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Cardiovascular Health Information-seeking Intention among Malaysian Youths: A Conceptual Paper

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ABSTRACT

Youths receive information from various sources inadvertently every day. A clear understanding of cardiovascular health information sources is important for the government, the private sector, and non-government organisations to devise better strategies to enable information to reach youths effectively. Besides, cardiovascular health information sources also affect youths' subjective norms, health literacy, attitude towards cardiovascular disease prevention, and cardiovascular health information-seeking intention—these variables are crucial for youths to promote self-management skills. Thus, this conceptual paper aims to examine cardiovascular health information sources, as well as the relationship between information sources and Malaysian youths' subjective norms, health literacy level, attitude towards cardiovascular disease prevention, and cardiovascular health information-seeking intention. This paper is significant as it can be used as a reference for future researchers, government policymakers, the private sector, and non-government organisations to plan cardiovascular disease campaigns or related activities among youths to optimise the results in reducing cases of cardiovascular disease in Malaysia.

Contribution/Originality: This study adds to the body of knowledge on health information-seeking behaviour as it is one of a limited number of research that employs the Theory of Reasoned Action, and it corresponds to the pressing need to reduce health-related risks among the younger generation in Malaysia.

1. Introduction

Cardiovascular disease was the principal cause of death in Malaysia for years before the invasion of the Covid-19 pandemic. According to Chuen et al (2016), cardiovascular diseases and other non-communicable diseases accounted for 67% of the total deaths in 2008; this is an unhealthy trend which the government, non-government organizations, and private sector have been working hard to tackle by spreading awareness

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surrounding the topic. However, cardiovascular disease remains the top three principal cause of death in Malaysia. Table 1 shows the top 3 principal causes of death in Malaysia and according to the Department of Statistics Malaysia (2022), ischemic heart disease, a type of cardiovascular disease, was known as the second highest cause of death in Malaysia at 13.7%. According to the National Health & Morbidity Survey (Institute of Public Health, 2019), 50.1% of Malaysian adults were overweight or obese; this finding is similar to that of the study conducted by Mohd Nor et al. (2022), which stated that a large number of Malaysian youths had least one or more cardiovascular risk factors.

Table 1: Top 3 Principal Causes of Death in Malaysia, 2022

Top 3 Principal Causes of Death in Malaysia (%)	
Covid-19 (due to infection)	19.8
Ischemic heart disease	13.7
Pneumonia	11.1

Source: Department of Statistics Malaysia (2022)

The government, the private sector, and non-government organisations are working hard to reduce the modifiable cardiovascular risk factors by educating the citizens and raising their awareness. The government increased their allocation to organise health communication campaigns and use different mediums to reach the citizens; in this context, the role of the media is to support the government's initiatives, and the current media is growing to focus on health-related issues (Mansor & Harun, 2014).

Nowadays, youths are exposed to and receive different kinds of health information inadvertently via various information sources. When they receive cardiovascular health-related information from the sources of information, either through interpersonal communication or the media, their knowledge level may increase from one level to the next. Knowledge, beliefs, and attitude may influence health-related behaviours to some extent (Gallè et al., 2016); a study conducted by Zhang et al. (2020) in China found that knowledge directly affects attitude. Therefore, we can understand that knowledge and attitude are inter-related. Youths' intention to perform an actual behaviour could be determined by two factors: 1) attitude towards the actual behaviour, and 2) subjective norms, also known as the belief that a significant individual or group would endorse and promote a specific behavior (Alqasa et al., 2014; Ham et al., 2015). Health literacy and health information-seeking is an essential skill to enhance health knowledge among youths, while self-management is a powerful strategy to reduce health issues. Reinforcement of cardiovascular health literacy is essential to promote cardiovascular disease prevention, advocate self-health management, and lower the occurrence of cardiovascular disease risk factors in the future.

Currently, technology is evolving, and new media has emerged, replacing the traditional. Nevertheless, electronic media, such as billboard and radio, are still relevant and used in dissemination of information to the public; in fact, radio is the main option for the local community to obtain information on current issues in Sarawak (Jamri et al., 2022; Zaini et al., 2021). The Movement Control Order (MCO) was enforced during the Covid-19 outbreak, and traditional media, such as television, was the most widely used medium by Malaysians to follow the news, followed by the internet (Mohamad et al., 2020). This study also revealed that, among television, radio, and print media, the most preferred media was TV3, a television channel owned by Media Prima. In the current era, youths are exposed to and receive various kinds of health information through different

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information sources as well as interpersonal communication. They will use their preferred media to probe and get access to health-related information (Chan & Fang, 2007; Wartella et al., 2016). If the health-related information stimulates their interest, they will actively search for it.

Friends and family are the dominant source of health information, while websites are the dominant channels (Ahadzadeh & Sharif, 2017). According to the Malaysian Communication and Multimedia Commissions (2020), the majority of the active internet users in Malaysia were youths, and they spent 5 to 12 hours a day on the internet. They went online for the purpose of text communication, whereby they used social media to share online content related to the news and public service announcements. This finding is similar to that of Chen et al. (2020), which stated that Malaysian youths spent most of their time engaging in sedentary activities, with the usage of electronic devices being the dominant activity. There has been much research conducted to investigate the source of information for health issues, but there is a lack of focus on cardiovascular diseases from the youths' perspective. Cardiovascular health information sources remain unknown, and more exploration is required to clarify the issue.

Low knowledge regarding health is the key factor of the health issues among Malaysians, and it has been found that knowledge level correlates with the susceptibility to health problems (Mokmin & Ibrahim, 2021; Zhu, 2019). In a previous study conducted by Mohamad Shakir et al. (2019), it was shown that awareness and knowledge of Malaysian youths regarding sexual health and sexually transmitted infections (STIs) were inadequate. As a result, many Malaysian youths failed to take safety precautions while having sex with their partners and stop the transmission of STIs, which led to low degree of disease prevention; this highlights the importance of health knowledge. Currently, the level health knowledge regarding cardiovascular diseases in Malaysian youths remains questionable, and it is crucial to conduct more research on this matter.

Self-management skills are very important in the context of disease prevention. Most of the research indicated that the health literacy among Malaysians was limited, and one of the studies found that people with asthma had limited health literacy, particularly in the domain of disease prevention and health promotion (Salim et al., 2021). There are several factors associated with low health literacy, which include socio-economic status, lack of nutrition knowledge, active lifestyle, accessibility to the media, internet access, lack of information seeking skills, and low consistency of accessibility to health information (Abdul Karim, 2020). Meanwhile, youths who experience or suffer from sexually transmissible infections tend to search online for information regarding the disease (Mohammad Shakir et al., 2019); in other words, the decline in the health status of youths increases their intention to seek information and reinforce their health literacy.

The influence of health literacy towards health information-seeking among youths who study in Malaysian universities is only moderate (Mazlan et al., 2021). There is a consistent relationship between health literacy and health information-seeking behaviour, where the higher the healthy literacy of an individual is, the more active they are in seeking health information to ensure that they are in good health (Hamzah et al., 2016). Therefore, research is needed to find out the cardiovascular health literacy of Malaysian youths to understand the relationship between the variables. Table 2 provides an insightful depiction of the contextual stakeholders and influential factors in the macro environment. It highlights the role of government as a key stakeholder and

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identifies media institutions and technology as integral tools within this context. Additionally, the inner circle of influence comprises family and friends, while the individual's cognitive, affective, and psychomotor aspects encompass awareness, health knowledge, attitudes, and the inclination to engage in health-related behaviours. Furthermore, the table underscores individual initiative through self-management practices.

Table 2: Summary of Introduction

Context	Stakeholders
Macro environment	Government
Tool employed in the macro environment	Media institutions and media technology
Inner circle of influence	Family and friends
The cognitive, affective and psychomotor of the individual	Individual: Awareness, knowledge on health, attitude towards health, willingness to perform the actual behaviour
The individual's initiative	Individual: Self-management

Source: Author's own work

2. Significance of the study

Cardiovascular diseases and other kinds of non-communicable diseases (NCDs) have a huge impact on the economy of a nation. According to World Health Organization (2020), the estimated economic costs in 2018 based on lost productivity due to absenteeism and premature death among the working-age population of Malaysia amount to approximately RM 8.91 billion, which corresponds to 0.65% of the nation's gross domestic product (GDP). Research has found that there is a large disparity in the number of bottom-tier (B40) households between urban and rural areas (Siwar et al., 2019). Households in the B40 category are facing poverty, and as a result, they lack the financial means to cover medical expenses. In cases where individuals are living with cardiovascular diseases, the high fees at private hospitals may prevent them from seeking treatment. Therefore, early intervention for cardiovascular disease in youths can play a crucial role in preventing the situation from exacerbating in the long term.

Youths can receive health information related to cardiovascular disease from different information sources. For example, communication channels play a role in the process of behavioural change and perception of children towards cigarettes (Bakar et al., 2013). The stakeholders, particularly the government, are able to build public confidence and plan successful national health intervention strategies through identifying the media preference of youths (Mohamad et al, 2020), through which the government, public sector, private sector, and non-profit organisations can tailor a good communication plan to reach youths effectively. Moreover, it can improve youths' health self-management, reinforce their health literacy, as well as increase their tendency to engage in health information-seeking. This illustrates the importance of understanding the media preference of youths to gain information about cardiovascular diseases from different organisations.

3. Literature Review

3.1. Cardiovascular risk factor among the youth

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Youths who are studying in universities have high cardiovascular risk factors due to the practice of unhealthy dietary patterns. They consume high amounts of fast food, sugar, and alcohol; on the other hand, they take in low amounts of healthy food, such as fruits, vegetables, wholegrains, legumes, meat, and fish (Ho et al., 2020). Globalisation brought about direct foreign investment in the food industry, which led to a shift from local food choices to highly processed food (Goh et al., 2020). This study also stated that the increasing presence of shopping malls in Malaysian cities contributed to the globalisation of culinary goods and the infiltration of unhealthy eating culture in local communities, such as the popular trend of consuming high-calorie sweetened tea-flavoured beverages. Although the food availability has increased, fruit and vegetable intake has decreased among almost all Malaysian adults; this, accompanied by increased calorie intake from consumption of fats and excess sugar, as well as a sedentary lifestyle, led to the increase in cardiovascular risk factors (Karupaiah et al., 2019).

In a study conducted by Xiao et al. (2018), it was revealed that generation Y students were the largest segment of the consumer in Malaysia; they had high purchasing power, as well as high frequencies of eating out and having takeaways from fast-food restaurants. On the weekends, many families would spend their time at shopping complexes and dine at food courts or restaurants nearby after shopping. There are also no restrictions for mealtime as food services that are available anytime encourage teenagers, late sleepers, or night workers to consume supper at late night or early morning (Ali & Abdullah, 2012). The prevalence of cardiovascular diseases is driven by a few factors, which include unplanned urbanisation, unhealthy dietary patterns, sedentary lifestyle, alcohol consumption, and smoking (Gong et al.et al., 2012).

In a study, it was found that youths studying in universities who had low nutrition knowledge were usually obese and overweight; most of them fell under the risk group and were detected to have known cardiovascular risk factors. Gender-wise, it was revealed that females practiced reading food labels, which may help them understand their nutritional value (Ho et al., 2020). Another study conducted on female youths in universities revealed that they might not fall into the obese category because their nutrition knowledge increased when they often practiced the reading of food labels, and this knowledge empowered them to improve their health and prevent diseases (Abu Bakar et al., 2020). One study conducted in Penang found that the general public in Penang had limited knowledge and awareness of cardiovascular diseases and their risk factors, which worsens the situation (Amin et al., 2014).

3.2. Information sources of the youth

The common sources for Malaysians to gain knowledge on hypertension are mass media and friends (Buang et al., 2019). In the blood donation context, the main information source for non-blood donor residents in Terengganu is social media; they have good knowledge and positive attitude towards blood donation, which indicates that social media brings a positive influence on the society (Noh et al., 2019). Alternatively, majority of Malaysians and Singaporeans refer to healthcare professionals as sources of health information. They will obtain continuous education from medical officers or healthcare staff on their diseases because they perceive medical authorities as trustworthy and respectable, having vast knowledge, and being easily accessible to the community (Ithnin et al., 2018; Jaafar et al., 2017; Amin et al., 2014). The findings are aligned with the research conducted by Yahya et al. (2012), which stated that most of the women in Kelantan obtained information on cardiovascular diseases from

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healthcare workers, relatives, or patients with cardiovascular diseases, as well as through books and television.

The findings of a research conducted by Ibrahim et al. (2016) also indicated that information on cardiovascular diseases was obtained from books, in the classroom, and through the internet. It was found that people clearly understood that cardiovascular diseases were associated with certain diseases conditions. Meanwhile, people who had a family history of heart attacks, their neighbours, and groups or individuals who received information about heart attacks through public service announcements, social media, the internet, and other different sources, were aware of the five heart attack symptoms and would acquire timely treatment when they identified the occurrence of such symptoms (Abdo Ahmed et al., 2020).

3.3. Subjective norm, health literacy and health information-seeking

Parental attachment and peer attachment have significant independent effects on the health literacy level of Malaysian adolescents, with parental attachment having a stronger impact (Hamzah et al., 2018). In the study of Park et al. (2021), it was found that parent-related subjective norms and issue involvement in relation to Covid-19 were significant factors related to prophylactic behaviours of emerging adults. Hence, these two factors have to be considered to improve the preventive behaviours among them. In a study done by Mat Dawi et al. (2021), it was revealed that attitude and subjective norms had a direct effect in predicting intention to adopt preventive behaviours. Moreover, it has been proven that subjective norms can influence users' intention in seeking health information online (Xia et al., 2017). For example, those who have serious health issues in China will seek health information and support from friends and family, while neighbours contribute to the health literacy of older people (Li et al., 2022).

It has been shown that people who spend more time on the internet more frequently have relatively high levels of online health information-seeking behaviour and digital health literacy (Abdullah et al., 2020; Marzo et al., 2022). Hence, health literacy among Malaysians can be increased by disseminating messages on such health topics to university students to increase their awareness, which may change their attitude or beliefs (Lim et al., 2021a). Education level is known as a moderating factor and has a significant effect on the acceptance of health information, where higher education levels lead to higher levels of practicing preventive behaviour. Females are also more aware of their health condition, and for people who are interested in health, the knowledge they acquire lasts longer and are more stable (Jaafar et.al., 2017). Generally, studies conducted on youths in Malaysian public universities showed moderate health literacy among them, and 3 out of every 10 youths had low health literacy; meanwhile, youths who had higher health literacy would actively engage in health information-seeking behaviours to ensure good health condition (Hamzah et.al, 2016). Table 3 presents a recap of the literature review and summarises the affected population, the primary causes of cardiovascular risk factors, common sources through which Malaysian youth acquire knowledge on various health issues, and the factors influencing the level of health literacy.

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Table 3: Summary of Literature Review

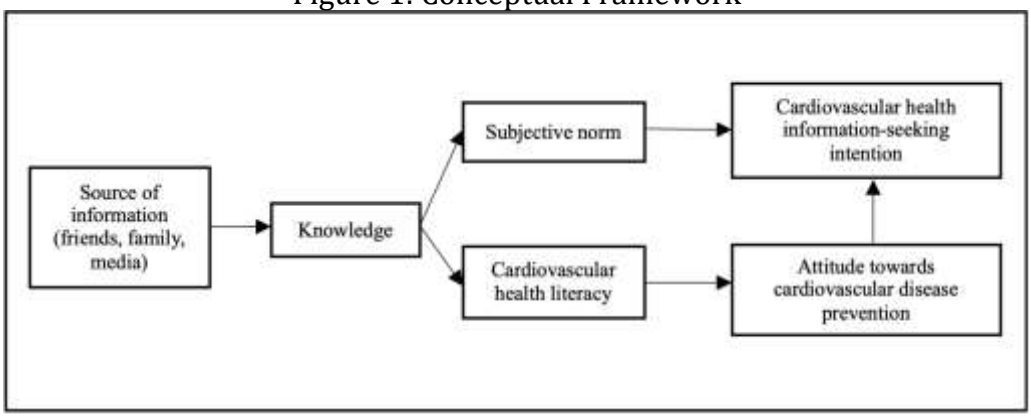
Aspect	Key point	
Affected population	Youths studying in universities	
Cause of cardiovascular risk factors	Unhealthy dietary patterns & sedentary lifestyle	
Common sources for Malaysian youths to gain knowledge on various health issues	Mass media Social media Internet Public service announcements Books	Television Classroom Friends Relatives Patients Healthcare professionals
Factors affecting the level of health literacy	Parental attachment & peer attachment Frequency and time spent on the internet	

(Source: Author's own work)

4. Proposed conceptual framework

Theory of Reasoned Action was introduced by Fishbein and Azjen (1975) and is often used to understand human behaviour. It has been widely used and tested in different health-related behaviour studies, such as on Human Papillomavirus vaccination (Cunningham-Erves et al., 2023), health information-seeking intention (George & Waheed, 2021) and condom use (Beadnell et al., 2007) in different countries across the world. According to this theory, individuals have a higher intention (motivation) and are more likely to carry out the suggested behaviour if they view it favourably (attitude) and believe others want them to do so (subjective norm) (Mimiaga et al., 2009). Much research has been done on the impact of knowledge towards intention. Additionally, knowledge has a significant impact on travel intention (Jiang et al., 2022). Knowledge and sociodemographic could indirectly influence attitude and subjective norms, which subsequently affect intention (Fishbein & Azjen, 1975). A study demonstrated a noteworthy correlation between subjective norms and the intention to smoke among non-smoking youths (Lim et al., 2021b). The proposed conceptual framework shown in Figure 1 illustrates the source of information as the starting point.

Figure 1: Conceptual Framework



(Source: Author's own work)

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It provides knowledge to the study population and delineates how knowledge contributes to subjective norms and health literacy, which in turn influences attitudes towards cardiovascular disease prevention, and ultimately predicts their intention to seek cardiovascular health information.

5. Conclusion

The findings of this conceptual paper will be useful to all the stakeholders to tailor the message based on the youths' preferred sources of cardiovascular health information to maximise the effectiveness of message dissemination, thereby advocating early intervention, and improving cardiovascular health among youths. A deeper and more comprehensive literature review needs to be conducted in detail to gain a deeper understanding and insight into the proposed conceptual framework. The researcher hopes that this conceptual paper can contribute to the pool of knowledge on the topic and provide a guideline for future researchers and policymakers in disseminating information on cardiovascular diseases which, upon the full completion of this research, would assist in the creation of effective strategies to reach youths with the aim of reducing the risk factors of cardiovascular diseases among youths.

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Conflict of Interest

The authors reported no conflicts of interest for this work and declare that there is no potential conflict of interest with respect to the research, authorship, or publication of this article.

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