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CLINICAL APPROACH AND TREATMENT OUTCOME OF MDR TUBERCULOSIS PATIENT IN LUCKNOW AT TUBERCULOSIS UNIT OF TERTIARY CARE CENTRE

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Abstract

Tuberculosis is one of the major and serious health hazards in the current scenario to the world and in India also. As India is a developing nation so it is also facing major health problem due to tuberculosis and due to unavailability of good medical facilities in remoting areas of country becomes one of the major reasons for this infection to be spread all over [12]. Country report that the death rate due to the tuberculosis is 23% [7] which is a big number. So, becomes very important to conduct a deep study on tuberculosis and find out the root cause for the spread of this infection. India along with world health organization taking various steps to control this disease and running various health program such as Revised National Tuberculosis Control Program (RNTCP) and Standard Treatment Regimen (STR) [9]. In the present research work samples of fourty patients were collected and analyzed by following Sputum Microcopy and these data was categorized and analyzed and on the basis of them conclusions were made. The aim of the present research work is to collect the tuberculosis patient data of the Lucknow region and analyze them from all points of view and provide a detailed report on it. Which will also help other researchers to conduct their research work.

Keywords: - Tuberculosis, Pulmonary, Treatment, Sputum Microscopy, MDR, DOTS.

Introduction

Tuberculosis is found out to be serious health problem worldwide and so as to be in India also. Almost one third of the population worldwide is affected by health problems or the crucial chance of getting infected from this disease[12][17]. Developing nations report more than 80% of the tuberculosis cases and deaths due to it [12][19]. Whereas more than 70% of the cases occur in the productive age group [9].

As far as treatment is concerned the rate of successful treatment of the patient has register a sudden spike in the graph from 20% to 72% [32][2] whereas death rate is concern there is a slight decrease in the mortality rate is notice i.e., from 23% to 9% [17][4]. Still tuberculosis is found to be the major reason for death in India. Worldwide India registers a greater number of death than any other country due to tuberculosis. India along with United Nation and World Health organization has adopted a 12-year plan in the year 2012 with the goal to subsequently decrease the mortality rate as well as the infection rate of tuberculosis [22][1][5].

At present the adaption of plan against tuberculosis is to make the world free from tuberculosis so

it becomes quite necessary to primarily know the cause of infection and also analyze the data of patient who has already been infected or has been diagnosed with tuberculosis. The present research work aims to enhance the services provided for the diagnosis of tuberculosis and also to achieve the successful diagnosis of tuberculosis with the rate of 95% [29][33]. As to obtain this stage it is required to examine the peoples from a particular region those who are found to be on high risk or highly infected that are result of improper treatment or medical negligence and they are required on special medical attention for treatment.

Various studies have been conducted in the last few years regarding the treatment outcome of tuberculosis in the Lucknow region. This study was decided on the route map of Medically examining the persons of tuberculosis that belongs from Lucknow and its nearby areas and other district, and patient attending tuberculosis unit of tertiary stage treatment.

Methods

The present research work was conducted at the Department of Microbiology and Department of Respiratory Medicine at King George Medical University, Lucknow. Here tuberculosis patients directly visit doctors or get referred from any other hospital or doctor of other district of Uttar Pradesh.

In this study data related to tuberculosis patients was collected of a particular time period. In our present study the data collected for the year 2021 to 2022. The method followed for the collection of samples was Sputum Microscopy as advice by Revised National Tuberculosis Control Programme and directed by Directly Observed Treatment Short course (DOTS) [31]. The testing and analysation of the collected tuberculosis sample as well as the treatment which has to be carried out were also done by following the direction of afore mention advisory body. In the present research work, the diagnosis followed, and the results obtained in the treatment were analysed in the study by keeping the close eye on the patient who is infected by multiple drug resistant (MDR) and these type of patient are mainly taken into consideration for conducting the research work.

Various definition used by Revised National Tuberculosis Control Programme and Directly Observed Treatment Short course (DOTS) in the treatment of tuberculosis patient are explain below.

Operation

1) Pulmonary Tuberculosis: - It is a type of tuberculosis in which only lungs are infected.
2) Extrapulmonary Tuberculosis: - It is a type of tuberculosis in which other than lungs are infected.
3) New Case: - the patient that has never been subjected to tuberculosis treatment for less than a month.
4) Previously Treated Patient: - the patient that has never been subjected to tuberculosis treatment than a month or more.

Outcome

1) Not Evaluated: - the patient who is either not diagnosed or whose reports outcome is unknown.

2) Treatment Complete: - The patient whose treatment for tuberculosis is complete and does not carry any chance of getting tuberculosis bacteria culture positive.
3) Treatment Failure: - The tuberculosis patient whose sputum bacteria culture positive even after tuberculosis treatment for a certain period of time.
4) Treatment Success: - the patient has gone through the diagnosis and treatment and tuberculosis is perfectly cured.
5) Cured: - the patient having pulmonary tuberculosis and diagnosed with it and gone through the treatment process and there is no chance of getting recurrence of infection.
6) Lost to Follow up: - The tuberculosis patient whose treatment has never started or get interrupted due to any reason for the couple of months or more than that.

Result

Sr. No.	DPS Id of Patient	Sex	Age	Suspect Criteria	Site	Result for MDR
1	UP-LNO-1-D-22-00017	F	53	B	P	R
2	UP-LNO-1-D-22-00006	M	56	B	P	R
3	UP-LNO-1-D-22-00001	F	21	B	P	R
4	UP-LNO-1-D-22-00002	M	20	B	P	R
5	UP-LNO-1-D-22-00015	F	17	B	P	R
6	UP-LNO-1-D-22-00004	F	35	B	P	R
7	UP-LNO-1-D-22-00016	F	18	B	P	R
8	UP-LNO-1-D-22-00056	M	51	B	P	R
9	UP-LNO-1-D-22-00072	F	32	B	P	R
10	UP-LNO-1-D-22-00003	F	16		EP	R
11	UP-LNO-1-D-22-00098	F	22	B	P	R
12	UP-LNO-1-D-22-00005	M	30	B	P	R
13	UP-LNO-1-D-22-00099	M	17	B	P	R
14	UP-LNO-1-D-22-00107	M	38	B	P	R
15	UP-LNO-1-D-22-000108	F	42	B	P	R
16	UP-LNO-1-D-22-000109	M	30	B	P	R
17	UP-LNO-1-D-22-00012	M	22	B	P	R
18	UP-LNO-1-D-22-000231	M	27	B	P	R
19	UP-LNO-1-D-22-00007	F	17	B	P	R
20	UP-LNO-1-D-22-00008	F	35		EP	R
21	UP-LNO-1-D-22-00077	M	21	B	P	R
22	UP-LNO-1-D-22-00010	M	50	B	P	R
23	UP-LNO-1-D-22-00011	F	29	B	P	R
24	UP-LNO-1-D-22-00018	M	60	B	P	R
25	UP-LNO-1-D-22-00079	M	30	B	P	R
26	UP-LNO-1-D-22-00020	F	20	B	P	R

27	UP-LNO-1-D-22-00014	F	28	B	P	R
28	UP-LNO-1-D-22-00099	F	40	A	P	R
29	UP-LNO-1-D-22-00009	M	30	A	P	R
30	UP-LNO-1-D-22-00101	F	55	C	P	R
31	UP-LNO-1-D-22-00243	M	24	B	P	R
32	UP-LNO-1-D-22-00013	F	17		EP	R
33	UP-LNO-1-D-22-00244	M	21	B	P	R
34	UP-LNO-1-D-22-00019	M	40	B	P	R
35	UP-LNO-1-D-22-00244	M	35	B	P	R
36	UP-LNO-1-D-22-00245	M	23	B	P	R
37	UP-LNO-1-D-22-00246	M	25	B	P	R
38	UP-LNO-1-D-22-00249	M	49	B	P	R
39	UP-LNO-1-D-22-00271	M	19	B	P	R
40	UP-LNO-1-D-22-00278	M	22	B	P	R

Abbreviation

1) **A**: -
   - All failure of new TB case
   - Smear Positive previously treated cases who remain smear positive from 4th month onwards.
   - All pulmonary TB cases who are contacts of known MDR-TB cases
2) **B**: - (*in addition to criteria A)*
   - All smear positive previously treated pulmonary TB cases at diagnosis.
   - Any smear positive follows up results in new or previously treated case
3) **C**: - (*in addition to criteria B)*
   - All smear negative previously treated pulmonary TB cases at diagnosis.
   - HIV TB coinfected cases at diagnosis.
4) **R**: - Resistive
5) **P**: - Pulmonary Tuberculosis
6) **EP**: - Extrapulmonary Tuberculosis

Conclusions

- At present the result shows the male patient in high numbers.
- A higher number of pulmonary tuberculosis infected patients are observed.
- The middle-aged people, male and female both are in high numbers are infected with the disease.
- A high treatment and diagnosis attribute were also observed from specialist doctor. This may be due to the availability of good medical facilities at the research place.
- High percentage of treatment and recovery is noticed in the middle as wells as early age people.

- There is a low percentage of patients observed who is not at early stage of the tuberculosis.
- When drug resistance is concerned only a few patients have high resistivity is noticed while other patient is having less resistivity.
- Fully cured patients are in high numbers whereas treatment failure case is almost nil but lost of follow up patient are in 18% which seems to a significant number.

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