AWARENESS AMONG YOUTH ABOUT HIV & TB- A COMPARATIVE STUDY

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ABSTRACT

BACKGROUND
India has a high burden of diseases such as Tuberculosis (TB), HIV/AIDS and also HIV-TB co-infection. As children and youth are a valuable resource for the future of a country, this study was conducted to assess the awareness among youth about HIV and TB and to compare awareness about TB with that of HIV.

MATERIALS AND METHODS
It is a cross-sectional observational study conducted on 500 students studying in a degree college in Visakhapatnam. All of them were in the age group of 18-20 years. A printed questionnaire with multiple choice answers was handed over to them and they were asked to choose the appropriate answer.

RESULTS
The mean of awareness about HIV was 65.57 but that of tuberculosis was only 48.14. Awareness of tuberculosis was found to be significantly lower when compared to that of HIV (P<0.0001).

CONCLUSION
Awareness about tuberculosis is much less compared to that of HIV/AIDS. Most of the students read about these diseases in their books as a part of their curriculum, but they were less exposed to other awareness programmes conducted by the government. Awareness among youth about cough etiquette and tuberculosis has to be increased immediately by all possible means, so that they can protect themselves and future generations.

KEYWORDS
TB, Tuberculosis, HIV, AIDS, Awareness, Youth.


BACKGROUND
India has the highest burden of tuberculosis (TB) in the world, accounting for approximately one-fifth of the global incidence - an estimated two million cases annually.[¹] India alone accounts for more than 25% of the world's incident cases.[²] Under Revised National Tuberculosis Control Programme, through a consistent communication, a lot of awareness has been created about TB - about its cause, symptoms, and cure, as well as various misconceptions and stigmas attached to it. Studies on awareness of TB and treatment seeking behaviour have been carried out in various parts of India on various subgroups.[³–⁵]

Acquired Immune Deficiency Syndrome (AIDS) caused by Human Immunodeficiency Virus (HIV) is posing a serious challenge to the conceptual foundations and the practice of development planning Worldwide. Nearly half of the new HIV infections are occurring in young people.

HIV/AIDS is retarding economic growth by destroying human capital by mainly affecting the young adults in the age group of 15–24 years who are in their most productive ages of life. At the state level, different organisations are actively working to spread awareness in schools, colleges and communities. The School Adolescent Education Programme and Integrated Rural AIDS Awareness Programme for rural people are two such programmes to create awareness of HIV/AIDS.

Persons infected by Tubercle bacilli have about a 10% chance of developing tuberculosis during the remainder of their lives. Thus, they have a less than 0.5% chance of developing overt disease annually,[⁶] while 10% of persons infected by both TB and HIV develop tuberculosis disease annually.[⁷] The implication of HIV infection is that it activates dormant tuberculosis to rapid disease progression of tuberculosis and death.[⁸] In fact, tuberculosis is now the most common opportunistic infection in patients from developing countries who die from AIDS.[⁹] Reports show that active tuberculosis increases the morbidity and fatality of HIV-infected person and about one-third die of tuberculosis.[¹⁰]

The largest increase in tuberculosis has occurred in locations and demographic groups with the highest HIV prevalence, which suggests that the epidemic of HIV is at least partially responsible for the increase of tuberculosis.[¹⁰]

Programme managers and policy makers have often recommended that schools, colleges can act as the centre point for disseminating information and education. Hence, school education has been described as a 'social vaccine', and it can serve as a powerful preventive tool. As children and
youth are a valuable resource for the future of a country, it is imperative that they be equipped with ample amount of information so as to protect themselves and their counterparts from falling prey to these diseases.

With this background, this study was conducted to assess the awareness among youth about HIV and TB, and to compare the awareness about Tuberculosis with that of HIV.

MATERIALS AND METHODS
It is a cross-sectional observational study conducted on 500 students studying in a degree college in Visakhapatnam. Sample size was calculated using Slovin’s formula (n=N/(1+Nε2), estimating N as 1,00,000 degree college students in Visakhapatnam, at a confidence level of 95% and margin of error 0.05, sample size ‘n’=398. All of them were in the age group of 18-20 years. Of them, 289 were boys and 211 were girls. Permission was taken from the Principal of the selected degree college in Visakhapatnam to conduct the study in their college. All the students were explained about the study, and all those who orally consented to participate were included in the study. A printed questionnaire about HIV and TB with multiple choice answers was handed over to them and they were asked to choose the appropriate answer. Questionnaire was in both English and Telugu.

RESULTS
All the data was entered and analysed using Microsoft excel software. Statistical analysis using t-test was carried out in GraphPad Prism software.

<table>
<thead>
<tr>
<th>Question</th>
<th>No. of students who answered correctly out of 500 students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HIV</td>
</tr>
<tr>
<td>What is the cause of disease?</td>
<td>100(20%)</td>
</tr>
<tr>
<td>What are the symptoms?</td>
<td>315(63%)</td>
</tr>
<tr>
<td>Is it contagious?</td>
<td>350(70%)</td>
</tr>
<tr>
<td>How does it spread?</td>
<td>350(70%)</td>
</tr>
<tr>
<td>How can we prevent disease?</td>
<td>415(83%)</td>
</tr>
<tr>
<td>Can it be cured?</td>
<td>365(73%)</td>
</tr>
<tr>
<td>What is the duration of treatment?</td>
<td>400(80%)</td>
</tr>
</tbody>
</table>

Table 1. Awareness about HIV and TB among Youth

It was observed that 20% of the students knew that the cause of HIV was a microorganism while only 13% knew that cause of Tuberculosis was a microorganism. 63% knew the symptoms of HIV/AIDS and 67% knew the symptoms of Tuberculosis. 70% knew that HIV is contagious and 83% knew that Tuberculosis is contagious. 70% knew the mode of transmission of HIV and 83% knew how to prevent HIV transmission, but only 47% knew the mode of transmission of Tuberculosis and 50% knew the measures to be followed to prevent transmission of Tuberculosis. Most of them thought that smoking is the cause of Tuberculosis and it spreads by eating and staying with tuberculosis patients. 73% knew that HIV/AIDS can be controlled by medications and 80% knew that treatment should be continued lifelong, but only 57% knew that tuberculosis can be cured completely and only 20% knew that the duration of its treatment is a minimum of 6 months.

The mean of awareness about HIV was 65.57 but that of tuberculosis was only 48.14. Awareness of tuberculosis was found to be significantly lower when compared to that of HIV (P<0.0001). Overall, we have observed that students had much less awareness about Tuberculosis than HIV/AIDS, though tuberculosis is easily transmitted than HIV and is almost equally dangerous - due to increase in the number of Multidrug Resistant-TB (MDR-TB) and Extremely Drug Resistant-TB (XDR-TB) cases.

Following responses were obtained from students when asked about the source of their knowledge about these diseases. 74% read about HIV in books and 10% heard it from their friends, 3% saw on Television, 13% from posters. 63% read about Tuberculosis in books, 23% heard about it from friends, 10% saw on Television and 3% heard from health workers. So, our observation was that most of the students read about these diseases in their books as a part of their curriculum, but they were less exposed to other awareness programmes conducted by the government.

The awareness about HIV is more than that of TB.

DISCUSSION
Our study subjects had better awareness about HIV/AIDS than tuberculosis. This is the first study done comparing the awareness about TB with that of HIV. The growing incidence

of both these diseases despite national control programs, and a
dose relationship that has emerged between tuberculosis
and HIV, is the motivation behind this study.

In a study\(^{(11)}\) conducted about awareness of tuberculosis
in an urban slum of Puducherry in 2013, 71% considered TB
as a serious disease, 82% were aware that cough is a
symptom of TB, 81% stated that TB can spread from one
person to another, 65% were aware of spread by cough, 87%
said that TB is curable and 42% were aware of the treatment
duration of 6 months. Though our study was conducted
among degree college students in an urban area, to our
astonishment, awareness among students was less – only
67% knew the symptoms of TB, 83% knew that it was
contagious but only 47% were aware of spread by cough and
57% knew that TB is curable but only 20% were aware of the
duration of treatment.

In a study\(^{(12)}\) conducted in 2007 in rural areas of Gujarat,
among young people aged 15 to 24 years with 86.58%
literates, 61% had heard about HIV/AIDS, 92.42% knew that
the disease was transmitted, > 80% of the participants among
those who had heard about HIV/AIDS were aware of various
preventive measures against its spread. The sources of information regarding HIV/AIDS were:
friends- 77%,
television- 69%,
health workers -18%,
novels - 12%,
radio- 9%,
magazines- 3%
and wall slogans or billboards 7%.
Our study group was also in the same age group, and all were
educated i.e. degree college students, but only 70% knew that
HIV was contagious and 83% were aware of the preventive
measures against its spread. The sources of information in
our study were: 74%- books, 10%- friends, 3%- television
and 13%- posters.

By comparing our study with the above studies, we
observed that though our study group are students and are
actually more educated than the previous study groups, they
had less awareness about these diseases. The possible reason
could be that the students are more into academic knowledge
than general knowledge. Most of them might be pursuing
education only for the sake of certification rather than to
acquire knowledge applicable in life. We also observed that
major source of their information about the diseases were
books, unlike the villagers in other study whose major
sources were friends and television.

Twenty-five hundred years ago Hippocrates described
Tuberculosis as the most widespread disease of his time and
he claimed it almost always fatal. At the height of the Roman
Empire, his successor Galen saw treatment of the disease to
be so often useless that he allegedly warned colleagues
against visiting patients in late stages of the disease, because
their inevitable death might damage the reputation of the
physician.\(^{(13)}\)

For many centuries, tuberculosis has been the most
important of human infections, in its global prevalence,
devastating morbidity and massive mortality. It has been
called the ‘white plague’ and ‘the captain of all the men of
death’. It was only in the last 150 years that a public health
response began to unfold. The actual infective agent was not
discovered until 1882; Robert Koch would win a Nobel Prize
for his work.\(^{(14)}\) Before the turn of the century, diagnosis
incorporated then-cutting edge technology, the X-ray. The
BCG vaccine while still of uncertain efficacy, offered some
protection to children from the 1920s onward. Thomas
McKeown et al (1975) concluded that public health played a
negligible role in the historical decrease in disease mortality,
including from TB, emphasising that increased standards of
living, including better nutrition, were the deciding factors.\(^{(15)}\)
Indeed, the link between poverty and TB had been recognised
by the medical profession for some time; Sir William Osler,
sometimes considered the Father of Modern Medicine,
described TB as “A Social Disease with Medical Aspects.”
The turning point came in the 1940s with the discovery of
the first drugs effective against TB, an achievement worthy of
another Nobel Prize.\(^{(14)}\) Prior to such treatment, close to half
of all patients died within five years and with treatment, most
patients were cured. As more drugs were discovered, it was
soon possible to close Sanatoria, and treat patients entirely
on an outpatient basis.\(^{(16)}\)

TB was also the first context in which health economics
and population impact of disease were studied.\(^{(17)}\) Tools were
developed so rapidly, and proved so effective, that by
the 1960s, the WHO was targeting the complete elimination of TB
worldwide. Yet by the time HIV appeared, TB was no longer
high on the public health agenda.

HIV is thought to have originated in non-human primates
in sub-Saharan Africa and was transferred to humans late in
the 19th or early in the 20th century.\(^{(18-20)}\) The earliest
well-documented case of Human Immunodeficiency Virus in
human dates back to 1959\(^{(21)}\). The emergence and pandemic
spread of the acquired immunodeficiency syndrome (AIDS)
have posed the greatest challenge to public health in modern
times. The first indication of this new syndrome came in
the summer of 1981, from USA.\(^{(22)}\) The International Committee
on Virus Nomenclature in 1986 decided on the generic name
human immunodeficiency virus (HIV) for these viruses.

Since then the HIV/AIDS pandemic has greatly
contributed to the continuing threat of TB. Not only does HIV
infection reactivates a latent tuberculosis infection, but it also
makes the disease more serious and renders treatment
ineffective. Tuberculosis in turn may hasten the development
of HIV infection into active disease. So serious is the global
threat of tuberculosis combined with multidrug resistance
and concomitant HIV infection that the World Health
Organization in 1993 took the unprecedented step of
deducing this disease a global emergency.

It is a matter of grief that age old diseases are still
persisting and also increasing in prevalence along with new
diseases, but our youth still lack necessary awareness about
these life-threatening diseases. Increasing awareness among
people, especially youth will surely help in controlling both
the diseases.

CONCLUSION

Awareness about Tuberculosis is much less compared to that
of HIV/AIDS, though TB spreads easily by simple cough and
MDR-TB & XDR-TB are almost equally dangerous as
HIV/AIDS. Most of the students read about these diseases in
their books as a part of their curriculum, but they were less
exposed to other awareness programmes conducted by the
government. Awareness among youth about cough etiquette
and tuberculosis has to be increased immediately by all
possible means like showing in movie theatres, organising
health education in colleges by inviting specialists,
conducting essay writing, elocution, painting competitions on
World health day (April 7th), World TB day (March 24th),
World AIDS day (December 1st), etc., so that they can protect themselves and future generations.

ACKNOWLEDGEMENTS
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Abbreviations
HIV - Human Immunodeficiency Virus.
AIDS - Acquired Immune Deficiency Syndrome.
TB - Tuberculosis.

REFERENCES