

探討中老年嚴重精神病患者高密度脂蛋白膽固醇過低之盛行率及相關因子
Exploring the Prevalence and Associated Factors of Low High-Density Lipoprotein Cholesterol in Middle-aged and Elderly People with Severe Mental Illness

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Background

Individuals with severe mental illness have a higher risk of cardiovascular diseases compared to the general population. Studies showed an inverse association between high-density lipoprotein cholesterol (HDL-C) and cardiovascular disease. HDL-C protects vascular health, has anti-inflammatory properties, and helps combat oxidation. HDL-C levels can be increased through exercise and weight loss. Although individuals with severe mental illness may lead sedentary lifestyles and have issues with obesity, limited evidence is available on their HDL-C status. This study explored the prevalence and associated factors of low HDL-C levels in middle-aged and elderly people with severe mental illness.

Methods

This study recruited participants over the age of 40 with severe mental illness from 7 psychiatric rehabilitation wards in northern Taiwan. Data were collected using structured self-reported questionnaires, which included the Beck Depression Inventory II (BDI-II), the Health-Promoting Lifestyle Profile (HPLP), use of medication, physical examination measurements such as height, weight, and the five metabolic parameters listed in the modified Third Report of the National Cholesterol Education Program’s Adult Treatment Panel III criteria for metabolic syndrome. Participants were grouped to have low HDL-C status if they had HDL-C <40 mg/dl for male, <50 mg/dl for female, or were receiving treatment for low HDL-C. To understand the collinearity among associated variables and prevent it from impacting the accuracy of logistic regression analysis, multiple regression was performed for collinearity diagnostics before initiating logistic regression.

Results

A total of 288 middle-aged and elderly participants with severe mental illnesses were recruited. One hundred and thirty four individuals (46.5%) had low HDL. Collinearity diagnostics revealed that all Variance Inflation Factor (VIF) values were below 1.10. In the logistic regression, the Hosmer and Lemeshow test produced a χ^2 value of 3.80 (df = 8, p = .875), which was not statistically significant; this indicates a good fit for the regression model, suggesting that the associated variables effectively correlate with HDL-C levels. Multivariate logistic regression analysis revealed that chlorpromazine equivalent dose ($OR = .999, p = .021$), use of laxatives ($OR = .594, p = .048$), a body mass index (BMI) ≥ 24 ($OR = 3.905, p < .001$), exercise subscale of HPLP ($OR = .644, p = .021$), and a BDI-II score ≥ 14 ($OR = .394, p = .003$) were significantly associated with HDL-C status.

Table 1 Associated Factors of Low High-Density Lipoprotein Cholesterol					
	<i>B</i>	<i>S.E.</i>	<i>OR</i>	95% CI for <i>OR</i>	<i>p</i>
HPLP	-0.441	0.191	0.644	0.443-0.936	.021
CPZ ₍₁₀₀₎	-0.001	0.000	0.999	0.998-0.9999	.021
BMI $\geq 24\text{kg/m}^2$	1.130	0.263	3.095	1.849-5.180	<.001
Laxatives	-0.522	0.264	0.594	0.354-0.996	.048
BDI-II ≥ 14	-0.933	0.309	0.394	0.215-0.721	.003
Constant	0.877	0.399	2.404		.028

Conclusion

The results demonstrated an issue of low HDL-C status in patients with severe mental illness. Consequently, it is recommended to adopt a health-promoting lifestyle, particularly engaging in physical exercise, to reduce the risks associated with low HDL-C levels.