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The Association between Socio-Demographic Profile and Lifestyle Practices with Nutritional Status: A Cross-Sectional Study Among Seventh-Day Adventist Practitioners in Kuching, Sarawak

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ABSTRACT

The Seventh-Day Adventism recommends their followers to adopt a healthy diet, adequate physical activity, avoidance of addictive substances, fostering faith and hope to give meaning to life. This study aimed to investigate the association between socio-demographic profile and lifestyle practices with nutritional status in Seventh-Day Adventist (SDA) practitioners in East Malaysia. This was a cross-sectional study conducted among SDA members aged 18 and above between February and June 2023. The total of 323 respondents was drawn from five SDA Churches based on Kuching, Sarawak. Using questionnaires, data on socio-demographic characteristics, nutritional status, spiritual practice, lifestyle behaviours were collected. Anthropometry measurement was also taken in the survey. Data were analyzed using IBM SPSS version 29.0. The study found that SDA members have satisfactory religious beliefs and involvement. Minority were alcohol drinkers (24.1%) and current smokers (4%). About 35% of the respondents were involved in regular physical activities and mostly were obese (44%) with high abdominal obesity (67.5%). The univariate analysis showed that gender was significantly associated with nutritional status (BMI, $p=0.022$; waist circumference $p<0.001$; and waist-hip ratio $p<0.001$). The higher prevalence of BMI, waist circumference, and waist-hip ratio observed in women compared to men is associated with a combination of physiological, hormonal and lifestyle behaviours. These findings suggest the need for more effective interventions tailored to their daily routine.

Keywords: Healthy diet; Lifestyle; Nutritional status; Physical activity; Seventh-day Adventist

INTRODUCTION

Extensive studies have been published on the relationship between religion and health, highlighting how spirituality is recognized as an essential aspect of human experience that significantly impacts an individual's health and well-being (Koenig, 2012). Spiritual practices, integrated into various religious and cultural traditions, foster spiritual growth and connect individuals to a higher power or purpose (Chatters, 2000). Recently, there has been growing interest in how spiritual practice, lifestyle behaviour, and health status interrelate, particularly among members of religious communities (Bożek et al., 2020).

The Seventh-day Adventist (SDA) Church is a Christian denomination that has been known for its emphasis on healthy living and holistic well-being. The church's teachings promote a vegetarian diet, regular physical exercise, and abstention from smoking and alcohol consumption (Acosta Enríquez et al., 2019). These lifestyle behaviors are believed to be central to the church's mission of promoting physical, mental, and spiritual health. The Church believes that one's faith could be expressed through the maintenance of health as it was firmly stated that the body is the vessel of God (Mclver, 2016).

Most previous studies on religion and health have predominantly focused on samples from the U.S. and other Western countries, with only a few studies emerging from Asia (Tan et al, 2016). This current study, conducted in Sarawak, Malaysia, addresses this gap by exploring the under-researched area of spiritual practice, lifestyle behavior, and health status in an Asian context. Kuching, the capital city of Sarawak, is home to a significant population of SDA practitioners who strictly follow the church's teachings on healthy living. Therefore, this study aims to determine the association between socio-demographic profile and life style practices with nutritional status among the SDA practitioners in Kuching, Sarawak.

LITERATURE REVIEW

Religious belief and longevity are mutually reinforcing pathways. Most religions regard the body as sacred that has to be taken carefully. Therefore, they declare prohibition against certain irrelevant behaviour to human body, which can lead not only to spirituality but also health promoting ways (Tan et al., 2016). In terms of behavioural perspective, spirituality becomes an integral component of comprehensive health. Moreover, from psychological perspective, active participation in religious communities, make a person a sense of belonging which releases from stress and better coping skills (Saintila et al, 2022).

The SDA church, which began in the mid-nineteenth century in America emphasizes on holistic health, lifestyle reform and adherence to biblical principles. The Adventist health message comprises positive impact on physical, mental, emotional and spiritual health (Herrera et al., 2025). Adventists doctrines influence on mass production of plant- oriented foods, such as meat analogues, breakfast cereals and soymilk (Banta et al., 2018). The vegetarian diet was an important part of 'the present truth' i.e., the originating of the world history, starting with the vegetarian diet established in the Garden of Eden (Sanchez et al., 2016). Among vegetarian, there are sub-grouping such as vegan i.e., avoid all animal products, including dairy, eggs, and honey, lacto-ova-vegetarian i.e., consume dairy products and eggs but avoid meat, poultry, and fish, pesco-vegetarian i.e., avoid meat and poultry but eat fish and seafood and semi-vegetariani.e., eat red meat, poultry and fish less than once per week and more than once per month (Santos et al., 2025).

Numerous studies have been carried out among the Adventists to investigate the relationship between lifestyle, physical activities and health. The positive association has been found consistently in diverse samples, designs, methodologies, religious measures, health outcomes and population characteristics (Kent et al., 2015; Acosta Enríquez et al., 2019; Matsumoto et al., 2019; McBride et al., 2021). Findings from the Adventist health study 2 reflected that most Adventist have increased longevity (> 80 and above) with dietary patterns of 7.8 % were vegan, 29.2 % were lacto-ovo vegetarians, 10.2 % were pesco-vegetarians,

5.5 % were semi-vegetarians, and 47.3 % were non-vegetarians respectively. The same research declared that the behavoiural of non-smoking, abstinence from alcohol consumption, daily engagement in regular physical activity together with plant- based diet make them increased life expectancy (Santos et al, 2025). In addition, in the Multiethnic Nutrition Study in US reported that the Adventist population with vegetarian diet patterns were significantly associated with lower BMI, waist circumference and body fat mass as compared to non-vegetarians (Singh et al., 2019). Besides, a total of 4557 Peruvian university students from different religious background, among them Baptist, Catholic and Evangelical students had a significant higher BMI compared to SDA students (Lévano-Matos et al., 2024). Along with another Mexican study, explored that Adventist adolescents adhered more healthier behaviours such as less watching TV time (< 2 hours), enough sleep time (7 hours or more), go to bed early (at 11 o'clock or before) and have breakfast than non-Adventist adolescents significantly (Acosta Enríquez et al., 2019). On top of that, a study done in Loma Linda, US, indicated that diet quality index, based on the operationalization of 14 dietary and lifestyle components, of non-vegetarian had a significantly lower mean score compared to vegetarians (Le et al., 2018).

Not only in Western countries, a study conducted in Metro Manila, Philippines indicated that there was a significant association between adherence to the Adventist Health Message and health related behaviours particularly diet and physical activity (Galvez et al., 2021). Similarly, a study done in Bandung Barat, Indonesia reported that there was a significant correlation between lifestyle and life span: positive correlation with spiritual status and diet; hours of sleep at night as well as negative correlation with smoking (Malinti & Simanjuntak, 2017). Similarly in West Malaysia study reported that a higher level of religiosity was associated with a better dietary habit and vegetarian status (Tan et al., 2016).

To our knowledge, there was no evidence of SDA related lifestyle research in Kuching, Sarawak. In Kuching, it has about 189 SDA churches and approximately more than 20,000 memberships (Yearbook homepage. Sarawak mission, 2025). As such, this community provides a unique opportunity to investigate the association between socio-demographic profile and lifestyle practice with nutritional status. Therefore, conducting this kind of research can fill the gap to compare the difference socio-demographic and lifestyle significance between Eastern and Western part of SDA communities.

METHODOLOGY

Study design

A cross- sectional study was conducted among SDA practitioners aged 18 and above in Kuching division, Sarawak state, Malaysia between February and June 2023. The study respondents were recruited from five SDA Churches located at Batu Kawa, Batu Tiga, Sungai Pinang, Semaba and Bumbok respectively. All respondents were briefed and they signed informed consent. The study was approved by the Medical Ethic Committee of Universiti Malaysia Sarawak (FME/22/16).

Sample size and data collection

Sample size was calculated using Open-Source Epidemiology Statistic for Public Health (Open Epi), version 3.0 (www.OpenEpi.com), an open-source calculator, based on the sampling frame of total 1250 SDA members from five churches, with the confidence level of 95%, attrition rate of 10% and the minimum sample size needed was 320. Data was collected using face-to-face interview. Before conducting the research, the church's organizer prepared the church compound for the interview sessions and measurement session.

Sampling procedure

The study employed a multi-stage convenience sampling approach, where five distinct church locations were first purposively selected as clusters for data collection, and all eligible, willing participants available at the time of the health screening event were recruited.

Measurement

The socio-demographic, spiritual practice, lifestyle behaviour and nutritional status were gathered from a survey questionnaire that has been adapted from Tan et al (2016). The socio-demographic information included age, gender, date of birth, ethnicity, education level, employment, occupation, income, marital status, and whether the respondent was born in an Adventist family. With regards with spiritual practice, respondents were asked regarding their religious practices and perception towards religious belief. Lifestyle behaviour included consumption of alcohol, smoking habits, physical activity, vegetarian practice and dietary quality. For the current health status, it was measured by the anthropometry methods. Obesity was classified according to the following cut-off points: Normal (BMI-18-22.9), Overweight (BMI≥23), Obese (BMI>27.5). And also, waist circumference (WC) and Hip Circumference and waist-hip ratio (WHR) were taken. Normal WC cut off points are according to the following: ≥90cm for males and ≥80cm for females. Normal WHR cut-off points are according to the following: >1.0 for males and >0.8 for females (Clinical Practice Guidelines, 2023). To determine if the respondents met the recommended serving sizes by food group, a diet quality index was adopted with modifications based on Lee et al. (2011). Instead of the seven food groups used in the original instrument, the modified instrument comprised five food groups. The scoring of these components was calculated based on the recommended serving sizes and nutrient intake outlined in the Malaysian Dietary Guidelines (National Coordinating Committee on Food and Nutrition, 2010). Each food group was scored as 1 for meeting the serving size and 0 for not meeting it. The maximum possible score was 5 if all food groups were met, and the minimum score was 0 if none of the food groups were met.

Statistical analysis

The data was analysed using IBM Statistical Package for Social Science Program (SPSS) version 29. Univariate analysis was carried out to answer the research objective. To ensure the appropriateness of parametric tests, the normality of the data was evaluated using the Shapiro-Wilk test. The results showed that the data were normally distributed ($p > 0.05$), confirming the suitability of subsequent parametric analyses.

FINDINGS

A total of 323 SDA members participated in this study. The mean age of all respondents was 51.7 years old and most of them were in their middle age (31-59 years). Moreover, the majority were female (63.8%) and Bidayuh (79.9%). More than 80% of the respondents were found to be overweight and obese, 67.5% were having abnormal waist-circumference and 48.3% with abnormal waist-hip ratio. Overall, these findings indicate a high burden of obesity in this community. The detail of socio-demographic characteristics and nutritional status is presented in Table 1.

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TABLE 1: Socio-demographic characteristics and nutritional status of the respondents (N=323)

	n (%)	Mean (SD)
Age (year)		51.7 (16.45) (Min = 18; Max = 93)
Youth (15-30)	45 (13.9)	
Middle Adulthood (31-59)	157 (48.6)	
Senior Citizen (≥ 60)	121 (37.5)	
Gender		
Male	117 (36.2)	
Female	206 (63.8)	
Ethnicity		
Bidayuh	258 (79.9)	
Iban & Others	65 (20.1)	
Education Level		
No Formal to Primary Education	39 (12.1)	
Secondary Education	146 (45.2)	
Tertiary Education	138 (42.7)	
Monthly Household Income (RM) (n=217)		3,613.9 (3,791.88) (Min = 100.0; Max = 41,000.0)
B40 (≤ 4,849)	163 (75.1)	
M40 (4,850-10,959)	46 (21.2)	
T20 (≥ 10,960)	8 (3.7)	
Marital Status		
Single	57 (17.6)	
Married	240 (74.3)	
Others (Divorced, Widower/ Widow)	26 (8.0)	
Born in an Adventist Family (Yes)	248 (76.8)	
Body Mass Index (kg/m2)		27.4 (5.39)
Normal	63 (19.5)	
Overweight	118 (36.5)	
Obese	142 (44.0)	
Waist circumference		
Normal	105 (32.5)	
Abnormal	218 (67.5)	
Waist-hip ratio		
Normal	167 (51.7)	
Abnormal	156 (48.3)	

In terms of spiritual practice, most of the respondents (56.3%) attended church or other religious meeting once a week and majority (60.7%) of them spend time in private religious activities such as prayer, meditation or Bible study for more than once per week. Regarding the extent of religious belief, more than 80% of respondents felt the experiencing the presence of God in life and majority (83.6%) also really accepted that their religious beliefs are what really lie behind their whole approach to life. Overall, these findings reflect a high level of religious engagement and internalised belief among the respondents. Details of the spiritual practices is shown in Table 2.

TABLE 2: Spiritual practice by items (N=323)

	n (%)				
	More than once per week	Once a week	A few times a month	A few times a year	Once a year or less
Religious attendance (Attend church or other religious meetings)	85 (26.3)	182 (56.3)	33 (10.2)	18 (5.6)	5 (1.5)
Private religious activities (meditation, or Bible study)	196 (60.7)	72 (22.3)	36 (11.1)	11(3.4)	8 (2.5)

	Definitely true of me	Tends to be true	Unsure	Tends not to be true	Definitely not true
In my life, I experience the presence of God.	273 (84.5)	43 (13.3)	6 (1.9)	0 (0)	1 (0.3)
My religious beliefs are what really lie behind my whole approach to life.	270 (83.6)	45 (13.9)	4 (1.2)	2 (0.6)	2 (0.6)
I try hard to carry my religion over into all other dealings in life.	224 (69.3)	75 (23.2)	16 (5.0)	4 (1.2)	4 (1.2)

In term of lifestyle behavior, about one quarter of the respondents consumed alcohol in the past 12 months, and 4% were current smokers. About 35% of the respondents reported to be involved in any regular physical activities for the past 7 days. The mean score of diet quality was 1.32 (SD=1.246). Overall, these findings suggest low engagement in risk behaviour along with low levels of physical activity and diet quality. Table 3 displays the details of the lifestyle behavior of the respondents.

TABLE 3: Lifestyle behaviors of the respondents (N= 323)

	n (%)	Mean (SD)
Alcohol consumption	78 (24.1)	
Smoking status	13 (4.0)	
Physical activity (typical 7 days) *		
Often	114 (35.3)	
Sometimes	187 (57.9)	
Never/rarely	22 (6.8)	
Vegetarian		
Yes	19 (5.9)	
No	304 (94.1)	
Dietary quality		1.32 (1.246)

*Engage in any regular activity long enough to work up a sweat (heart beats rapidly)

A further analysis looking at the association of socio-demographic and lifestyle behavior with health status reported only gender reported to be the only one variable that was associated with all the three nutritional indicators (BMI, waist-circumference, waist-hip ratio). Details of the analysis is in Table 4.

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TABLE 4: Association of socio-demographic, lifestyle behavior, spiritual practices with health status (N=323)

	Body Mass Index			Waist circumference			Waist-hip ratio		
	Normal	Overweight & obese	*p* value	Normal	Abnormal	*p* value	Normal	Abnormal	*p* value
Gender									
Male	21 (44.7)	66 (31.6)	0.022*	56 (53.3)	61 (28.0)	<0.001*	110 (65.9)	7 (4.5)	>0.001*
Female	63 (55.3)	143 (68.4)		49 (46.7)	157 (72.0)		57 (34.1)	149 (95.5)	
Age									
Adult	82 (71.9)	174 (83.3)	0.210	79 (75.2)	177 (81.2)	0.242	125 (74.9)	131 (84.0)	0.054
Elderly	32 (28.1)	35 (16.7)		26 (24.8)	41 (18.8)		42 (25.1)	25 (16.0)	
Ethnicity									
Bidayuh	88 (77.2)	170 (81.3)	0.386	83 (79.0)	175 (80.3)	0.882	133 (79.6)	125 (80.1)	1.000
Iban & others	26 (22.8)	39 (18.7)		22 (21.0)	43 (19.7)		34 (20.4)	31 (19.9)	
Income									
B40	68 (81.9)	95 (70.9)	0.077	61 (81.3)	102 (71.8)	0.139	91 (77.8)	72 (72.0)	1.000
M40 & above	15 (18.1)	39 (29.1)		14 (18.7)	40 (28.2)		26 (12.0)	28 (28.0)	
Marital status									
Single & others	29 (25.4)	54 (25.8)	1.000	30 (28.6)	53 (24.3)	0.418	39 (23.4)	44 (28.2)	0.373
Married	85 (74.6)	155 (74.2)		75 (71.4)	165 (75.7)		128 (76.6)	112 (71.8)	
Alcohol intake									
Yes	25 (21.9)	53 (25.4)	0.587	18 (75.0)	41 (78.8)	0.771	39 (78.0)	20 (76.9)	1.000
No	89 (78.1)	156 (74.6)		6 (25.0)	11 (21.2)		11 (22.0)	6 (23.1)	
Practice of Vegetarian diet									
Yes	8 (7.0)	11 (5.3)	0.622	7 (6.7)	12 (5.5)	0.801	11 (6.6)	8 (5.1)	0.641
No	106 (93.0)	198 (94.7)		98 (93.3)	206 (94.5)		156 (93.4)	148 (94.9)	
Smoking									
Yes	7 (6.1)	6 (2.9)	0.234	18 (75.0)	41 (78.8)		10 (6.0)	3 (1.9)	0.088
No	107 (93.9)	203 (97.1)		6 (25.0)	11 (21.2)		157 (94.0)	153 (98.1)	
Physical activity (typical 7 days)									
Often	42 (36.8)	72 (34.4)		39 (37.1)	65.8 (34.4)		66 (39.5)	48 (30.8)	
Sometimes	64 (52.1)	123 (58.9)	0.894	61 (58.1)	126 (57.8)	0.574	95 (56.9)	92 (59.0)	0.290
Never/rarely	8 (7.0)	14 (6.7)		5 (4.8)	17 (7.8)		6 (3.6)	16 (10.3)	
Diet quality	1.40 (1.342)	1.27 (1.191)	0.351	1.33 (1.320)	1.31 (1.211)	0.861	1.29 (1.281)	1.35 (1.211)	0.673

DISCUSSION

This study aimed to determine the association between socio-demographic profile and lifestyle practices with nutritional status of SDA members and in Kuching, Sarawak. The findings showed a predominantly female sample with a high prevalence of overweight and obesity, high levels of religious engagement with strong engagement in certain lifestyle practices such as abstinence from alcohol and smoking but lower adherence to others including physical activity and vegetarianism. Gender is the only factor consistently associated with BMI, waist circumference and wait-hip ratio.

A total of 323 SDA members participated in this study with response rate of 100.9%, slightly more than estimated sample size. A detailed survey on their religious practices revealed that majority of the respondents attended church or religious meetings (82.6%) and also conducted meditation or Bible study (83%), at least once a week. This finding was consistent with Tan et al. (2016) and other SDA practices in other region of the world where engaging in prayer, bible study and religious meetings have become a common routine that define their spirituality. By regularly attending church services creates a sense of well being from social support of congregational members. This allows the more explicit health behaviour linked to the religious doctrine (Morton et al., 2017). This type of coping strategy is related with a greater intensity of positive effect and supports the individuals in finding meaning in life (Wnuk, 2024). In fact, SDA teaching shape the morality of individual in health sanatorium of the Christian Physiology. It heals the whole person by caring for the mind, body and spirit (Banta et al., 2018).

The prevalence of obesity, as measured by BMI in our study (44%), was significantly higher compared to national statistics by the National Health and Morbidity Survey (NHMS) 2019, which stated the prevalence of obesity among Malaysian adults was 19.7% (Institute for Public Health, 2019). Similarly, for waist circumference, 67.5% of the respondents were found to have an abnormal status, as well as for waist-hip ratio, where 48.3% were found to have an abnormal status. Although these three anthropometric measurements have their differences in determining nutritional status—where BMI focuses more on overall height and weight and does not differentiate between muscle and fat mass, unlike waist circumference and waist-hip ratio that give an indication of abdominal fat closely associated with the risk of metabolic and cardiovascular diseases—the findings still indicate the importance of nutritional status among this studied population, SDA practitioners.

Interestingly, in some of the studies carried out among non-SDA and SDA practitioners (Majda et al., 2021; Acosta Enríquez et al., 2019), SDA respondents presented a healthier lifestyle reflected with better nutritional status compared to their counterparts. However, this study indicated slightly different findings, where the prevalence of obesity-related indicators is highly alarming. Perhaps a closer look at the physical activity status, practice of a vegetarian diet, and diet quality may have contributed to this finding. Only 35.3% of the respondents often engaged in physical activity, in comparison with Majda et al. (2021), where the study reported a high level of physical activity (>1500 MET-minutes/week) as more prevalent among SDA respondents compared to their counterparts. Similarly, a study conducted in Sarawak reported that only about 12.6% of elderly adults were classified as physically active, it meant that the average steps/day was below the recommended levels (Saad et al, 2021).

In terms of vegetarian practice, only 5.9% of this study's respondents practiced a vegetarian diet. Although vegetarianism is encouraged in SDA, these practices are not compulsory. It was reported that studies carried out in other countries had higher prevalence of vegetarian among SDA practitioners, ranging from 7.7% to 35.5% (Orlich & Fraser, 2014; Butler et al., 2008). In terms of diet quality, a mean score of 1.32 (SD=1.246) was reported, indicating many of the respondents did not routinely fulfil the dietary requirements set by the Malaysian Dietary Guidelines. One of the possible factors for poor dietary index may be due to a large percentage (75.1%) of SDA participants in this study fell into the B40 income

category, which might have an impact on choice of quality food. According to research conducted among B40 household in Malaysia, 80% of B40 households' income is spent on routine essential (Applanaidu et al 2022). Even though local people of Sarawak cook the food using the natural resources from the forest such as wild animal meat, fish, shoots, stems, leaves, roots, barks, and many others, these practices are more characteristic of rural lifestyles (Ting et al, 2017). Additionally, rapid industrialisation and changes of lifestyle pattern trigger food consumption patterns shift away from traditional local staples towards highly processed, often imported, food (Goh et al, 2020). It was suggested that lower diet quality index scores may not reflect adherence to SDA teaching, in fact it was influenced by structural and environmental context. Moreover, a detailed 24-hour diet recall would definitely help in giving a clearer explanation of this finding. However, this was not covered in the study.

About 76% of the respondents reported not consuming any alcohol in the past 12 months, consistent with other studies (Tan et al., 2016; Galvez et al., 2021) where the majority of their respondents reported not consuming any alcohol. In addition, only about 4% were active smokers, which was lower than the previous North American SDA study of 8% (Charlemagne-Badal & Lee, 2016). Moreover, this study's smoking status is quite lower than the prevalence of smoking in Malaysia, which is 22.8% (Lim et al., 2018). The low rate of alcohol consumption and smoking is believed to be influenced by the SDA church teachings. It was suggested that higher religious involvement strengthens and adherence to health-promoting behaviours (Lim & Putnam, 2010). Thus, observed lifestyle pattern in this SDA sample may reflect the stronger communal and religious characteristics of East Malaysia SDA. In addition, the possibility of paradox pattern in this study is due to the fact that alcohol and smoking are strong prohibition of SDA while vegetarianism and physical activity are interpreted as advice not prohibition (Banta et al, 2018).

The univariate analysis between socio-demographic and lifestyle behavior with nutritional status revealed that only gender was significantly associated with nutritional status (BMI, $p=0.022$; waist circumference $p<0.001$; and waist-hip ratio $p<0.001$). The higher prevalence of BMI, waist circumference, and waist-hip ratio observed in women compared to men is associated with a combination of physiological, hormonal, lifestyle, cultural, genetic, and health-related factors (Davis et al., 2012; Wells, 2007; Lovejoy et al., 2008; Kant & Graubard, 2006). Women naturally have a higher percentage of body fat compared to men. This is partly due to reproductive functions and the need for fat storage in areas like the hips, thighs, and abdomen. Women also generally have a slower metabolic rate, which can contribute to higher body fat accumulation over time. In addition, the majority of the respondents in this study were aged 50 and above, closely linked to menopause, which results in a reduction in estrogen and metabolically unfavourable fat redistribution from gynoid to abdominal locations (Kozakowski et al., 2017).

In this study, several variables were not significantly associated with nutritional indicators, including age, ethnicity (with majority were Bidayuh), income, marital status (majority married), alcohol intake, vegetarian diet, smoking, physical activity and diet quality. The possible reason for these non-significant findings may be due to the homogeneity of sample in one specific regional area with similar characteristics such as the predominance of one ethnic group, similar income levels, a high proportion of married participants, as well as generally low prevalence of of smoking and alcohol consumption. Additionally, self-reported measures of physical activity and diet quality may have limited sensitivity to detect subtle differences.

CONCLUSION AND LIMITATION

This study highlights several important findings regarding the nutritional status and lifestyle behaviors of Seventh-day Adventist (SDA) practitioners in Kuching, Sarawak. The prevalence of obesity, as measured by BMI, was significantly higher in this population compared to national statistics. Additionally, a substantial proportion of respondents exhibited abnormal waist circumference and waist-hip ratio,

indicating a high risk of metabolic and cardiovascular diseases. The study also revealed that a majority of respondents abstained from alcohol consumption and smoking, which aligns with the teachings of the SDA church. However, the low levels of physical activity and limited adherence to a vegetarian diet among respondents may have contributed to the high prevalence of obesity-related indicators.

Gender was found to be significantly associated with nutritional status, with women exhibiting higher BMI, waist circumference, and waist-hip ratio compared to men. This can be attributed to a combination of physiological, hormonal, lifestyle, cultural, genetic, and health-related factors, as well as the age-related impact of menopause.

Despite these findings, the study has several limitations. The sample was limited to SDA practitioners in Kuching, Sarawak, which restricts the generalizability of the results. Additionally, the cross-sectional design of the study only provides a snapshot of behaviors at a specific point in time, and the potential for social desirability bias in questionnaire responses may have affected the accuracy of the data.

RECOMMENDATION

Overall, the study underscores the importance of addressing nutritional status and promoting healthier lifestyle behaviors among SDA practitioners. This study recommended incorporating locally available Sarawak plant-based nutrition education activity into routine church programs alongside group-based physical activity projects. In addition, it should be collaborated with local health authority for health education programme regularly. Therefore, it can strengthen non-communicable disease prevention efforts in Sarawak's indigenous and rural communities. Future research should consider a more diverse sample and longitudinal design to better understand the factors influencing nutritional status and to develop targeted interventions for improving health outcomes in this population.

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