A Study to Assess The Incidence of Suspect Cases of Leprosy and Tuberculosis at Selected Urban Slum of Pune City

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Abstract

Background: Communicable diseases are those that spread by an infectious agent, such as bacteria, viruses, fungi or parasites. Leprosy was once feared as a highly contagious and devastating disease, but it doesn't spread easily and treatment is very effective.[1] However, if left untreated, the nerve damage can result in crippling of hands and feet, paralysis, and blindness. Leprosy and Tuberculosis, is been a threatening issue all over the world. It's been hugely spreading, since it caused by air-borne organisms and is highly contagious. It's been observed that 1/3rd population of the world have latent tuberculosis, which simply means, if not taken care, they can develop higher stages and get ill. [2]There is a strong need to identify the cases at early stages so that mortality and morbidity can be prevented

Aim and Objective: This study aims to identify the suspects cases of leprosy and tuberculosis based on tentative sign and symptoms and its association with the gender so that early detection can be done to reduce the mortality and morbidity rates.

Research Methodology: The quantitative approach is used for the Study. A descriptive survey design is adopted on 300 samples which are chosen by the convenience sampling method. An assessment protocol has been prepared to assess the sign and symptoms of leprosy and Tuberculosis. The suspect cases then referred to the Urban Primary Health centres for the confirmation of the diagnosis so that treatment can be initiated at the earliest.

Results and conclusion : The study results showed,almost 13 to 15 suspects found in the Urban slum with the surveyed population of 300. The associated factors with selected demographic variables were lesion and eye pain in leprosy cases and cough in Tuberculosis Cases .The suspect cases are referred to UPH where 13 cases of Leprosy and 14 cases of Tuberculosis were confirmed. It is recommended that the associated factors need to be explored further to rule out the other factors relate to incidence of diseases.

Keywords*: leprosy, Tuberculosis, Suspect Cases, Urban Slums*

Background

"Prevention is always better than cure. When Something with the passage of time might become dangerous, then it is better to take a precautionary step to combat the danger. In fact, "Prevention is better than cure" is one of the most common and popular proverbs.[1] Prevention means to avoid and cure means to correct anything that is troublesome or detrimental. "**Early diagnosis and its treatment "play** a role to prevent many communicable diseases. And identifying High risk cases and their management is one of the challenges in community.[2]

Communicable diseases are those that spread by an infectious agent, such as bacteria, viruses, fungi or parasites. Most of these diseases can be passed from person to person so the words "contagious" or "infectious" are often used when talking about communicable diseases. Some communicable disease spread through the air. [3]Others require direct contact with a contaminated surface, food or beverage, blood or other bodily fluids. In some cases, a bite from an infected animal or insect is also capable of spreading the disease. Some diseases can be transmitted in more than one way.[4]

Leprosy also known as H. disease **(also known as leprosy**) is an infection caused by slow-growing bacteria called *Mycobacterium leprae*. It can affect the nerves, skin, eyes, and lining of the nose (nasal mucosa). With early diagnosis and treatment, the disease can be cured. People with Hansen's disease can continue to work and lead an active life during and after treatment.[4]

Leprosy was once feared as a highly contagious and devastating disease, but it doesn't spread easily and treatment is very effective. However, if left untreated, the nerve damage can result in crippling of hands and feet, paralysis, and blindness.[4]

Tuberculosis (TB) is caused by a bacterium called *Mycobacterium **tuberculi.*** The bacteria usually attack the lungs, but TB bacteria can attack any part of the body such as the kidney, spine, and brain. Not everyone infected with TB bacteria becomes sick. As a result, two TB-related conditions exist: latent TB infection (LTBI) and TB disease. If not treated properly, TB disease can be fatal.[3,5]

Leprosy and Tuberculosis, is been a threatening issue all over the world. It's been hugely spreading, since it is transmitted through air-borne route organisms and is highly contagious. It's been observed that 1/3rd population of the world have latent tuberculosis, which simply means, if not taken care, they can develop higher stages and get ill. A person who is been treated with tuberculosis has to be conscious towards hygiene. Since, with closer contacts it will spread over. It is always better to prevent this spreading rather than curing it later.

But now it's time to act and need to focus on prevention of the communicable disease by public awareness by educating the community people. Early diagnosis /High risk cases in the community and need to take prompt action against this communicable disease by educating general public.

Aim and Objective: This study aims to identify the suspects cases of leprosy and tuberculosis based on tentative sign and symptoms so that early detection can be done to reduce the mortality and morbidity rates.

Research Methodology: The quantitaive approach is used for the Study. A descriptive survey design is adopted on 300 samples which are chosen by the convenience sampling method. An assessment protocol was prepared to assess the sign and symptoms of leprosy and Tuberculosis. The suspect cases then referred to the Urban Primary Health centres for the confirmation of the diagnosis so that treatment can be initiated at the earliest.

Results

Section I: Demographic characterstics of the samples

Majority of subjects were female (78%) and (22%) were male. Majority of the subjects were living in a joint family in (68%) whereas (32%) were living in a nuclear family.

Section II:Distribution of Clinical Manifestation of Leprosy

Majority of subjects (95.7%) had no lesions over the body surface and (4.3%) had lesions over the body surface. Majority of subjects (95.3%) had no ulceration and (4.7%) had ulceration over the body surface area.8.3% had numbness or tingling sensation over the body surface area.8% of subject had the muscle pain along with the other clinical manifestation and only.(13.7%) had presence of eye pain as clinical manifestation. 30% had change in vision.

Section III:Distribution of Clinical Manifestation of Tuberculosis

According to the presence of chest pain. Majority of subjects (87.3%) had no presence of chest pain and (12.7%) had the presence of chest pain.Majority of subjects (87.3%) had no complain of blood in sputum and 12.7% subject had sputum production with blood. 30% of cases showed Anorexia Symptoms. 100% samples shows the symptoms of weakness. Majority of subjects (94%) had no symptoms of night sweat and only 6% had night sweat complain.

Section IV: Association between gender and presence of symptoms of Leprosy

Non parametric Chi square test was used to identify the association between gender and Clinical manifestation of Leprosy. No clinical manifestation seems associated except Presence of Lesion and eye pain. The standardized statistic is 3.335.in case of lesion and .257 in case of Eye pain. The expected count is less than 5.

Table 1: Association of Presence of lesion in leprosy with gender

N=300						
	Value	**Df**	**Asymp. Sig. (2-sided)**	**Exact Sig. (2-sided)**	**Exact Sig. (1-sided)**	**Point Probability**
Pearson Chi-Square	11.370a	2	.003	.037		
Likelihood Ratio	4.786	2	.091	.053		
Fisher's Exact Test	7.174			.024		
Linear-by-Linear Association	11.120b	1	.001	.020	.020	.013
N of Valid Cases	300					

Table 2: Association of Presence of eye pain in leprosy with gender

	Value	**Df**	**Asymp. Sig. (2-sided)**	**Exact Sig. (2-sided)**	**Exact Sig. (1-sided)**	**Point Probability**
Pearson Chi-Square	.370a	2	.831	.872		
Likelihood Ratio	.369	2	.832	.872		
Fisher's Exact Test	.649			.872		
Linear-by-Linear Association	.066b	1	.797	.880	.492	.05
N of Valid Cases	300					

Section V: Association between gender and presence of symptoms of Tubeculosis

Non parametric Chi square test was used to identify the association between gender and Clinical manifestation of Tuberculosis. No clinical manifestation seems associated except Cough. The standardized statistic is 1.491. 2 cells (33.3%) have expected count less than 5.

Table 3: Association of Presence of Cough in Tuberculosis with gender

	Value	**df**	**Asymp. Sig. (2-sided)**	**Exact Sig. (2-sided)**	**Exact Sig. (1-sided)**	**Point Probability**
Pearson Chi-Square	8.393a	2	.015	.010		
Likelihood Ratio	9.488	2	.009	.006		
Fisher's Exact Test	8.990			.007		
Linear-by-Linear Association	2.222b	1	.136	.170	.002	.001
N of Valid Cases	300					

Conclusion

The study concluded that there are almost 13 to 15 suspects found in the Urban slum with the surveyed population of 300. The associated factors seem to be lesions and eye pain and cough in case of tuberculosis. The suspect cases are referred to UPH where 13 cases of Leprosy and 14 cases of Tuberculosis were confirmed. It is recommended that the associated factors need to be explored further to rule out the associated reason and causes so that mortality and morbidity can be prevented.

Ethical Clearance: Taken from Institutional research Committee

Conflict of Interest: Nil

Source of Funding: Self

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