Prevailing TST practices: rapid identification and concurrent rectification through Supportive Supervision Approach of RAPID.

Dr Narayana Holla, Professor, KVG Medical College, Sullia. 02-03-2018

On 24th March 1882 Dr Robert Koch as a **leader**, astounded the scientific community by announcing his discovery of TB bacillus, made **history** and the day is marked as World TB Day. This Vaccine Preventable Disease [VPD], inspite of averting ~53 million deaths, even now kills an estimated 1.7 million people per year globally; ranking ninth leading cause of death, India shared ~32%.

World TB day is an occasion to mobilize political, social and medical commitments, consolidate and appreciate the local innovations / operational researches; identify & mitigate high risk practices / identify, felicitate & facilitate the best practices & achievements for sustenance and speedup towards eliminating TB as a public health burden, thus serving the mankind.

In response, "The Stop TB Partnership" has rightly announced the theme for World TB Day 2018: ***Wanted: Leaders for a TB-Free World*** **You can make history. End TB.**

Karnataka was awarded with zonal trophy for its performance in 2017. Medical Colleges shouldered the responsibility of conducting sensitization training on RNTCP Technical & Operational Guidelines [TOG] 2016 before 31st March, lead by S.T.F chair and sponsored by the Government. RNTCP nodal officers of Medical Colleges; hand in gloves with RNTCP staffs of the government and administration at all levels are putting all out efforts with dual interests - academic and societal with utmost dedication, operating beyond the guidelines through user friendly measures for maintaining the timeline of committed activities.

Legacy: Variola – both Major and Minor caused smallpox; devastated the world sociologically, politically, economically with its health effects. But India won the great victory in the history of public health. The last case was in May 1975, later in Dec 1977, after ascertaining two years of disease free status, the international Commission certified that India was free of smallpox VPD.

India once again made a milestone achievement; the last case of Polio was in Jan 2011 and following three years of polio free status, knocked out anther VPD, got polio free certification in March 2014 along with other countries of SEARO.

Both airborne Smallpox and waterborne Polio were VPD's with more efficient vaccines; the solitary weapon to combat the incidences, coupled with meticulous surveillance achieved eradication. These "viral" VPDs had no specific antiviral therapy.

Tuberculosis is also an airborne VPD but bacterial with live attenuated BCG vaccine first used medically in 1921. TB has many antibiotics for treatment often complicated with other criminal partner like HIV. Thus, TB prevention includes two major areas:

1. BCG Vaccination and   2. Curative services.

Recent studies evidenced that BCG vaccination apart from protecting against severe form of Tuberculosis, has appreciable role in infection control, especially when administered at birth. BCG being live attenuated; its efficacy in protecting against other Mycobacterial infections: Leprosy & Buruli Ulcer and nonspecific properties of lowering <5yr mortality were also discovered. New generation vaccines under various phases of trial are expected to contribute significantly in TB

elimination through higher rate of infection / re-infection prevention, developing disease in the already infected and averting severe forms. **Vaccination at birth is emphasized** along with other newborn vaccines: OPV and HepB.

As a blessing in disguise, >99% deliveries are institutional in and around home district, private and public sector shared @ ~4:1 ratio but Newborn vaccination coverage is higher in public sector both in quality and quantity – articles published.

KVG Team having extra ordinary passion for immunization programme, observed high risk vaccination practices – all the 8 “Rights” to be followed before administration of vaccines are not adequately adhered: some of the observations are – administering 0.1mL at birth, often subcutaneously (SC), no VVM in the private sector, diluent at room temperature etc. ***Being qualitative, as every beneficiary counts, N/n has no significant role.*** Some Medical Colleges are yet to practice BCG vaccination at birth. We hope BCG vaccination will gain importance and feature in review meetings / workshops for TB elimination.

Another thematic area is ***Mantoux test*** featured in the Diagnostic Algorithm of Pediatric TB:

It has been aptly said that tuberculin test “must be approached with respect, administered with care, read with deliberation and interpreted with sentient discrimination”.

As rightly advocated by the ZTF chairs in the recent quarterly meeting, public health wants leaders to work proactively. Passionately, through supportive supervision (SS) we observed serious lapses in operational aspects of Tuberculin Skin Test [TST]. Charity should begin at home. We “jumped” in to action, developed the Standard Operating Procedure [SOP] and Job Aid for TST, displayed in the nursing station for practicing 8+2 “Rights” to be observed with TST, presented in the Academic Society Meeting, instantaneously closed all operational gaps, made a “Demosite” and disseminated with End TB lovers, lead for making history.

With the support from supervisors, professional colleagues in authorized posts, jointly used SS tool, detected both healthy and high risk practices, lapses of severe nature were rectified on the spot in the very first interaction, shared SOP and Job aid for display, a zero budget social service. These are qualitative observations; no single beneficiary should be administered with tuberculin beyond useable date, improper quantity / quality and hence N/n has no significance.

A stitch in time saves nine; quote from Das surgical methods – eyes will not see what the mind doesn’t know, if you don’t put your finger now you may have to put your foot into it, delayed decision is denial of service etc.

Following are some of the observations:

1. Volume of tuberculin injected varied from ~0.02mL to 0.1mL while administering 0.1mL is mandatory.
2. When 5TU PPD per 0.1mL / 2TU PPD per 0.1mL were not available, fraction of 0.1mL with 10 TU PPD was administered.
3. Tuberculin is available in multi dose vial, 50 doses in 5mL is the commonest. Multi Dose Vial Policy [MDVP] was adhered in 2 Colleges, in other Colleges; it was used for more than 2 months, up to even 4 to 5 months till the last dose was administered.

4. Test served by inadequately trained personnel, ID administration needs training and skill. Usually, the diameter of the weal is not measured, hence if administered SC, test is considered as “done”.
5. TST card is issued to the patient in 2 Colleges, rest did not have.
6. Documentation is done in a dedicated register in one College, not in the rest.
7. Very high loss to follow up – no reading done after 48 hrs.
8. As of now, Tuberculin has no VVM in India.

Two ‘too’ basic doubts:

1. Pediatric age ranged from <6yr to 18 yrs.
2. Whether a “child” needs half the dose or same dose as that of an adult? In some colleges 5TU PPD IP in 0.1mL are given to both adults [up to 70 yrs] and children; 2TU PPD IP for children in 0.1mL in some colleges and 0.05mL of 5TU in 0.1mL in some colleges.

Vials kept in the door abutting freezer compartment, reagent often frozen. With every opening of the door, vial is exposed to room temperature causing thawing.

Vial is procured from the fridge in the morning ~9AM, kept in the tray and returned to the fridge in the evening ~5PM.

10 / 5 and 2 TU PPD IP per 0.1mL multi dose vials of 5 mL found in use. During short supply, of 5 / 2 TU PPD per 0.1mL, fraction of 0.1mL like 0.05ml, 0.02mL was administered with suboptimal weal – not measured.

Multi dose vial policy not adhered to. Opening date and Beyond Useable dates are not mentioned. On tracking, BUD was found to be on 23-01-2018 and the vial was discarded on the day of SS with deep regrets.

0.1mL and 0.05ml administered to adults and children.

Only a few of the aberrations are shared. 8+2 thematic areas need to be addressed.

On hand holding, these units instantaneously closed the operational gaps and for sustenance, SOP / Job aid were shared by the author.