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The Impact of Health Communication Competence towards Electronic Word of Mouth (e-WOM) in Health Information Sharing among Internet Users in Malaysia

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Abstract: When the world was hit by COVID-19, everything changed, especially the norms and regular everyday activities. Through the previous implementation of the Movement Control Order (MCO), Malaysians have now developed a habitual behavior of using the internet to casually engage in their daily routines, ranging from using e-commerce to buy necessities to using the Internet to book a health-related appointment with a clinic. In other words, they are now more comfortable engaging with others through a more convenient way of using the Internet as their main platform of communication. This descriptive research has applied a cross-sectional approach where it was to determine the relationship between health communication competence and electronic word of mouth (e-WOM) among internet users in Malaysia. This study has selected the required 400 respondents through quota sampling where each of the four regions of Malaysia was represented by 100 samples. The instrument used for this study was a set of questionnaires consisting of three sections, starting from the demographic background, health communication competence and electronic word of mouth. The findings from the descriptive analysis have indicated that Malaysian internet users have fair health communication competence and correlational analysis findings have demonstrated that health communication competence and its components of adherence in communication, critical and participative communication, and active disease-related communication have significant relationships with the dependent variable. Nonetheless, the results from the multiple regression analysis have found that critical and participative communication was the sole and strongest predictor of electronic word of mouth in health information sharing. This research has fulfilled all three objectives and the findings have supported the four hypotheses formulated. Therefore, given the fact that there was scarce research conducted on this study, it will serve as a promising point to further explore the two variables involved.

Keywords: *Health communication competence, electronic word of mouth, adherence in communication, critical and participative communication, active disease-related communication.*

1. Introduction and Background

In this era of globalization, everyone can reach various types of information and feedback at their fingertips whether it is formal or informal. This has put everyone in an advantageous situation to freely express their honest review or experiences over certain health-related products and services to another interested party known as word-of-mouth (WOM). Traditionally, word-of-mouth is conducted through the help of parties involved by orally sharing health information from one to one. However, this rapid innovation of technology has subsequently created another version of WOM which is called electronic word of mouth (e-WOM) where it serves as a means of communication that could reach a wider mass audience through multiple social media platforms such as Facebook, Instagram, TikTok and others (Liu et al., 2024). According to Hether et al. (2014), in health care industry, the electronic word of mouth has been exponentially growing (Goyette et al., 2010). All the information can be shared through forums and focus group discussions. According to New Straits Times (2023), Malaysia ranked third in the top 10 countries with citizens spending the most time on the internet, with 8 hours and 6 minutes duration of spending per day. Undoubtedly, the Internet has had a huge influence on people's lives, which has transformed how people receive information. Through e-WOM, every user could leave their unbiased information, leaving them to decide whether to put it in a positive or negative light which could significantly impact potential users (Liu et al., 2022).

In the healthcare sector, it is crucial to effectively convey health-related information to give a better experience to patients. The science and art of using communication to improve the health and well-being of individuals

and populations is known as health communication (Ped Chef, 2024). To promote better health provision experiences, all parties involved, especially the patients and medical professionals are expected to have good communication competence. According to the U.S., competencies in the health sector are perceived as fundamental knowledge, abilities, and dispositions required in the practice of public health. This establishes a baseline for what is needed to carry out the fundamental duties of the public health system (McAlpine et al., 2024). Strong competencies in the healthcare industry support workforce development in the field of public health and can act as a springboard for medical professionals to better understand and address workforce development needs, boost productivity, get ready for accreditation, and improve community health (The Council on Linkages Between Academia and Public Health Practice, 2021). Health communication competence theory is commonly used in health research where there are three components of adherence in communication, critical and participative communication, and active disease-related communication (Farin et al., 2014). Applying the e-WOM method to communicate with people in the health industry is a great advantage to raising the standard of healthcare services and quality given by medical professionals to patients. When people can comprehend and apply health information, the main objective of health communication competence can be achieved (Caeiros et al., 2024). Thus, with the aid of health information through e-WOM, the level of medical-related comprehension among patients in Malaysia is expected to increase as they can exercise good judgment relating to their numerous health or medical situations.

Patient adherence is the degree to which a patient's behavior complies with the treatment regimen that was prescribed by the healthcare provider's recommendations. This implies that the patient and the healthcare provider agreed to a specific or systematic plan through a cooperative, shared decision-making process (Snyder & Haskard-Zolnierek, 2023). According to Thompson and Haskard-Zolnierek (2020), patient adherence is sometimes also known as patient compliance where the patient plays a more passive role in the healthcare professional's prescription of treatment. On the other hand, some patients are intentionally nonadherent (Thompson & Haskard-Zolnierek, 2020). This specifically happens when patients go against the healthcare provider's treatment regimen which could negatively affect their health performance and might worsen the symptoms (Snyder & Haskard-Zolnierek, 2023). In the context of the health sector, every medical professional wants his or her patients to get good health outcomes. For them to achieve this, a good communication strategy needs to be implemented. Wu et al. (2022) agreed that to improve patients' adherence, patient education programs frequently function as an intervention tool to improve their understanding of their conditions, and their desire to alter their behavior. The nurture of good health communication skills can be projected from this program which will highlight the build of a good rapport and relationship between patients and healthcare providers, subsequently could influence patient adherence. With the rapid advances in technology, the e-WOM method has been introduced which can influence the adherence in health information communication between users. These days, users tend to believe everything that appears on social media especially related to health information that can help them in making decisions relating to health information (AlMuammar et al., 2021). First-rate communication by healthcare providers establishes trust between healthcare providers that could influence more patients to become less nonadherent (Sharkiya, 2023).

Moving to the second component, critical and participative communication also plays a significant role in promoting electronic word-of-mouth in health information sharing among Malaysians. The rise in the number of patients with health disparities comes from the inequality of information where it fails to reach specific audiences (Estrada et al., 2018). Nonetheless, a robust and varied communication infrastructure may assist the 'underprivileged' patients to have good access to health information. This is because they are more prone to engage and believe in word-of-mouth specifically due to the inaccessibility of health information. With the help of communication interventions, health disparities can be focused on a one-to-one level to at least effectively address the issue at hand. Singhal (2004) Defined participatory communication as a dynamic and transforming process of interaction between individuals, groups and organizations that empowers people to fully explore their potential and actively participate in their well-being. According to The Critical Communications Association (2022), critical communication is communication services that are crucial for the success factor of the missions, tasks and operations of professionals who depend on reliable contact when necessary. Pavelić and Špiranec (2022) believe that participatory information has fundamentally transformed the theoretical knowledge of critical health information which has shifted from a one-dimensional, functional on individual skills to a multidimensional, collective approach that considers the social, cultural, economic, and political context. Effective and efficient health communication is crucial to make sure everyone in the future can easily

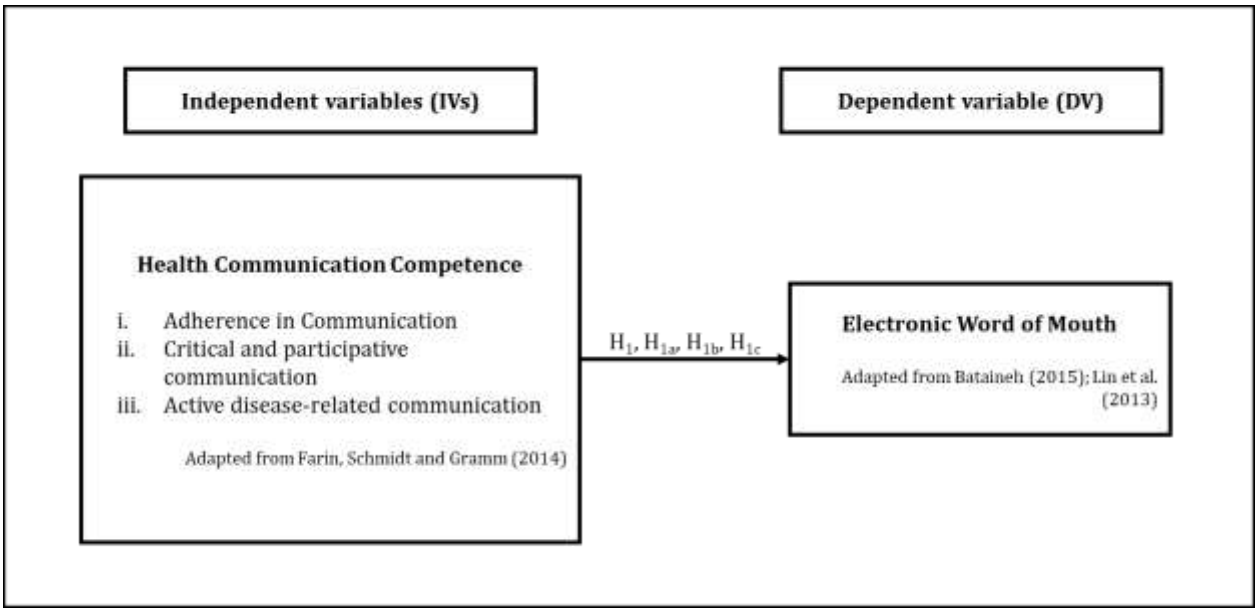
understand and act on health information though complexity in comprehending health information and messages is evident (Sharkiya, 2023). With the intervention of e-WOM in combating the disparities and inadequate infrastructure of health information, people with limited health information will receive sufficient health information that is easy to understand which directly contributes to well-informed decision-making and indirectly improves health communication strategies.

Apart from that, active disease-related communication is also another component that lies under the health communication competence theory. Active disease-related communication can be referred to as the proactive efforts made by individuals to orally disseminate disease-related information to the receiver of the intended messages. This is especially crucial when it comes to terminal or life-threatening diseases as individuals may need someone to seriously talk about the conditions, either for health advice or a support system. Individuals who are affected by cancer need effective communication between caregivers and patients to identify a specific communication need in developing future communication interventions. A study done by Li et al. (2020) Revealed that cancer patients and caregivers need communication targets, content, style, timing, and preferences. Gaining a more comprehensive comprehension of the distinct communication requirements of patients and carers will provide health professionals with precise insights for developing suitable treatments to assist cancer patients and carers. With strong and effective communication between patients and carers, both could navigate the challenges of cancer together since it promotes intimacy and improves the physical and mental health of patients and caregivers (Li et al., 2020). Healthcare services that prioritize and address the needs of patients and carers are crucial for enhancing favorable care results and perceptions of care quality, therefore fulfilling a major component of the patient-centered care objectives. (Kwame & Petrucka, 2021). Hence, two objectives were formulated for this research which was (1) To determine the level of health communication competence among internet users in Malaysia; and (2) To examine the relationship between health communication competence and electronic word of mouth in health information sharing among internet users in Malaysia; and (3) To identify the strongest predictor of electronic word of mouth in health information sharing among the health communication competence components.

2. Conceptual Framework

By integrating the literature review found, relating to this study, a conceptual framework was established on the relationship between health communication competence and electronic word of mouth (e-WOM) in health information dissemination among internet users (refer to Fig. 1).

Figure 1: Conceptual Framework on Relationship between Health Communication Competence and Electronic Word of Mouth



Based on the framework, four research hypotheses were suggested to meet the objectives of this study:

H_1 There is a significant relationship between health communication competence and electronic word of mouth in health information sharing among internet users in Malaysia.
H_{1a} There is a significant relationship between adherence to communication and electronic word of mouth in health information sharing among internet users in Malaysia.
H_{1b} There is a significant relationship between critical and participative communication and electronic word of mouth in health information sharing among internet users in Malaysia.
H_{1c} There is a significant relationship between active disease-related communication and electronic word of mouth in health information sharing among internet users in Malaysia.

3. Methodology

This descriptive study has adopted the cross-sectional types of investigation as it would enable the measurement of the relationship between respective variables in a defined population (Wang & Cheng, 2020). This was in line with the main objectives of this study which aimed to examine the relationships between each component of health communication competence (adherence to communication, critical participative communication and active disease-related communication) towards the electronic word of mouth in health information sharing among the internet users in Malaysia. Moreover, the researchers have applied the quota sampling technique to get the required sample size of 100 internet users for each geographical region in Malaysia. This sampling method was comparable to stratified random sampling as the sample will be selected from subgroups of a population, but it relies on convenience sampling to pick the samples, rather than random selection (Futri et al., 2022). Nonetheless, the study managed to get a good response rate whereby the responses collected for each region (central, southern, northern and east coast) cumulatively achieved 400 samples. In brief, the samples of this study can be considered as sufficiently good, reflecting the fulfillment of the criteria for requiring 50 to 100 samples to enable the study's advancement to a simple regression analysis (Hair et al., 2018). Besides, this study has used a set of questionnaires as the data collection instrument which comprised three sections, Section A: Demographic Details, Section B: Health Communication Competence and Section C: Electronic Word of Mouth in Health Information Sharing. The CoCo questionnaire was adapted in the study's instrument for health communication competence items (Farin et al., 2014) while the e-WOM questionnaire was adapted from Wan Zulkiffli et al. (2017). By using SPSS version 28.0, the reliability of this questionnaire was confirmed as the researchers had conducted a pilot study with the findings of every variable to have Cronbach's Alpha value of 0.7 and above.

4. Results

Descriptive Analysis of Health Communication Competence

This study aimed to identify the level of health communication competence among internet users in Malaysia which can be attained through a descriptive analysis. All items for health communication competence variable from each component of adherence to communication, critical participative communication and active disease-related communication were computed and transformed into mean scores. These scores were then interpreted by using the Best's Principle by Thaoprom (2004), into three categories poor, fair and good health communication competence. Poor HCC was represented by the mean scores of 1.00 to 2.00, while fair HCC was represented by the scores of 2.01 to 3.01. Lastly, the category of good HCC was represented by the scores of 3.02 to 4.00. Results from the analysis have presented a lower percentage of internet users with good HCC as compared to the ones with fair HCC (43.3%:55.5%), as can be referred to in Table 1. Hence, it can be concluded that internet users in Malaysia have a fair level of health communication competence, subsequently presumed the achievement of the first research objective.

Table 1: Level of Health Communication Competence (HCC) (n=400)

Poor (Mean score 1 – 2.00)*	Fair (Mean score 2.01 – 3.01)*	Good (Mean score 3.02 – 4.00)*
5 (1.2%)	222 (55.5%)	173 (43.3%)

*Interpreted by using Best's Principle by Thaoprom (2004)

Correlational Analysis of Health Communication Competence and Electronic Word of Mouth in Health Information Sharing

In determining the relationship between the independent and dependent variables of the study, a correlational analysis was conducted and tabulated in Table 2. The results were interpreted by using guidelines of strength and direction of coefficient values (r) by Cohen (Cohen, 1988). The findings have indicated two components of health communication competence encompassed critical and participative communication and active disease-related communication to be strongly, and positively related to health communication competence (r=.609, p<.001; r=.542, p<.001 respectively), leaving out adherence to communication as the only component with a moderate relationship with the electronic word of mouth in health information sharing (r=.490, p<.001). Additionally, the finding has shown that the overall health communication competence was significantly, strongly, and positively associated with the dependent variable (r=.596, p<.001). Thus, it can be concluded that the hypothesis of H_1, H_{1a}, H_{1b} and H_{1c} were supported by the findings, consequently marking the achievement of the second research objective.

Table 2: Correlations between Health Communication Competence and Electronic Word of Mouth in Health Information Sharing

Variables		Electronic Word of Mouth
Adherence to Communication	Correlation coefficient	.490**
	Sig. (2-tailed)	<.001
Critical and Participative Communication	Correlation coefficient	.609**
	Sig. (2-tailed)	<.001
Active Disease-related Communication	Correlation coefficient	.542**
	Sig. (2-tailed)	<.001
Health Communication Competence	Correlation coefficient	.596**
	Sig. (2-tailed)	<.001

** Correlation is significant at the 0.01 level (2-tailed)

Multiple Regression Analysis of Health Communication Competence and Electronic Word of Mouth in Health Information Sharing

Furthermore, in identifying the strongest predictor of electronic word of mouth in health information sharing among the components of health communication competence, a multiple regression analysis was conducted in the results were tabulated in Table 3. Based on the findings, the study identified to have no collinearity problem as the values of variance inflation factors (VIF) were smaller than 10 and the values of tolerance were smaller than one. With the R^2 value of .377 and significant F value of <.001, the analysis has indicated all components of health communication competence (adherence to communication, critical and participative communication and active disease-related communication) explained 37.7% of the variance (R^2) of electronic word of mouth in health information sharing. Over and above, the analysis showed that the critical and participative communication component was the sole and strongest predictor of the dependent variable (β=.486, p<.05). Other than that, adherence to communication and active disease-related communication was found to have no significant prediction over internet users' electronic word of mouth in health information sharing (β=.024, p>.05; β=.128, p>.05). Henceforth, this study has achieved its third research objective.

Table 3: Multiple Regression Analysis on Health Communication Competence and Electronic Word of Mouth in Health Information Sharing

Independent variables	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
				Tolerance	VIF
Adherence to Communication	.024	.371	.711	.381	2.623
Critical and Participative Communication	.486*	6.293	<.001	.264	3.782
Active Disease-related Communication	.128	1.803	.072	.311	3.217
R^2 value			.377		
F			79.819		
Sig. F Value			<.001		

Discussion

Level of Health Communication Competence

According to Ministry of Health Malaysia (2023), people will be empowered to prevent misinformation through improved health communication. Nonetheless, this study has found higher number of Malaysians have fair health communication competence in general, which is not a desired situation as there will be challenges in reducing the potential indirect damage caused by inaccurate health information sharing among internet users. This figure appears to be incongruent with the growth of 79% of Malaysians becoming more health-conscious, resulting from the COVID-19 phenomenon (The Sun, 2023). Nonetheless, it was significantly evident when only 24% of 5,504 respondents chose to seek professional advice from the experts, where these people need to be able to effectively communicate with the medical experts when asking for advice (The Sun, 2023). By the low percentage, it is understandable that some people would rather put their money on something else that can be self-done, rather than having to interact with the experts with who they may have trouble communicating with may be due to insufficient health literacy to understand the whole health situation. This is supported by Ishikawa and Kiuchi (2010), where the health literacy of an individual should be defined and evaluated according to their ability to communicate health information appropriately to the receiver. Hence, it is fair to conclude that Malaysians need to have a sufficient level of health literacy for them to competently communicate about health matters.

The contextual knowledge on health will help them to accurately share information, either as a sender or receiver. This statistic may be incidentally related to how Malaysia, being one of the countries with various religions and cultures, is very much culturally influenced when it comes to communication as they tend to be extra careful to communicate to others especially when it comes to sensitive issues like medical conditions and situations. According to Mustaffa et al. (2018), the cultural value of saving face has influenced the Malaysians' communication style. The idea of being judged has prevented individuals from looking further into their medical or health-related questions. Electronic word of mouth has given the chance for these people to share their points of view or seek advice without being involved in stigmatization. According to Martin (2017), online conversation allows socially stigmatized individuals due to specific diseases for instance HIV, both sender and receiver to keep their identities anonymous. Therefore, it can be concluded that Malaysians are moving forward in developing good health communication competence though they may be culturally influenced by the whole scenario of being in a multi-racial country.

The Relationship between Health Communication Competence and Electronic Word of Mouth in Health Information Sharing

The findings have found that overall health communication competence and its components have a significant positive relationship with electronic word of mouth in health information sharing. This is because it plays a vital role in ensuring the information shared is accurate and impactful to potential online users. The dissemination process of the information would be smoother as competent communicators would be able to differentiate the accuracy of the information where the messages would be properly crafted to prevent misunderstanding and the spread of misinformation. This would promote the importance of having trustworthy health information as users will engage and build their trust around someone with credible and

clear communication especially when it comes to health conditions. Nonetheless, the definite focus is placed on the wrong side where people are prone to emphasize more on the information's accuracy rather than considering the deliverer's credibility on the subject matter. The accuracy of the information is debatable as it may be reflected in how the deliverer competently conveys the intended messages. According to Kreps (2023), the need to effectively respond to the medical components of the illness should be given more attention as compared to sharing pertinent health information regarding concerns, stress and social support. This has shown how competency in health communication should be rather prioritized and highlighted as it will make a difference in how the information is being transferred. Regardless, Xu et al. (2021) stated that there is a limited number of research done investigating the link between communication and health behavior.

Strongest Predictor of Electronic Word of Mouth in Health Information Sharing

Undeniably, it was expected that health communication competence may predict the e-WOM in health information sharing as the communication itself is a vital component in e-WOM. Nevertheless, the only predictor of e-WOM was found to be critical and participative communication where this component has highlighted the need for health communication to be reflective, inclusive and responsive to the diverse needs of individual patients. According to Estrada et al. (2018), individuals may have a better understanding of seeking health information through the participatory component in health communication as it can be used to identify the communication resources to be used in the health information dissemination process. Through this component, the parties involved in electronic word of mouth can enhance better understanding and empathy towards others, build trust in each other, and support better health outcomes. The participatory process in participative communication is useful in assisting the objective of health promotion by enabling individuals to act as opinion leaders in the community as the empowerment given to share their opinions with others (Estrada et al., 2018). According to Malikhao (2020), through participatory communication, individuals may act and have conversations democratically in discussing disease prevention, pollution, hazards and the promotion of a healthy lifestyle and, a clean and safe environment.

5. Conclusion and Recommendations

In conclusion, 55.5% of Malaysian internet users were found to have fair health communication competence while 43.3% of respondents perceived themselves to have good health communication competence. About the variables involved in this study, the overall health communication competence and its components have significantly and positively related to the e-WOM in health information sharing. Specifically, the component of critical and participative communication of health communication competence was found to be the only and strongest predictor of Malaysian internet users' e-WOM in health information sharing. Generally, this study has achieved all three objectives and the findings have corroborated the four suggested hypotheses.

In addition, it is suggested for future health-related research to deeply study health literacy and health communication as both would be equally important in influencing electronic word of mouth in health information sharing. In fact, in the literature review on word of mouth and health care services, 40% of the articles have emphasized that WOM communication has the characteristic of an informal particularity where post-consumption or post-purchase behavior was described in most messages. (Martin, 2017). Similarly, this is also supported by Soare et al. (2022), there are a limited number of articles about the contributing factors of the spread of word of mouth in health care services.

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