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• 研究人員	趙馨；陳叡瑜 Chao, H.；Chen, R.Y.		
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• 中文摘要	<p>由於近年來新興傳染病頻傳，因此醫療照護人員的健康風險評估及疾病預防刻不容緩。在看護安養機構工作的員工，由於長時間與老人、慢性病及重症病患接觸，因此亦為生物性職業危害的高風險族群，不過尚未有相關研究進行評估與調查。本計畫針對台北地區五家看護安養機構進行生物性環境暴露評估，以瞭解員工的暴露現況，並分析評估看護安養機構員工可能的生物性健康風險。本研究計畫在五家看護安養機構分別進行一個星期的密集採樣，採樣項目包括室內空氣中、空調系統出風口、戶外空氣中的可培養性真菌及細菌，以及溫度、相對濕度及二氧化碳濃度。在環境採樣的同時，亦利用結構式問卷調查員工的自覺健康狀況、工作期間之疾病史、防護具使用情形、工作環境狀況等等。研究結果發現，看護安養機構的員工最常接觸到可能造成生物性危害的物質為飛沫及尿液。而在員工的個人防護方面，約 83%的員工在照護結束有洗手，57%的員工在照護時有穿上工作專用衣，照護時有戴口罩或手套的員工分別佔 59%及 60%。工作環境中為最常見的問題為溫度過高、噪音、有菸味及空氣不流通等。在生物氣膠評估部份，機構 D 的總真菌濃度最高，機構 B 最低；而機構 A 及 B 的總細菌濃度較高。看護安養機構中生物氣膠濃度與環境溫溼度、通風及污染源多寡有關。員工罹患與工作環境或照護病患有關的疾病，與照護結束後未洗手、較高的室內細菌濃度以及曾照護病患疾病史有顯著相關。而工作環境空氣不流通、二氧化碳濃度較高、風量過高、溫度過高、有菸味等，則會增加員工的自覺症狀。因此提供適當的溫溼度及通風，不但可降低員工室內生物氣膠暴露，並可提高員工之舒適感及工作效率。根據本計畫研究結果可以瞭解，看護安養機構員工最常接觸到的感染性物質為飛沫，且較其他的職業有較高的呼吸道疾病罹患率。因此在生物性職業危害的防護中，應加強通風以降低工作場所空氣傳播病原菌，並提升個人防護方法的使用。由於在本計畫中外籍勞工參與率偏低，因此未來應針對看護安養機構外籍勞工，評估其生物性暴露危害及職業安全衛生上的需求。</p>		

- 英文摘要

Due to frequent outbreaks of emerging diseases in recent years, health risk assessment and disease prevention of medical professionals are in urgent need. Care providers and staff working in long-term care facilities are at great health risk to biological exposures because of their close contact with elders and patients with chronic and severe diseases. However, few studies have been conducted to evaluate the biological environmental exposures of workers in long-term care facilities. Therefore, we investigated five long-term care facilities in Taipei, Taiwan to evaluate biological environmental exposures of the workers and potential health risks. We conducted a one-week intensive environmental sampling at each study long-term care facilities. We monitored culturable fungi and bacteria in indoor air, near diffusers, and outdoors, as well as temperature, relative humidity and CO₂ levels. A structured questionnaire was concurrently administered to the workers to collect information on their perceptions of health, medical history, use of personal protection, condition of work environment and etc. We found that the biohazards contacted most frequently by workers were droplets and urine. For resident care, about 83% of workers would wash hands after tasks, 57% would wear working coat, 59% would use masks, and 60% would wear gloves. Most frequent complaints regarding work environment included temperature too high, noise, tobacco smoke, and stuffy air. Total fungal levels were highest in Institute D and lowest in Institute B, and Institutes A and B had higher bacterial levels. Indoor bioaerosol concentrations were associated with temperature, relative humidity, and pollutant source. Uncleaning hands after resident care, higher indoor bacterial levels, and care of patients with specific diseases increased the risk of work-related illness. Stuffy air, higher CO₂ levels, too much air movement, temperature too high, and smoke increased work-related symptom reports. Therefore, providing appropriate temperature, relative humidity, and ventilation is essential to decrease workers' bioaerosol exposure and to increase workers' comfortness and work productivity. According to the results of this study, in long-term care facilities the most important contact infectious material is droplet. Also, the workers in long-term care facilities had higher prevalence of work-related respiratory diseases than other selected occupations. Therefore, to decrease biological health risk in long-term care facilities, better ventilation and personal protection plan should be provided. Because of the low participation rate of the foreign labors in this study, future investigation should aim to evaluate their biological exposure and health/safety need.