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Original Article

Digital Platform as a Source for Self-Medication: The Influence of Educational Factors

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ABSTRACT

Background: The growing use of digital platforms has transformed health information access and contributed to the global trend of self-medication. When making healthcare decisions, people in Malaysia, where internet usage is exceptionally high, frequently turn to online resources. This study investigates how self-medication behaviours motivated by information from digital platforms and social media are influenced by educational background. **Materials and Methods:** From January to May 2025, 324 Malaysian people participated in a cross-sectional study that used a structured, self-administered online questionnaire disseminated over social media. Information was gathered about social media use, self-medication behaviours, and demographic traits. SPSS was used to conduct statistical studies, such as ANOVA, logistic regression, and chi-square testing. **Results:** Google was the most popular source of health information among the respondents, who used digital platforms in 79.6% of cases. Those with college degrees were substantially more likely than those with less education to self-medicate via Internet content (p=0.005, OR=0.302). Those with less education were more likely to take drugs to control their weight and skin conditions. Furthermore, 13% reported negative side effects from self-medication. **Conclusion:** Education significantly influences self-medication behaviour based on digital health information. While those with higher education engage more in online-based self-care, individuals with lower education levels are more prone to potentially unsafe practices. Enhancing digital health literacy is crucial for promoting safe self-medication across all educational backgrounds.

Keywords: Digital platforms, Education, Online health information, Self-medication, and Social media.

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INTRODUCTION

The digital landscape has changed today's world. Access to health information has undergone a significant transformation in recent years, with the emergence of digital platforms, which enable people to take a more proactive approach to managing their health. With 97.7% of the population reportedly using the internet regularly, Malaysia continues to have exceptionally high internet usage rates. According to the Department of Statistics Malaysia, 92.8% of Malaysians searched the Internet for information about products and services, including health-related topics (Department of Statistics Malaysia, 2024). With projections indicating a rise to 36.82 million users by 2029, the nation's internet user base is expected to grow gradually for the sixteenth consecutive year (Statista, 2017). These patterns demonstrate the increasing dependence on digital platforms for information and the necessity to assess the standard and authenticity of online health content.

Self-medication is a prevalent practice in many developing countries, including Malaysia, where a wide range of Over-the-Counter (OTC) medications with established safety and efficacy are readily accessible. According to the World Health Organization (WHO), self-medication involves the use of medicines to treat self-diagnosed conditions or symptoms, as well as the intermittent or continuous use of prescribed drugs for chronic or recurring ailments. It may also include the use of medications intended for family members, especially when caring for children or the elderly (Rathod *et al.*, 2023). In a recent study, 83.9% of participants reported using OTC medications. The most commonly consumed products were supplements and vitamins, followed by painkillers, flu or cough remedies, and sore throat treatments. Pharmacies were the primary source for obtaining these medications. The main reasons cited for self-medication included easy access, convenience, and time-saving factors that

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reflect the growing tendency to bypass professional medical consultation in favour of quicker, more autonomous solutions (Azhar *et al.*, 2013).

The perks of responsible self-medication are numerous and include time savings, less strain on healthcare systems, and increased personal autonomy in the treatment of minor ailments. Additionally, it can increase patient involvement in treatment choices and reduce healthcare expenses. But there are also significant risks associated with self-medication, including misdiagnosis, drug abuse, antibiotic resistance, and negative drug interactions. Reliance on unregulated digital sources, which frequently offer anecdotal or economically motivated advice, increases these hazards (Mandrea *et al.*, 2021). Although practising responsible self-care has its advantages, there are risks involved, and it can occasionally result in negative health consequences that call for expert medical assistance.

Online health information is highly trusted by a substantial percentage of the community. For example, 21% of people think that getting health information online is a good alternative to seeing a doctor, while 23.2% of people think that there is no danger involved. 43.7% thought online health information was good (Agarwal *et al.*, 2021). This environment is about to undergo even more change with the advent of Artificial Intelligence (AI). AI provides tools like intelligent symptom checkers and personalised health recommendations, enabling people to make safer, better-informed decisions by increasing the efficiency, accuracy, and accessibility of healthcare information. AI can completely transform self-medication habits and help create a healthcare system that is more patient-centred, knowledgeable, and responsive as it develops (James *et al.*, 2025).

Although it is well-accepted that education affects health-related behaviours, such as self-medication, little is known about the extent and nature of this link. According to a Klang Valley study, self-medication is common among adults and is frequently driven by comfort and past experiences. It also revealed that educational level is not a significant predictor of self-medication (Haque *et al.*, 2019). Although these findings imply that education may not influence a person's capacity to obtain and comprehend health information, a cross-sectional survey revealed that parents, many of whom possess higher education, frequently manage their children's self-medication, supporting the notion that education influences household decision-making (Anush Barseghyan and Nazaryan, 2023). Our study aims to precisely examine whether educational background has an important influence on self-medication behaviour in the Malaysian population, taking into account these diverse variables in general.

This study examines the relationship between education and self-medication behaviour in the digital era, with a particular emphasis on how people's decisions to self-medicate based on online health information are influenced by their educational backgrounds. We hypothesise that individuals with higher levels of education are more likely to self-medicate because they have greater access to knowledge and are accustomed to understanding it, but they may also be better able to weigh risks and make safer decisions. The need to learn more about whether education contributes to or protects against self-medication habits is the driving force for this study. Therefore, the aim is to assess the correlation between educational level and self-medication patterns among adults. The findings of this study hold significance for public health policies and digital health interventions, particularly in designing targeted education campaigns and resources to promote safe self-medication practices across different educational groups.

MATERIALS AND METHODS

Study Design

This study was conducted in Malaysia from January to May 2025, focusing on Peninsular Malaysian social media users who were 18 years old and above. We utilised social media platforms to disseminate the questionnaires to participants. The standardised questionnaire was created using Google Forms to perform a cross-sectional survey. Participants were first asked for online informed consent before a series of questions. Ethical approval was obtained from the AIMST University Ethics Committee (Ref: AUHEC/FoM/12/12/2024) before the dissemination of the questionnaire. The topics covered in the questionnaire were: Demographic information, Social Media Usage, Self-medication practices, Self-medication under social media influence, Perceptions of information reliability, Adverse Effects and actions.

Study Sample

Participants were selected through convenience sampling via online distribution. Inclusion criteria were Malaysian residents aged 18 and above who actively use social media. Exclusion criteria included residents from Sabah and Sarawak, individuals aged 17 years and below and non-social media users. Responses were anonymous, and no personal identifiers were collected.

Data Collection Tools

A structured, self-administered questionnaire was used to collect data for this study. The tool was validated through a pilot study, and necessary adjustments were made to ensure clarity and reliability before use in the main research. The questionnaire was available in both English and Malay.

Data Analysis

The SPSS software was used for statistical analysis. Trends in self-medication habits were found by analysing participant responses using descriptive statistics. Chi-square tests were used to assess the relationship between categorical variables, such

as social media usage frequency and self-medication practices. Logistic Regression Analysis was conducted to evaluate the association between the independent variable and the dependent variable, controlling for demographic factors. A *p*-value of <0.05 was deemed significant for all the tests.

RESULTS

A total of 324 Malaysian participants were recruited for this study, with a mean age of 27.9 years. The majority of respondents were female (60.8%), possessed a college-level education or higher (90.1%), were students (47.2%), and primarily resided in the northern region of Malaysia (51.5%). The participants had a mean age of 28 years (Standard Deviation=10.9).

The findings in Table 1 revealed that 79.6% of Malaysian respondents utilised social media or online platforms to obtain information related to self-medication. Additionally, 18.5% of participants specifically reported using social media to seek health-related information. Among the various platforms, Google emerged as the most preferred source, with approximately 37% of respondents indicating its use for accessing health information.

The primary reasons for utilising social media for self-medication were for the management of common symptoms such as fever, cough, and sore throat (Table 2). Nearly half of the respondents reported using social media as a source for self-treatment practices. The findings further indicated that approximately one-fourth (26%) of participants engaged in self-medication frequently, primarily to address minor health conditions. Moreover, 13% of respondents reported experiencing adverse effects associated with self-medication, while 43.7% indicated that self-medication did not result in any improvement in their health condition.

Table 3 presents the results of a binary logistic regression analysis conducted to examine the association between educational level and the pattern of self-medication practices based on information obtained from social media. The analysis demonstrated that individuals with higher education (college level or above) were significantly more likely to utilise social media as a source of information for self-medication compared to those with lower educational attainment. Specifically, respondents with college or higher education were nearly three times more likely to engage in self-medication based on information from social media than those with secondary education (*p*-value=0.005, OR=0.30, 95% CI=0.131,0.696). The findings revealed that respondents with no formal or primary education were significantly more likely to use

Table 1: Social media use for self-medication.

Variable	N	%
Social media or online platforms are used to obtain information on self-medication		
No	66	20.4
Yes	258	79.6
Frequency of social media use to look up health-related information		
Never	15	4.6
Rarely	109	33.6
Monthly	59	18.2
Weekly	81	25
Daily	60	18.5
Types of social media or online platform use		
Google	239	36.9
YouTube	165	25.5
Instagram/Facebook/Twitter/TikTok	159	24.6
WhatsApp	74	11.4
Other	10	1.5

Table 2: Pattern of self-medication use among the respondents.

Variable	N	%
Frequency of self-medication use		
Very frequent	31	9.6
Frequent	53	16.4
Moderate	100	30.9
Rarely	101	31.2
Never	39	12
Treatment Purpose for Self-Medication		
Fever/Headache	182	24.6
Cough/Sore throat	181	24.5
Digestive Problem	108	14.6
Allergies/Skin Problems	76	10.3
Weight Loss/Gain/Energy Supplements	114	15.4
Menstrual Pain	78	10.6
The main reason for choosing self-medication		
Minor illness	225	41.4
Confidence in the knowledge of medicine	74	13.6
Time constraint	78	14.4
Long wait times at health facilities	57	10.5
Self-medication is inexpensive	108	19.9
Other	1	0.2
Experiencing adverse effects from self-medication		
No	227	87
Yes	34	13
Unwanted results experienced by the respondents		
Allergic reactions	25	21
Worsening of symptoms	23	19.3
New symptoms appeared	19	16
No improvement in the condition	52	43.7

medications for skin-related problems and weight management (either weight gain or weight loss) compared to those who attained college or higher education. In particular, the likelihood of using medications for skin problems and weight management among primary educated respondents was approximately five times greater than that of respondents with high education, showing OR 5.82 for skin problems with 95% CI=0.98, 34.45 and OR 5.26 with 95% CI=0.94, 29.51 for weight management pills.

DISCUSSION

In this study, we tried to find out the influence of education on self-medication practice based on social media. Self-medication refers to taking drugs without a prescription or guidance from healthcare professionals. When done improperly, it can cause serious side effects, including death. The rise in this behaviour has been influenced by digital content creators and YouTubers (Bárbara Martins Correia *et al.*, 2022).

In the current study, 79.6% of Malaysian respondents utilised social media or online platforms to obtain information

Table 3: Association between education and types of self-medication based on social media by binary logistic regression.

Parameter	Education level						95% CI for Exp(B)	
		B	S.E	Wald	P-value	Exp(B)	Lower	Upper
Use of social media for self-medication	No formal/primary education	-0.813	0.879	0.855	0.355	0.444	0.079	2.485
(Ref. College and above)	Secondary education	-1.196	0.425	7.919	0.005*	0.302	0.131	0.696
	Constant	1.506	0.152	98.41	0	4.509		
Antibiotics	No formal/primary education	1.311	0.94	1.946	0.163	3.709	0.588	23.398
	Secondary education	-0.861	0.781	1.216	0.27	0.423	0.091	1.953
	Constant	-2.033	0.555	13.398	0	0.131		
Cough syrup	No formal/primary education	-0.49	0.89	0.303	0.582	0.612	0.107	3.507
	Secondary education	-0.736	0.463	2.529	0.112	0.479	0.193	1.187
	Constant	0.286	0.296	0.93	0.335	1.331		
Skin problems	No formal/primary education	1.761	0.907	3.77	0.049*	5.821	0.984	34.45
	Secondary education	-0.817	1.046	0.611	0.435	0.442	0.057	3.431
	Constant	-2.409	0.57	17.854	0	0.09		
Analgesics	No formal/primary education	0.132	1.118	0.014	0.906	1.141	0.127	10.211
	Secondary education	-0.333	0.637	0.274	0.601	0.716	0.205	2.498
	Constant	-2.328	0.464	25.181	0	0.098		
Supplements	No formal/primary education	-1.018	1.11	0.841	0.359	0.361	0.041	3.181
	Secondary education	-0.879	0.515	2.912	0.088	0.415	0.151	1.139
	Constant	-0.997	0.321	9.646	0.002	0.369		
Weight gain/loss pills	No formal/primary education	1.661	0.879	3.57	0.044*	5.266	0.94	29.505
	Secondary education	-0.223	0.486	0.212	0.646	0.8	0.309	2.072
	Constant	-0.738	0.318	5.398	0.02	0.478		
Beauty products	No formal/primary education	-0.724	0.901	0.645	0.422	0.485	0.083	2.835
	Secondary education	-0.068	0.426	0.025	0.873	0.934	0.406	2.152
	Constant	-0.517	0.303	2.902	0.088	0.596		

*Statistically significant association at 0.01.

related to self-medication. Similar findings were reported in a community-based study in India where 57% of the respondents obtained health-related information from social media ("A Study to Assess the Effect of Media in Promoting Self-Medication Use," 2022). Moreover, the current finding was in line with the findings from a study conducted in Klang Valley, Malaysia (Mok *et al.*, 2020). Google was the most popular platform to get information about self-medication, not only in Malaysia but also in other countries (Agarwal *et al.*, 2021; "A Study to Assess the Effect of Media in Promoting Self-Medication Use," 2022). It is user-friendly, easy to use, gives quick search results, and works with other tools like YouTube, News, and Images, making it a single place to find everything (Quilter, 2013).

Findings reported that nearly 80% of the respondents used social media for self-medication, mainly for treating minor illnesses like fever, headache, sore throat and allergy. Another study in Malaysia with a similar group found that 63.5% of people used self-medication to treat minor health issues (Mok *et al.*, 2020). Our study showed a higher rate because we included people from more parts of Malaysia, while their study only looked at the Klang Valley area. The practice of self-medication was associated with peer pressure, easy access to medicines, knowledge about drugs, easy access to the internet and media, and low awareness of the risks related to drug use ("A Study to Assess the Effect of Media in Promoting Self-Medication Use," 2022).

This study highlighted that higher education was more associated with the practice of self-medication based on information obtained from social media. This result agrees with a study from Armenia, which found that people with higher education were more likely to self-medicate due to easier access to health information, having less time, and feeling more confident in managing their health (Anush Barseghyan and Nazaryan, 2023).

Education plays a key role in the use of weight-loss drugs, especially among young people. Education can influence individuals' perceptions, which may affect whether or not they choose to use them. In this study, those with lower education levels were more likely to use weight management pills than those with higher education levels (Peyyety *et al.*, 2025).

In this study, the results showed that people with lower education levels were more likely to self-medicate for skin problems than those with higher education. Self-treatment for skin conditions like acne and atopic dermatitis was common in the community. A previous study also found that those who chose to self-medicate often used topical treatments like corticosteroids and antifungal creams (Martínez-Fernández *et al.*, 2025).

In the current study, 13% of the respondents ended up getting unwanted side effects because of self-medication. It is quite concerning that, according to a study conducted in India, 23.2% of people believed that using information from the Internet for self-medication carries no risk, and 21% thought that the Internet could replace a doctor's consultation (Agarwal *et al.*, 2021). Many Malaysians frequently use medicine without consulting healthcare personnel, and many of them prefer to use leftover medications at home for treating minor ailments (Mok *et al.*, 2020).

In the digital age, most health services are available online, giving people easier access to health information and a better understanding of how to manage their health. To encourage healthy habits among Malaysians, it's important to improve health literacy. This helps prevent incorrect dosing, careless use of medicines, and the spread of antibiotic resistance. Responsible self-medication means using OTC drugs properly for conditions that can be self-identified, following instructions carefully, and being aware of possible risks (Alsaad *et al.*, 2022). It is important to verify the source of social media for health medication, use content shared by licensed healthcare professionals or health organisations and avoid relying solely on influencers or unverified information.

CONCLUSION

This study highlights education as a key factor influencing self-medication practices based on information from social media. Individuals with different education levels may vary in how they assess and act on health-related content online. These findings underline the need to strengthen health literacy and promote responsible use of social media as a source of medical information, especially among those with lower educational backgrounds.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

ABBREVIATIONS

OTC: Over-the-counter; **WHO:** World Health Organisation; **AI:** Artificial Intelligence; **AIMST:** Asian Institute of Medicine, Science and Technology; **p-value:** Probability value; **OR:** Odds Ratio; **CI:** Confidence Interval.

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