

UNIVERSITI TEKNOLOGI MARA

**DIETARY INTAKE AND PHYSICAL ACTIVITY AS RISK
FACTORS FOR PCOS SYMPTOMS DEVELOPMENT:
A CROSS-SECTIONAL STUDY AMONG YOUNG FEMALE
ADULTS IN KUALA SELANGOR, MALAYSIA.**

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**The thesis submitted in fulfilment
of the requirements for the degree of
Bachelor of Dietetics (Hons.)**

Faculty of Health Sciences

July 2025

ACKNOWLEDGEMENT

First and foremost, I would like to express my deepest gratitude to Allah SWT for granting me the strength, patience, and perseverance to complete this thesis journey. Through countless sleepless nights, overwhelming doubts, and moments of near surrender, it is only by His grace that I was able to stand strong and keep going.

To my dearest supervisor, Dr. Rozzana binti Mohd Said, thank you from the bottom of my heart for your unwavering support, guidance, and patience throughout this journey. Your words of encouragement and constructive feedback have not only shaped this thesis but also shaped me into a more confident and disciplined researcher. I am truly blessed to have been mentored by you.

To my research coordinator, Dr. Nur Suraiya binti Abu Hassan Shaari, thank you for your continuous support and dedication in ensuring our progress stays on track. Your leadership and kindness have been a steady light guiding us throughout this process.

To my beloved parents, no words will ever be enough to thank you. Your endless love, prayers, sacrifices, and encouragement have been my greatest source of strength. You have believed in me even when I doubted myself, and for that, I will forever be grateful.

To my amazing friends, thank you for being my pillars of support. Whether it was listening to my rants, helping with data collection, or simply checking in on my wellbeing, you made this journey bearable. I will never forget the laughter and the tears we shared along the way.

And finally, to myself, thank you. Thank you for not giving up. Thank you for staying strong even when everything felt like it was falling apart. Thank you for showing up every single day, no matter how hard it got. This thesis is not just a piece of academic work, it is a testament to resilience, growth, and determination.

This journey has been anything but easy, but standing here today, I can say with a full heart:

IT WAS ALL WORTH IT.

ABSTRACT

Background: Polycystic Ovary Syndrome (PCOS) is a common hormonal disorder that affects young women globally and is linked to reproductive, metabolic, and psychological complications. Lifestyle factors, particularly dietary intake and physical activity level are believed to influence the risk and severity of PCOS symptoms. This study aimed to investigate the relationship between dietary intake, physical activity levels, and the presence of PCOS-related symptoms among young female adults in Kuala Selangor, Malaysia. **Method:** A total of 162 participants aged 19 to 25 were selected through convenience random sampling. Data were collected using a self-administered questionnaire consisting of three sections: Food Frequency Questionnaire (FFQ), the International Physical Activity Questionnaire - Short Form (IPAQ-SF), and a diagnostic tool for the risk of developing PCOS. The study assessed participants' eating patterns, physical activity levels, and the presence of symptoms such as irregular menstrual cycles, hirsutism, and weight history. **Results:** The findings showed that many participants reported symptoms associated with PCOS. Most exceeded recommended intake levels for energy, carbohydrates, protein, fat, and sodium, while fiber intake was generally low. Physical activity levels were mostly low to moderate. Statistical analyses revealed significant associations between PCOS symptoms and the intake of energy ($p = 0.038$), carbohydrates ($p = 0.046$), protein ($p = 0.021$), fat ($p = 0.038$), and sodium ($p < 0.001$). Logistic regression analysis confirmed that energy intake ($p = 0.0030$ and sodium ($p = 0.084$) were a significant predictor of PCOS symptoms, even with a combination of physical activity level. **Conclusion:** Poor dietary intake, especially excessive intake of energy and sodium, may contribute to the development of PCOS symptoms among young women meanwhile exercise doesn't have any influence in the presence of PCOS symptoms.

KEYWORDS: PCOS; Dietary Intake; Physical Activity Level

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CHAPTER ONE

INTRODUCTION

1.1 Research Background

Polycystic Ovary Syndrome (PCOS) is a complex endocrine disorder affecting approximately 8–13% of women of reproductive age worldwide (Teede et al., 2018). Despite its prevalence, up to 70% of affected women remain undiagnosed, significantly increasing the risk of long-term health complications (World Health Organization, 2023) such as reproductive and metabolic health. One of the most significant reproductive risks associated with untreated PCOS is infertility resulting from anovulation, thus making natural conception challenging (Rosenfield & Ehrmann, 2016). Early diagnosis opens opportunities for fertility preservation strategies, allowing women to plan for their reproductive futures (Joham et al., 2022). Furthermore, undiagnosed PCOS is linked to a higher risk of developing type 2 diabetes, obesity, and cardiovascular disease due to insulin resistance (Legro et al., 2013). Women with PCOS also face an elevated risk of endometrial cancer due to prolonged periods of unopposed estrogenic exposure resulting from irregular ovulation (Azziz et al., 2016).

Awareness of polycystic ovary syndrome (PCOS) is crucial for women's health. According to Goh et al. (2022), almost 50% of women in Klang Valley, Malaysia have poor knowledge and health-related practices regarding this condition. This lack of understanding can lead to delayed diagnosis and treatment, increasing the risk of developing related health issues mentioned previously. Women who suspect they may have PCOS or have been diagnosed with it should seek immediate medical attention, as early diagnosis and treatment can significantly improve their quality of life and help manage symptoms effectively. The therapeutic recommendations for PCOS are proper nutrition, exercise, and drug treatment. According to international evidence-based guidelines for PCOS, lifestyle changes are the first line of therapy for PCOS management (Cowan et al., 2023). Lifestyle changes are also recommended for managing metabolic syndromes such as type-2 diabetes mellitus, obesity, and hypercholesterolemia. Therefore, early interventions such as dietary improvements and increased physical activity, can substantially reduce these risks and enhance quality of life (Teede et al., 2018).