

The Quarantine Measures of Distant Water Fishing Vessels Crew During the COVID-19 Pandemic, Taiwan, 2020–2022

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Abstract

At the beginning of 2020, the COVID-19 pandemic spread rapidly worldwide. Taiwan established the Central Epidemic Command Center, restricted entry of foreigners, and implemented 14-day quarantine measures since March 2020. Because of the unique characteristics of distant water fisheries, most crew members were foreigners who had been fishing overseas for a long time, then returned to Taiwan with vessels after fishing seasons, and unloaded catches in a short term. After evaluating the operation of the industry and risks of contact at open sea, the Fisheries Agency, collaborating with the Taiwan Centers for Disease Control, established special quarantine measures for distant water fishing vessels and crew members. Also, the Fisheries Agency coordinated and supervised various stakeholders, including local governments, fishery associations, and the industry, to implement and adjust control measures according to the latest pandemic situation.

Crew members without contact history on the sea were exempt from quarantine. In contrast, those with contact history were subjected to home quarantine, on-vessel quarantine, or depart directly without entering the community. As for the fishing vessels departing in a short term, the crew members were required to stay on vessels for compulsory health management. Also, the Fisheries Agency dynamically monitored the contact history of fishing vessels at sea through the 24-hour Vessel Monitoring System (VMS). Quarantine areas were set up in fishing ports to implement and manage

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quarantine measures. Meanwhile, fishery-related laws, regulations and sanction mechanisms were formulated to impose the monitoring responsibility on ship owners.

During the five fishing seasons from March 2020 to October 2022, 2,570 distant water fishing vessels and 47,985 crew members returned to Taiwan. The case confirmation rate was 0.23% (110/47,985), which was significantly lower than the rate of inbound personnel at international ports (1.93%) during the same period (relative risk: 0.12, $p < 0.05$). No clusters occurred in fishing ports in the study period, indicating that the quarantine measures were effective and could be used as a reference for emerging infectious diseases in the future.

Keywords: COVID-19, quarantine, fishing vessel, epidemic prevention, vessel monitoring system (VMS)