



# Public Health Perspective

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## Editorial: To treat TB, DOTS is the solution

**T**uberculosis has been a major public health problem in Nepal. Here, 45% of the total population is infected with Tuberculosis (TB), of which 60% are in the productive age group. Moreover, each year, 44,000 people develop active TB, of whom 20,000 have infectious pulmonary disease.

But, TB is curable. To treat TB, DOTS is the solution. It is the cost effective strategy for controlling TB than any other health care intervention. It has been benefited to people with higher cure rates, fewer relapses. Moreover, it has prevented drug resistance, MDR-TB and has extended the life expectancy in people with AIDS and TB. The basis of effective DOTS therapy is regular drug intake. Patient

compliance is critically important throughout the prescribed period of treatment.

In Nepal, DOTS was introduced in April 1996 covering 1.7% of the population in selected districts. Since then the number of deaths from TB have been plummeted from 8,000-11,000 per year to 5,000-7,000 per year.

Recently, DOTS-Plus programme is developed by WHO and partners to manage Multi Drug Resistant-TB (MDR-TB) using second-line Anti-TB drugs. Based upon DOTS, DOTS-Plus is a comprehensive management strategy. DOTS-Plus takes into account specific issues (such as the use of second-line anti-TB drugs) that need to be addressed in areas where there is high prevalence of MDR-TB. Thus, DOTS-

Plus works as a supplement to the standard DOTS strategy.

National Tuberculosis Program (NTP) achieved WHO target of treatment success rate (85%) since 1996 through DOTS. In Nepal, treatment success rate in DOTS center is approximately 89%. The cure rate of MDR-TB has been found 71%.

Hence, MDR-TB situation in Nepal has been well controlled due to quality DOTS expansion. This proves that TB is curable; and to cure TB, DOTS is the solution.

Amrit Banstola

## Public Health Important Day (March)

22nd March: World Water Day

24th March: World TB Day

## Greetings

**I** am indeed happy and thankful to Public health Perspective family for their PHP March issue. The health related information, experiences and the materials through PHP will be important for all health related persons as well as it will contribute for the development of health status of a developing country like Nepal.



Country like Nepal, who is suffering from most of the preventable diseases, the

preventive aspects from public health related persons will add one more brick to the overall development of health status of Nepal. For this also PHP will be an effective medium to share all the information and experience from both preventive and curative field.

At last, being an advisory I would like to congratulate PHP family for their great and wonderful effort and wish you all the best for coming issue. Best Wishes!

Dr. Krishna Chandra Rijal  
Dept. of Otorhinolaryngology and Head & Neck Surgery  
College of Medical Sciences and Teaching Hospital  
Bharatpur, Chitwan

**P**ublic Health is still beyond the realm of understanding for many and as a result, the programs which focus on prevention and have potentialities to reach the masses are often relegated by the heavyweight and heavy budgeted program which comes with post-problem interventions. This scenario in Nepal gives an impression that much things still needs to be done. The effort that envisages reviving the essence of public health reaching across public health students, professionals and general community with the cascading effect, are the best efforts ever attempted in



the field of Public Health. I am really excited to acknowledge that, the first ever online newsletter run by public health students has come into being. The earlier two editions have clearly proved its credibility, as a newsletter which can be referred by players and experts of Public Health.

As an advisory panel member, I extend my best wishes towards the newsletter team for their excellent and to be precise, a bold endeavor.

All the Best!

Amit Dhungel  
BPH, MPG  
Program Coordinator  
Naulo Ghumti, Nepal

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## 54 Health Centers without doctors

KATHMANDU, MARCH 4 -

**F**ifty-four Public Health Centers in 36 districts and some district hospitals have been without doctors for the past several months as doctors are reluctant to go to work in the rural areas. The doctors appointed to work at PHCs remain absent without permission from the District Public Health Office (DPHO).

Though the Ministry of Health and Population (MoPH) has the authority to penalize doctors who remain absent for more than three months without prior notice, it has seldom been heard of taking any action against the errant doctors.

According to an official at MoPH, every month, people from districts visit the MoPH to complain about the absence of doctors in health centers. "We advise them to look for doctors who are willing to work in their areas," the MoPH official said preferring anonymity.

Students awarded with government scholarships to study medicine compulsorily must serve in the rural ar-

## National News

reas of the country. The number of students getting government scholarship is 300 every year. However, they seldom go to work in the rural areas.

*Source: Republica*

## City slum dwellers' health condition appalling: Report

KATHMANDU, MARCH 6 -

**E**ven after more than two years of the announcement of free birth services and an encouragement allowance to promote delivery at government hospitals, a survey has revealed that many women living in slum areas of Kathmandu are either unaware of it or reluctant to benefit from the free service.

Of the total births in Kathmandu slums, 40 percent took place without medical assistance, according to the survey conducted in 2009\2010 by Kathmandu Metropolitan City (KMC). Such deliveries can lead to complications in the health of both the mother and the newborn.

The KMC survey also shows 50 percent pregnant women living in slums do not go for any kind of pregnancy tests and that seven percent of people living in slums do not seek medical help for any ailment.

Mortality during delivery for women in slums stands at two percent. Of those seeking medical help, 45 percent visit government hospitals. Only 27 percent can afford treatment at private hospitals and nursing homes.

Immunization figures for slum

dwellers are also alarming. According to the survey, 33 percent of children in the slum settlements have not been immunized. Most people living in the settlements suffer from diarrhea, dysentery, fever, typhoid, jaundice, and respiratory problems.

*Source: Republica*

## Few private medical colleges start free maternity service

KATHMANDU, MARCH 8 -

**A** few private hospitals that have been refusing to implement government's 'Mother Protection Program' have finally started providing free delivery services through their teaching facilities. Some private hospitals and community and public hospitals, like Patan Hospital and Tribhuvan University Teaching Hospital (TUTH), have refused to implement the program arguing that delivery is one of their main income sources.

Though these hospitals are still reluctant to provide free delivery services, Kathmandu Medical College (KMC), Nepal Medical College, Jorpati, a teaching hospital of Kist Medical College in Imadol, and a teaching hospital of Kathmandu University have started providing free delivery services.

MoPH compensates the hospitals for the services, the amount is much less than what the private hospitals charge for a delivery. The government gives Rs 1,000 in allowance to the post-natal women to encourage safe and attended delivery.

The MoPH provides Rs 1,500 for normal delivery, Rs 3,000 for complicated delivery and Rs 7,000 for caesarian cases in compensation." The patients get everything free, including medicines and diagnosis," health care manager of Kist Medical College, Manish Dawadi, said and revealed that the hospital provides free services to about 50 women every month.

*Source: Republica*

## 36-district drive against mosquito menace

KATHMANDU, MARCH 13 -

**T**his summer, the government is launching free Mass Drugs Administration (MDA) in 36 districts across the country against Lymphatic Filariasis (LF)—elephantiasis transmitted by female Culex mosquitoes.

During the campaign, drugs such as Diethylcarbamazine (DEC) and Albendazole will be administered under the direct supervision of health professionals. The Health Ministry had a plan to launch MDA as a national program from Parsa, a high risk district since 2003.

Among infectious diseases, elephantiasis is the second major disease to cause permanent and long-term disability after leprosy in the country.

It can be taken by everyone—except pregnant women, seriously ill people, and children below two years of age.

*Source: eKantipur.com*

## Weeds: Medicinal Value Unaware To Public

**Nitish Joshi, M.Pharm (Pharmacology)**

**Mallige College of Pharmacy, Bangalore**

Bygone, we are using plants as a medication. Diseases like cancer, jaundice, and diabetes are treated by plants like *Vinca*, *Phyllanthus sp.* and *Gymnema sp.* respectively. More than 50 percent of households in the northern part and about 25 percent in the middle part of central Nepal are involved in collecting plants for their medicinal use. These plants are herbs, shrubs, trees, crops or unwanted plants like weeds that grow along with the crops.

As long as human have cultivated plants, weeds have been a problem. Weeds are unwanted for varieties of reasons—they are unpleasant, multitudinous. They restrict light to more desirable plants (especially crop plants), use nutrients from the soil, harbor and spread plant pathogens that infect and degrade the quality of crop or horticultural plants. Some weeds are a nuisance because they have thorns or prickles. Religious and literature texts have also mentioned awful traits of weeds. A Quote from Genesis and a Shakespearean sonnet:

*"Cursed is the ground because of you; through painful toil you will eat of it all the days of your life. It will produce thorns and thistles for you, and you will eat the plants of the field. By the sweat of your brow you will eat your food until you return to the ground."*

Thus, the public is exploiting most of the species of weeds. However, weeds have their medicinal values that are unknown to public. They can be used as a medicine in their agro ecosystem. Moreover, weedy plants have their pharmacological efficacy. Young leaves of *Dandelion* are anti-inflammatory as well as diuretic. Its roots are used for treating acute and chronic hepatitis, liver cirrhosis, and gall bladder disease. Chinese medicine considers *Dandelion* root specifically useful in the treatment of breast cancer.

*Amaranth* is very low in saturated fat, cholesterol, and sodium. It is also a good source of dietary fiber, iron, magnesium, phosphorus, and copper. Similarly, *Purslane* contains pectin known to lower cholesterol. When taken internally or applied topically it helps promote wound healing for boils and burns. It is also a rich source of minerals; particularly potassium.

Several recent studies have proved that weedy plants contain many medically useful active constituents. For example-alkaloids, glycosides, polyphenolics, steroids, tannins, resins, flavonoids, tetraploids, fatty acids. These constituents are able to cure many nutritional disorders and diseases. If weed specimens are properly identified and documented, they can serve the health needs. Additionally, it improves self-reliance in primary health care and prevents the loss of our traditional plants.

It has been found that weeds are harmful for crops as well as toxic for public health. Despite these drawbacks, weeds can become a good source of medicine. For this, people should be made aware of medicinal importance of the weeds. Moreover, the therapeutic qualities and active principles of these plants should be scientifically tested for its safer use.



**Nitish Joshi**

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Do not include any graphs, tables and citations

PP size photo in jpeg format

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**PHP Special**

**Practice and Consequences of Unsafe Abortion in Nepal**

**A**bortion was legalized in 2001 in Nepal. According to the Abortion law of Nepal, "only listed doctors or health providers can provide abortion services at approved health facilities, clinics, and hospitals with the consent of pregnant women and according to the national standard" (DHS, 2009). Women can terminate pregnancy if it has resulted from rape and incest; and due to failed family planning (Source: THT, Feb 27). Sex selective abortion is punished under this act.

Since abortion was legalized in Nepal, mushrooming of both authorized as well as unauthorized clinics and centers are rising in Nepal on commercial basis rather than services. About 800,000 Nepalese women get pregnant every year (Source: THT, Feb 27). Two hundred thousand of total pregnancies are defined as unplanned, unintended and unwanted by Nepalese women. Data suggest that only 80,000 Nepalese women go to approved health facilities or clinic for abortion (Source: THT). About 120,000 Nepalese women go to non-listed clinic



or health centers for the termination of pregnancy which is obviously unsafe. Both married and unmarried women are unaware of the abortion related complications and conformation to legal compliance.

The World Health Organization defines unsafe abortion as "procedure for terminating an unintended pregnancy carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both". The consequences of unsafe abortion ranges from minor complications such as bleeding, sepsis, gastro-intestinal disturbances to major complications such as excessive bleeding, hemorrhage, endo-toxic shock to name a few. Although minor complica-

*“Unsafe abortion is a procedure for terminating an unintended pregnancy carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both”*

tions are treatable some complication may cause long-term reproductive damage such as infertility due to infection.

Unintended pregnancies are the root cause of abortion

(WHO). Married women of reproductive age of 15-49 years must use any method of contraception to prevent pregnancy. According to DHS 2006, 34% of current married women have an unmet need for contraception. It means that "women are sexually active, are able to become pregnant, do not want to have a child soon and are not using any method of contraception" (WHO). According to WHO, women are not using contraceptives due to the concerns about possible adverse effects and their belief they are not at the risk of becoming pregnant. Moreover, premarital sex and pregnancy, abortion is also increasing among teenagers along with sex selective abortion in Nepal that are also a

*“Unintended pregnancies are the root cause of abortion”*

big concern (Source: THT, Feb 27). Sex selective abortion may cause gender imbalance which may create callous situation in Nepal and requires a red alert.

Although abortion is women's right, abortion related morbidity, mortality and gender-imbalance are the serious consequences which urgently require actions. There is a need to increase the availability of quality contraceptive methods to women throughout the country to prevent unintended pregnancies. In addition, the provision of

awareness programme about preventing unintended pregnancies and effects of abortion should be expanded tar-

*“abortion related morbidity, mortality and gender-imbalance are the serious consequences which urgently require actions”*

getting sexually active women. Besides promoting safe abortion services, booming of illegal clinics or health centers for abortion should be halted by strict regulation, investigations and monitoring by the government of Nepal.



**- Ms. Sami Pande**

*She is an advisory of Public Health Perspective Online Newsletter and awardee of the Australian Leadership Scholar of the year 2009.*

**Send Letters to the editor**

All readers can post comments on articles and news mentioned in PHP or could be suggestions and compliments.

Send letters to: [newsletter.php@gmail.com](mailto:newsletter.php@gmail.com)

Word limit 150 max. and the title of news or articles of critique

Email should include letters to the editor in subject line in the email.

## Global Health

### Avian influenza in Egypt and Indonesia

7 March 2011

The Ministry of Health of Egypt has announced two new confirmed cases of human infection with avian influenza A (H5N1) virus. The first case is a 32 year old female from Sharkia Governorate. She developed symptoms on 10 February and was hospitalized on 14 February. She is in a critical condition. The second case is a two year old male from Kafr Elsheikh Governorate. He developed symptoms on 18 February and was hospitalized on 20 February. He is under treatment and is in a good general condition. The cases were confirmed by the Egyptian Central Public Health Laboratory, a National Influenza Center of the WHO Global Influenza Surveillance Network. Of the 127 cases confirmed to date in Egypt, 41 have been fatal.



Also The Ministry of Health of Indonesia has announced a new confirmed case of human infection with avian influenza A (H5N1) virus. A 26 year old female from Karawang District, West Java Province developed symptoms on 30 January. She was hospitalized on 3 February, and died on 8 February. Initial investigations indicate the case bought poultry meat at a traditional market and took home chickens that were slaughtered after purchase and prepared at the market. Laboratory tests have confirmed infection with the H5N1 avian influenza virus. Of the 172 cases confirmed to date in

Indonesia, 142 have been fatal.

Source : WHO

### Meningococcal disease in Chad

8 March 2011 | GENEVA

923 suspected cases including 57 deaths (case-fatality rate 60.2%) has been reported in Chad from the 1 January to 6 March. Five districts primarily in the region of Logone Occidental experience an epidemic (Benoye, Kello, Laokassy, Melfi and Moundou) while two others are in alert (Boussou and Sarh), the Ministry of health assured. The latex test has confirmed the predominance of Neisseria meningitidis A in these districts with no other serogroup identified.

Vaccines have been provided by the International Coordinating Group (ICG) on Vaccine Provision for Epidemic Meningitis Control with the support of the Global in the coordination with Global Alliance for Vaccines and Immunization (GAVI) and Médecins sans Frontières. It has provided provided 752,000 doses of bivalent polysaccharide AC vaccine for a mass vaccination campaign in affected areas of Benoye, Kello, Laokassy, Melfi and Moundou.



WHO, UNICEF, Médecins sans Frontières and the International Federation of Red Cross (IFRC) are working with the Ministry of Health, Chad, to implement the vaccination campaigns as well as other emergency control measures, including

case management and enhanced surveillance in neighboring districts.

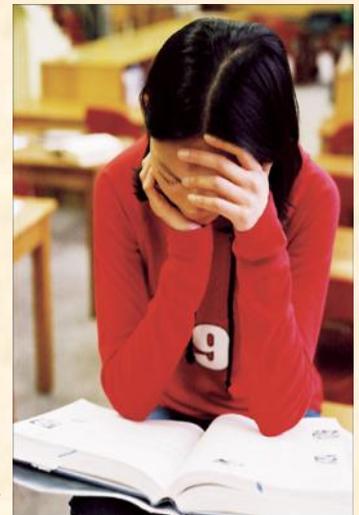
Source : WHO

### Negative Classroom Environment Adversely Affects Children's Mental Health

9 March 2011

Children in classrooms with inadequate material resources and children whose teachers felt their colleagues did not respect them experienced worse mental health across all four measures of mental health; learning (e.g., attentiveness), externalizing problems (e.g., fights), interpersonal behavior (e.g., forming friendships), and internalizing problems (e.g., anxiety and sadness). The material resources ranged from basics such as paper, pencils, and heat to child-friendly furnishings, computers, musical instruments, and art supplies.

"Being in a classroom with a lack of resources might adversely impact children's mental health because children



are frustrated or disheartened by their surroundings and the missing elements that cause the adverse trickledown effects," Melissa A. Milkie, a sociology professor at the University of Maryland, said.

Source : ScienceDaily

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**GREAT SAYING**

When it comes to eating right and exercising, there is no “I’ll start tomorrow.” Tomorrow is disease. – Terri Guillemets

**Journal Watch**

**Traditional herbal medicine in Far-west Nepal: a pharmacological appraisal**

The herbal medicines in far-west Nepal are consistent with the latest pharmacological findings, as well as common Ayurvedic and earlier uses, a December 2010 Journal of Ethnobiology and Ethnomedicine study found.

The study carried out in the Baitadi, Dadeldhura, and Darchula districts of far-west Nepal from 2006-2008 during different seasons of the year showed that of the 48 species from 46 genera and 40 families discussed in the study, indigenous uses of about 70% species resembled to the earlier ethnomedicinal reports. The indigenous uses of about 50% species had affinity to the Ayurveda, and about

40% species were found to have efficacy in pharmacology. *Fabaceae*, *Moraceae* and *Rosaceae* were represented by the greatest number of species (3 each), followed by *Euphorbiaceae* and *Lamiaceae* (2 each) for herbal medicine in study area.

The results obtained support prior observations, pharmacology and Ayurvedic uses concerning the following species: the crude extracts of *Acacia catechu* for cold and cough, *Aconitum spicatum* as analgesic, *Aesculus indica* for joint pain, *Andrographis paniculata* for fever, *Anisomeles indica* for urinary affections, *Azadirachta indica* for fever, *Euphorbia hirta* for asthma, *Taxus wallichiana* for

tumor control, and *Tinospora sinensis* for diabetes.

The study reported that these traditional medicines are made available via ancient, natural health care practices such as tribal lore, home herbal remedy, and the Baidhya, Ayurveda and Amchi systems. Herbal medicine prescribed by healers is either preparation based on single plant part or a combination of several plant parts.

Full text article at: *J Ethnobiol Ethnomed.* 2010 Dec 13;6:35.doi:10.1186/1746-4269-6-35

Authors: Ripu M Kunwar, Keshab P Shrestha, and Rainer W Bussmann ◆

**Stigma and HIV risk among Metis in Nepal**

The HIV epidemic in Nepal and the stigma related to it is concentrated among a small number of groups, including transgender people, or *Metis*, according to the study published in the March 2011 issue of Culture, Health & Sexuality. *Meti* is a Nepali word that can be loosely translated to mean transgender woman or a person born a man but who expresses a feminine gender identity.

Fourteen in-depth interviews conducted with *Metis* in Kathmandu, Nepal found that stigma from families leading to rural-urban migration exposed *Metis* to discrimination from law enforcement, employers and sexual partners, which influenced their risk for HIV.

The study found no difference in the consequences tied to gender related migration that have important implications for HIV risk in both married and unmarried *Metis*. According to the study, both groups experienced discrimination

by employers due to their feminine gender presentation. Thus, many *Metis* became involved in sex work to survive or as a means to make money to support their families back home. But due to the number of partners they had *Meti* sex workers appeared to be at high risk for HIV.

However, for non-sex workers the situation is different. According to the study, they reported difficulties finding a steady partner due to their stigmatized status as transgender women making partners unwilling to commit to a relationship.

The study demonstrated that rape by law enforcement officers has direct implications for HIV risk among victims because they were not able to require condom use. Similarly, *Metis* feared being falsely arrested for condom carrying, which officers used as evidence of engagement in public sex and/or prosti-

tution.

*Metis* in this study were stigmatized due to their gender presentation, feminine behavior and unwillingness to fulfill traditional gender roles of a son in Nepali society. Full text article at: *Cult Health Sex.* 2011 March ; 13(3): 253-266. doi:10.1080/13691058.2010.524247.

Authors: Erin Wilson, Sunil Babu Pant, Megan Comfort, and Maria Ekstrand ◆

**GREAT SAYING**

“The greatest wealth is health”  
– Virgil

“Life expectancy would grow by leaps and bounds if green vegetables smelled as good as bacon” – Doug Larson

## WHO Publications

### Addressing the Harmful Use of Alcohol : A guide to developing effective alcohol legislation

The Guide to Developing Effective Alcohol Legislation was commissioned by the WHO's Regional Office for the Western Pacific. The legislation guide provides advice on approaches to alcohol regulation to support development of effective legislation appropriate to each country. It provides practical advice based on international experience about the implications of legislative options, steps to be taken to implement legislation and best practice on how to enforce legislation and support compliance. Download Available at: <http://bit.ly/dJuAAz>

### Bulletin of WHO Vol. 89. No. 03, 2011

The Bulletin of the World Health Organization is an international journal of public health with a special focus on developing countries. Since it was first published in 1948, the Bulletin has become one of the world's leading public health journals. As the flagship periodical of the World Health Organization (WHO), the Bulletin draws on WHO experts as editorial advisers, reviewers and authors as well as on external collaborators. Full bulletin can be found at: <http://bit.ly/fcpcK7>

### FAO/WHO Expert Meeting on the Application of Nanotechnologies in the Food and Agriculture Sectors

The advent of nanotechnology has unleashed enormous prospects for the development of new products and applications for a wide range of industrial and consumer sectors. Many countries have identified its potential in the food and agriculture sectors and are investing significantly in its applications to food production. However, owing to our limited knowledge of the human health effects of these applications, many countries recognize the need for early consideration of the food safety implications of the technology. In response to this request, FAO and WHO have considered it appropriate to convene an Expert Meeting on the topic in order to identify further work that may be required to address the issue at a global level. Download Available at <http://bit.ly/aLcx2T>

### Protecting Children's Health in a Changing Environment

With the needs of children and young people uppermost, this Conference focused on three main priority areas. The first was the progress and impact of the environment and health process, particularly in the countries of south-eastern and Eastern Europe, the Caucasus and central Asia, and where further action is needed. The second priority area was socioeconomic, gender, age and other inequalities in environment and health, and the measures that can be taken to address them. The third priority area was the effects of climate change. The Conference participants discussed how to move the environment and health process forward in Europe, and in particular how to strengthen local and sub regional implementation, and summed up their intent with the Parma Declaration. Download Available at: <http://bit.ly/f15v3W>

## APPLY FOR CAMPUS LIASION

Participation on the PHP team is an opportunity to get involved in PHP activities, develop and demonstrate leadership skills, as well as work with some terrific colleagues. The campus Liaisons will have opportunities to shape the activities and strategic directions of PHP. In addition, Liaisons serve as their college representative to the PHP by helping to: reporting news from their college in general and the program of study in specific.

Serving as a campus liaison does not require a large time commitment. Campus liaisons distribute information, for example, by speaking at new student orientations and to your student society or association about PHP. PHP will provide necessary materials needed for this position. This position will also provide students with a unique opportunity to become more cognizant of health news around the nation.

Being a campus liaison for PHP is a great way to demonstrate the team work ability with the professional development as campus liaisons names and their colleges are mentioned in every issues of PHP.

If you are interested in participating as a Campus Liaison and have any questions about the Liaison position, please contact us.

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### Our Campus Liaisons

**Tilak Mahatara**

Nobel College,  
Sinamangal, Kathmandu

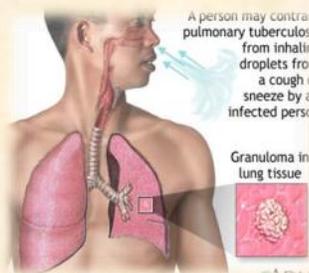
**Srishti Shrestha**

Padma Nursing Home, School of Nursing,  
Pokhara

# Being Healthy

## TB Prevention: Together We Can!

Despite of high quality DOTS, health system strengthening, engagement of all health care providers, reduction of national tobacco consumption, TB/HIV collaboration; we are still lagging behind to control and prevent tuberculosis. There are many reasons behind this fact. Lack of evidence based complete timely reporting, interrupted drug supply, lack of patient compliance, Increased HIV incidence rate and poverty, Poor case management, and etc. Among them lack of awareness is the most common reason. Therefore, it is crucial to know what tuberculosis is. It is a germ infection caused by Mycobacterium tuberculosis, which generally affects the lungs, but it can also affect kidneys, lymph



nodes, spine, intestinal tract, and brain.

According to the Regional workshop on TB (2010), in Nepal, every year about 45% of the total populations are infected with Tuberculosis (TB), and each year, 44,000 people develop active TB,

of whom 20,000 have infectious pulmonary disease. This means that it is important to institute and maintain appropriate public health measures, including screening, vaccination, and treatment.

The first symptoms of an active case of TB may be dismissed in which individual may get tired easily, feel slightly feverish, or cough frequently, lose ap-

petite, lose weight, and get night sweats. Often people do not seek the advice of a doctor until they have pronounced symptoms, such as pleurisy (a sharp chest pain) or the spitting up of blood. Neither of these symptoms is solely of tuberculosis, but they should not be ignored.

Because of poor living conditions, poverty, illiteracy, lack of sanitation, Age, Alcoholism, HIV infection, Injecting drug use, Malnutrition and increased medication leading to immunosuppressant etc. TB can't be easily prevented in Nepal. People who work and live in close proximity with a contagious person have to be educated about the spread of the bacilli. Proper identification of patients by lung X-ray screening helps to prevent spread of the bacteria.

Those found infected, should be treated appropriately. Improvement of ventilation of houses, isolation methods in hospitals, medical institutions, and prisons also help to avert TB. If there are many people in a room, then reduce overcrowding where possible, as TB spreads easily from infected to others. "Stop Spitting Everywhere." TB bacilli persist for about 5 minutes in the environment. Use mask to prevent invading tuberculin bacilli wherever you roam. A tissue paper should always be used to cover the nose and mouth when coughing, sneezing or spitting, and hands should be washed promptly.

There are four ways to help reduce the likelihood of TB infection. One shot of the Bacillus Calmette Guerin (BCG) vaccine helps prevent TB in children. It should be given within few hours after delivery. All other required vaccines shots ought to be completed before the children reach five to boost up their immunity. Reduce the national consumption of alcohol and smoking, and increase the consumption of food rich in vitamins, minerals, protein, vitamins, and fibers.

### TB-HIV Co-infection

Together, TB and HIV form a lethal amalgamation. HIV weakens the immune system and promotes the progression of recent and latent tuberculosis infection to active TB disease. A person living with HIV who is also infected with TB is 20 times more likely to become sick with active TB than someone who is HIV negative.

Similarly, for anyone with HIV positive the chance of getting TB is 10% per year. That means in 10 years 100% people with HIV positive will be infected by TB.

However, HIV-infected persons with TB infection can be effectively treated. To decrease the burden of HIV in TB patients there is a need of HIV testing and counseling. Education and communication of HIV prevention methods like safe sexual behavior, condom use

help preclude it. In retrospect, HIV must also screen- positive patients perform TB ing test, spu- tests, etc. this, im- collaboration TB and HIV/ gram leads to tive action to pre- infection. Stakeholders, public and the individual should show active involvement in those programs. They should also make special provision of HIV/AIDS care coupled with stipulation of antiretroviral therapy.



Public Health Perspective Online Newsletter

## Selected health indicators for Nepal

Health Indicator	1996	2001	2006
Percentage of women with no education	80.0	72.0	53.1
Percentage of women with access to newspaper, television and radio	2.6		8.0
Total fertility rate (children per women)	4.6	4.1	3.1
Percentage of teenagers who have begun childbearing	23.9	21.4	18.5
Percentage of married women currently using any method of family planning	28.5	39.3	48.0
Percentage of married women currently using any modern method of family planning	26.0	35.4	44.2
Median age at first marriage for women age 25-49 (years)	16.2	16.7	17.0
Median age at first sex for women age 25-49 (years)	16.3	16.7	17.0
Percentage of married women who want no more children	58.7	65.6	71.0
Percentage of married women with an unmet need for family planning	31.4	27.8	24.6
Mean ideal number of children	2.9	2.6	2.3
Infant mortality rate (per 1,000 live births)	78.5	64.4	47.9
Under-five mortality rate (per 1,000 live births)	118.3	91.2	61.2
Percentage of live births receiving antenatal care from a trained health professional		48.6	69.7
Percentage of live births delivered at a health facility		7.9	16.7
Percentage of live births receiving assistance at delivery from a trained health professional		12.9	22.8
Percentage of children fully immunized	43.3	65.6	82.8
Percentage of children with acute respiratory infection or fever taken to a health facility		26.1	34.3
Percentage of children with diarrhea who received either ORS or RHS		32.2	29.3
Median exclusive breastfeeding duration (months)	5.3	5.5	4.7
Percentage of children underweight (based on WHO child grow Standards)		43	39
Percentage of children stunted (based on WHO child grow Standards)		57	49
Percentage of children wasted (based on WHO child grow Standards)		11	13

>> Source: Nepal Demographic Health Survey (2001/2006), MEASURE DHS, Macro International Inc.

## Public Health Perspective Newsletter Team

### Editorial Advisories

**Mrs. Rose Schneider -- RN MPH**

Senior Health and HIV/AIDS Specialist  
 Health Systems Management  
 1414 Perry Place NW - Suite 100  
 Washington, DC 20010

**Dr. Margaret Stebbing**

PhD, Master of Public Health, Dip App Sci Nursing  
 Population Health Academic  
 School of Rural Health, Monash University  
 Australia

**Dr. Duk Bahadur Chhetri**

MD, Pathologist  
 Western Regional Hospital Lab.  
 Pokhara

**Mr. Balram Banstola**

Managing Director, Senior Pharmacist  
 Banstola Medical Hall  
 Kaski

### Advisory Boards

**Ms. Sami Pande**

B. Pharm, MPH  
 Australian Leadership Scholar, 2009  
 Kathmandu

**Arjun Poudel**

Msc. Pharm (Social and administrative Pharmacy)  
 Universiti Sains Malaysia, Penang , Malaysia

**Ashik Banstola**

M. Pharm (Pharmacology)  
 Bangalore

**Madan Kc**

Msc. Medical and Health Care Devices University of Bolton, UK

**Amit Dhungel**

BPH, MPGD  
 Program Coordinator  
 Naulo Ghumti, Nepal

**Dr. Krishna Chandra Rijal**

Dept. of Otorhinolaryngology and Head & Neck Surgery

International society for Medical Education

College of Medical Sciences and Teaching Hospital Bharatpur, Chitwan

### Newsletter Team

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Amrit Banstola

**Assistant Editors**

- Anoj Gurung
- Dikshya Sherchan
- Dipendra Malla
- Sandeep Pahari
- Sangita Shrestha
- Subash Timilsina
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The Editor, Public Health Perspective Online Newsletter,

Banstola Medical Hall, Milanchowk, Hemja-8 VDC, Pokhara, Kaski, Nepal , or email [newsletter.php@gmail.com](mailto:newsletter.php@gmail.com)