

# Cases Study on Latent Tuberculosis Infection from Nursing Home in Taiwan

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## Abstract Introduction

Research shows that 5-10% of latent tuberculosis infection (LTBI) cases will develop active tuberculosis in the future, and the incidence rate will increase with age. People lived in nursing homes are mostly elderly people, which is one of the reasons for the high incidence rate of tuberculosis among nursing homes. Workers who close contact with residents have a higher risk of being infected. Early treatment of LTBI cases will reduce the risk of acute illness.

## Methods

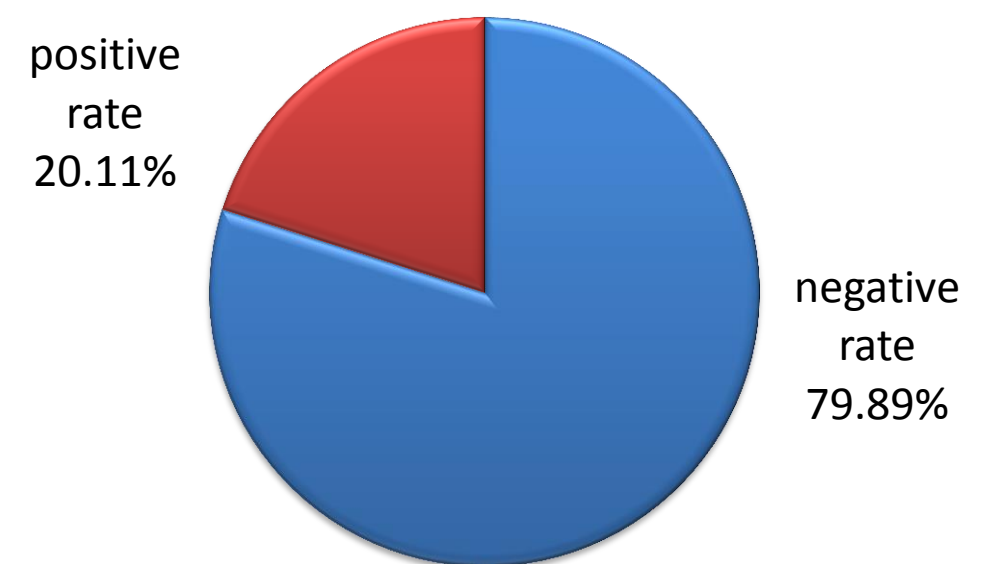
This research started from April 2018 to October 2018. There are 271 chest X-ray records of cases were interpreted by two chest specialists., then 184 cases( 116 residents, 68 workers) were willing to take the IFN- $\gamma$  release assays (IGRAs) examination (participation rate 67.90%) . The examination showed 37 cases are IGRA positive (20 residents, 17 workers), and 33 cases received treatment (89.19%). To explore the distribution of the IGRA positive case (LTBI) and background in nursing home, we analyzed the LTBI residents data, including age, the length of stay, mobility, reliability, and the age of the LTBI workers data, including age and the length of service.



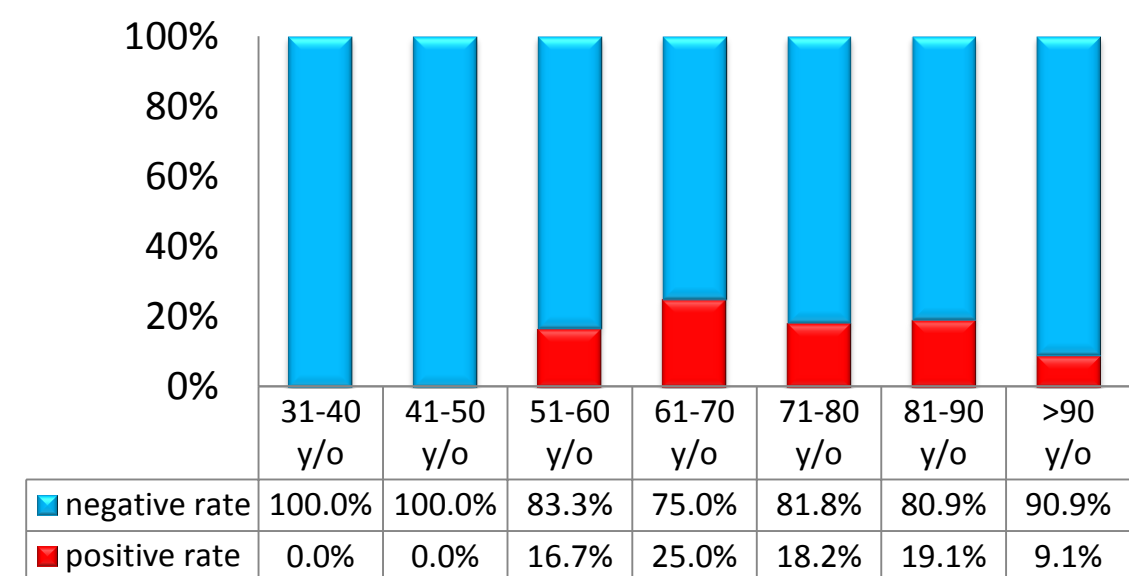
## Results

Among the 116 residents of all age groups ,the highest IGRA positive rate of all age group was 61-70 years (positive rate 25%). Analyzed the statics data that residents stayed less then 1 year, 1-2 years, 3-4 years and 5 years above, the result shows that the highest IGRA positive rate is 25% at less then 1 year group. The data which less then 1 year group in workers shows 33% IGRA positive rate.

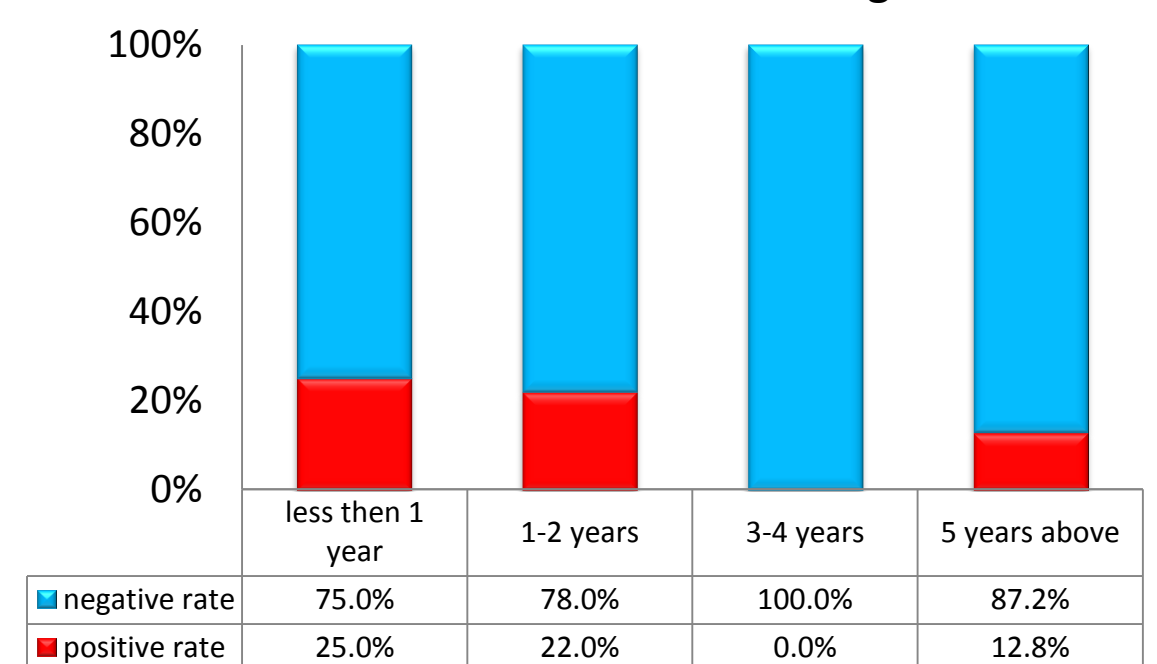
Result of The IGRAs examination



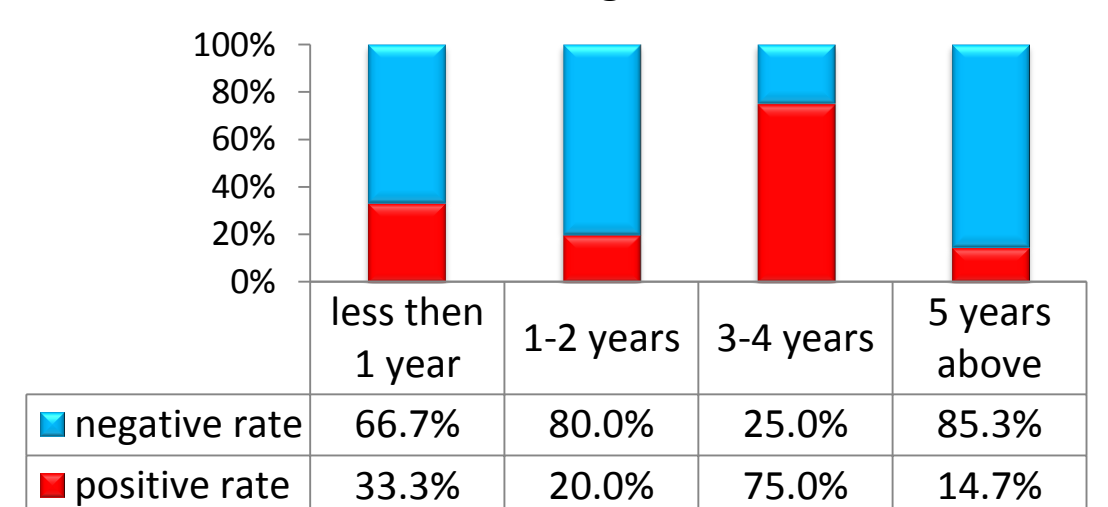
The IGRA positive rate of all age group in the residents



The IGRA positive rate compared with the time the residents lived in the nursing home



The IGRA positive rate compared with the time staff members who have been working in the nursing home



## Conclusions

We can interpret the results of IGRA positive group in the following section. There is no significant correlation between length in nursing home and the risk of being infected with tuberculosis. Staff members who have been working for less than 1 year are tested IGRA positive, residents' data showed the same outcome. Many cases may be infected with tuberculosis in the community.

## Comments

Promotes and restores patients' health by developing day-to-day management and long-term planning of the patient care area; directing and developing staff; collaborating with physicians and multidisciplinary professional staffs; providing physical and psychological support for patients, friends, and families.