Abstract of Master's Dissertation

Course	International Health Development	Name	Koki Shimizu
Thesis Title	Epidemiology of SARS-CoV-2 infection in nursing facilities and the impact of their clusters in Nagasaki city		

Abstract of Master's Dissertation

Background: Nursing home residents are disproportionately affected by coronavirus disease 2019 (COVID-19). Their older ages, multiple comorbidities and communal living environment make them vulnerable to COVID-19, resulting in their high prevalence and mortality of COVID-19 worldwide. Those who rely on non-residential care services are equally at risk because care usually requires close-proximity, long-interval interactions between the caregiver and the older adult. No epidemiological research has been done that describes the impact of COVID-19 on the Japanese nursing facility users and the caregivers, and the influence of their COVID-19 clusters on the Japanese local health system.

Objectives: I aim to describe 1) the epidemiology of COVID-19 in Japanese nursing facilities, 2) the characteristics of their COVID-19 transmissions, and 3) the impact of their COVID-19 clusters on a local health system.

Methods: I collected data of nursing facility COVID-19 cases in Nagasaki city from July 15, 2020 to June 30, 2021, using the record of the Nagasaki city public health center. The screening of the healthcare workers (HCWs) and the users of nursing facilities was done by the local health center, once the first case of COVID-19 was detected within that facility. The extent of screening depended on the presumed spread of COVID-19 in the facility, and the capability of the testing center. The epidemiological survey for each COVID-19 case was carried out by the public health officers of local health center under the Infectious Disease Control Law.

＊ The abstract, containing the objective, method, result and conclusion should not exceed 300-500words and printed double sided on A4 paper)

Course	International Health Development	Name	Koki Shimizu

Results: Out of 111,773 community-dwelling older adults (age≧65 years) and 20,668 nursing facility users in Nagasaki city, I identified 358 and 71 COVID-19 cases, and 33 and 12 COVID-19 deaths, respectively, during the study period. The incidence rate ratios (IRRs) for COVID-19 and its deaths among the nursing facility users were 1.07 (95% confidence interval (CI), 0.82-1.39) and 1.97 (95%CI, 0.92-3.91) compared with the community-dwelling older adults. Four clusters, which had more than 10 COVID-19 cases, accounted for 60% (65/109) of the overall cases by the HCWs and the users.

Conclusion: The mortality outcome of COVID-19 is severe among the nursing facility users. Prevention of COVID-19 clusters is important to reduce their high mortality and to sustain the local health system.

Word count: 357

＊ The abstract, containing the objective, method, result and conclusion should not exceed 300-500words and printed double sided on A4 paper)