Expert test for presumptive TB cases
- Strengthen TB awareness program (through various platforms: school children, TV, radio, social media, local TV cable operators, mobile clinics etc.)
- Implement and monitor new contact tracing model (concentric model)
- Improve the diagnostic services for immigrant health screening at entry point
- To explore fund to organize cross border meeting
- Develop and implement a SOP for the sample shipment (by RCDC)

- Renew the MoU between RCDC and Bhutan post with expansion service coverage for sample shipment
- Develop and implement IEC materials (DOT provider counselling guideline)
- Exploring Video-DOT monitoring (use Wechat)
- Piloting and triage/fast tracking system for patients with cough, ensure availability and use of
- N-95 mask by HWs

He asked support from STAC to do the patient cost survey, in technical and financial way.

Recommendation by STAC:

- STAC recommended to develop sample shipment and infection control guideline which would help the HWs at the community level. Furthermore, STAC team shared the key knowledge from the member states for contact tracing, sample shipment and infection control.
- To ensure regular participation of the STAC training, as this year and next year STAC has the approval to conduct the training of Gene Xpart maintenance, Laboratory network training etc. which would help Bhutan program to have skilled human resources.
- Bhutan NTC program should start thinking and find the scope to conduct “TB Prevalence survey” to learn about the exact scenario of TB situation along with number of missing case in the country
- Awareness campaign should be straighten in the country
- To overcome the skilled human resource deficiencies, STAC recommend prioritizing this issue and initiating in country program specific training program.
- Both the TB and HIV/AIDS program mentioned about difficulties in referral system through the porous border with India. STAC recommended addressing this in the upcoming parliamentarians meeting to be organized by STAC.
- Procurement of ATT and ART are done in national level. Recommended to have a System in place to ensure “Regional Drug purchase and distribution” from the regional head office. STAC can act as a regional hub for this procurement issue. Decided to address this issue in upcoming parliamentarians meeting and governing board meeting.
- The success, challenges and best practices of NTP and NASP should be shared with other member states. Recommended to share the best practices by regular monitoring visits and by participation of STAC in the joint monitoring mission of NTP as a technical part.

On the same day, STAC team along with Mr. Ugyen Dendup Sr. Program Officer, National TB Control Program (NTP), Bhutan visited the Royal Centre for Disease Control (RCDC) where the National TB Reference Laboratory is situated. Mr. Karchung Tshering, Sr. Laboratory officer, RCDC and Mr. Ugen Dorji, Sr. Laboratory technician briefed about the infrastructure and workplan of the laboratory. The STAC team visited the existing facilities and activities of the lab. Mr. Karchung Tshering mentioned the challenges as lack of funding and equipment’s and lack of skilled human resource.

Director STAC shared the progress to establish the Regional reference laboratory in Nepal.

Director STAC recommended the laboratory focal person to respond in the laboratory program and actively participate to have skilled staff.

After that, the team visited “Jigme Dorji Wangchuck National Referral hospital. Thimphu”. There the existing micro laboratory is doing the Gene Xpert testing along with LPA and culture sensitivity. The STAC team meet the laboratory in charge who mentioned lack of knowledge and skill as the main challenge to run the gene Xpert machine. Fortunately this appraisal visit is followed by a Regional training for gene Xpert machine operation and maintenance, offered by STAC in collaboration with Bhutan NTP program.

Recommendation by STAC:

- Regular training and monitoring by NTP program should be offered to enhance the skill of the HWs at all level
- NTP should avail the opportunity to engage the political leaders more and more as the newly formed government is highly committed to meet the global as well as national target to end TB by 2025.

Research

10. Occupational risk (Prevalence and risk factors) of Latent Tuberculosis Infection among Health Care Workers- Nepal.

The research was conducted by National TB Control Centre, Government of Nepal.

11. Trend (frequency and distribution patterns) of opportunistic infections associated with HIV/AIDS- A multi-centric study- Afghanistan, Bhutan and Nepal

The research is complete in Afghanistan and Bhutan. The research in Nepal could not be conducted due to unavoidable reason. The Technical reports are awaited.

12. HIV Prevalence Study in Key Population in Afghanistan

The research is conducting in Afghanistan and works are in progress.

13. Assessment of compliance of shorter Regimen of MDR-TB Treatment in Bhutan

The research is conducting in Bhutan and works are in progress.

14. Participation and presentation of scientific papers in International Conferences by STAC

- i. The Director, STAC participated in the 10th IAS conference on HIV Science on 21st - 24th July 2019 in Centro Citibanamex, Mexico.
- iii. The Director, STAC participated in the 50th Union World Conference on Lung Health, Hyderabad, India (29 October-02 November, 2019).

15. Participation in the Review of activities NTPs and NACPs/Communicable diseases in the SAARC Member States by STAC

- i. On the request of National TB Control Programme, Government of Nepal, the in-depth TB Control was conducted in 08 Districts of Province -2, from 16-19 March, 2019.

Summary

Worldwide Tuberculosis (TB) remains one of the major public health problems as well as in Nepal. It is ranked as the sixth leading cause of death in the country. During 2017, nearly half of all TB cases were reported from Central Region. TB annual report by NTP, stated that Terai belt had more than half of TB cases (57%) in 2017. Moreover case notification rate (CNR) is gradually decreasing in that Province (In 2013- 139/100000 population and 2017-109/100000 population). Therefore it was assumed that the TB program of the province two might have some gaps. Thus to find out the program gap and situation of TB in Terai region, a review of the TB surveillance system was done and recommendations were made to overcome those. After obtaining prior approval from the concerned authority, several stakeholders (e.g., district health officer; laboratory technicians; DOTS receiving patients; district hospital doctors; health care providers etc.) were interviewed using a semi-structured questionnaire. Observational portion included laboratory infrastructure, infection control measures, store, waste management system and use of advocacy and awareness increasing materials. There was no organogram and severe scarcity of expert and trained human resources to run the program smoothly. Furthermore, the existing staff were not getting their regular salaries which demotivated them to work with integrity. The infection control and waste disposal system were not following any guideline which poses a great threat to spread the TB infection in the community. Anti Tuberculous Treatment (ATT) drugs were available in the private drug stores; local pharmacists were treating patients with any respiratory symptoms with ATT with different regime. Thus the private sector data was rather missing/unreliable. Poor/no monitoring supervision and less awareness program regarding TB also major concern to have more TB cases in the province. Therefore, regularization of the remuneration of the existing staff, along with strengthening of human resources; strengthening of infection control and waste disposal measures by strictly following the national guideline, regular monitoring and supervision with a

yearly plan, and local drug policy to inhibit selling of ATT drugs in private sectors were recommended.

Introduction and background

Nepal has made impressive progress in health outcomes relative to its income level. Life expectancy has been steadily increasing and Nepal's progress in reducing maternal and child deaths has been lauded internationally. There are notable achievements in reducing prevalence of HIV and TB and Nepal is on track to be malaria-free by 2025. Aggregate improvement in health outcomes; however, mask the large urban-rural, gender, poverty, ethnicity and caste inequities. Following decades of political uncertainty, the country is going through a political transition from a unitary state to a federalized structure with new roles and responsibilities for local, provincial and federal governments. Nepal's newly endorsed Constitution enshrines the right to healthy living and access to health services as a fundamental human right. It guarantees every citizen with the right to free basic health services from the State, emergency health services, and equal access to health services. This implies a significant restructuring of the state and provides an enviable opportunity to re-organize the health systems around the principles of universal health coverage.

The review of a national tuberculosis (TB) programme is an important exercise to evaluate the implementation and impact of TB prevention, care and control. It should be jointly undertaken by the government together with the relevant national and international partners (e.g., STAC) that are involved in TB efforts. A TB programme review assesses the performance of the strategy implemented to fight TB and identifies the strengths and weaknesses of interventions that have been put in place. An appropriate review must, then, describe specific recommendations on the strategic orientations that need to be adopted and developed to overcome the gaps identified in the way that TB prevention, care and control are being implemented. These recommendations provide the foundation for improving the strategy adopted to control TB and for revising or developing a national/provincial strategic plan. Moreover, the review of a TB programme provides an important opportunity to advocate for TB prevention, care and control among policy makers, to strengthen the engagement of national/provincial health authorities and key stakeholders, and to enhance the mobilization of resources from both domestic and international sources.

In addition, following benefits are reported in successful review of TB Control Programme

- Improve the effectiveness of the national/provincial TB programme and share with the other province the positive experiences of the review.
- Strengthen national/local political commitments to TB-control efforts
- Strengthen the engagement of key stakeholders
- Improve and strengthen strategic planning for TB control, and mobilize resources

The review should assess the appropriateness of the strategies and interventions being used and also consider the prevailing epidemiological situation and the context in which the

programme operates. The findings of a review should result in recommendations for actions that should be undertaken by a national TB programme to remedy any deficiencies and/or enhance any strategies that seem to be working well.

Tuberculosis (TB) remains one of the major public health problems in Nepal. In 2016/17, total of 31764 cases of TB were notified and registered at NTP. Among these registered TB cases the proportion of incident TB cases (New and Relapse) was 97.5 % (30957). About 71 % of all TB cases were pulmonary cases, out of which 77% were bacteriologically confirmed. Among those bacteriologically confirmed 30% (5220) were confirmed using Xpert MTB/RIF testing. Terai belt reported more than half of TB cases (57%), hilly region 40% and mountain region 3%. Most cases were reported in the middle age group with the highest of 47 % in 15 to 44 year of age. The childhood TB is around 5.6%, and males were nearly 1.8 times more than female with reported TB case. Among total TB cases notified, 23% of it was contributed by private sector and 21% by community referral. Case notification rate (CNR) of all forms of TB is 111/100,000 whereas CNR for incident TB cases (new and relapse) is 108/100000 population. The annual trend of success rates at National level for incident TB cases (New and Relapse) is constantly maintained at minimum 90%. TB-HIV co-infection rate in Nepal is 1.1% (HIV among TB) and 8.5% (TB among HIV) based on the sentinel survey, 2013. The prevalence of HIV among TB was 1.3% among all tested for HIV of which 93% of TB HIV Co-infected patients were enrolled for ART treatment. Nationwide, the proportion of new cases with multidrug-resistant TB (MDR-TB) was 2.2% among new cases and 15.4% among retreatment cases based on DRS survey carried out in 2011/12. The routine surveillance showed much higher proportion of drug resistant pattern among second line drugs used for the treatment of MDR patients in Nepal. The resistance to fluoroquinolones (FQ), SLI and both FQ and SLI were 39.3%, 3% and 4% respectively, altogether there was 46.3% resistant to SLD among MDR patients. In other words, among all initially diagnosed as RR-MTB/MDR TB 42.3% of MDR patients may require Pre-XDR treatment similarly 4% may require XDR treatment.

In 2016/17, total of 343 MDR TB and 19 XDR TB were enrolled for treatment. TSR of MDR patients was 70%, however the TSR of XDR is low at 35%. TB services were provided through 4,321 treatment centers however 80% of them had enrolled TB cases in treatment, centers, and there were 604 Microscopic centers, 27 Gene-xpert centers and 2 culture DST centers that were providing TB diagnostic services in the country during the year 2016/17. DRTB services were provided through 18 treatment centers and 81 Treatment Sub-centers. Though country adopted ambulatory DRTB treatment , facility based services were also provided through 2 referral centers located in Nepalgunj and Kalitmati, Kahthmandu needing inpatient services, likewise 6 hostels and 1 DR home provided food, shelter and treatment for those patients not having access to the treatment centers nearby their locality. Culture and DST facilities for DRTB cases were provided from NTC and GENETUP reference laboratories at the central level, 3 regional level culture and DST centers were also established in eastern, western and mid-western part of the country.

Rationale to choose province number two and Objective

Tarai belt is one of the densely populated area of Nepal with higher CNR (57% in 2017) of TB. Moreover according to the Nepal Tuberculosis Centre report, 2017, Case Notification Rate is gradually decreasing in the Province (In 2013- 139/100000 population and 2017-109/100000 population). Keeping the SDG goal to eliminate TB by 2030 in Nepal, a review of the TB surveillance system was targeted to find out the gap and situation of TB in Tarai region and to make recommendation to overcome those.

Methods

With a semi-structured questionnaire, a qualitative study was done by interviewing several stakeholders e.g., district health officer, laboratory technicians, some DOTS receiving patients, district hospital doctors and health care providers.

Prior to that, necessary permission and approval was be taken from relevant health authorities especially NTC Director. Technical teams were mobilized from STAC. Data were collected and de-briefing session was done with the relevant officials by Director STAC in Janakpur.

Following sectors were reviewed

1. Human resources, financial situation in light of the programme's performance and demands
2. DOTS center, structure, organization and management frameworks
3. DR Hostel (Dhanusha) structure, organization and management frameworks
4. Monitoring and supervision plan and how well services are delivered, and assess any inequities in access to and quality of care/
5. Public private mix
6. Advocacy, social mobilization and communication, how well that works

Administrative structure of Province 2

As per Central Bureau of Statistics, the province covers about 9,661 km² (3,730 sq mi) of Nepal's total area of 147,181 km² (56,827 sq mi) with total number of 5,404,145 inhabitants, it is the second most populous province in Nepal. The province is located on flat plains of Terai, and Chure (Churiya) or the Shiwalik Hills are the natural border of the province which falls in northern side. The southern side has an international border with the India. Koshi River on its eastern side acting as a natural border with Province No. 1.

Province No. 2 is divided into eight districts, which are listed below. A district is administrated by the head of the District Coordination Committee and the District Administration Officer. The districts are further dived to municipalities or rural municipalities. The municipalities include

one metropolitan city, three sub-metropolitan cities and 73 municipalities. There are 59 rural municipalities in the province.

#	NAME	HEADQUARTERS	POPULATION (2011)	AREA
1	Saptari District	Rajbiraj	639,284	1,363 km ²
2	Parsa District	Birgunj	601,017	1,353 km ²
3	Sarlahi District	Malangwa	769,729	1,259 km ²
4	Bara District	Kalैया	687,708	1,190 km ²
5	Siraha District	Siraha	637,328	1,188 km ²
6	Dhanusha District	Janakpur	754,777	1,180 km ²
7	Rautahat District	Gaur	686,722	1,126 km ²
8	Mahottari District	Jaleshwar	627,580	1,002 km ²

To evaluate the Tuberculosis surveillance system at Dhanusa, a team visited the district and meet following people

Visited sites and people meet:

- DHO office,
- District Laboratory
- DOTS centre
- DR hostel at Dhanusha

Results

Human resources

The DHO in charge and DHO (of all districts) informed the review team that there is no clear organogram present in the whole district and thus the clear picture of the human resources is not known. But there is scarcity of human resources in the field level as well as in the hospital, laboratory and DOT center. Moreover due to administrative and local government transition period, the health care workers job endorsement is not well demarcated thus they are not getting their salaries from last six months. This make them highly demotivated to work in the field level. They feared that, as TB case notification and treatment outcome hugely depends on the health care workers dedicated work, this demotivation could affect this year TB report a lot.

District Laboratory

While visiting the laboratory, the lab technicians showed the same grievance about the salary. They also notified about the lack of manpower with huge workload and scanty facility. The review team found, two rooms were utilized for laboratory work in Dhanusa district. One for Gene Xpart machine, fridge, keeping the reagent and other for slide preparation, staining and microscopy. The laboratory attendant as well as the lab technician said, they don't have much

idea about the infection control. In every laboratory, they wear the surgical mask and sometimes the gloves upon availability. No N-95 mask was supplied in last 1 year. No apron were used during the work. In Mahottari district, only one room is used as a laboratory and a small room is used for smear preparation and staining. There was no room for sputum collection in both districts. Patients bring their sputum from home and keep those in an open selected place. In all districts, waste management system was also very poor. A place is marked to dispose/dump the waste products and weekly they burn without autoclaving the sputum pots. The power supply of the laboratories was satisfactory with backup system in place. The fridge were running and was clean. Most of the district lab technicians mentioned that, they have not received any training for the gene-xpert but got training for microscopy one and a half years back. There were some reagent deficient in last 2/3 months but that is resolved now. In the laboratory, there was provision of cross ventilation but the work bench was dirty with stains and open cough pots. The attendant who were preparing the slides were not wearing any PPE even no surgical mask. While we asked the attendant of Dhanusha about the infection control, he mentioned "I am working here since 20 years, yet didn't get the infection. So there is not much need of these PPE". There was no provision of HIV testing in the TB positive patients. No culture/DST facility is there. The smear positivity rate is 10-11% and 9.5% respective in Dhanusha and Mahottari district, this gives us the clue of increase TB susceptible cases by the field level. From the lab technicians we learned that NTC Nepal does not have any infection control guideline for TB. The EQA system is running well as per the guideline of the NTP. The records are keeping well and there was no missing data in the record book.

DOTS center

In the DOT center, the team met the staff nurse who were working there for last two months-2 years in all eight districts. They mentioned the drug supply was ok and to their knowledge there were no shortage of drug in last six months. The center is open from 10 am to 5 pm. They provide the advance drug for any upcoming holiday. They insist the patient to take the drug their and seldom have to give advance drug to the patients if they can provide any. There was no expired drug present in the drug store. The stock record is updated and the patient profile of taking drugs were well maintained. The records were kept manually.

DR Hostel (Dhanusha)

In the DR hostel, currently six patients were under treatment and one of them was XDR TB patient. They were diagnosed at the district hospital and are taking treatment here. One chest physician from the district hospital comes twice a week to follow up them. Nutritional food with four time meal along with free treatment provided by the program but no social support or monitorial support is given to the patient family. Beds were sufficient maintaining proper space. Inside the hostel, infection control is poorly maintained with open dustbin to dispose the patient personal waste products like tissue paper, papers etc. Patients were not wearing any mask to control their infection spread. They were not taught about the cough etiquette and importance of infection control.

Monitoring and supervision

There is no supervision plan and the both district hospital, dot clinic or the DR-hostel was not monitored in last six months. They never get any follow up in the field level also. No feedback from the central level or even provincial level is there. There is provision of district quarterly meeting, but the field health care workers never get any feedback from them. If they face any difficulty regarding drug or any other issue, they notify the DTLO and the DTLO is in charge of solving those.

Public private mix

According to the health care workers working in DHO office, laboratory and DOT center of all districts, they mention the same that in private sector, a lot of patients are taking the treatment. Sometimes they are over diagnosed and sometimes mis-diagnosed as TB patient. Because of the availability of TB drugs in the pharmacy, this might happen. Because of the open border with India, Indian drugs are available in the market. And patient with any respiratory symptoms without having any laboratory diagnosis takes TB drugs from the drug store. This might be one of the reasons to have increase number of MDR TB patients, according to the laboratory in charge of Dhanusha district.

Advocacy, social mobilization and communication

In any of the districts, we could not find any ACSM material for awareness. Even in the hospital, two very old poster was hanging in the back side of Dhanusha district hospital. While we were talking to the health care workers, they mentioned there were no awareness campaign or advocacy program in last 1 year. No ACSM plan is there. Because of the social stigma of having TB, people usually go to the local drug store as they don't want to be registered in the government TB registry even though that costs them some monitorial loss.

Success and challenges of the districts

Despite having problems there are some remarkable success in the TB program of both the districts

1. The health care workers are dedicated and still working with the satisfaction of a good national result
2. All the districts are maintaining more than 85% of treatment success rate
3. Less positivity rate in the laboratory shows increase amount of TB suspect cases in the community. That is a challenge to move for more sensitive laboratory diagnostic test like culture and DST
4. According to the DHOs, CNR of all forms is decreased compared to previous years (no exact data were mentioned), however Incidence rate didn't change much (?). This gives us the picture that we are missing TB cases in the community.

Recommendations

1. There should a clear human resource policy which can help to sustain and to run the program properly

2. The human resources should be increases with clear TOR and standard and regular remuneration should be ensured
3. Infection control should be strengthen by preparing a national TB infection control guideline and regular refresher training as well as maintain a clear supply of infection control material to the district level as well as below that level.
4. Waste disposal system should be regulated according to the National Infection Control guideline
5. Regular monitoring and supervision plan should be there along with feedback system will improve the motivation and data management system with increasing integrity and data quality
6. Contact tracing at the field level and train the field level health workers with updated NTP guideline would improve the data quality and increase the positive predictive value of the laboratory
7. Regular uninterrupted drug and reagent supply along with maintenance of the microscope and gene xpert machine should be maintained for stability of the program
8. Strengthening the PPM and regular advocacy meeting with the field level health care providers will improve the data quality and to catch up any missing cases
9. There should a drug policy at the national level for selling and using of ATT drugs from the private sector and that should be implemented by regular monitoring along with law in foresement department. Making legislation for selling ATT drugs in private stores.

Dhanusha District

1. Supply Chain
No supply chain issustained till the date and DHO received commodities from Center and DTLO prepare the palika-wise distribution list of medicine after review meeting and they prepare necessary document and called palika to collect medicine and palika is responsible to supply medicines to the health Center.
2. Inventory Management – Inventory management is very poor in District. During our visit we found some issue regarding inventory management.
 - a. There is no internet connection by 20 days in Store because of lack of budget. They used to keep their data in Inventory management system but now there is no any inventory record found during our visit.
 - b. There is sufficient stock of medicines for district.
3. Storage - No properly storage of medicines, not followed FEFO and they keep one product in different location. Medicines are covered by Dust.

Mahottari District

1. Supply Chain – No supply chain issustained till the date and DHO received commodities from Center and DTLO prepare the palikawise distribution list of medicine after review meeting and they prepare necessary document and called palika to collect medicine and palika is responsible to supply medicines to the health Center. DHO have not budget to supply commodities.

2. Inventory Management – Inventory management is very poor in District. During our visit we found some issue regarding inventory management.
 - a. Inventory management system is there but they used hardcopy of MALEPA form to issued commodities and they have not any record of inventory data before 2 month.
 - b. They had received medicines in 2075-10-22 from NTC but they did not record in software or in any gencykhata yet.
 - c. As per DHO, There is no chemical supply in District after Asar but there is a chemical in district laboratory and after inquiry to the NTC they supplied Chemical just before 2 month but there is not found any record of received.
3. Storage -No properly storage of medicines, not followed FEFO and they keep one product in different location. Medicines are covered by Dust.

Siraha District

1. Supply Chain – No supply chain is sustained till the date and DHO received commodities from RMS Biratnagar and also from Center. Some of Palika and Health Center used to go to DPHO to collect medicines. DPHO have not budget to supply commodities .They have confusion in channel of order because they used to order medicines to RMS Biratnagar but now they are in province 2 so there is problem.
2. Inventory Management – Inventory management is very poor in District. During our visit we found some issue regarding inventory management.
 - a. Inventory management system is there but they used hardcopy of MALEPA form to issued commodities and they have inventory data but not match with Physical balance.
 - b. They had received medicines from NTC but they did not record in software or in any gencykhata even they already issued those medicines from DPHO.
 - c. There is 0 stock of HRE and very low stock of medicines and they did not start any process to order medicines yet.
 - d. There is no chemical supply in District after Asar but there is a chemical in district laboratory and after inquiry to the NTC they supplied Chemical just before 2 month but there is not found any record of received.
 - e. IEC materials are stored in next to the door of entry but nobody knows where IEC material of TB is. Nobody checked that what is inside the shack.
 - f. There is 4 carton of HR adult and 50 cartridges are expired in Jan 2019 and April 2018 respectively but still lying in Store
3. Storage - No properly storage of medicines, not followed FEFO. Medicines are covered by Dust.
4. It is observed that TB medicines are easily available in medical. AKT3 and AKT 4 are available in medical which is located in front of DPHO office.

Saptari District

1. Supply Chain – No supply chain is sustained till the date and DHO received commodities from RMS Biratnagar and from Center and. DHO have not budget to supply commodities.
2. Inventory Management – Inventory management is very poor in District. During our visit we found some issue regarding inventory management.
 - a. Inventory management system is there but they used hardcopy of MALEPA form to issued commodities and they have not any record of inventory data before 2 month.
 - b. They had received medicines in 2075-10-22 from NTC but they did not record in software or in any gencykhata yet.
 - c. As per DHO, There is no chemical supply in District after Asar but there is a chemical in district laboratory and after inquiry to the NTC they supplied Chemical just before 2 month but there is not found any record of received.
3. Storage -No properly storage of medicines, not followed FEFO and they keep one product in different location. Medicines are covered by Dust.

Recommendations for logistic management

1. Supply channel should be established as soon as possible.
2. Inventory Management system should be used and keep data up to date.
3. Storage area should be clean and properly store of medicines.
4. Expired commodities should be separated from store area
5. Pharmacist or Pharmacy assistant position should be there for handling the medicines store.

District report of Bara and Parsa

Observations in Parsa

Logistic: The chain of drug supply system is still not established as per the provincial mechanism and some places there is lack of drugs and a NGO (Bagmati Welfare Society) is supporting for Forms/Formats, drugs and chemicals. In some treatment Centres there are lack of chemicals, and they are borrowing shortage items. Many places, there are lack of space for storage of drugs, chemical and glassware. The expiry dates of some available drugs/chemicals are found very near.

MDR Treatment: It was found that MDR TB Patients have been transferring to National Medical College due to lack of non-established DR Centre and Hostel. DR Patients are not getting the incentives as per established system/provision of National policy.

Human Resource Development: It was observed that there is need of different level modular and refresher trainings.

Gen-Xpert Machine facility: The Gen-Xpert Machine is not in working condition since last 7 month and used to send for testing Kohalpur. Maintenance and operation of machine is found pending

Recording and Reporting system: There is lack of timely reporting and recording of data and information as Quarterly Workshop is pending. The desired data and information are not updated due to non holding of quarterly workshop.

Meetings and discussion with officials in Bara District

The team visited the DHO, Bara district on 18 March, 2019 and held meeting and discussion with Chief of District and his team. Mr. Binaya Ram Yadav, DTLO explained the situation of TB and its management and problems in the District.

The team also visited the DOTS Clinic, Ganjbhawanipur PHC and Bariyapur Health Post to review the management of TB related activities and services. Some indicators/facts & figures of Bara District are as under;

Indicator/Fact and Figure (Bara)

1. Population: 774281
2. Sub metropolitan – 2
3. Municipality – 5
4. Government Hospital -1
5. Primary Health Care-5
6. Health Post-93
7. Treatment Centre – 99

Indicators	rd 2074/75 (as of 3 Q)	
	Case Notification Rate	52.82%
Sputum Conversion Rate	92%	
Treatment Success Rate	85%	
Failure Rate	1%	
Death Rate	6%	
HIV tested among new cases	50.70%	

TB Case Finding

Type	New		Relapse		Treatment After Failure		Treatment After Lost Follow-up		Other Previously Treated		Other Treatment History Unknown		Transfer In		Total (excluding in)	
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M
Pulmonary (BC)	101	156	5	18	1	1	0	1	0	0	0	0	0	0	107	176
Pulmonary (CD)	23	54	0	0	0	0	0	0	0	0	0	0	0	0	23	54
Extra Pulmonary (BC or CD)	47	43	0	0	0	0	0	0	1	0	0	0	1	1	49	44
Total	171	253	5	18	1	1	0	1	1	0	0	0	1	1	179	274

COVERAGE OF SERVICE

DOTS and MC Expansion		GoN	NGO	Private	Other	Total
1	Number of DOTS centers in the district at the beginning of trimester	99	0	0	0	99
2	Number of microscopy centers in the district at the beginning of trimester	6	0	0	0	6
3	Total number of microscopy centers at the end of trimester (H+I)	6	0	0	0	6
Total: 111						

Age Group Distribution (All New & Relapse- PBC, PCD and EP)

Age Group	All New Cases		All Relapse		Total		Total
	Female	Male	Female	Male	Female	Male	
0-4	0	5	0	0	0	5	5
5-14	2	5	0	0	2	5	7
15-24	32	31	1	1	33	32	65
25-34	35	22	0	0	35	22	57
35-44	29	26	1	2	30	28	58
45-54	21	44	2	3	23	47	70
55-64	28	50	1	7	29	57	86
65>	24	61	0	5	24	66	90
Total	171	244	5	18	176	262	438

LOGISTICS AND SUPPLY MANAGEMENT

Medicine/ Accessories	Stock of Last Qtr	Received This Qtr	in Supply	Stock Balance	Exp Date
HRZE	196768	0	136288	60480	sep-19
HR	182112	113808	199152	96768	sep-19
HRE	20440	2960	11304	12096	oct-19
HRZ (Child)	2520	45864	45864	2520	June-19
HR (Child)	5040	3600	5028	3612	June-18
Streptomycin	3000	120			Feb-21
Sputum Container	3000	0	3000	0	
Glass Slide	3000	0	2800	200	

OBSERVATIONS IN BARA

Logistic: The chain of drug supply system is still not established as per the provincial mechanism and some places there is lack of drugs and a NGO (Bagmati Welfare Society) is supporting for Forms/Formats, drugs and chemicals . In some treatment Centres there are lack of chemicals, and they are borrowing shortage items. Many places, there are lack of space for storage of drugs, chemical and glassware. The expiry dates of some available drugs/chemicals are found very near.

MDR Treatment: It was found that MDR TB Patients have been transferring to National Medical College due to lack of non-established DR Centre and Hostel. DR Patients are not getting the incentives as per established system/provision of National policy.

Human Resource Development: It was observed that there is need of different level modular and refresher trainings.

Gene-Xpert Machine facility: The 4 modular Gen-Xpert Machine is available in the District however it is not functioning due to not supply of cartridge as per established policy. Gene-Xpert Incentives is not provided by NTC since 8 months. Fungus slides is stored in District Lab. Due to this positivity rate is low in Bara District.

The proper supply of HRE Childhood TB Medicine is not supplied in the district so the childhood TB is missing in the District.The systematic function of DOTS is not in proper way.There is lack of Chemical in 7 Microscopic Centre in Bara District.Still the first quarter TB meeting was not held in Bara District.The laboratory facility portion is not examining the sputum so that positivity rate is low because of Health Hazard.Lack of supervision by NTC.No quality assurance of laboratory due to misguidance/irresponsible by the higher authority.Not matching Health Post TB Register with Quarterly Report.DOTS Centre is not functioning according to the protocol (timing).

Recording and Reporting system: There is lack of timely reporting and recording of data and information as Quarterly Workshop is pending. The desired data and information are not updated due to non-holding the quarterly workshop.

After visiting Parsa and Bara, team found following findings;

Common finding/Observations in Parsa and Bara

1. Daily DOTS Centre is not functioning/implementing properly according to the protocol (timing)
2. Infection Control is poor, needs to be strengthened
3. During last year no supervision taken
4. Availability of short expiry of Drugs.
5. Lacking of Quality Assurance
6. TB-HIV confection activities doing well
7. PPM activities is good
8. Lack of coordination among Government and municipality

9. ACSM activities are poor.
10. Under utilization of Refrigerator
11. Lack of Manpower
12. Gene X-pert machine/s not available in Parsa and not condition in Bara
13. Sputum collection is very poor.
14. Incentives to MDR TB patients is lacking.
15. Lacking of Modules/refresher training for different levels
16. Highly committed staff as pay is being pending long time
17. Less priority for Research in the districts
18. Stock out of Drugs and Laboratory Re-agents
19. Quarterly workshop is not done
20. Lack of Budget in the district
21. Lack of timely Recording and Reporting
22. Some places there is lack of space for laboratory as well as sample collection.
23. Need of safety mask to Staff as they are using general mask for working in infectious zone.
24. Sanitation and management of health hazard waste are found in less priority in the districts.

District report of Dhanusha and Mahottari

District name: Dhanusha and Mahottari, Province 2, Janakpur, Nepal

Terai region has eight districts. Dhanusha District, a part of Province No. 2, is one of the seventy-seven districts of Nepal. The district, with Janakpur as its district headquarter, covers an area of 1,180 km² and has a population of 754,777 as per 2011 census. Mahottari District, with Jaleswor as its district headquarters, covers an area of 1,002 km² and had a population of 627,580 in 2011.



Figure: Reviewed districts Dhanusha (in green) and Mahottari (in orange), situated in province number 2 of Nepal.

To evaluate the Tuberculosis surveillance system at Dhanusha, a team visited the district and meet following people

Visited sites and people meet:

- DHO office,
DHO (incharge) Mr. Dipendra Ray in Dhanusa
Dr. Rajibjha in Mahottari, DTLO Binod Jha
- District Laboratory
Mr. Sanjay, Mr. Sunit and Mr. Sambhu, laboratory technician in Dhanusha
Mr. Kanayasha in Mahottari
- DOTS centre
Staff nurse Nutan Chaudhury in Dhanusha
Mr. Umesh Yadav in Mahattori
- DR hostel at Dhanusha Dr. Kuldeep Pandeet, chest physician and HOD, medicine district hospital.

Results:

Human resources

The DHO in charge and DHO (Mahattori district) informed the review team that there is no clear organogram present in the whole district and thus the clear picture of the human resources is not known. But there is scarcity of human resources in the field level as well as in the hospital, laboratory and DOT center. Moreover due to administrative and local government transition period, the health care workers job endorsement is not well demarcated thus they are not getting their salaries from last six months. This make them highly demotivated to work in the field level. They feared that, as TB case notification and treatment outcome hugely depends on the health care workers dedicated work, this demotivation could affect this year TB report a lot.

District Laboratory

While visiting the laboratory, the lab technicians showed the same grievance about the salary. They also notified about the lack of manpower with huge workload and scanty facility. The review team found, two rooms were utilized for laboratory work in Dhanusha district. One for Gene Xpert machine, fridge, keeping the reagent and other for slide preparation, staining and microscopy. The laboratory attendant as well as the lab technician said, they don't have much idea about the infection control. They wear the surgical mask and sometimes the gloves upon availability. No N-95 mask was supplied in last 1 year. No apron were used during the work. In Mahattori district, only one room is used as a laboratory and a small room is used for smear preparation and staining. There was no room for sputum collection in both districts. Patients bring their sputum from home and keep those in a open selected place. In both districts, waste management system was also very poor. A place is marked to dispose/dump the waste products and weekly they burn without autoclaving the sputum pots. The power supply of the laboratories were satisfactory with backup system in place. The fridge were running and was clean. Both of the district lab technicians mentioned that, they have not received any training

for the gene-xpart but got training for microscopy one and a half years back. There were some reagent deficient in last 2/3 months but that is resolved now. In the laboratory, there was provision of cross ventilation but the work bench was dirty with stains and open cough pots. The attendant who were preparing the slides were not wearing any PPE even no surgical mask. While we asked the attendant of Dhanusha about the infection control, he mentioned “I am working here since 20 years, yet didn’t get the infection. So there is not much need of these PPE”. There was no provision of HIV testing in the TB positive patients. No culture/DST facility is there. The smear positivity rate is 10-11% and 9.5% respective in Dhanusha and Mahattori district, this gives us the clue of increase TB susceptible cases by the field level. From the lab technicians we learned that NTP Nepal does not have any infection control guideline for TB. The EQA system is running well as per the guideline of the NTP. The records are keeping well and there was no missing data in the record book.

DOTS center

In the DOT center, we meet the staff nurse who were working there for last two months in Dhanusha and 2 years in Mahattori. They mentioned the drug supply was ok and to her knowledge there were no shortage of drug in last six months. The center is open from 10 am to 5 pm. They provide the advance drug for any upcoming holiday. They insist the patient to take the drug their and seldom have to give advance drug to the patients if they can provide any. There was no expired drug present in the drug store. The stock record is updated and the patient profile of taking drugs were well maintained. The record were keeping manually.

DR Hostel (Dhanusha)

In the DR hostel, currently six patients were under treatment and one of them are XDR TB patient. They were diagnosed at the district hospital and are taking treatment here. One chest physician from the district hospital comes twice a week to follow up them. Nutritional food with four time meal along with free treatment provided by the program but no social support or monitorial support is given to the patient family. Beds were sufficient maintaining proper space. Inside the hostel, infection control is poorly maintained with open dustbin to dispose the patient personal waste products like tissue paper, papers etc. Patients were not wearing any mask to control their infection spread. They were not taught about the cough atticate and importance of infection control.

Monitoring and supervision

There is no supervision plan and the both district hospital, dot clinic or the DR-hostel was not monitored in last six months. They never get any follow up in the field level also. No feedback from the central level or even provincial level is there. There is provision of district quarterly meeting, but the field health care workers never get any feedback from them. If they face any difficulty regarding drug or any other issue, they notify the DTLO and the DTLO is in charge of solving those.

Public private mix

According to the health care workers working in DHO office, laboratory and DOT center of both districts, they mention the same that in private sector, a lot of patients are taking the

treatment. Sometimes they are over diagnosed and sometimes mis diagnosed as TB patient. Because of the availability of TB drugs in the pharmacy, this might happen. Because of the open border with India, Indian drugs are available in the market. And patient with any respiratory symptoms without having any laboratory diagnosis, takes TB drugs from the drug store. This might be one of the reason to have increase number of MDR TB patients, according to the laboratory in-charge of Dhanusha district.

Advocacy, social mobilization and communication

In both districts, we could not find any ACSM material for awareness. Even in the hospital, two very old poster was hanging in the back side of Dhanusa district hospital. While we were talking to the health care workers, they mentioned there were no awareness campaign or advocacy program in last 1 year. No ACSM plan is there. Because of the social stigma of having TB, people usually go to the local drug store as they don't want to be registered in the government TB registry even though that costs them some monitorial loss.

Recommendations:

1. Human resource policy and organogram
2. Infection control policy, guideline and practice
3. Training for human resource development
4. Regular monitoring with feedback system in place
5. Local data analysis for taking action
6. Drug policy to prevent ATT drug in private sector
7. ACSM campaign

District report of Siraha and Saptari

Siraha District, a part of Province No. 2, the district, with as its district headquarters, covers an area of 1,188 km². It has population of 637,328 in 2011.

To evaluate the Tuberculosis surveillance system at Siraha and Saptari a team visited the district and meet following people

Visited sites and people meet:

Siraha

- DHO office, DHO, Dr. Nagendra Pd. Yadav
- Mr. Ram Nandan Das, AHW, DOTS Centre In-charge since three years
- Mr. Satya Narayan Pandit, Lab In-charge, DOTS Centre
- Mr. UmeshYadav, DTLO

Saptari

Saptari a part of Province No. 2, of Nepal. Its district headquarter is Rajbiraj. This district covers an area of 1,363 km² and has a population (2011) of 639,284 which makes it the 10th most populated district of Nepal.

DHO- Niranjana Pd. Yadav

DTLO- Gunjeshwor Pd Yadav

District DOTS Centre
District Lab

Results:

Human resources

We found that there is no clear organogram present in the whole district and thus the clear picture of the human resources is not known. But there is scarcity of human resources in the field level as well as in the hospital, laboratory and DOT center. Moreover due to administrative and local government transition period, the health care workers job endorsement is not well demarcated thus they are not getting their salaries from last six months. This make them highly de-motivated to work in the field level.

District Laboratory

While visiting the laboratory, the lab technicians showed the same grievance about the salary. They also notified about the lack of manpower with huge workload and scanty facility. The review team found, one room was utilized for laboratory work. However, one Gene xpert machine is available handed over by IOM. With work load of DR subcentre-3 facing challenges to cope the work load, the laboratory attendant as well as the lab technician said, they don't have much idea about the infection control. They wear the surgical mask and sometimes the gloves upon availability. No apron were used during the work. There was no room for sputum collection in both districts. Patients bring their sputum from home and keep those in an open selected place. In both district, waste management system was also very poor. A place is marked to dispose/dump the waste products and weekly they burn without autoclaving the sputum pots. The power supply of the laboratories were satisfactory with backup system in place. The fridge were running and was clean. Both of the district lab technicians mentioned that, they have not received any training for the gene-xpert but got training for microscopy. There were some reagent deficient in last 2/3 months but that is resolved now. In the laboratory, there was provision of cross ventilation but the work bench was nicely maintaining with stains and open cough pots. The attendant who were preparing the slides were not wearing any PPE even no surgical mask. No culture/DST facility is there. The smear conversion rate is 95.26 percent however case finding is only 36.6% in Saptari district.

From the lab technicians we learned that NTP Nepal does not have any infection control guideline for TB. The EQA system is running well as per the guideline of the NTP

The records are keeping well and there was no missing data in the record book.

DOTS center:

In the DOT center, we meet the staff Mr. Ram Nandan Das, AHW who was working there for last 3 yrs in Siraha. He mentioned the drug supply was fine. The center is open from 10 am to 5 pm. They provide the advance drug for any upcoming holiday.

DR Centre:

In Siraha there are Microscopic Centr-12, DOTS Centre 110 (two in private sectors) Gene Xpert available -1 and DR Sub-centre -3 informed. In Saptari District, Gene-xpert Machine is not working and no knowledge to repair. But they have informed to the NTC and IOM however not yet been repaired. There is at present TB diagnosis positivity rate is 9%. Total DOTS Centre is 117, and microscopic Centre is 13 and DR Sun Centre is located in Rajbiraj and Kanchanpur.

Monitoring and supervision:

There is no supervision plan and the both district hospital, dot clinic or the DR-hostel was not monitored in last six months. They never get any follow up in the field level also. No feedback from the central level or even provincial level is there. There is provision of district quarterly meeting, but the field health care workers never get any feedback from them. If they face any difficulty regarding drug or any other issue, they notify the DTLO and the DTLO is in charge of solving those.

Public private mix:

According to the health care workers working in DHO office, laboratory and DOT center of both districts, they mention the same that in private sector, patients are taking the treatment and anti-TB drugs were also freely selling at the drug store. Sometimes they are over diagnosed and sometimes under diagnosed as TB patient. Because of the availability of TB drugs in the pharmacy, this might happen. Because of the open border with India, Indian drugs are available in the market. And patient with any respiratory symptoms without having any laboratory diagnosis, takes TB drugs from the drug store.

Advocacy, social mobilization and communication:

In both districts, we could not find properly utilized the available ACSM material for awareness. Even in the district hospital, two very old posters were hanging on the wrong place. While we were talking to the health care workers, they mentioned there were no awareness campaign or advocacy program in last 1 year. No ACSM plan is there. Because of the social stigma of having TB, people usually go to the local drug store as they don't want to be registered in the government TB registry even though that costs them some monitorial loss.

Success and challenges of the districts:

Despite having problems there are some remarkable success in the TB program of both the districts

1. The health care workers are dedicated and still working with the satisfaction of a good national result
2. Both the districts are maintaining more than 85% of treatment success rate
3. Despite the sever challenges Siraha district sustaining the Case notification 125/100000 since long back. In addition treatment outcome is consistent 90% since 5/6 yrs.
4. Less positivity rate in the laboratory shows increase amount of TB suspect cases in the community. That is a challenge to move for more sensitive laboratory diagnostic test like culture and DST

5. According to the both DHOs, CNR of all forms is decreased compared to previous years (no exact data were mentioned), however Incidence rate didn't change much (?). This gives us the picture that we are missing TB cases in the community.

Recommendation:

1. There should a clear human resource policy which can help to sustain and to run the program properly
2. Infection control should be strengthen by preparing a national TB infection control guideline and regular refresher training as well as maintain a clear supply of infection control material to the district level as well as below that level.
3. Waste disposal system should be regulated according to the National Infection Control guideline
4. Regular monitoring and supervision plan should be there along with feedback system will improve the motivation and data management system with increasing integrity and data quality
5. Contact tracing at the field level and train the field level health workers with updated NTP guideline would improve the data quality and increase the positive predictive value of the laboratory
6. Regular uninterrupted drug and reagent supply along with maintenance of the microscope and gene Xpert machine should be maintained for stability of the program
7. Strengthening the PPM and regular advocacy meeting with the field level health care providers will improve the data quality and to catch up any missing cases
8. There should a drug policy at the national level for selling and using of ATT drugs from the private sector and that should be implemented by regular monitoring along with law endorsement department. Making legislation for selling ATT drugs in private stores.
9. Contact tracing activities are not cleared.
10. Few Child TB cases identified (potential under-diagnosis)
11. Mantoux not available in all places
12. Pediatric IPT not implemented

District report of Rautahat and Sarlahi

Team Composition

Dr. Ajith Weerakoon – Epidemiologists SAARC TB and HIV/AIDS Centre

Mr Rajesh Shah- Provincial Coordinator – Save the Children – Province No 2

On 17th March 2019 team consists of Dr. Ajith Weerakoon – Epidemiologists SAARC TB and HIV/AIDS Centre

Mr. Rajesh Shah- Provincial Coordinator – Save the Children – Province No 2

Visited to Rautahat District to review TB Control Programme in the district.

Team met DTLO Rautahat district Mr. Mahesh Shah.

Team inspected DOTS clinic and microscopic Centre in Gour Hospital. Team had an in-depth interview with DOTS Provider and Lab Technician and TB patient and relative of TB patient who visited to that centre for collect Anti TB drugs for his daughter in law. Following that team visited to Gaur Hospital. Inspection of hospital were carried out to see the infection control measures has been adopted in the hospital.

Findings

- DOTS is not implementing properly
- maintenance of reports and returns were good
- Infection control measures are very poor
- Lack of ACSM materials in the Hospital
- Quality Assurance of sputum microscopy was good
- NGO support for TB programme is good
- Supervision is poor

Then team visited to ART Centre which is located in the same premises and interviewed in - charge of the ART Centre.

Findings:

- TB/HIV Co –Infection activities were operating quite well

Following hospital visit team visited Basanpatti Health Post. Team interviewed the in charge of that health post and some staff nurses. Team noted that this post is providing DOTS for the TB patients and collect sputum from the patients and send to nearest microscopic Centre via courier services. For this purpose they obtain support from Local NGO called Bagmathi Sawa Samithi. Team interviewed Ms Ureshi Shah Project Coordinator of that NGO. She explained that apart from sputum transferring their helping to TB patients by Contact tracing, screening malnourished children for TB, tracing Drug resistant family members and providing INAH Prophylaxis etc.

Then team visited to Rajpur Primary Health Post. Team observed that tn this institute DOTS is providing 24x 7 service, Team also inspected the X ray facilities and laboratory and interview relevant officials in that institute.

Findings:

Infection control very poor

Maintenance of Cold Chain for EPI Vaccination was poor

After that team visited the Chandranighapur Hospital to observed MDR Centre and Gene X pert sites. Team interviewed the in-charge of Gene X-pert site and MDR TB Centre. Team observed that gene x pert machine is in working condition but there were nobackup systemin that premises.

Findings:

Expired 2nd line drugs in the center. But it was kept separately and informed to NTP in proper time. Inadequacy of human resources. Commitment of the staff. Gene X pert machine is

operating very well. Very good sputum transport mechanism available. Poor Infection control measures.

On 18th March 2019 Team visited Sarhali District. First team met DTLO Mr. Mickrani Shah. and interviewed him regarding TB control activities in the District. Then team visited Sasapur health post and inspected DOTS Centre and refrigerator that contain EPI Vaccines including BCG. Team also interviewed presumptive TB patients and also observed practices of infection control.

Findings

Poor Air Borne infection measures

Cold chain maintain of EPI vaccine is not up to standard

After that team visited Hariipur PHC. Team had meeting with hospital in charge and staff members. Team observed that this space of this hospital was inadequate and the OPD was overcrowding. Team inspected the refrigerator and observed that some food staff is inside the fridge which hampers the cold chain of the Vaccine. Team also inspected the DOTS Centre and Laboratory and interviewed lab technician.

Findings;

- DOTS is not implementing properly
- maintain ace of reports and returns were good
- Infection control measures are very poor
- Lack of ACSM materials in the Hospital
- Quality Assurance of sputum microscopy was good
- NGO support for TB programme is good
- Supervision is poor

Finally, team visited District Health officer's office at Sarlahi district. Team interviewed relevant staff any noticed following findings

Due to administrative and local government transition period, the health care workers job endorsement is not well demarcated thus they are not getting their salaries from last six months. This make them highly demotivated to work in the field level. NTP staff in collaboration with Save the Children has been conducting training to divisional level staff. During the review period there was one training programme on Lot Quality Assurance was organized in the Province. But no training modules or materials were found at any of the facilities visited

15.3. Participation in the Joint Monitoring Mission (JMM) Nepal

At the invitation of NTP, Nepal, the Director, STAC participated in the Joint Monitoring Mission (JMM) conducted 28th May-01 June, 2019 (without financial liability to STAC).

15.4. Midterm Review of TB Control Programme, Afghanistan

The Director, STAC participated in the Midterm Review of TB Control Programme to evaluate its achievements, Challenges and way forward toward in its national Strategy Plan 2017-2021 conducted in Afghanistan from 21-28 August, 2019

16. Participation in Meeting of collaborating Institutions for Strengthening of Networking WHO/UNAIDS/UNFPA & other collaborating institutes.

16.1. Participation in Research Meeting in Bangladesh

National TB Control Programme, Government of Bangladesh has completed the Research titled “comparative Evaluation of treatment outcome for Multi-drug resistant Tuberculosis with and without comorbidity: A Retrospective Analysis, Bangladesh, 2018 has been completed and they invited to the Director and Research Officer of STAC to participated in dissemination meeting held on 10 February, 2019 in Dhaka under the research budget. Accordingly they participated in the Meeting.

16.2. TB Free Summit, New Delhi

At the invitation of organizer, the Director, STAC participated in the TB Free Summit, New Delhi, 2-3 February, 2019 as the RNTCP/ Government of India has set their target to eliminate TB in India by 2025.

16.3. Participation in WHO/SEARO Meeting

The Director, STAC participated in the Regional meeting of National Tuberculosis Control Programme Managers and partners, New Delhi, India on 13-15 May, 2019 without financial liability to STAC organized by WHO/SEARO,

16.4. Vision in New Delhi

The Director, STAC visited New Delhi/participated on 13 June, 2019 for signing of Agreement with HITES, India for procurement and installation of equipment for SAARC Supra-national Reference Laboratory for TB and HIV/AIDS at STAC.

17. Review of Article for SAARC Journals of TB Lung Disease and HIV/AIDS

The following seven articles were reviewed by external reviewers and published in Vol. XVII, No. 1 2019;

- i. An observation study of follow up of MDR-Tuberculosis patients after successful completion of category 4 treatment under RNTCP (PMDT) in Allahabad District
- ii. A comparative study of Pulmonary and Extra-pulmonary Tuberculosis in Bhutan (2015-2017)
- iii. Access of key population to available HIV and TB services in Nepal: A cross section study
- iv. HIV vulnerability and sexual risk behavior of the drayang girls in Bhutan
- v. Tuberculosis in Nepal: Situation, challenges and ways forward
- vi. Epidemiology of drug resistant Tuberculosis in Samtse General Hospital, Bhutan: A retrospective study
- vii. Case series of pott's spine diagnosed by ZN stain and BACTEC MGIT in a Tertiary Care Hospital

The following Five articles were reviewed by external reviewers and published in Vol. XVII, No. 2 2019;

- i. Diagnostic yield of bronchoalveolar lavage xpert MTB/RIF assay (GeneXpert) in sputum smear negative Pulmonary Tuberculosis patients- A one year cross sectional study
- ii. Impact of education and media exposure on Tuberculosis related awareness among Indian adults: A study based on NFHS-3
- iii. Assessment of health related quality of life among Tuberculosis patients with and without Diabetes in Western Region of Nepal
- iv. The prevalence and determinants of active Tuberculosis among diabetes patients in Tertiary Care Hospital of Nepal 2018
- v. A common disease with uncommon presentation: Spina Ventosa

18. World TB Day- 2019

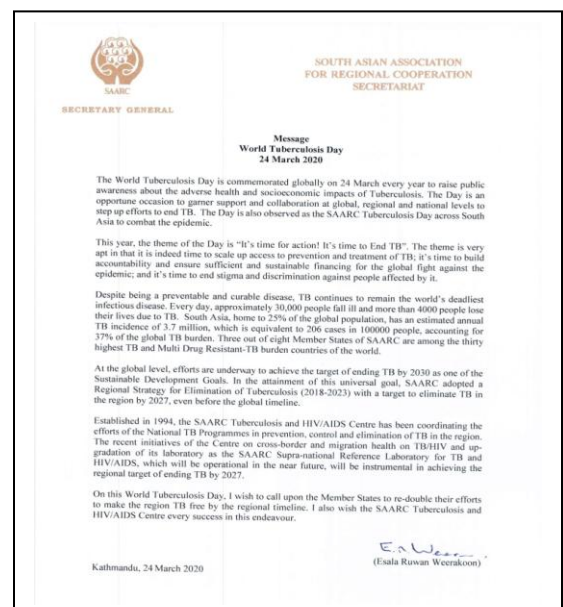
18.1 Releasing of Messages of H. E. the Secretary General, SAARC

On the occasion of World TB Day/SAARC TB Day 2019, SAARC Secretariat released a message of His Excellency Mr. Amjad Hussain B. Sial, Secretary General, SAARC which was published on Centre's website and circulated to the National TB Control Programmes (NTPs) of SAARC Member States for publication on National daily Newspapers on 24th March on the occasion of World TB Day 2019. The global theme of the day was "It's time."

18.2. Joint functions

Function in Kathmandu

The STAC has participated in the joint function organized in National TB Centre, Thimi. On behalf of



SAARC Secretariat, the Message of H.E. the Secretary-General, SAARC was read out by a Professional Staff in the ceremony. The Deputy Prime Minister & Health Minister, State Minister, Ministry of Health and Population, Government of Nepal were presence in the function as Chief Guest and Special Guest.

Functions in Janakpur

Two Programmes were conducted in Janakpur, Nepal. The mass rally, was opened by Hon'ble Social Development Minister, Province No.2. The second was a World TB Day & SAARC TB Day celebration Function under the chairmanship of Hon'ble Social Development Minister, Province No.2. and chief guest of the ceremony was Hon'ble Chief Minister of Province No. 2. The Hon'ble Chief Minister, Social Development Minister, 16 Parliamentarians, representative of Province Parliament and officials from the other Ministries of Province.



On behalf of the STAC, Director presented the findings of the in-depth Review of the TB Control programme in the province conducted by STAC along with recommendations of the Centre

19. Commemoration of World AIDS Day and 35th SAARC Charter Day 2019

STAC (STAC) celebrates World AIDS Day and SAARC Charter Day every year by organizing awareness/advocacy programmes for TB and HIV/AIDS in the SAARC Region. In compliance with the Twenty-Eighth Meeting of the Governing Board of SAARC TB and HIV/AIDS Centre (STAC), the Centre organized an “Interaction Programme on Elimination of Tuberculosis and end HIV/AIDS epidemic” on the occasion of 35th SAARC Charter Day and World AIDS Day on 10th December 2019, Kathmandu.

Lecturer and MBBS Students from different Medical College such as Institute of Medicine (IOM-TU), Kathmandu Institute of Science and Technology (KIST) Medical College, Nepal Medical College (NMC) and Army Medical College. The program is attended by more than 200 medical students (MBBS), their respective faculties and the health workers from ART Center with in valley and representative from DPHO of Kathmandu Valley. The program's chief guest was His Excellency Mr. Amjad Hussain B. Sial, Secretary General, SAARC graced the occasion as chief guest and Dr. Roshan Pokhrel, Director General of Health Services Department, Government of Nepal as chairperson.

Dr. Ramesh Kumar Kharel, STAC director, gave a welcome address and delivered a presentation on SAARC, STAC and its objectives, function, vision, mission, goal and role. H.E. Mr. Amjad Hussain B. Sial, Secretary General, SAARC, delivered his opening address by congratulating the guest and the participants from the different medical college in his speech, he mentioned the formation of SAARC and also the importance of worlds AIDS day and SAARC Charter day.

Dr. Sagar Kumar Rajbhandari, Director, National TB Center, Nepal, addressed the current situation of TB in Nepal and its management. Dr. Anuj Bhattachan, Director, National Center for AIDS and STD Control, Nepal, presented the current situation of HIV / AIDS in Nepal and its management and also There was Presentation by Dr. Runa Jha, Director, National Public Health Laboratory, Nepal, on diagnostic methods / techniques and the role of TB and HIV / AIDS Laboratory programs.

Dr. Rabeya Sultana, Research Officer, STAC, presented the current situation of TB and HIV / AIDS in the SAARC Member States, their strategic plans, best practices and the role of STAC in the elimination of TB and the end of the HIV / AIDS epidemic in the region.

Dr. Lungten Z. Wanchuck , Scientist , WHO Nepal made her presentation on global and regional situation of TB and HIV targets, Strategic plans and commitments. She said that tuberculosis was the global health problem. She informed that SEARO alone has 46% of all TB cases. She also said that 1.5 million died of TB including 251000 deaths among people with HIV and informed that about 0.5 million fell ill with drug resistant Tb and only 56% were treated successfully.

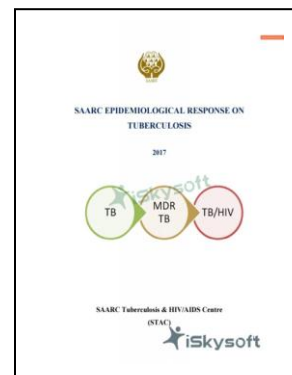
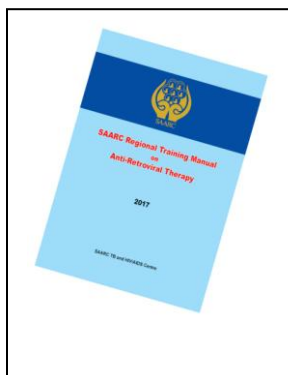
Dr. Ramesh Kumar Kharel, Director, STAC gave his closing remarks by thanking all the participants from the different medical collages, ART Centre and DPHO from the kathmandu valley. He thanked all the staffs of the center for their active role to organize the programme.

20. Publication and Distribution

The Centre has also developed & published important SAARC Regional Strategies on TB and HIV/AIDS approved by the 28th Governing Board and the 56th Session of the Programming Committee of SAARC for the implementation in the SAARC Member States.

- SAARC Regional Strategies on Elimination of TB -2018-2023.
- SAARC Regional Strategies on HIV/AIDS-2018-2023
- SAARC Regional Strategy on Migration Health on TB HIV/AIDS-2018-2023.
- SAARC Regional strategies on ACSM-2018-2023
- SAARC Guidelines for Private- Public Mix approach for National TB Control Programmes.
- SAARC Regional Guidelines on Pediatric TB
- Vision Document of STAC.

STAC publications contains reports on activities, updated information on TB and HIV/AIDS, articles related to TB, HIV/AIDS and Lung Diseases on new findings, case reports, awareness messages etc. news on TB and HIV/AIDS along with the information on related matters of the SAARC Member States of the concerned year. These publications are distributed to the SAARC Member States, experts and concerned international agencies, such as WHO, UNAIDS etc. through electronic circulation as well as by post. All publications are uploaded on STAC website which can be downloaded freely for non commercial purpose.



21. Dissemination of Information on TB, HIV & AIDS on STAC Website

An official website of STAC is available in internet under the web address, of www.saarctb.org. On this website recent information about TB control, HIV prevention, information on programmatic management, informative articles, news & announcement of the Centre, support to other SAARC Regional Centres by publishing the information upon their request, uploaded publications of STAC etc. are being published. Periodically and timely updating for the purpose of giving updated information has been done. Timely modification is being done to make the website more users' friendly, compatible to almost all web browsers used in internet browsing. A simple and user friendly online submission system of articles is being also managed.

22. Strengthening of Library (purchasing/renewal of software & journals, membership etc. for Library)

The Resource Centre/Library has been set up with the objective to collect resource materials on TB and HIV/AIDS and to properly manage, disseminate and preserve it. STAC library has recently digitalized all its resources into e- library which is available through STAC webpage or by logging into www.saarctb-library.org. During the some books were Purchasing of scientific Book for library

23. Consultative meeting with Expert team from National/Archive, Govt. of Nepal

The consultative meeting to establish the digital/record archive was held at STAC. An expert team along with the Director General of National Archive, Government of Nepal visited STAC, Thimi on 4th September 2019.

The expert team from National Archives visited to the STAC library. They are observed the resources published by STAC which could be included as a part of the digital archive/record.

As per archive preservation act 1989 and archive rule 2007, archiving materials are defined as those resources/documents which are 25 or more years older. Since this was a new concept, STAC highly appreciated the expert opinion, comments, suggestion, recommendation and

further more overall help provided by the National Archive in the establishment of the archive/record.

Under Chairmanship of the Dr. Ramesh Kumar Kharel, Director, STAC and the expert team from National Archive consisting Ms. Soubhagya Pradhananga, Director General, Mr. Kumar Shrestha, Chief Information Officer, Mr. Niran Kumar Rajbhashi, Archivist and Jyoti Neupane, Micorfilmis along with Dr. Rabeya Sultana, Research Officer and some of the officials of STAC also participated in the discussion.

24. SAARC Regional Meeting on Cross Border Issues and Migrant Health on TB and HIV/AIDS in SAARC Member Countries using Video Conference Method

As per the assigned activities, STAC conducted a “meeting on cross border issues and migrant health on TB and HIV/AIDS” was held on 30 September, 2019 through video conferencing methods. Dr. Ramesh Kumar Kharel, Director, STAC, Dr. Rabeya Sultana, Research Officer, STAC, Dr. Lungten Z. Wangchu, Scientist, Team Leads-CDS, WHO, Kathmandu, Mr. Lekey Khandu, Programme Manager, NACP, Bhutan, Mr. Ugyen Dendup, Programme Manager, NTP, Bhutan, Dr. Sanjaya Kumar Muttoo, Joint Director, Central TB Division, MoHFW, India, Dr. Anop Puri, Director General, NACO, India, Dr. Navin Prakash Shah, Consultant Chest Physician, NTC, Nepal and Dr. ANuj Bhattachan, Director, NCASC from Nepal took part in the program. The objective of the programme wereto discuss the cross-border issues in TB and HIV/AIDS Control activities of the member states, to exchange the experience and lessons learnt on interventions to reduce the spread of these diseases across the borders, to prepare Joint plans and mutually beneficial mechanism of action which includes regionals activities for STAC to address the identified cross border problems in TB and HIV/AIDS control activities of Member States etc. Dr. Ramesh Kumar Kharel, Director STAC, welcomed and gavea brief introduction of STAC and its activities to the participants. Dr. Rabeya Sultana, Research Officer STAC, made a presentation on “Regional Strategy on migrant health across the border migration health 2018-2023”. She highlighted the migrant health issues on TB and HIV/AIDS in the SAARC Region. She emphasized the importance of the regional strategy and introduces the vision, mission, goals and objectives of the strategy. Dr. Lungten Wangchuk, WHO, Nepal shared the Global Situation on Cross-Border Migration and Health. There was country presentation and discussion on the Cross border issues in TB and HIV/AIDS control activities in the SAARC Member States as well as develop the mutually beneficial mechanism for cross border Issues & Migrant Health on TB & HIV/AIDS control activities. STAC planned for Assessment of cross Border situation on TB and HIV/AIDS between India & Nepal, Bhutan & India and Afghanistan and Pakistan-2020.

25. Skill Development of GSS by attending field related Training/Workshops/ Conferences

The group training programmes for GSS of STAC conducted the “Skill enhancement Trainings “from 2-3 June, 2019 in Dhulikhel with the objectives to strengthen the knowledge and skills in their respective fields; & to update the knowledge and increase the skills as well as to motivate them to work.

All staff Member (GSS-I,II,III) were trained about appreciate inquiry about communication, office management , Leadership skill, Conflict resolutions , Concept Note Writing, Report Writing, Preparation of Newsletter and Editorial Drafting. The training was conducted by renounced resource person from Nepal NHRC, Teaching Hospital & other relevant institutes.

Summary of STATUS activities of the year 2019

S. No	Titled of Activities	Status
1	SAARC Training of Mid-level Clinical Managers on Programmatic Management of Drug Resistance TB (PMDT)- Bangladesh	<i>done</i>
2	SAARC Training on Gene-Xpert Machine Operation and Maintenance Training for Laboratory Personnel- Bhutan	<i>done</i>
3	SAARC Regional workshop for implementation on TB -Tobacco collaborative activities and development of guidelines on TB Tobacco- India	<i>done</i>
4	SAARC Regional Workshop to develop SOP on Cross Border/Migrant Health issues on TB and HIV/AIDS- India	<i>Not done</i>
5	SAARC Expert Group Meeting to Develop common Mechanism on Logistic Management system for National TB and HIV/AIDS Control Programmes of SAARC Member States- Maldives	<i>(external fund)</i>
6	SAARC Parliamentarian's meeting on TB and HIV/AIDS- Nepal	<i>Note done</i>
7	SAARC Training on Gene-Xpert Machine Operation and Maintenance Training for Laboratory Personnel - Nepal	<i>done</i>
8	SAARC Regional Workshop on Latent TB Infection for finalization of guideline on Latent TB Infection- Pakistan	<i>not done</i>
9	SAARC Regional workshop for the mid-level HIV/AIDS managers on Community Led Testing (CLT) on HIV/AIDS- Pakistan	<i>done</i>
10	SAARC Regional Training of Trainers (ToT) on Diagnosis, Treatment and Programmatic Management of Pediatric TB-Sri Lanka	<i>done</i>
11	SAARC Regional Meeting of Programme Managers on TB and HIV/AIDS Control Programmes- Sri Lanka	<i>done</i>
12	SAARC Regional Training on ART -Nepal	<i>done</i>
	Research	
13	Bacterial risk factors responsible for unfavorable treatment outcomes in Multi Drug resistant Tuberculosis infected patients - Bangladesh	<i>not done</i>
14	Occupational risk (prevalence and risk factors) of Latent Tuberculosis Infection among Health Care Workers -Nepal	<i>done</i>
15	Trend (frequency and distribution patterns) of opportunistic infections associated with HIV/AIDS – A multi-centric study-) Afghanistan, Bhutan and Nepal	<i>done in Afghanistan and Bhutan</i>
16	HIV Prevalence Study in key population in Afghanistan	<i>done</i>
17	Assessment of compliance of shorter regimen of MDR-TB treatment in Bhutan	<i>done</i>

	Regular/Local Activities	
18	Participation and presentation of scientific papers in International Conferences by STAC Union World Conference on Lung Health/Tobacco OR/and International AIDS Conference on HIV/AIDS, STI	<i>done</i>
19	Participation and presentation of scientific papers in the conferences/workshops /meetings/consultations in the SAARC `Member States	<i>not done</i>
20	Participation in the Review of activities NTPs and NACPs/Communicable diseases in the SAARC Member States by STAC	<i>done</i>
21	Participation in Meeting of collaborating Institutions for Strengthening of Networking WHO/UNAIDS/UNFPA & other collaborating institutes.	<i>done</i>
22	Review of Article for SAARC Journals of TB Lung Disease and HIV/AIDS	<i>done</i>
23	Skill enhancement of GSS in Trainings/Workshops/Conferences etc.	<i>done</i>
24	Purchasing of Laboratory consumables	
25	Public Awareness and Advocacy programmes on TB and HIV/AIDS	
i	World TB Day- 2019	<i>done</i>
ii	World AIDS Day-2019	<i>done</i>
iii	SAARC Charter day- 2019	<i>done</i>
26	Binding/Publications/Printing	
i	STAC Journal of Tuberculosis Lung Disease and HIV/AIDS Issues: 2 (300 copies)	<i>done</i>
ii	SAARC Regional Strategy on HIV/AIDS- (300 copies)	<i>done</i>
iii	SAARC Regional Strategy on Elimination of TB(300 copies)	<i>done</i>
iv	SAARC Regional Strategy on ACSM(300 copies)	<i>done</i>
v	SAARC Regional Strategy on Migration Health (300 copies)	<i>done</i>
vi	Vision Document of SATC (300 copies)	<i>done</i>
vii	SAARC Guidelines for Private- Public Mix approach for National TB Control Programmes(300 copies)	<i>done</i>
viii	SAARC Regional Guidelines Pediatric TB (300 copies)	<i>done</i>
ix	SAARC Regional Training Manual on Pediatric TB (300 copies)	<i>not done</i>
x	Printing of Wall Calendar 2020/ promotional materials (500 copies)	<i>done</i>
27	Strengthening of Library Purchasing/renewal of software & journals, membership etc. for Library	<i>done</i>
28	Appraisal /Monitoring on TB and HIV/AIDS in SAARC Region	<i>done in Bhutan</i>

29	Establishment of Digital/Record Archives in STAC (Internal)	<i>done</i>
30	Video Conferencing on Cross border issues and migrant health on TB and HIV/AIDS in SAARC Member Countries - STAC	<i>done</i>
31	Desk/correspondence (Production and binding of)	
i	STAC Newsletter	<i>done</i>
ii	STAC Annual Report-2018	<i>done</i>
iii	Epidemiological response on Tuberculosis-2019	<i>done</i>
iv	Epidemiological response on HIV/AIDS-2019	<i>done</i>

___The End___