Introduction Since 2011, cuisine employees in one elementary school in Gyeonggi-do in Korea have complained of pain in eyes, neck and face. The manager and cuisine employees of the elementary school tried to find the cause but could not find it.

Finally, in February 2017, they asked the Gyeonggi Dongbu Workers’ Health Centre in Korea to identify the cause of the symptoms of the cuisine employees.

The purpose of this study was to investigate the causes of work related symptoms of cuisine employees.

Methods In February 2017, an occupational and environmental medicine physician interviewed eight cuisine employees about symptoms, and in March 2017, a work environment evaluation team (industrial hygienists, occupational and environmental medicine physicians and nurses) visited the school meals to identify the cause of the symptoms.

Results Symptoms of cuisine employees were in the eyes and on the skin of the face and neck. Symptoms of the eyes were feeling of irritation, inflamed eye, eye watered, blurred, deteriorate eyesight, and Symptoms of the skin of the face and neck were (a relatively clear boundaries) skin flare, flakiness. In addition, all cuisine employees appealed lethargy, depression, extreme stress.

These symptoms occurred on the day of the dishwashing.

The work process of the day was as follows. Check food ingredients and preprocessing (food ingredients cleaning) (from 7:30 am to 9:00 am), cooking and distribution (form 9:00 am to 1:30 pm) and dishwashing (from 1:30 pm to 3:30 pm).

As a result of the field survey, there was no problem with the detergent, the ventilation system, the high temperature dryer for drying dishes and even the UV disinfection system.

However, The ultraviolet lamp used in vector system was UV-C, not UV-A. As a result of the measurement ultraviolet radiation, the degree of ultraviolet radiation exposure at the position where workers work is very high (120 /cm²~150 / cm²). This amount of exposure was such that the exposure time should not exceed 30 s. The Vector system was installed in the pretreatment room from 2011.

As a result, the cuisine employees were exposed to UV-C on the vector system in the morning ('check food ingredients and preprocessing') (from 7:30 am to 9:00 am) and symptoms appeared in the afternoon.

Conclusion The first step taken was to remove the UV-C lamp form the vector system. After removing the UV-C lamp, the symptoms of the cuisine employees checked for up to 3 weeks, symptoms of most cuisine employees were improving. However, some cuisine employees still complain of symptoms and we will continue to observe changes in symptoms.