





Taiwan (R.O.C.) **Poster ID: 24672**

The health equity assessment of correlation between employee overload and Hypertension, Hyperglycemia, and Chronic Kidney Disease among Medical Center Staff in Northern Taiwan: A Case Study

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Background and objective: Taiwan's comprehensive national healthcare insurance and medical resources have led to high healthcare quality and satisfaction but have also resulted in excessive workload among hospital staff, affecting health equity. This study aims to explore the correlation between workload and health status, specifically focusing on hypertension, hyperglycemia, and chronic kidney disease (CKD) with diverse medical and administrative staff in the medical center.

Results: In a specific medical center, employees in the high-risk group showed significantly higher values in age, weight, BMI, waist circumference, triglycerides, and LDL cholesterol compared to the nonhigh-risk group. The high-risk group for HDL cholesterol was significantly lower than the non-high-risk group, consistent with other research findings. Gender differences were significant in the risk group with high blood pressure, high blood sugar, triglycerides, and concurrent CKD. Although work overload and personal fatigue did not show significance in the risk group, both demonstrated a significant negative correlation with age.

Methods: This cross-sectional study, approved by the hospital Institutional Review Board (IRB) under case number 111131-F, involves healthcare institution personnel as the study sample. We utilized the Occupational Overload Assessment Scale from the Bureau of Occupational Safety and Health of the Ministry of Labor (Taiwan) and employee health examination data. Statistical analyses explored factors associated with the correlation between work overload and the risk group for high blood pressure, high blood sugar, and concurrent CKD.

Relation to conference main theme: Complex work patterns and shift work are prevalent in healthcare institutions, especially in large teaching hospitals. This study explores the correlation between the health status and workloads of employees of different genders and tenures, aligning with the conference theme of HEALTH EQUITY.

Conclusions: Large medical institutions or teaching hospitals in Taiwan are generally overloaded or understaffed with medical staff, especially in the Nurse group. The preliminary analysis results of this study suggest that most senior employees have health indicators out of the laboratory criteria, and junior employees are under a greater work overload. There is a need for attention from hospital senior managers and government departments regarding excessive workload.

Relevance to HPH: It is important to improve the health status of different job categories in hospitals and examine overloaded work patterns. The topic and content of this study are related to HPH.

Keywords: Health Equity, Hypertension, Hyperglycemia, Chronic Kidney Disease (CKD), Employee Overload

Table 1: T-test analysis of risk factors between high-risk groups and non-high-risk groups

CKD combined with high blood sugar and blood pressure

Table 2: X²-test of risk factors between high-risk groups and non-high-risk groups

X 7	N=164		— T++	D 1	
Variables –	The high-risk group	Non-high-risk group	T-test	P value	
	N=75	N=89			
	Mean±SD	Mean±SD			
Age	41.69 ± 9.02	39.03 ± 7.35	2.081*	0.039	
Weight	66.13 ± 14.73	59.09 ± 10.16	3.496***	0.001	
BMI	25.62 ± 5.25	23.08 ± 3.68	3.514***	0.001	
Waist circumference	81.67 ± 11.76	75.81 ± 10.08	3.44***	0.001	
Triglycerides (TG)	118.32 ± 74.39	87.88 ± 62.74	2.843**	0.005	
HDL-Cholesterol	57.65 ± 15.43	63.66 ± 13.99	- 2.614**	0.010	
LDL-Cholesterol	120.32 ± 33.47	110.52 ± 27.91	2.046*	0.042	

p*<0.05, p**<0.01, p***<0.001

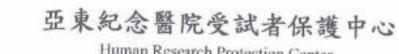
醫療財團法人徐元智先生醫藥基金會 亞東紀念醫院人體試驗審議委員會 Research Ethics Review Committee Far Eastern Memorial Hospital 21, Sec. 2, Nanya S. Rd., Banciao Dist., New Taipei City 220, Taiwan (R.O.C.) Tel: (02)7728-2152 Fax: (02)7728-1592 Email : irb@mail.femh.org.tw

試驗/研究變更許可書

案件編號:111131-F 计畫名稱:不同屬性工作人員之職場健康促進與過负荷風險因子評估 試驗/研究機構:醫療財團法人徐元智先生醫藥基金會亞東紀念醫院 計畫主持人:魏甫 共同主持人:林靜梅、陳銘樹 研究成員:楊景嵐、歐娅芬、潘東慧、許芷阡、陳怡靜、劉彦伶、賴予欣 試驗/研究人數:3451 試驗/研究期限: 2022 年 9 月 23 日至 2024 年 12 月 31 日 追蹤審查頻率:一年



主任



Human Research Protection Center Far Eastern Memorial Hospital No.21, Sec. 2, Nanya S. Rd., Banciao Dist., New Taipei City 220, Taiwan (R.O.C.) Tel: (02)7728-2546 Email : hrpc@femh.org.tw

人體試驗/研究同意執行證明書

IRB 案件編號: 111131-F 計畫名稱:不同屬性工作人員之職場健康促進與過負荷風險因子評估 部門/計畫主持人:職業安全暨總務處/魏甫

本案件經本院人體試驗審議委員會審查通過及列案管理,由受試者保護中 心覆核相關文件,代表機構正式同意本案件執行。

CKD combined with high blood sugar and blood pressure

Variables —	N=164			Р
	The high-risk group	Non-high-risk group	- X ²	value
	N=75	N=89		
BMI Group			11.506**	0.003
<24	35	63		
24-27	18	16		
>27	22	10		
Age Group			8.742*	0.033
30 years below	8	15		
31-40 years old	26	30		
41-50 years old	29	41		
51 years up	12	3		
Waist			7 666**	0.006
circumference			7.666**	0.006
Normal	32	20		
Abnormal	43	69		



有效期限至二0二二年十二月三十一日。(請於有效期限到期二個月前繳交持續審查報告以利本會進 行審查)

孔际 張淑雯 主任委員

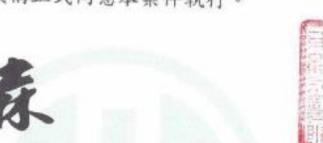
Permission of protocol amendment of Clinical Trial/ Research

FEMH No.: 111131-F Protocol Title: The work attribute and overload risk assessment of staff with different categories in medical institutions Trial/Research Institution: Far Eastern Memorial Hospital Principal investigator: Fu Wei Co- investigator: Ching-Mei Lin, Ming-Shu Chen Study Coordinator: Ching-Lan Yang, Yu-Fen Ou, Tung-Hui Pan, Zhi-Qian Xu, Yi- Jing Chen, Yen-Ling Liu, Yu-Xin Lai Number of subjects: 3451 Trial/Research period: September 23, 2022 to December 31, 2024 Continuing review frequency: one year

The protocol is valid till December 31, 2022. (The investigator is required to apply for a continuing review not less than two months prior to approval expiration date.) 核准日期/Approved date: 2022-11-09

本委員會的運作符合優良臨床試驗準則及政府相關法律規章 The committee is organized under, and operates in accordance with, the Good Clinical Practice guidelines and governmental laws and regulations at # #





日期: 2022 年 9 月 29 日

Implementation Letter of Clinical Trial / Research

Far Eastern Memorial Hospital

FEMH IRB No.: 111131-F Protocol Title: The work attribute and overload risk assessment of staff with different categories in medical institutions Department/Principal investigator: Occupational Safety and General Affairs Department / Fu Wei

Above protocol has been approved and monitored by the Research Ethics Review Committee of the Far Eastern Memorial Hospital. After reviewed by Human Research Protection Center, the implementation of the protocol is approved.

Yu-Sen Peng

Date: September 29, 2022

Figure 1: This study was approved by the Institutional Review Board (IRB) of Far Eastern Memorial Hospital. Certificate: IRB-FEMH No: 111131-F. Research period: September 2022 to December 2024.

東紀念醫院