

Influencing Factors of Social Media Use: A Study of Hypertensive And Diabetes Mellitus Patients in Primary Care Units

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Abstract: Nowadays, the use of social medias over the world is disruptive growth. These new medias are popular accessibility for health information too. This cross-sectional survey study aimed to find the influencing factors of social media use among hypertensive and/or diabetes mellitus patients in primary care units in Thailand. Participants were included at sub-district health promoting hospitals or rural area of Thailand during January to April, 2018. Totally 156 hypertensive and diabetes mellitus patients by a multi-stage systematic random sampling were participated. Data were collected through interview forms and analyzed by frequency distribution, percentage, mean, standard deviation, Chi-square test and binary logistic regression. The level of statistical significance was set as 0.05. The findings were 23 (12.12%) of patients use social media, all of them use LINE and factors significantly correlated with social media use ($p < 0.05$) were gender, occupation, education level, age group, income and sufficiency income group. The influencing factors significantly correlated with social media use ($p < 0.05$) were age group, sufficiency income group and education which could predict the social media use among hypertensive and/or diabetes mellitus patients in primary care units together as 71.8 %. The suggestions were the health promotion or health education for hypertensive and/or diabetes mellitus patients in primary care units in rural area should be flexible not only social media use, but conventional, folk forms, face to face program also.

Key words: Social media • Hypertension • Diabetes mellitus • Primary care

INTRODUCTION

Social media has been embraced rapidly by people across the globe in terms of adoption and usage levels, creating altogether a new platform for people to communicate with each other. The definition of “social media” is broad and constantly evolving. The term generally refers to Internet-based tools that allow individuals or communities to gather and communicate; to share information, ideas, personal messages, images and other content; to collaborate with other users in real time [1, 2]. Social network sites (SNSs) are Web-based services that allow individuals to construct a profile and build a network of connections with other users within the system [3]. Since their introduction, SNSs have become integrated into the daily practices of millions of users. With the evolving technologies in mobile-based platforms and apps [4] has exploded as a category of online discourse where people create content, share it, bookmark it and network at a prodigious rate. Because of its ease of use, speed and reach. It is fast changing the

public discourse in society and setting trends and agenda in topics that range from the environment, politics and health to technology and the entertainment industry. It adopts a critical approach towards social media, examining issues of power, participation, ideology and exploitation [5].

The world's current largest social network, Facebook, has engaged more than 2.01 billion users worldwide. Twitter, with more than 330 million of monthly active users, has become essential to scientific conferences, gaining them publicity via sharing real-time proceedings or live-tweeting [6]. SNSs provide platforms for users to share their own content, react, or add comments on the content posted by other users. They help strangers to be connected based on their common interests, activities, identities, or professions. LinkedIn, with more than 530 million members in over 200 countries and territories, focuses on business connections and industry contacts for employers and working professionals. It allows users to enhance their connectedness in their areas of expertise. Social media

differs from traditional broadcast media in supporting networking by information and communication technologies. WhatsApp Messenger brings free, cross-platform communication beyond text-only messages to more than 1 billion people in over 180 countries [7].

For Thailand, the growth of ICT, social media and use of the Internet have influenced daily lifestyle of Thai people. The national statistical organization found that 50.2 and 81.4 percent of Thai people use internet and mobile phone respectively in 2017 [8]. In 2015, 23.9million are active Internet users in Thailand, a 37 % penetration of the total population, compared with 42 percent globally. Thais spend nearly 5.5 hours on average daily use of the Internet, compared to 4.4 hours globally. Added to these figures, 32millions are active social media accounts in Thailand, a nearly 50 percent of the population [9]. These days, information including health information are available via the Internet and social media platforms. Health information and health advices are easily accessible. With the right tools and equipment, anyone is able to simply search data via the Internet [10].

Social media have been widely used in health communication and provide platforms to the public to access health information and to seek support if needed [11]. A new dimension to health care was created to enable the public, patients and health professionals to communicate about health issues and to give them the possibility of improving health outcomes [12]. SNS interventions were found to be effective in changing health behavior-related outcomes in which the predominant health domain was fitness related (e.g. weight loss and physical activity) [13]. Emerging evidence support using SNSs among health professionals to share domain knowledge [14]. Social media use of Thai healthcare professionals is emphasized on Facebook and LINE Chat applications. For example, the Deputy Minister of Public Health in 2013, encouraged patients who live in Northern Thailand to use "LINE Consultation" with their doctors. The reasons given by the Minister was that advice via LINE messages offered quick and accurate responses. The LINE application was able to provide a right direction to the patients who live in a rural area in a timely manner. Moreover, LINE, Facebook, Twitter and WhatsApp are the main social media applications in Thailand which allow patients in seeking for a second opinion. There are many active social media users, ability to send and receive pictures, notifications, easy to use and ability to participate in group discussions. While there are many benefits of social network for a Thai

healthcare system, discussing the details of patients should be done with awareness and the patient's consents [15].

The key benefits of social media were the convenient and efficient channels for information sharing had no restriction by locations or office hours. They were effective in creating a complex, longitudinal stream of information and multimedia files [16]. Photographic and diagnostic images, text messages, videos and voice messages (e.g. rhythm sounds in the monitor worn by patients) were easily shared via WhatsApp messages [17]. Social media allowed the sharing of messages with multiple recipients, which shortened the time for processing [18]. Health professionals can stay abreast of news and information pertaining to their professional interests by following or subscribing to updates in SNSs [19]. For instance, the latest clinical information and real-time surveillance data on an infectious outbreak could be released ahead of peer-reviewed published papers. Facebook and Twitter aided promoting professional development [20] and also facilitated outreach from a scientific conference, allowing active participation via communication during the conference [16]. Some drawbacks come with the utilization of SNSs. How to operate the SNSs smoothly was a challenge to some health professionals 30% of non-social media users justified not using SNSs because of lack of knowledge on how to do so. The technical aspects of SNSs as one of the obstacles to their utilization. Hesitations on the use of SNSs included concerns regarding data protection, patient privacy and liability [21]. The border between the professional and personal spheres of SNS use was blurred to many health professionals [22]. Exposure of one's private life was one of the risks of using SNSs that contain detailed personal profile. Some health professionals had concerns over the stigma of unprofessionalism and a negative impact on their reputation from the use of SNSs [21].

In Thailand, patients in rural community mostly access health care by sub-district health promoting hospital, which serve as primary care. Nowadays, the health advice, health education and health information distribution shift to social networks because of its popularity [8]. Some people in rural area may not afford the expenditures of social media. Thus, the influencing factors of social media use among hypertensive and/or diabetes mellitus patients in primary health care units are useful for health care service planning especially health education.

Objective and Methodology

Objective: The aim of this study was to find influencing factors of social media use among hypertensive and/or diabetes mellitus patients in primary care units.

MATERIALS AND METHOD

This study was carried out on calculated 156 patients with hypertensive and/or diabetes mellitus diagnosed, referred to sub-district health promoting hospital in rural area of Thailand during the period, from January 2018 to April 2018. The systematic random sampling and tested validity and reliability (Chronbach's $\alpha = 0.74$) questionnaire for social media use and influencing factors were conducted. The hypertensive and/or diabetes mellitus patients in primary care units were interviewed by well-trained interviewers.

Statistical analysis: Data were collected, tabulated, statistically analyzed by computer using SPSS version 18, descriptive statistics: percentage and analytic statistics: chi-square and binary logistic regression were done. The content analysis was conducted for qualitative data from in-depth interview.

RESULTS

Totally 156 patients with hypertensive and/or diabetes mellitus patients in primary care units were recruited in this study, 81 (51.9%) patients were women and 75 (48.1%) were men. All of them were Bhuddist. The majority were the elders and retired. About 70% of them were married and educated at primary school level. 86.5% and 71.1% of them have salary less than 1,000 bahts and insufficiency income. There were 23 patients (12.12%) who use social media. All of them (100%) use Line and 10 of them (43.5%) use Facebook together. The Characteristics of hypertensive and/or diabetes mellitus patients in primary health care units are showed in Table 1.

The personal factors significantly correlated with social media use ($p < 0.05$) were gender, education, occupation, age group and income sufficiency as Table 2.

The Qualitative Data Were: One of the patients who did not use social media said

"I must pay for social media use. I can't afford".

The other one said

"I am too old to learn how to use".

Table 1: Characteristics of hypertensive and/or diabetes mellitus patients in primary health care units.

Characteristics	Number	Percent
Gender		
Women	81	51.9
Men	75	48.1
Age		
Less than 40 years	5	3.2
40 – 49 years	24	15.4
50 – 59 years	24	15.4
60 – 69 years	64	41.0
70 – 79 years	26	16.7
More than 79 years	13	8.3
Min - Max = 36 – 85 Mean \pm SD = 62.62 \pm 11.67		
Marital status		
Bachelor	15	9.6
Married	109	69.9
Divorce	10	6.4
Widow	22	14.1
Religion		
Bhuddist	156	100
Education		
No schooling	15	9.6
Primary school	109	69.9
Secondary school	10	6.4
High school	18	11.5
Bachelor Degree	4	2.6
Occupation		
Not work	74	47.4
Hire	33	21.2
Agriculture	27	17.3
Commerce	12	7.7
Government officer	10	6.4
Income/month		
1,000 – 10,000 Bahts	135	86.5
10,001 - 20,000 Bahts	14	9.0
20,001 - 30,000 Bahts	5	3.2
More than 30,000 Bahts	2	1.3
Min - Max = 1,000 – 60,000 Mean \pm SD = 5444.87 \pm 8,641.78		
Sufficiency Income		
Enough	45	28.9
Not enough	111	71.1

While one of the patients who use social media said

"I use it for my work. It is comfortable to communicate with my boss and my friends".

The other one said

"I have used it since I worked in Bangkok".

Table 2: Correlated personal factors of social media use among hypertensive and/or diabetes mellitus patients in primary health care units

Independent Variables	Social Media Use		95% CI Odd ratio	P-value
	No	Yes		
Gender				
Women	78 (96.3)	3 (3.7)		
Men*	55 (73.3)	20 (26.7)	0.11(0.03 – 0.37)	<0.001 ^F
Marital status				
Other	44 (88.0)	6 (12.0)		
Married*	89 (84.0)	17 (16.0)	1.40(0.52 – 3.80)	0.507
Education				
High school & Bachelor degree	12 (37.5)	20 (62.5)		
Under high school*	121 (97.6)	3 (2.4)	67.22(13.69 – 211.29)	0.087 ^F
Occupation				
Work	59 (63.6)	23 (36.4)		
Not work*	74 (97.6)	0 (0)	1.39(1.21 – 1.59)	<0.001 ^F
Age Group				
Elder	121 (95.3)	6 (4.7)		
Adult*	12 (41.4)	17 (58.6)	0.04(0.01 – 0.11)	<0.001

Table 1: Characteristics of hypertensive and/or diabetes mellitus patients in primary health care units (cont.).

Independent Variables	Social Media Use		95% CI Odd ratio	P-value
	No	Yes		
Income Group				
Enough	28 (62.2)	17 (37.8)		
Not enough*	105 (94.6)	6 (5.4)	10.63 (3.83-29.46)	<0.001

* Reference Group ^F F.E. test

Table 3: Predictive factors of social media use among hypertensive and/or diabetes mellitus patients in primary health care units

Factors	B	SE.	Exp(b)	95%CI		p-value
				Lower	upper	
Age Group	-3.47	0.811	0.019	0.004	0.092	<0.001
Income Gr.	3.068	0.814	21.492	4.361	105.291	0.012
Constant	0.164	1.154	1.178			.019

R² = 0.599

The factors that could predict the social media use were age group and income group. They could predict the social media use among hypertensive and/or diabetes mellitus patients in primary health care units together correctly 71.8 % as Table 3.

DISCUSSION

Social medias have no doubt affected the lives of people. As far as health education is concerned, these have provided many opportunities to the patients and eased the accessibility of health information through online schemes. There are innumerable success stories in field of health care as well [12]. From our study, demonstrates that only 12.12% of the hypertensive and/or diabetes mellitus patients at primary care units or in rural

area use social medias and certain factors can be influenced for the social media use of sound disparity by socio-economic status. Logistic regression analysis indicates that age group, income and education level were significantly related to the social media use among hypertensive and/or diabetes mellitus patients in primary health care units or in rural area. These findings show the importance of factors in influencing the likelihood of media use for health education appropriately. The people who use social media must pay charge to service provider. Some people cannot afford this expense [9]. Innovation diffusion depends on generation. Almost laggard group are baby boomer. This relevant to our study that the elders used social media less than the adults. For hypertensive and/or diabetes mellitus patients, there were more the elders than the adults due to risk factors of age.

Hence, the adoption and use of social media may be limited especially in low socioeconomic group. Health education or health promoting program should be equality for everyone. We cannot leave anyone behind. So, if we want to penetrate the message of health information or education among the rural masses or low socio-economic level or the elders, we would have to opt for the conventional, folk forms, face to face program in more planned manner.

CONCLUSION

Nowadays, social media rapidly grows across the globe. This new media is popular use in health information accessibility too. There may be limitation of someone such as the poor, the illiterate, the elder, the people who live in rural area. The health promotion or health education for hypertensive and/or diabetes mellitus patients in primary care units in rural area should be flexible not only social media use, but conventional, folk forms, face to face program also. The suggestion of future research is to compare the effective of conventional health promotion and health promotion by social media.

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