

UNIVERSITI TEKNOLOGI MARA

**FACTORS ASSOCIATED WITH NON-COMPLIANCE OF DIET
COUNSELING AMONG HYPERLIPIDEMIC PATIENTS IN HASA AND
CTC SUNGAI BULOH**

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ABSTRACT

Hyperlipidemia is a common metabolic disorder characterized by high levels of lipids and lipoproteins in the blood, which increases the risk of cardiovascular diseases. This study aimed to identify factors associated with non-compliance with diet counseling among hyperlipidemic patients in the Outpatient Department (OPD) Clinic of Hospital Al-Sultan Abdullah UiTM (HASA) and Clinical Training Centre (CTC) Sungai Buloh, Selangor, Malaysia. This retrospective and cross-sectional study was conducted using a mixed-method approach and divided into 2 phases. Phase 1 included a quantitative study with 110 participants, retrieving sociodemographic, anthropometric, medical, biochemical, and dietary information through a secondary data questionnaire. Phase 2 consists of a qualitative study involving 10 participants, adopting a grounded theory approach for semi-structured interviews. Most participants were middle-aged (57.3%) males (58.2%), predominantly Malay (90.0%) with a high prevalence of comorbidities such as diabetes (65.5%) and hypertension (66.4%). Many participants were overweight (33.6%) or obese 1 (31.8%) and exhibited elevated HbA1c (7.4 ± 2.0) and low HDL-C levels (1.4 ± 0.4). Dietary intake remained constant despite two diet counseling, while significant changes in total cholesterol ($p=0.02$) and triglycerides ($p=0.05$) were improved following initial diet consultations. 10 subjects in the qualitative study revealed knowledge domain (understanding cholesterol, understanding saturated fats, and understanding unsaturated fats), practice domain (changes in food choices, changes in individual behavior, and changes in food purchasing), and barriers to adherence to diet counseling domain (patient-related factor, social and environmental factor, and healthcare-related factor) were identified as factors association to compliance to diet counseling among hyperlipidemic patients. Understanding the nutritional status, knowledge, practices, and barriers associated with diet consultations is critical for effective diet adherence and interventions.

Keywords: Hyperlipidemia, diet adherence, qualitative study, mixed-method study, lipid profile

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CHAPTER 1: INTRODUCTION

1.1 Research Background

Hyperlipidemia, a prevalent metabolic disorder, is characterized by elevated levels of lipids and lipoproteins in the bloodstream, including triacylglycerols (TAGs), free fatty acids (FFAs), cholesterol, and cholesterol esters (Duttaroy, 2021). Hyperlipidemia and dyslipidemia both refer to abnormalities in lipid levels, however, hyperlipidemia is not associated with the reduction of low levels of high-density lipoprotein (Ali et al., 2023). The condition is closely linked to severe health issues such as coronary heart disease, stroke, and various neurodegenerative diseases (Wang et al., 2020). Hyperlipidemia can be classified into primary, which is inherited, and secondary, resulting from lifestyle factors, medications, or other health conditions (Hill & Bordini, 2023). Effective management of hyperlipidemia is crucial due to its significant contribution to cardiovascular disease (CVD), the leading cause of global mortality (Alloubani et al., 2021).

WHO (2023) stated that the highest rates of hypercholesterolemia were found in America (47.7%) and Europe (53.7%), whereas substantially lower rates were observed in South East Asia (30.3%) and Africa (23.1%). In Malaysia, the National Health and Morbidity Survey (NHMS, 2019), reported significant prevalence rates of hypercholesterolemia, particularly among middle-aged and older adults, with higher risks observed in men and among Malays (Ang et al., 2022). Sociodemographic factors, including age, gender, educational level, and employment status, as well as clinical factors such as hypertension, diabetes, and obesity, play critical roles in hyperlipidemia's prevalence and management (Murad et al., 2023; Hambali et al., 2021; Zhu et al., 2022). Moreover, lifestyle practices such as dietary habits, physical activity, and smoking significantly influence lipid levels and cardiovascular health (CPG, 2017; Zhao et al., 2021; Nakamura et al., 2021).

Adherence to dietary recommendations is a key component in managing hyperlipidemia. However, non-compliance remains a significant barrier, often influenced by patient-related, social, environmental, and healthcare-related factors