DOTS Compliance by Tuberculosis Patients in District Raipur (Chhattisgarh)

Teeku Sinha, Assistant Professor Department of Community Medicine, Govt. Medical College, Jagdalpur (CG)  
Tiwari S, Demonstrator Department of Community Medicine, Govt. Medical College, Jagdalpur (CG)

Address For Correspondence:  
Dr. Teeku Sinha,  
Assistant Professor,  
Department of Community Medicine,  
Govt. Medical College,  
Jagdalpur (CG)  
E-mail: teekusinha@gmail.com

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Abstract:  
Background: Compliance to therapy is one of the important factors that affect the outcome. Non-compliance to self administered multi drug tuberculosis treatment regimens is an important cause of failure of initial therapy and relapse as well as acquired drug resistance, requiring more prolonged and expensive therapy. Objective: To know the compliance of DOTS therapy in TB patients in District Raipur and to find out the reasons of non-compliance of DOTS therapy among the patients. Study Design: Cross sectional observational community based study. Study Setting: Microscopic Centers in District Raipur. Participants: 695 patients of Tuberculosis. Result: Study revealed that 65.93% patients had complied with the DOTS therapy and 33.38% were non compliant. Conclusion: Most of the reasons of non-Compliance can be aver-  
ted by proper counseling of target group. Hence to achieve the  
goal of RNTCP, proper counseling of target group must be  
given top priority.  
Key Words: Counseling; DOTS; Non compliance

Introduction:  
Compliance to therapy plays an important role in the outcome  
of the therapy. Compliance is defined as the extent to which  
the patient’s behavior coincides with medical advice. Non-compliance to self administered multi drug tuberculosis treatment  
regimens is common and is the most important cause of failure of initial therapy and relapse. Non-compliance may also result in acquired drug resistance, requiring more pro- 
longed and expensive therapy that is less likely to be successful  
than treatment of drug susceptible tuberculosis.(1)  

Directly observed treatment short course (DOTS) is a composite  
strategy for TB control, based largely on Indian research and  
it is now recognized world wide. DOTS is the only strategy  
which has proved to be effective in controlling TB on mass  
scale. DOTS ensures that patients take the medicines regularly as per directions. The Revised National Tuberculosis Control Programme (RNTCP), based on DOTS, was started in Raipur on 15th August, 2002. This study was undertaken to find out the extent of compliance of DOTS therapy and to suggest suitable measures if need arises.  

Materials and Methods:  
The present study was a cross sectional observational com-  
munity based study, undertaken in 6 treatment units (TUs) of  
15 Microscopic Centers (MC) of Raipur district (two each -  
one at MC headquarters and one at periphery in Dhariswai,  
Bhatapara, Baloda bazaar, Rajim and Gariahband and one each at District Tuberculosis Centre, MC run by an NGO in Son-  
adih, Medical College Hospital, Poly Clinic in Puranibasti,  
and District Hospital, Raipur.  

A team led by the first author visited the homes of all re-  
istered patients in the above mentioned TUs and collected  
the data on predesigned and pretested proformas between  
May and October, 2006. Patients missing drugs for more than  
2 consecutive weeks were taken as non compliant. The data  
thus collected were checked for their completeness and cor- 
rectness and then analyzed.  

Observations and Discussion:  
On analysis of the collected data (Table 1) reveals that 34.57%  
patients were from District TB Centre, Raipur, which is obvi-  
ous because it is the district headquarters centre and more  
people attend with expectations of extra facilities in comparison  
with periphery, followed by Balodalabazar (15.13%), Dhariswai  
(14.38%), Rajim (12.94%), Gariahband (12.23%) and Bhathapara (9.35%). Table 2 indicates that 463 (65.93%) in comparison to 232 (33.38%) patients complied as per DOTS,  
similar to the finding of Mehrotra et al (67.0%)(2), Santha T et  
al (72%)(3) and Bhat S et al (76.89%) (4).

Table 1: Tuberculosis Unit Wise Distribution of Patients  

<table>
<thead>
<tr>
<th>Tuberculosis Unit</th>
<th>No. of cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTC Raipur</td>
<td>247</td>
<td>34.57</td>
</tr>
<tr>
<td>Dhariswai</td>
<td>100</td>
<td>14.38</td>
</tr>
<tr>
<td>Bhatapara</td>
<td>65</td>
<td>9.35</td>
</tr>
<tr>
<td>Balodabazar</td>
<td>108</td>
<td>15.53</td>
</tr>
<tr>
<td>Rajim</td>
<td>90</td>
<td>12.94</td>
</tr>
<tr>
<td>Gariahbandh</td>
<td>85</td>
<td>12.23</td>
</tr>
<tr>
<td>Total</td>
<td>695</td>
<td>100.0</td>
</tr>
</tbody>
</table>

A total of 232 patients, who did not consume the drugs for  
more than 2 consecutive weeks were considered as non compli- 
ant. The reasons for non compliance were classified under  

Table 2: Distribution of Patients According to Compliance

<table>
<thead>
<tr>
<th>Compliance</th>
<th>No. of cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliance</td>
<td>463</td>
<td>65.93</td>
</tr>
<tr>
<td>Non Compliance</td>
<td>232</td>
<td>33.38</td>
</tr>
<tr>
<td>Total</td>
<td>695</td>
<td>100.0</td>
</tr>
</tbody>
</table>
three heads as suggested by Bansal AK et al. (5). On further analysis, it was observed that out of the 232 non compliant patients, 140 (60.34%) patients failed to comply simply because of lack of information (Table 3), whereas 7.75% and 31.89% were non-compliant because of lack of motivation and different obstacles, respectively.

Table 3: Reasons for Non Compliance of DOTS

<table>
<thead>
<tr>
<th>Reasons</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear of adverse reaction</td>
<td>47</td>
<td>20.26</td>
</tr>
<tr>
<td>Felt better and stopped treatment</td>
<td>80</td>
<td>34.48</td>
</tr>
<tr>
<td>Another doctor advised to stop treatment</td>
<td>13</td>
<td>5.60</td>
</tr>
<tr>
<td>Difficult to take so many pills</td>
<td>6</td>
<td>2.59</td>
</tr>
<tr>
<td>Postponement till another day (due to addiction etc.)</td>
<td>7</td>
<td>3.02</td>
</tr>
<tr>
<td>Others (no faith in treatment, rumors etc)</td>
<td>5</td>
<td>2.16</td>
</tr>
<tr>
<td>Moved away from treatment center</td>
<td>36</td>
<td>15.52</td>
</tr>
<tr>
<td>Timing not convenient</td>
<td>15</td>
<td>6.46</td>
</tr>
<tr>
<td>Nobody to accompany to the center</td>
<td>9</td>
<td>3.88</td>
</tr>
<tr>
<td>Non availability of medicine</td>
<td>6</td>
<td>2.59</td>
</tr>
<tr>
<td>DOTS center far away</td>
<td>4</td>
<td>1.72</td>
</tr>
<tr>
<td>Attitude of DOTS provider not Good</td>
<td>4</td>
<td>1.72</td>
</tr>
</tbody>
</table>

Various reasons observed in the present study for noncompliance are more or less similar to the findings of different studies conducted by different authors in different parts of the country. Main reason for noncompliance in the present study was having felt better (34.48%), similar to the findings of Juvekar SK et al (5) at 27%. Non compliance due to fear of adverse reactions was found in 20.26%, similar to the studies of Bhat S et al (13.20%) (4) and Juvekar SK et al (10.0%) (6). The 3rd most common cause of non compliance was found to be moved away from the treatment centre (15.52%), similar to the findings of the study of Rani SM et al (22.0%). Other reasons for noncompliance were difficulty to find time from work to visit the centre (6.46%), difficulty to take so many pills and non availability of medicine (2.59%) etc., similar to the findings of other studies.

It is therefore clear that to achieve the target of RNTCP, proper counseling of patients regarding various aspects of the disease is a must to ensure compliance.

References: