

## Abstract

**Objective:** The incidence rate of Tuberculosis (TB) is annually increasing all over the world. Among the death of infectious disease in Taiwan, the TB death still tops the list. World Health Organization (WHO) continuously issues a warning of the spread of TB. Researchers point out because of the group life in organizations of high-density population, such as correctional institutions or nursing homes, the TB incident rate is higher than general public. This revealed the importance of TB prevention for the high-density population. Therefore, this study aimed to understand the situation and difficulties of TB control in correctional institutions and long-term care homes in Taiwan.

**Method:** The dataset of TB cases notification from CDC was employed to investigate the TB incidence rate, cure rate, and default rate of prisoners in Taiwan. Besides, structured questionnaire was mailed to the health care staff in correctional institutions and long-term care homes. A total of 47 and 393 questionnaires were collected from the correctional institutions and long-term care homes to investigate their personal characteristics and current situations of TB control. Additionally, difficulties and needs they face in working, their understanding of related policies, and their satisfaction with the cooperation between related public health offices were investigated.

**Results:** The TB incidence rate and default rate in the correctional institutions in 2002 (0.27%; 17.76%) were higher than those of the general public (0.07%; 3.16%). However, the cure rate in the correctional institutions (69.08%) was lower than that of the general public (78.34%). The difficulties the correctional institutions faced were shortage of manpower for TB prevention, no TB related specialists, and insufficient isolated rooms. The items needed to be improved the most in TB prevention included manpower in prevention, effectiveness of TB screening, and increases in isolation rooms.

In respect of the homes for the aged, the most difficulty in TB control was the insufficiency of isolation rooms, residents' TB knowledge and cooperation, and the delay of screening reports. The items needed to be improved the most included increases in isolation rooms, effectiveness of TB screening, and the TB screening required when residents moved in. For the nursing homes, the most difficulty in TB prevention was the delay of screening reports, residents' panic to TB cases, and slow screening. The items needed to be improved the most included increases in isolation rooms, increase in speed of TB screening and result reports.

**Conclusions and suggestions:** According to the results, some improvements for TB control in correctional institutions and long-term care homes needed to be made. The following suggestions were provided to the CDC: 1) The chest x-ray machine should be updated or increased. 2) The TB surveillance system in CDC should be accessed for staff who responsible for TB control in correctional institutions and long-term care homes. 3) TB health education program should be held regularly. 4) Related regulations about resident environments of air condition in organizations of high-density population should be set up. The following suggestions were provided to the correctional institutions: 1) The hardware and software of TB screening should be purchased or updated. 2) The digital x-ray machine should be purchased and to be connected with nearby hospitals. 3) The isolated or good air conditioning prisons for patients should be set up. 4) TB specialists should be hired or contracted. 5) The prisons for new

prisoners in north, central, south, and east districts should be set up for TB screening. The following suggestions were provided to the long-term care homes:1) The isolated or good air conditioning rooms for residents should be set up. 2) The nearby hospitals should be contracted for TB patient treatment. 3) The x-ray films of residents should be saved digitally for references in the future. 4) Health care staff should attend TB education program regularly. 5) “Guides of infectious diseases control in organizations of high-density population” should be implemented.

**Keyword: Correctional institution, Long-term care home, Tuberculosis control, Tuberculosis**