

Kertas Asli/Original Articles

Pharmacist in Media: Role in Healthcare and Public Perception (Ahli Farmasi dalam Media: Peranan dalam Penjagaan Kesihatan dan Persepsi Awam)

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ABSTRACT

The use of Internet and social media for health information sharing is expanding among public, pharmacists and other healthcare professionals over the past few years. Research investigating the use of Internet and social media in the practice of pharmacy is growing, however, little is known on the delivery of pharmacy services through these media platforms. Hence, this study aimed to investigate the roles of pharmacist in media in providing healthcare information, to evaluate public perception and acceptance towards pharmacist using media as a platform information sharing and to find out public expectation towards pharmacy services in media. A total of 200 respondents were recruited by random sampling in this cross-sectional study. Study duration was from October until November 2019. The self-administered questionnaire was adapted from previous study investigating the public preferred source of healthcare advices. Majority of the respondents agree that media platforms can be used by pharmacist to improve patient-pharmacist communication with 76.5% expected that social media has the potential to become an established channel for patient-pharmacist communication. 61.0% of the respondents also acknowledged pharmacist to be very knowledgeable on health-related information by providing accurate information. This study provided insights into the public view towards the roles of pharmacist and their expectation towards pharmacist sharing health-related information in media platforms. Participants recognized the potential use of media platforms for healthcare information sharing. To enhance pharmacist presence and impact on public health through digital media platforms, it is important to start incorporating digital medium into their pharmacy services.

Keywords: Pharmacist; media; role; health information; perception

ABSTRAK

Penggunaan Internet dan media sosial untuk perkongsian maklumat kesihatan semakin berkembang dalam kalangan orang awam, ahli farmasi dan profesional penjagaan kesihatan sejak beberapa tahun kebelakangan ini. Kajian penggunaan Internet dan platform media sosial dalam amalan farmasi semakin berkembang, walau bagaimanapun, tidak banyak kajian telah dijalankan bagi mendalami perkhidmatan farmasi melalui platform media ini. Oleh itu, kajian ini bertujuan untuk mengenalpasti peranan ahli farmasi dalam media bagi menyediakan maklumat penjagaan kesihatan, untuk menilai persepsi dan penerimaan awam dan untuk mengetahui jangkaan awam terhadap perkhidmatan ahli farmasi melalui media. Seramai 200 orang responden direkrut melalui persampelan rawak dalam kajian keratan rentas ini. Tempoh kajian ini dijalankan adalah dari Oktober sehingga November 2019. Soal selidik ini telah diadaptasi daripada kajian yang telah dijalankan sebelum ini dalam mengenalpasti sumber nasihat penjagaan kesihatan yang diutamakan oleh orang awam. Sebilangan besar responden bersetuju bahawa platform media dapat digunakan oleh ahli farmasi bagi meningkatkan komunikasi diantara pesakit dan ahli farmasi dengan 76.5% responden menjangkakan media sosial berpotensi menjadi saluran yang baik untuk komunikasi pesakit dan profesional penjagaan kesihatan. 61.0% responden mengakui bahawa ahli farmasi sangat berpengetahuan mengenai maklumat kesihatan dan dapat memberikan maklumat yang tepat. Responden mengiktiraf potensi penggunaan platform media untuk perkongsian maklumat terhadap kesihatan awam. Untuk meningkatkan impak ahli farmasi terhadap kesihatan awam, adalah penting bagi ahli farmasi untuk mula menggunakan medium digital ini dalam perkhidmatan farmasi.

Kata kunci: Ahli farmasi; media; peranan; maklumat kesihatan; persepsi

INTRODUCTION

In the past few years, studies had suggested that public health is best served by focusing on public health resources and applying media strategies, where each specific media channel can be used to promote health and influence health-related behaviours (Institute of Medicine Committee 2004). Although traditional media is still an important medium of communication, there are growth and expansion of digital media that is set to revolutionize the way of health communication (Burke-Garcia & Scally 2014). Hence, the future of using media platform to promote public health should be focusing on social media due to its popularity and increasing use, however, television and radio remain a prominent and trusted source among public. (Gollust et al. 2019).

According to Malaysia Nielsen for Digital Advertising Expenditure (ADEX) report in May 2019, there is a decrement in the advertising popularity of -15% for television and - 4% for radio, while digital media showed a +15% increment in the same period (Malaysia Advertisers Association 2019). A survey conducted by Malaysian Communication and Multimedia Commission (MCMC) found the percentage of Internet users in 2018 was 87.4% as compared to 76.9% in 2016 and there was an increase from 24.5 million Internet users in 2016 to 28.7 million Internet users in 2018. Majority of the Internet users relied on the Internet for information seeking (85.5%) because of the speed to provide relevant result in an instant, and it is used commonly as a source of knowledge (Malaysian Communications and Multimedia Commission 2018).

Social Networking System (SNS) or social media is demonstrated as a platform to enhance efficient communication, connections, interactions among healthcare professional in clinical services, education, network and training although there are some limitations in terms of knowledge and risks of data protection (Chan & Leung 2018). The information-sharing, however, was limited among pharmacists and the most used media platform for pharmacists are *Youtube*, *Facebook* and *Wikipedia* (Benetoli et al. 2016). It was found that personal and social reasons were the main drivers for the pharmacists to join social media, the usage however progressed to professional activities, with active engagement in a professional capacity (Benetoli et al. 2016).

Pharmacy professionals are a long way behind other medical professionals when it comes to establishing a presence in media despite their reputation as trustworthy professionals. As evidenced in the United States,

pharmacists continuously retain a spot in the top five most trusted professionals for ten consecutive years in the American's Rating of Honesty and Ethical Standards in Profession, more commonly known as the US Gallop survey (Crossly 2019). Pharmacists are urged to step out from behind the counter to provide pharmaceutical care and start going online to share what they know to the public (Grindrod et al. 2014). The motives and uses of media platforms for health-related reasons among pharmacists have been well established. The pharmacist can utilise these media platforms to increase personal awareness of news and discoveries, motivate patients, providing health information to the public as well as to develop professional networking (Ventola 2014). There is an ongoing trend to encourage patients to take a more active role in their health care, thus increasing the need for the patient to understand how to provide care for themselves (National Research Council Committee 2000).

Public is turning more to digital media when looking for healthcare advice instead of speaking to healthcare professionals because it is more convenient and easier to use. Previous studies found out that people searching for healthcare information through online platforms have changed the way they make a health-related decision and the way they take care of their health (Maon et al. 2017). However, the tools may present a potential risk to patients and healthcare professionals regarding the quality of information and damage to professional images (Ventola 2014). Combining the use of digital media with evidence-based information is vital to ensure that those who choose to access healthcare information on these media are getting accurate and relevant advice to be applied to their own life. (Crilly et al. 2019).

Although there are studies that had been conducted in Malaysia in evaluating public perception towards pharmacist role, little is known to evaluate the acceptance of the public towards pharmacists using media, both traditional and digital media. With a continuous discussion about sharing health information through communication medium as the main component in the healthcare system across global population, relevant data need to be gathered to support the objective of enhancing the usage of media platform. Therefore, this study aims to evaluate the role of the pharmacist in media and the acceptance of public towards pharmacists using media as a medium of information sharing. Besides that, the findings of this study will benefit pharmacist community towards improving the profession by utilising the expansion of digital media to engage with the public.

METHOD

STUDY DESIGN

A cross-sectional study was conducted among Malaysian public. Ethical approval was obtained from the Medical Research and Ethics Committee of Universiti Kebangsaan Malaysia (UKM PPI/111/8/JEP-2019-790). Random sampling strategy was used to recruit participants of the study and the data collection aspect of this study was carried out through both online survey and hardcopy questionnaires. Inclusion criteria for this study were; aged over 18 years and above, able to understand either English or Malay, using media platform as part of their daily communication medium and living in Malaysia. Exclusion criterion of this study was incomplete questionnaires. Any respondents that did not meet the criteria was not eligible to participate in the survey.

DATA COLLECTION

Data were collected between October 2019 to November 2019. Eligible respondents were given a participant information sheet outlining the study objectives and reassuring them on data confidentiality. All respondents were required to answer a questionnaire. Online questionnaire was also posted into various social media such as Twitter, Instagram, Facebook and well-known social media accounts such as Syahmi Syazli Production, Siakap Keli and MTAS Production. Hardcopy questionnaires were distributed at public places in Perak including Klinik Kesihatan Taiping, and a few restaurants.

SAMPLE SIZE

The study population was the public ($n = 28\,000\,000$) living in Malaysia. In determining whether there were statistical differences in the results based on gender, age, ethnicity and level of education, a minimum sample of 384 was calculated using Raosoft calculator providing a confidence interval of 95% with 5% margin of error.

STUDY INSTRUMENT

After reviewing relevant literature, a survey from the previous study conducted in Greater London in 2016 was adapted into this study (Crilly 2019). The questionnaire was prepared in Bahasa Melayu and English. The Bahasa Melayu translated questionnaire was checked thoroughly by two independent academicians from the Faculty of Pharmacy with expertise in the subject area. The survey

consisted of 49 questions divided into four sections; demographics (including the respondents' original states, age, gender and education); perception towards pharmacists, media activity and perception towards use of media platform in pharmacist-patient communication.

Section A: Demographic and background information: This involves collection of data such as gender, age, ethnicity, states of origin and educational background.

Section B: Level of understanding towards role of pharmacist: Respondent were assessed on their understanding towards pharmacists' role in healthcare as well as their previous experience seeing a pharmacist. Questions asked included respondents' preferred source of reference in getting healthcare advice and to enquire the reasons of not choosing 'seeing a pharmacist'. The questions were closed-ended and required respondents to select all the options that were applicable to them, with pre-formulated answer choices. An 'others' option was provided to allow respondents to enter free text answers if their preferred answer was not listed. Respondents previous encounter with pharmacist will be evaluated using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Section C: Media activity: The third section evaluated respondent engagement in media. Respondents were required to answer a multiple-choice question with closed-ended answers to evaluate the media platform used. Respondents were also assessed on the extent of media use in getting health information which covered activities and practices in which the respondents engage to communicate or share information health information through media platform. 5-point Likert scale questions ranging from 1 (strongly disagree) to 5 (strongly agree) were used to ask the respondents to make self-assessments regarding the use of media platforms in getting health information.

Section D: Perception towards use of media platform in patient-pharmacist communication: The last part of questionnaire identified the public perception towards media platform usage by pharmacist as a medium of engagement. There were four questions in this section which were details on how pharmacist used and perceived the use of media platform as a healthcare professional. The potential use of media platform as a medium of engagement was assessed by question 4, a 5-point Likert scale question ranging from 1 (strongly disagree) to 5 (strongly agree). The question included the relevancy of using media platform as a medium of engagement between pharmacist-healthcare professional and pharmacist-patient in facilitating goal of therapy.

PILOT STUDY

Before data collection, a pilot study was carried out on twenty of the Malaysian public to ensure the clarity and validity of the questionnaire. Minor modifications to the questionnaire was made with some rewording of the statements.

DATA ANALYSIS

Responses were coded and entered into Statistical Package for Social Science (SPSS) for windows, version 23.0 (International business Machine, IBM). Two researchers reviewed the data for quality assurance. Descriptive statistics were used to summarize the demographic data. Sub analysis were performed by respondents' gender, age, and ethnicity. Cronbach's alpha was used to evaluate the text's internal consistency; an acceptable score for internal consistency is 0.70 and above.

RESULT

DEMOGRAPHIC DATA

In total, 217 individuals agreed to take part in the survey, however, 17 of them did not meet the inclusion criteria. Thus only 200 respondents participated in the study. The demographic characteristic of respondents is summarized in Table 1. Percentage of male and female respondents were 36.5% (n= 73) and 63.5% (n= 127). Mean age of respondents was 25.76 ± 8.376 years with an age range of 18-61 years old. More than half of the respondents were Malays (n= 172, 86%) followed by Chinese (n = 10, 5%), Indians (n= 10, 5%) and others (n= 8, 4%). Most of the respondents acquired tertiary education as their highest educational level (n=171, 85.5%). Majority of the respondents were from Kedah (n=35, 17.5%), Perak (n=32, 16.0%) and Selangor (n=30, 15.0%). The general distribution of respondents was from almost all states in Malaysia.

LEVEL OF UNDERSTANDING TOWARDS ROLE OF PHARMACIST

Summary of the most popular reference sources in getting healthcare information is presented in Figure 1. The most popular sources among respondents are visiting a doctor (n=135, 67.5%) followed by searching information through Internet (n=127, 63.5%) and visiting a local pharmacy is ranked third with 34.0% (n= 68). A total of 7 (3.5%)

respondents selected others and most of the justification involved having family members that are currently working as healthcare providers.

132 respondent who did not visit a pharmacist cited reasons including: prefer to visit a doctor (n= 70, 35.0%), prefer to use websites (n= 70, 35.0%), not aware that pharmacist can give health advice (n= 53, 26.5%), preferred to use social media (n= 34, 17.0%), no pharmacist known personally (n= 25, 12.5%), pharmacy not opened when needed (n= 18, 9.0%), did not live near to a pharmacy (n=17, 8.5%), no privacy in pharmacy (n= 15, 7.5%), capable to treat themselves (n= 12, 6.0%) and 9 (4.5%) respondents selected others, with the most common justifications: pharmacist is not present in pharmacy and pharmacist seem to be lacking in skills thus keep on asking patients to go directly to the doctors as presented in Table 2.

The most popular pharmacy services that the respondents have used were minor ailment services (n= 124, 62%), enquire health advices (n= 97, 48.5%) and health screening services (n= 95, 47.5%). Weight management (n=51, 25.5%), dispose unwanted medicines (n=51, 25.5%), enquire health advices and contraception are tied in third position (n=49, 24.5%) as the top three pharmacy services that the respondents considered to use in the future. Majority of the respondents selected smoking cessation (n= 172, 86.0%), harm reduction (n=159, 79.5%), contraception (n=134, 67.0%) and encourage immunization (n= 119, 59.55) the most as the services that were never used by the respondents. The extent of pharmacy services offered is summarized in Table 3.

The summary of respondents past experiences with pharmacist is summarized in Table 4. More than half agreed that their experience seeing a pharmacist have been positive with 30 (15.0%) respondents strongly agree and 105 (53.5%) respondents agree respectively. Majority of the respondents also agreed that pharmacist was very knowledgeable on health promotion issues with over half of the respondents strongly agree (n= 36, 18.0%) and agree (n= 86, 43.0%). Approximately two-third respondents agreed that their pharmacist gave them accurate information that helped them making better decision in term of their health with 38 (19.0%) respondents and 89 (44.5%) respondents agree and strongly agree individually.

MEDIA ENGAGEMENT ACTIVITY

The summary for media used by respondent is shown in Figure 2. For traditional media, majority of the respondents used television (n=119, 59.5%) more than radio (n= 75, 37.5%). Among communication applications, more than three quarter respondents (n=164, 82%) used *Whatsapp* followed by *Telegram* (n= 95, 47.0%). *Facebook* (n= 147,

TABLE 1. Demographic characteristics of respondents (n=200)

Demographic characteristics	Frequency (n)	Percentage (%)
Age (mean \pm SD)		
25.76 \pm 8.376		
Gender		
Male	73	36.5
Female	127	63.5
Race		
Malay	172	86
Chinese	10	5
Indian	10	5
Others	8	4
Education level		
No formal education	0	0
Primary education	3	1.5
Secondary education	26	13
Tertiary education	171	85.5
States of origin		
Kuala Lumpur	23	11.5
Labuan	3	1.5
Putrajaya	2	1.0
Johor	12	6.0
Kedah	35	17.5
Kelantan	15	7.5
Melaka	4	2.0
Negeri Sembilan	9	4.5
Pahang	3	1.5
Perak	32	16.0
Perlis	0	0
Pulau Pinang	13	6.5
Sabah	3	1.5
Sarawak	11	5.5
Selangor	30	15.0
Terengganu	5	2.5

73.5%) remained the most popular social media used, closely followed by *Instagram* (n=132, 66%) and *Twitter* (n=91, 45.5%). More than half respondents used *Youtube* (n= 142, 71.0%).

The result for respondents' media engagement is summarized in Figure 3. Almost all respondents had looked up information about a disease (n=193, 96.5%) and treatment of a disease (n=192, 96.0%). Majority respondents have liked (n= 148, 74%) and shared (n=122, 61.0%) material related to health information that a third party had posted. About 96 (48%) respondents discussed the finding in media platform with a healthcare professional

while a total of 64 (32.0%) respondents have contacted a healthcare professional through media platform.

Table 5 summarized respondents' self-assessment to their media engagement activity. Almost half of the respondents believe it is a good idea to look up medical information in Internet with 17 (8.5%) strongly agree and 76 (38.0%) agree. Majority of the respondents disagree that the information on media can be as good as seeing a medical professional with 19 (9.5%) respondents strongly disagree, 68 (34.0%) respondents disagree, 75 (37.5%) neither agree nor disagree, 33 (16.5%) agree and the remaining 5 (2.5%) respondents strongly agree. Three quarter of the

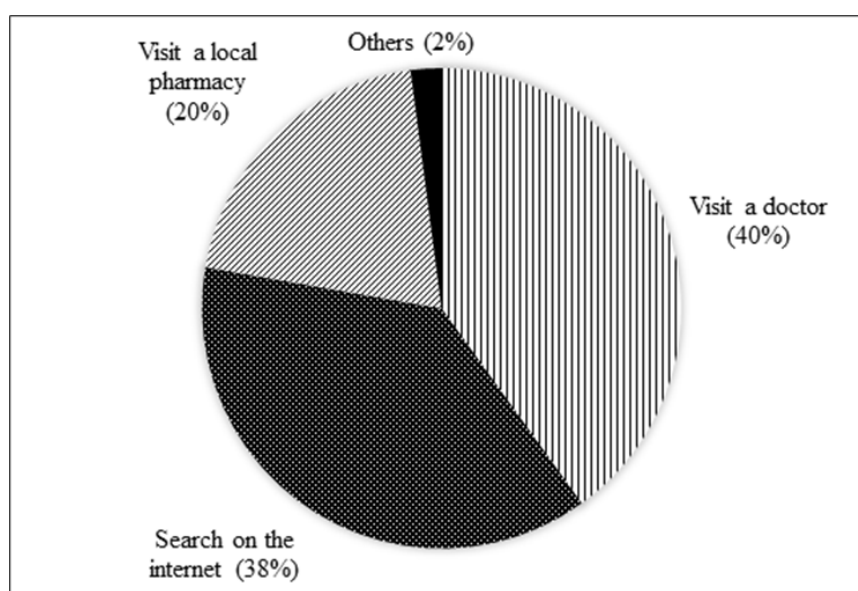


FIGURE 1: Preferred source of healthcare information (n= 200)

TABLE 2. The reasons for not seeing pharmacist to obtain health advices (n= 200)

Items	Count (n)	Value (%)
Always prefer to visit a doctor	70	35.0
Was not aware that pharmacist give health advices	53	26.5
No pharmacist I know personally	25	12.5
No privacy in pharmacy	15	7.5
Pharmacy not open when needed	18	9.0
I am capable of treating myself	12	6.0
Do not live near pharmacy	17	8.5
Prefer to use websites	70	35.0
Prefer to use social media	34	17.0
Others	9	4.5

respondents agree (n= 103, 51.5%) and strongly agree (n= 48, 24.0%) that access to health information in media platform were free and convenient. Similarly, three quarter of the respondents also agree (n=102, 51.0%) and strongly agree (n= 102, 51.0%) that searching health information in media platform to be very fast.

Most of the respondents, however, were not sure how to correctly apply the health information they found on the Internet to their personal health situation with a total 78 of the respondents strongly agree (n=25, 12.5%) and agree (n=63, 31.5%). More than half respondents agreed that they were aware regarding the source of information used in media with 23 (11.5%) strongly agreed, 78 (39.0%) agreed, 75 (37.5%) neither agreed nor disagreed, 16 (8.0%) disagreed and 8 (4.0%) respondents strongly disagreed.

PUBLIC ACCEPTANCE TOWARDS PHARMACIST USING MEDIA AS A MEDIUM OF INFORMATION SHARING

Figure 4 and 5 summarized respondents' knowledge on any known pharmacist using media platform. 132 (66%) respondents know there is at least one pharmacist using media to spread healthcare information. *Facebook* (n=87, 43.5%), *Instagram* (n= 76, 38.0%), *Twitter* (n= 59, 29.5%) and *Youtube* (n=59, 29.5%) are the most popular platforms that the respondents had seen a pharmacist use. As presented in Figure 6, the most frequent topics covered by the pharmacist are medical related issues that went viral (n= 126, 63%), pharmacist opinion in healthcare (n= 113, 56.5%) and healthcare campaign or education (n= 93, 46.5%).

TABLE 3. Pharmacy services available (n= 200)

	Pharmacy services		
	Never use n (%)	Have used n (%)	Will use n (%)
Smoking cessation	172 (86.0)	10 (5.0)	18 (9.0)
Health screening services	62 (31.0)	95 (47.5)	43 (21.5)
Weight management	112 (56.0)	37 (18.5)	51 (25.5)
Medicine use review	87 (43.5)	65 (32.5)	48 (24.0)
Contraception	134 (67.0)	17 (8.5)	49 (24.5)
Refill prescription	78 (39.0)	77 (38.5)	45 (22.5)
Dispose unwanted medicines	118 (59.0)	31 (15.5)	51 (25.5)
Enquire health advices	54 (27.0)	97 (48.5)	49 (24.5)
Minor ailment services	45 (22.5)	124 (62.0)	31 (15.5)
Encourage immunization	119 (59.5)	41 (20.5)	40 (20.0)
Harm reduction	159 (79.5)	20 (10.0)	21 (10.5)
Others	0 (0)	0 (0)	0 (0)

TABLE 4. Past interaction with pharmacist (n= 200)

Items	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
	n (%)	n (%)	n (%)	n (%)	n (%)
Overall, my experience with pharmacist have been positive	30 (15.0)	105 (52.5)	52 (26.0)	8 (4.0)	5 (2.5)
Pharmacist are very knowledgeable on health promotion issues.	36 (18.0)	86 (43.0)	61 (30.5)	15 (7.5)	2 (1.0)
My pharmacist gives me accurate information, helping me make better decisions about my health	38 (19.0)	89 (44.5)	60 (30.0)	11 (5.5)	2 (1.0)

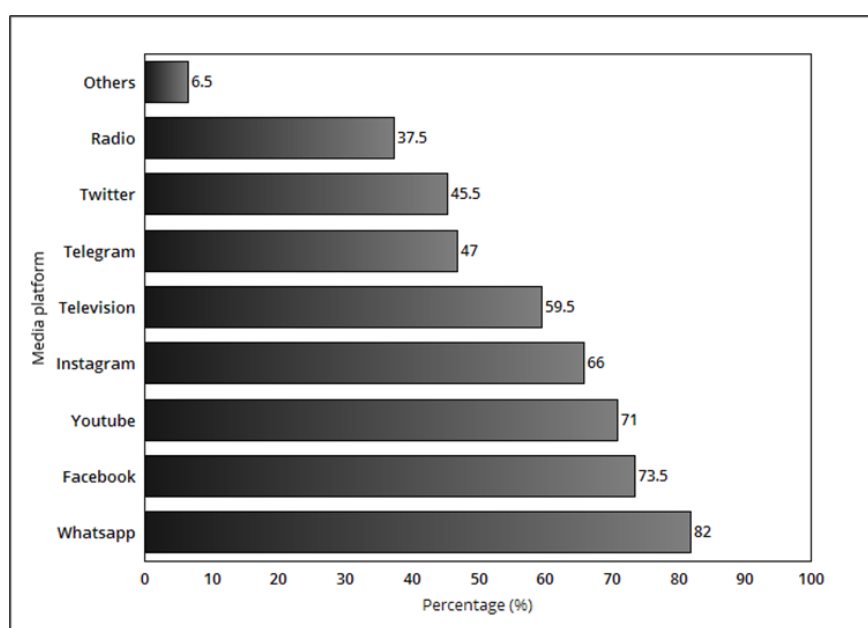


FIGURE 2: Media platform used by respondents (n= 200)

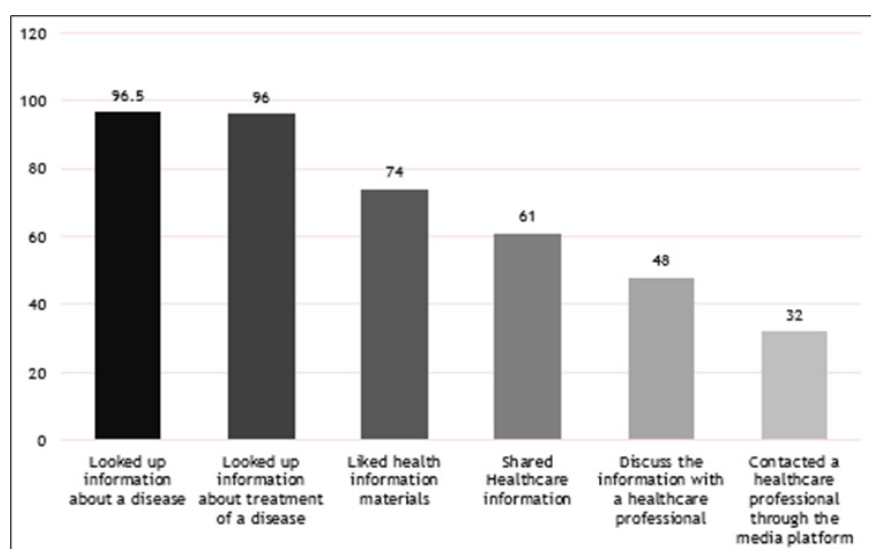


FIGURE 3: Media engagement activity (n= 200)

TABLE 5. Media activity self-assessment (n= 200)

Items	Strongly agree n (%)	Agree n (%)	Neither agree nor disagree n (%)	Disagree n (%)	Strongly disagree n (%)
I believe it is a good idea to look up medical information in Internet	17 (8.5)	76 (38.0)	86 (43.0)	17 (8.5)	4 (2.0)
I believe the information on media can be as good as seeing a medical professional	5 (2.5)	33 (16.5)	75 (37.5)	68 (34.0)	19 (9.5)
Access to health information on media platform was free and convenient	48 (24.0)	103 (51.5)	42 (21.0)	6 (3.0)	1 (0.5).
I found searching for health information in media platform to be very fast	52 (26.0)	102 (51.0)	37 (18.5)	6 (3.0)	3 (1.5)
I was not sure how to correctly apply the information I found on media platform to my personal health situation	25 (12.5)	63 (31.5)	64 (32.0)	39 (19.5)	9 (4.5)
I am aware of the source of information used on the media	23 (11.5)	78 (39.0)	75 (37.5)	16 (8.0)	8 (4.0)

The result for acceptance and expectation of the public towards pharmacist using media is summarized in Table 6. Majority of the respondents agree (n= 171, 85.4%) that media platform can be effectively used by pharmacist to improve patient-pharmacist communication. Almost all respondents agree (n= 153, 76.5%) that social media has the potential to become an established channel in patient-pharmacist communication. More than half agree (n= 132, 66%) that media platform need to be use more in workplace setting to communicate with other healthcare professional. Similarly, more than half (n=113, 56.5) respondents

believe that social media may improve patients' quality of life. Approximately two third (n=166, 83.0%) believe media platform can improve patient knowledge regarding the treatment for the ill. Also, more than half respondent agree that media platform may facilitate drug therapy. However, there are divided opinion on the possibilities of media platform to cause patients to challenge pharmacist's knowledge with 71 (35.5%) agree, 59 (29.5%) neither agree nor disagree and 70 (35.0%) disagree. Most of the respondents (131, 65.5%) agree that media platform can change the way how patients and pharmacists interact.

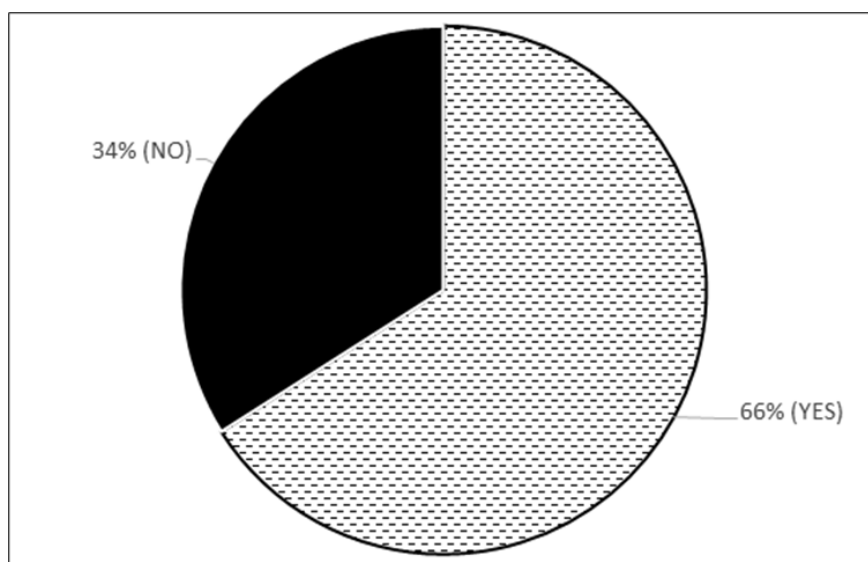


FIGURE 4: Respondents who had seen at least one pharmacist using media platform (n= 200)

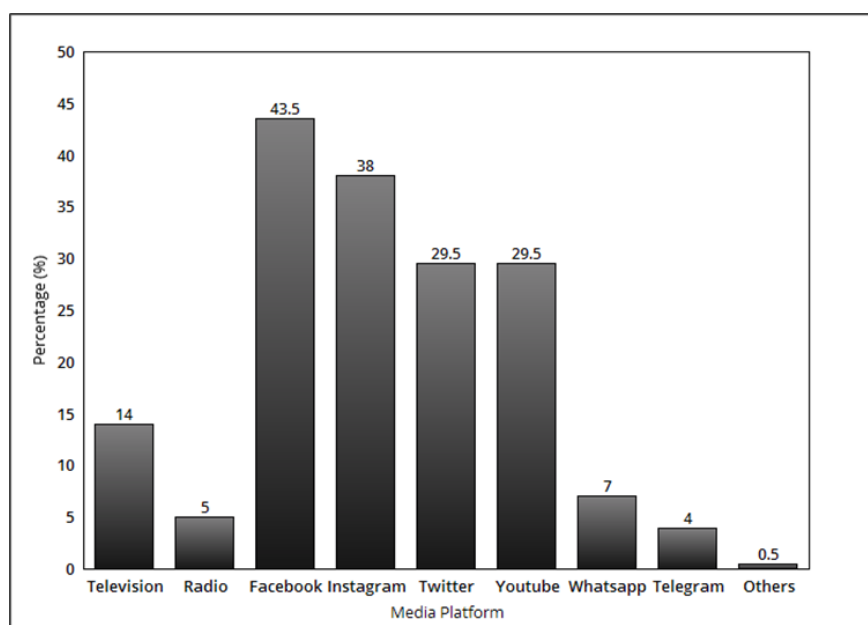


FIGURE 5: Media platform that was used by the pharmacist (n= 200)

DISCUSSION

EXPANSION OF MEDIA PLATFORM FROM TRADITIONAL MEDIA TO DIGITAL MEDIA

This study has identified the current use and potential use of media platform as a healthcare information sharing platform for pharmacist. There is a trend of digital shift where the ability to obtain data from digital media sources is expanding rapidly, and it provide a growing opportunity for healthcare professional to communicate and frame debates with a wide segment of population using digital

media (Burke-Garcia 2014). Before we discuss the opportunities offered by media engagement for patient-pharmacist communication, it is important to highlight that digital media especially social media can work best when integrated with traditional public health communication channel and many previous strategies prove social media to be more effective with combination of traditional health promotion or other mass communication (Heldman et al. 2013). The strategies include utilizing both digital media and traditional media to improve the chance of the message spreading across many different channels depending on the target audience; and complementing each other by

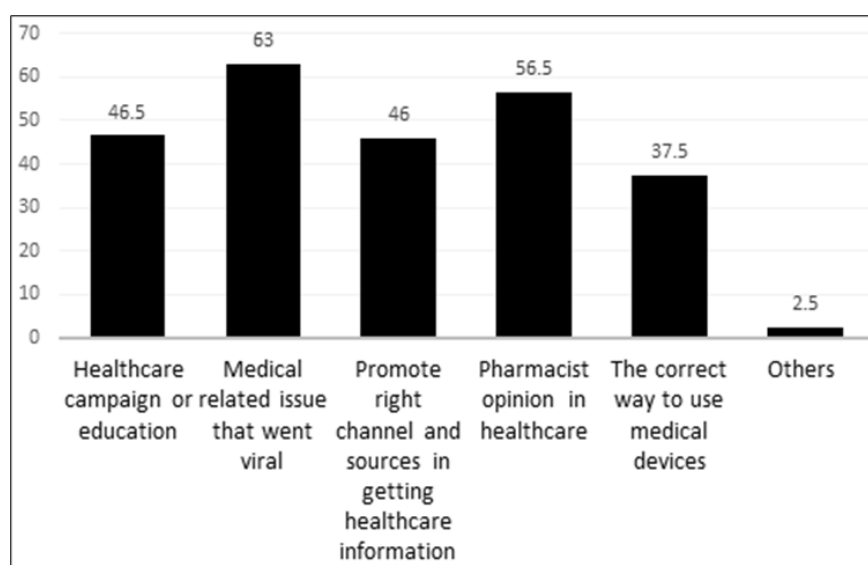


FIGURE 6: Information that was obtained by respondents from pharmacist sharing in media platforms (n=200)

TABLE 6. Respondents' view toward the usage of media platform in pharmacist-public engagement

Use of media platform in pharmacist-patient engagement	Strongly agree/ Agree n (%)	Neither agree nor disagree n (%)	Disagree/ Strongly disagree n (%)
Media platform can be effectively used by pharmacist to improve patient communication	171 (85.5)	23 (11.5)	6 (3.0)
Media platform is not useful for patient-pharmacist communication.	10 (5)	25 (12.5)	165 (82.5)
Media platform need to be used more in workplace setting to communicate with other healthcare professional.	132 (66.0)	60 (30.0)	8 (4.0)
Media platform takes too much time to communicate with patient.	33 (16.5)	68 (34.0)	99 (49.5)
Social media has the potential to become established channel for patient-pharmacist communication	153 (76.5)	40 (20.0)	7 (3.5)
Social media may improve patient quality of life	113 (56.5)	58 (29.0)	29 (14.5)
Media platform can improve patient knowledge regarding the treatment for the illness.	166 (83.0)	31 (15.5)	3 (1.5)
Media platform may facilitate drug therapy	105 (52.5)	68 (34.0)	27 (13.5)
Media platform may cause patients to challenge pharmacists' knowledge	71 (35.5)	59 (29.5)	70 (35.0)
Media platform can change the way patients and pharmacist interact	131 (65.5)	56 (28.0)	13 (6.5)

presenting helpful information in formats such as billboards and print ads, followed by action-to-call if the patients/customers want to engage with healthcare professionals through the web/calls/video calls.

It was found out that the respondents' general utilization of media platforms had been well distributed between the traditional media and digital media excluding the online communication applications such as *Whatsapp* and *Telegram*. *Facebook*, *Youtube* and *Instagram* hold

the top three spots of digital media among respondents followed closely with television coming in fourth place. Radio is still proven to be relevant among the respondents, with a total of 37.5 percent users. Since Internet was introduced to Malaysian public in 1995, the government had been applying many strategic steps to accelerate its penetrations and by the end of 2012, almost 19 million Malaysians were online and this value represented 66% of the Malaysian population (Wok & Mohamed 2017).

PERCEPTION TOWARDS THE ROLES OF PHARMACISTS AND PHARMACY SERVICES OFFERED

This study has shown that the respondents did not consider pharmacist as their preferred source of healthcare information. The most frequently cited sources were doctor, followed by the Internet and pharmacist was the least preferred source. Pharmacist is a highly trained healthcare professional yet underutilised, however, there is growing support to extend the role of pharmacist within the primary health sectors (Freeman et al. 2012). Several studies have been conducted worldwide to find out public view and perception towards the role of pharmacist. A study conducted in London addressing weight management service found that pharmacists were not favoured as a source of healthcare advices (George et al. 2010). In 2018, similar study conducted in Malaysia addressing weight management service also showed the same outcome where only about a quarter of the respondent chose pharmacist as their preferred first or second line of consultation (Verma et al. 2018).

In contrast, a study conducted in Bosnia and Herzegovina found that majority of the consumers frequently or always visited pharmacists with an overall positive perception towards pharmacist and service provided (Catic et al. 2013). Another study conducted in Oman suggested that the public had a good perception regarding the roles of pharmacist while they only moderately satisfied with the services provided (Jose et al. 2015). Similarly, general public in Dubai also perceived pharmacist positively and the study suggested several factors that play roles in building an image of pharmacist in Dubai including knowledge level, attire, age, and pharmacy location (Rayaes et al. 2014). The outcomes were in line with the study conducted in Sabah, Malaysia, that found out the participants generally appreciated the roles of pharmacist, however, the roles were mainly viewed as assisting prescriber, business oriented and other drug-related responsibilities (Fei 2018).

Majority of the respondents cited reasons for not using pharmacist as a source of information were: prefer to visit a doctor and prefer to use websites. This finding is supported by a study on dispensary separation in Malaysia that found that 89.6% of the respondents had opinion that medical doctors were more reliable than pharmacist in explaining the uses and side effects of medicines. The result from the same study also pointed out that 84.2% of the participants were also unwilling to obtain prescribed medicine by doctor from a pharmacy (Kenny & Madhavan 2018). A study conducted in London also concluded that most respondents agree with the statement of pharmacist were knowledgeable on health promotion issues, however, they

are the third preferred source of advice behind physician in the first place and digital medium in second place. (Crilly 2019). Prior to the findings, it is important to highlight that pharmacy profession unique selling point had been the tag 'medicine expert'; which no other healthcare providers can lay claim to; thus maximising patient use of medicine, yet under-utilisation of pharmacists continue to be recognised (Dawodu & Rutter 2016).

In order to provide adequate pharmacy services to public, it is vital for the public to first understand and perceive the availability of these services. Pharmacist hold a unique position among public, however, the increased impact of pharmacist was based on service expansion rather than guided by population approach in term of public health (Strand & Miller 2014). In this study, majority of the respondents were aware and have used the pharmacy services offered (Table 3) especially minor ailment services, enquiring healthcare advices and health screening services which include blood pressure and blood sugar level test. A study conducted in Ghana suggested that the respondents believe pharmacist have the capacity to handle minor ailments and thus prefers going to pharmacy rather than seeing a doctor (Okai et al. 2019).

This finding was in line with previous study conducted in Australia that described the opinions of healthcare clients were mainly positive on these services provided by pharmacist: medication review, medication prescribing, medication profile, prescribing and health consumer advocacy in general (Freeman et al. 2012). In Malaysia, based on the Community Pharmacy Benchmarking Guideline, essential services that should be offered in community pharmacies are: screening of prescription, dispensing of medicines, compounding of medicines, counselling and advisory, monitoring and screening tests, pharmacy management in drug procurement and proper documentation. Also, optional services include Home Medication review (HMR), Medication Therapy Adherence Clinic (MTAC), Certified Smoking Cessation Service Provider, health screening and any other certified pharmaceutical care services (Ministry of Health Malaysia 2015).

High level of satisfaction in some aspect of pharmacy services was observed in this study. Majority of the respondents have a positive experience seeing a pharmacist and acknowledged that pharmacist is very knowledgeable on health promotion issues by providing accurate information to help health-related decision making. These findings corresponded to a study conducted in Sabah that showed 85.2% of the respondents were satisfied with general pharmacy services offered (Nagashekhara et al. 2012). However, a study conducted in Kuwait had found that the participants of the study had overall negative perception towards the role of pharmacist although they

had positive attitudes toward provision of pharmacy services (Awad et al. 2017). The findings were influenced by participants' concerns which include lack of privacy, inadequate medication counselling, limited time to discuss and listen and pharmacist were not knowledgeable enough to answer the questions.

PUBLIC PERCEPTION, ACCEPTANCE AND EXPECTATION OF PHARMACIST USING MEDIA AS A PLATFORM OF INFORMATION SHARING.

It is an interesting finding that 85.5% of the respondents agree: media platforms can be used by pharmacist to improve patient-pharmacist communication. 66.0% of the respondents also responds positively to the need of media platform in workplace setting to communicate with other healthcare professionals. 76.5% respondents also expected that social media has the potential to become an established channel for patient-pharmacist communication. These findings corresponded to the result obtained from a study conducted in Texas that concluded: pharmacists who are a member of one or more professional organisation as well as those who provide medication therapy management services at their workplace are more likely to communicate with patients via text, email and social media (Shcherbakova 2014).

Almost all respondents have looked up information about a disease as well as the treatment of the disease. In addition, more than half have liked and shared material related to health information that was posted by a third party. The extent of media platform to reach a broad range of audience in Malaysia is becoming more relevant as compared with few years back. A video uploaded by ML Studios in Facebook on 24 July 2018 featuring Siti Hawa Mohd Nor or popularly known as Sitiawe, a registered pharmacist discussing on the differential role of pharmacist vs doctor managed to reach a total of more than 549k viewership, 10k likes, 5k shares and 989 comments (Facebook 2018). Another sharing on Facebook by Sinar Harian featuring Prof Dr Mohamed Mansor Manan, Dean Faculty of Pharmacy UiTM addressing the issue of medication adherence among public, was able to reach a total of 11k viewership, 70 shares and 800 likes (Facebook 2019). The response from the public were mostly positive, and encouraging messages were left on similar posts which in general saying that the information was new and useful for them.

Based on the result, top three health information covered by pharmacist in media according to the respondents are medical-related issue that went viral, pharmacist opinion in healthcare and healthcare campaign or education. Previous study conducted by Philip had found

out the like-hood of searching for information about health topics that the public are interested in are: Nutrition, fitness, weight loss and stress and sleep (Crilly 2019). Although healthcare information sharing in media seems to be the most convenient and easy, the reliability of the information shared might be of poor quality associated with 'viral' status of certain issues. The author believe that the potential reach of media platform can be tempered by the ability of fake information to spread widely through the general public. In fact, not more than half of the respondents had discussed the information they obtained from media platform with a healthcare professional. This combined with the finding that majority of the respondents in this study are not sure how to correctly apply the information they found on media platform to their personal health situation. Similarly, more than half of the respondents are not aware of the source of information they read on the Internet.

Previous study found social medias to be partly responsible for spreading incorrect medical advice, misinformation, fake news as well as false claim (Giustini et al. 2018). One of the biggest fake news that sparked anti-vaccine movement was the case of now-retracted Lancet paper that turned thousands of parents around the world against measles, mumps and rubella (MMR) vaccine due to an implied link between vaccinations and autism (Eggertson 2010). Despite the small sample size (n=12), this paper had received wide publicity in United Kingdom (Rao & Andrade 2011) and the Health Protection Agency attributed a large measles outbreak in 2008 and 2009 following the concurrent drop in the number of children receiving the MMR vaccine. Similar cases of outbreaks were also reported in Canada and United States as a result of parents' refusal to vaccinate (Eggertson 2010). The key point from this case is to link the relation between misinformation and the correction period.

Although public health and general practitioners have been concerned about increasing anti-vaccines sentiment, programme and campaign that have been implemented to change attitudes and minds have been shown to be largely ineffective (Nyhan et al. 2014). Vaccination resources is not a problem according to a report by Civio Foundation, and problems arise due to parents lacking confidence in vaccines and they simply choose not to vaccinate their children despite scientific evidence. In Malaysia, we have cases of medical doctors, celebrities even pharmacist promoting anti-vaccine movement, through their social media accounts and it is not surprising to see a certain segment of the public showing support to these personalities. Hence, it is a good opportunity for pharmacist to use social media in promoting patient healthcare education through virtual communities with a mission to

counter inaccurate material on the Internet by providing evidence-based information (Ventola 2014).

This study had identified that public are open to the incorporation of media platform especially digital media into pharmacy services, with those acquiring tertiary education being most keen. Previous study conducted in Malaysia to assess pharmacist perceptions towards online health information had showed that majority of the respondents perceived positively about online health information and they believed Internet provides useful and updated health information (Ong et al. 2018). There is a statement from The American Society of Health-System Pharmacist (ASHP) regarding the ethics of pharmacy professionals who use online tools especially social media to interact with people. Hence, pharmacy professional must remain professional, responsible, and respectful manner in maintaining and enhancing their relationship with patients, caregivers, other members of healthcare team as well as the public (The American Society of Health-System Pharmacist 2012).

LIMITATION

There are several limitations of this study. One of the limitations is the insufficient number of respondents. Despite the target of 384 respondents required for the study, only 200 was obtained due to the limited research time. However, the study was able to demonstrate interesting findings in spite of the limited respondents, and to the best of our knowledge is the first to report data on the public's acceptance towards pharmacist in the media. As such, although the current study may not present the whole population of Malaysia, it proves the need for further work to be performed in a larger study to identify future roles of pharmacists in the media - an area of importance in this digital age. Furthermore, as under 35s were over-represented in this study, this may have skewed the result more favourably for the use of digital media, which further strengthens the need for future work in this area. Apart from that, the questions were written by mixing the positive and negative questions or statement together in the same section, thus may have influenced the response. The questionnaire also may lead to social desirability biased because respondent might give responses in a manner that will be viewed favourably by researcher.

CONCLUSION

The aim of this study was to evaluate the level of public acceptance and expectation towards pharmacists using

media in sharing healthcare information. The respondents are generally aware of pharmacist using media and showed positive acceptance and expectation to see more pharmacist using media platform. At practitioner level, this study can provide an insight to evaluate the presence of pharmacist in media, and the findings can be used to enhance the way pharmacist uses the media platform.

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