TUBERCULOSIS AND HUMAN IMMUNO-DEFICIENCY VIRUS CO-INFECTION IN SUSPECTED TB PATIENTS

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(Medical)

by
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RECOMMENDATION

This is to certify that Miss. Sunita Maharjan has completed this dissertation work entitled **Tuberculosis and Human Immuno-deficiency Virus Co-infection in Suspected TB patients** as a partial fulfillment of M.Sc degree in Microbiology under our supervision. To our knowledge this work has not been submitted for any other degree.

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ABSTRACT

Tuberculosis (TB) is one of the major public health problems in Nepal and HIV has become the most potent risk factor for the progression of TB infection as HIV-positive people are more likely to develop TB when newly infected or reinfected with *Mycobacterium tuberculosis.* The study was carried out in Health Research Laboratory, Institute of Medicine, Tribhuvan University Teaching Hospital during October 2006 to July 2007 with a general objective to determine TB/HIV co-infection cases visiting DOTS center in Tribhuvan University Teaching Hospital and Infectious and Tropical Disease Research and Prevention Center, Tripureshwor.

A total of 300 patients, visiting DOTS center of TUTH, Maharajgunj and Infectious and Tropical Disease Research and Prevention Center, Tripureshwor suspected of having TB infection and risk behaviour towards HIV were included. Out of 300 patients, 79 of them were diagnosed as TB infected cases. Only sputum samples were taken to diagnose pulmonary tuberculosis. Among patients diagnosed as having TB, higher number (83.54%) of male patients than female (16.45%) were found which was found to be statistically significant (χ^2 = 11.47, P<0.01). Highest prevalence of TB infection was found in age group 21-30 years followed by 51-60 years. About 34 patients out of 300 were recorded as HIV sero-positive among which 70.59% were males and 29.41% were females. Highest prevalence (44.12%) was found in age group 31-40 years. TB/HIV co-infected cases were found to be 13 (4.33%). Out of 34 HIV sero-positive cases, 21 of them were diagnosed as not to be infected with tuberculosis. Highest prevalence of TB/HIV Co-infection (38.46%) was observed in age group 31-40 years followed by 41-50 years with 30.77%.

Risk factors towards majority of TB/HIV co-infected patients were found to be IDUs and migrators. Many of the HIV infected and TB/HIV co-infected were revealed to have multiple sex partners. Regarding occupation, greater number of TB patients and HIV sero-positives were found to be involved in different services, followed by factory employee, business, housewives, drivers, agriculture etc.

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ADCC	Antibody dependent cellular cytotoxicity
AFB	Acid Fast Bacilli
AIDS	Acquired Immuno-Deficiency Syndrome
APC	Antigen Presenting Cell
ART	Antiretroviral Therapy
BAL	Bronchoalveolar lavage
CDC	Center for Disease Control
CTL	Cytotoxic lymphocyte
DNA	Deoxyribonucleic acid
DoHS	Department of Health and Services
DOTS	Directly Observed Treatment Short Course
ELISA	Enzyme linked Immunosorbent Assay
FHI	Family Health International
FSW	Female Sex Workers
GTZ	German Technical Cooperation
HIV	Human Immunodeficiency Virus
HPLC	High Performance Liquid Chromatography
HTLV	Human T-cell Lymphotripic Virus
IDUs	Intravenous Drug Users
IFN	Interferone
IL	Interleukin
IUATLD	International Union Against Tuberculosis and Lung Disease
L-J	Lowenstein- Jensen
MDR-TB	Multi Drug Resistance- Tuberculosis
MGIT	Mycobacterial Growth Indicator Tube
MHC	Major Histocompatibility Complex
MOTT	Mycobacterium Other Than Tubercle
MSM	Men having Sex with Men
MTB	Miliary Tuberculosis
MTBC	Mycobacterium Tuberculosis Complex
MTCT	Mother To Child Transmission
NCASC	National Center for AIDS and STD control
PPD	Purified Protein Derivative
PCR	Polymerase Chain Reaction
PGL	Persistent Generalized Lymph Adenopathy
PHA	People living with AIDS
PLWHA	People living with HIV/AIDS
PTB	Pulmonary Tuberculosis
RNA	Ribonucleic Acid
SAC	South Asian Association for Regional Corporation
STC	SAARC Tuberculosis Center

STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
TB	Tuberculosis
TCR	T Cell Receptor
TGF	Transforming Growth Factor
TLR	Toll like Receptor
TNF	Tumor Necrosis Factor
UV	Ultraviolet
WHO	World Health Organization
ZN	Ziehl- Neelsen

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