Original Article

EVALUATION OF EFFECT OF COMMUNITY DOTS ON TREATMENT OUTCOMES BY TB SURVEILLANCE DATA

Hitoshi HOSHINO and Noriko KOBAYASHI

Abstract [Objective] The purpose of this study is to evaluate effects of community DOTS on treatment outcome by cohort data derived from TB surveillance system and to find further problems.

[Subjects] New sputum smear positive pulmonary TB patients registered in 2003 and 1998 under standard course regimens.

[Methods] In Japan, DOTS as a method of directly observed treatment by Short Course Chemotherapy is divided into hospital DOTS and community DOTS. Hospital DOTS is to observe hospitalized patients' drug taking directly by hospital staff such as nurses, pharmacists or other hospital staff. Community DOTS is to observe or confirm discharged patients' drug taking by several methods such as direct observation at facility or patient's home, confirmation through checking treatment notes and examining empty blister packages and so on. TB patients were categorized to following 3 groups by available methods of community DOTS. Treatment outcome of patients registered in 2003 was compared with outcome of patients registered in 1998 as the control group before the introduction of community DOTS.

Group 1: TB patients under PHC where at least daily observation DOTS (daily observation of drug taking at clinic or PHC to TB patients with risk factors of defaulting such as homeless, alcohol abuse, past history of default and so on) is available.

Group 2: TB patients under PHC where home-visit DOTS (home-visit for observation of drug taking to the elderly TB patients who have risk to forget to take TB medicines regularly) only is available or, PHC where home-visit DOTS and confirmation DOTS (periodical confirmation of drug taking to TB patients without risk of defaulting) is available.

Group 3: TB patients under PHC where only confirmation DOTS is available.

Group 4: TB patients under PHC where community DOTS is not available.

In addition, high death rate of patients under public assistance is analyzed.

[Results] In group 1 with daily observation DOTS, TB patients under social or national health insurance showed higher treatment success rate and lower defaulter rate. TB patients with insurance for aged showed lower defaulter rate but high death rate due to old age did not improve. Patients under public assistance showed relatively lower defaulter rate. In group 2 with home-visit DOTS, TB patients with national health insurance and insurance for aged showed rather lower defaulter rate. Cohort evaluation of TB patients under group 3 with confirmation DOTS and group 4 without community DOTS is difficult as high rate of unknown treatment result.

TB patients receiving public assistance showed lower death rate than patients requiring but not receiving public assistance. Patients detected at clinic and hospitals showed higher death rate than other patients detected by screening for high risk groups and so on.

[Conclusion] Daily observation DOTS and home-visit DOTS were effective to improve success rate and defaulter rate but effect of confirmation DOTS was not proved due to lack of information. High death rate of patients with insurance for aged in all groups and lack of treatment results in group 3 and 4 were problems to be solved in the future. In order to avoid TB death among TB patients under public assistance, screening for homeless people as high risk groups, earlier detection and referral system of TB symptomatics and improvement of coverage in public assistance might be effective and be tried.

Key words: Tuberculosis, DOTS, Cohort analysis, TB control program

Research Institute of Tuberculosis, Japan Anti-Tuberculosis Association (JATA)

Correspondence to: Hitoshi Hoshino, Research Institute of Tuberculosis, JATA, 3-1-24, Matsuyama, Kiyose-shi, Tokyo 204-8533 Japan. (E-mail: hhoshino@jata.or.jp)