



**PERCEPTION OF CEU NON-HEALTH ALLIED STUDENTS ON THE RISKS AND  
BENEFITS OF INTERNET-BASED MEDICAL ADVISES**

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**ABSTRACT**

**Context:** With the increasing activity of people engaging with the internet, various information can be easily obtained and viewed on various websites and social media platforms. These activities have been raised, especially in the pandemic era of COVID-19. Many websites and media platforms have catered medical information available to the general public. On the other hand, this data isn't always accurate and reliable. The literature cites that the information accessed by the public, especially medical information and advise, may give both beneficial effects and harm to the user. **Aim:** With that, this study determines the perception of the non-health allied students of Centro Escolar University in the City of Malolos, province of Bulacan, Philippines. The previous research had a smaller sample size and was based on respondents' self-evaluation of their self-diagnosis behavior. **Methods:** The study utilized snowball sampling to obtain the 213 respondents and sent out an online survey questionnaire to gather the data. **Results:** The respondents are predominantly female and between the ages of 18 and 24. The results revealed that the respondents are well-versed in the benefits of using internet-based medical advice. The respondents are aware of the risks, but they are not aware of all of them. **Conclusion:** In conclusion, there is more room for education when it comes to tackling the risks. Pharmacists should engage in counseling on this topic to give the necessary knowledge to the patients and promote the right medication therapy.

**KEYWORDS:** *Self-diagnosis, Self-medication, Patient counseling, Internet-based medical advise.*

**INTRODUCTION**

Humans are insatiable beings and their quest to gain knowledge is vast and wide that may cause danger to them. As humans and animals evolve, technology too. Technology progresses from time to time allowing men to have an easier and improved quality of life. In the progression of technology, the simple herb grinding was now the marvel of medicine. Medicine has never been more complex and reliable. Accompanied by this progression, the internet takes part in its growth. The modern world requires modern solutions that the Internet can provide with just one click, but it's also because of this that leads people to risk their lives through self-diagnosing and self-medicating with the use of the Internet. The internet allows anyone to have access to different information across the world including medical advises that most people rely on too much, considering that the internet is a valid and credible source of medical advise resulting in an attempt in self-diagnosing and choosing a suitable treatment online that provides misleading results that can do more harm than good.

Today, the Philippines has a rising number of internet users. Numerous information on the internet could pinpoint a diagnosis or ailment. Therefore, the risk of having debunked possible thoughts diagnosing an underlying condition. Most assumptions come up when a sign of rashes shows they read for eczema symptoms or skin cancer symptoms when an unexpected pimple came out. These lead to people risking their lives through self-diagnosing and self-medication. Self-diagnosis is a practice that has become normal in this age of information. This study is set to understand why and how this practice is being done despite its obvious dangers.

Out with the old, in with the Internet. The Internet provides access to numerous things all at once, making our life easier and faster just by clicking a few buttons while sitting comfortably at our homes. People make use of this advantage for every task that needs to get done and some for even self-diagnosing when feeling sick. The Internet provides all answers to a person's question about his or her signs and symptoms, even a remedy for the person's 'diagnosis' is provided. However, Henry

Ford Health System Staff (2018) mentioned Dr. Sean Vance, a radiation oncologist, said to avoid self-diagnosing with the use of the Internet as it will cause stress or it can possibly minimize something that could cause a patient's life.

Various websites allow patients to check their symptoms and instantly gives the patient a possible list of their condition/s and treatment. These sites allow patients to search for their symptoms which might be the reason why patients persuade themselves that they have a specific condition and these may prompt obliviousness of their manifestations that don't fit with what they feel they have, otherwise called confirmation bias (Heath, 2017). According to (Gass, 2016) self-diagnosis using the internet is a particular concern if patients are using the internet in the place of a physician.

It is critical that patients can identify potential problems with the use of the Internet to diagnose and treat health problems, and that they feel comfortable communicating with their physician about the health information from the Internet (Silver, 2015). There are downsides to the use of this easily accessible source of information. Semigran, et. al. (2015) claimed that using symptom checkers could encourage patients with life-threatening sickness such as stroke and heart attack to see the consult of the doctor. Not all information given by the internet is accurate and reliable, making self-diagnosis a very dangerous practice. Health information varies across websites; some misleading and accurate information can be misinterpreted, and relying on this wrong information and interpretation can lead to bad effects and could cause the therapeutic intervention to fail (Lu, Xu, & Wallace, 2017).

The study aims to determine the perception of respondents on the risks and benefits of utilizing internet-based medical advises. With that, the researchers of this study have decided to choose from the non-health allied students of Centro Escolar University Malolos, in Bulacan to be the respondents of the study. This study will use an online survey to obtain the respondents' corresponding answer which will be collected and analyzed by the researchers. The overall purpose of this study is to help health professionals, especially pharmacists, to create an intervention on this practice to promote better medication practices.

## METHODS

**Design** - This study is a Quantitative Descriptive Research Study. Descriptive analysis will be used in determining the perceptions of the respondents in the risks and benefits of utilizing internet-based medical advises.

**Ethical Considerations**- Ethical approval will be sought from the CEU – Institutional Ethics Review Committee prior to the implementation of this study.

**Population and Sampling method**- The study used a snowball sampling method to acquire the needed two

hundred and thirteen (213) non-health allied students from Centro Escolar University Malolos. The respondents were limited to 18 years old and above.

**Data Collection** - The researchers disseminated the instrument through email and social media, specifically Facebook Messenger. The data gathered through the online survey was extracted from Google Forms.

**Instruments** - In this study, the researchers decided to use a 5-point Likert Scale online survey questionnaire. The questions were drawn based on the researchers' readings and previous studies that are relevant to the topic.

**Validation and Reliability** - Professionals who were experts to the profession and the topic were asked for the validation of the instrument. Their recommendations and revisions were utilized in the selection of the questions that will be included in the questionnaire. They were asked if any other details should be added to achieve the purpose of the instrument. After validation, a certified statistician was asked to check the reliability of the research tool. It garnered a score of 0.81.

**Statistical Treatment** - The data that will be gathered will be treated and analyzed by the frequency, mean, and standard deviation. The purpose of using this method is to locate the center of distribution and its variability.

## RESULTS

The results of the study were presented according to the objectives of the study:

**Demographic profile** - most respondents were female (68%) that were aged between 18 to 20 years old (59%) and mostly came from the 2nd year level (45%) and from the College of Hospitality and Management or CHM (47%)

**Perceived Knowledge** - the respondents are knowledgeable about utilizing the internet-based medical advises ( $4.081 \pm 0.52154$ )

**Frequency of Utilizing** - the respondents occasionally searched and used internet-based medical advises ( $4.026 \pm 0.8187$ )

**Sources Used** - the most used websites are Healthline (66%), WebMD (52%), and Centers for Disease Control or CDC (44%), while the most used social medias are Facebook (82%) and Youtube (81%)

**Perceived Risks** - the respondents perceived the risks of internet medical advises with high agreement percentage despite having a neutral mean average; there are two negatively stated items and three positively stated, frequency wise it showed agreement on the perceived risks.

**Perceived Benefits** - the respondents perceived the benefits of utilizing internet-based medical advises ( $3.9596 \pm 0.58282$ ).

## DISCUSSION

Most respondents are under the program of K-12. It explained why the age of the respondents were at the bracket of 18-20 years (Bondoc & Malawit, 2020). Centro Escolar University was known to be a school for girls, that is why the most number of enrollees were

female. Snowball sampling was conducted that resulted in a high number of participants from CHM and 2nd year level.

The perceived knowledge yielded a high mean rating. The researchers interpreted that the higher the mean rating, the more knowledgeable that the respondents in evaluating and utilizing internet-based medical advises. The respondents were more critical in evaluating their sources. They sifted through the sites, looking for determinants of credibility (Viviani & Pasi, 2017). Including, especially those with government, education, and organization in the URL.

The respondents occasionally looked for internet-based advises particularly when an unexplained bodily sensation was noticed. Most young adults search health information online and a big percentage of them are women (Bujnowska-Fedak, Waligora & Mastalerz-Migas, 2019).

The most used medical websites are Healthline, WebMD, and CDC. The respondents based their sources on the top result of the search engine but if the top result were not credible enough and not those most famous, they move on to another. The respondents excluded Wikipedia.org even with their consideration of looking. The most used social media sites are Facebook and Youtube. The respondents said that it is very easy to source out information through these because they can evaluate based on the comments, replies, and reviews of people with credible profiles. They also picked to watch those content creators who are really known to be medical professionals. Health professionals can put up images and videos to further explain so that health consumers can understand better (Viviani & Pasi, 2017).

The respondents perceived the risks of utilizing internet-based medical advises. The most perceived item was about feeling uneasy and worried when the searched information turned out to be severe or serious. There was a positive correlation between searching for online medical advises and anxiety (McMullan, et. al., 2018). Respondents were interviewed and they said that they do feel anxious, uneasy and worried when they found out that their condition showed a serious indication. The respondents disagreed that they do not follow the doctor's advises when their searched information said otherwise. This is in contrary to the claim that the patients would feel distrust and implicate self-medication when their findings are not parallel with the doctor's plans (Swee-Lin Tan & Goonawardene, 2019). With a high standard deviation on each item, ranging from 0.920 - 1.362, the researchers opted to look at the percentage of those who answered agreed. It showed that though the respondents know the risks, some of them still engage with it.

The respondents perceived the benefits of utilizing internet-based medical advises. In comparison to the

study of Turkistani et. al. (2020), our respondents perceived it more beneficial that these advises would give them a push to visit the doctor.

## CONCLUSION

The findings suggest that the respondents are knowledgeable in evaluating internet-based medical advises that they searched for occasionally in either Healthline, WebMD, CDC, in Facebook or in Youtube. The respondents also perceived very well the benefits that they may gain in using it but with that knowledge in evaluating and using and the benefits they acquire, the respondents perceived only some of the risks and and still continue to practice it.

Table 1. *Age of Respondents*

	Frequency	Percent
18-20 y/o	126	59
21-24 y/o	85	40
25 y/o and above*	2	1
Total	213	100

\*applies only to all college students that are studying in the university

Table 2. *Sex of the Respondents*

	Frequency	Percent
Male	69	32
Female	144	68
Total	213	100

Table 3. *Departments where the Respondents belong to*

	Frequency	Percent
CHM (BS ITTM - ABM & NON ABM, BS I.H)	99	47
CAMT (BS BA, BS MA, BS Acctg, BS IT)	88	41
CELAS (AB Comm. and Media, Bachelor of Elem. Educ. [Special Needs Educ])	26	12
Total	213	100

Table 4. *Year Level of the Respondents*

	Frequency	Percent
1st	29	14
2nd	97	45
3rd	87	41
Total	213	100.00

Table 5. *Knowledge of the Respondents on the Internet-based Medical Advises*

	Mean	S.D.	V.I.
K1. Sites that contains .gov, .edu and .org in the URL are reliable sources of medical advises	4.46	0.683	Agree
K2. Some sites that has .com in the URL are not entirely reliable sources of medical advises	3.82	0.888	Agree
K3. You have the knowledge in evaluating and using the medical advises you retrieved from the medical websites and/or social media	3.66	0.846	Agree
K4. When you encounter difficult terms/concepts in the internet-based medical advises, looking at other credible sites or platforms helps you understand it.	4.38	0.695	Agree
Overall	4.0810	0.52154	Agree

Table 6. *Frequency of the Respondents in using Internet-based Medical Advises*

	Mean	S.D.	V.I.
F1. Frequency on the use of Internet for Medical Advises	3.96	0.923	Occasionally
F2. Frequency of searching corresponding Medical Advises whenever an unexplained bodily sensation is noticed	4.09	0.869	Occasionally
Overall	4.026	0.8187	Occasionally

Table 7. *Medical Websites utilized by the Respondents*

	Frequency	Percent
CDC (Centers for Disease Control)	93	44
Drugs.com	40	19
Healthline	140	66
Mayo Clinic	69	32
Medline plus	58	27
Medscape	34	16
WebMD	111	52
Others	7	3

Table 8. *Social Media used by the Respondents for Medical Advises*

	Frequency	Percent
Facebook	174	82
Instagram	94	44
Tiktok	80	38
Twitter	97	46
Youtube	173	81
Others	1	0.47

Table 9. *Perceived Risks of the Respondents in Utilizing the Internet-Based Medical Advises*

	SA		Agree		Neutral		Disagree		SD		Mean	S.D.	V.I.
	f	%	f	%	f	%	f	%	f	%			
R1. You are having difficulty in understanding the gathered information from the internet about your condition and medication	24	11.27	68	31.92	86	40.38	32	15.02	3	1.41	3.37	0.920	Neutral
R2. After you have search for a medication on the internet for your condition, you would feel unease and worried, for it look serious or severe	51	23.94	93	43.66	50	23.47	17	7.98	2	0.94	3.82	0.921	Agree
R3. After you have search for your condition and medication, you would self medicate and would no longer consult your physician	21	9.86	46	21.60	57	26.76	50	23.47	39	18.31	2.81	1.245	Neutral
R4. After you have search for your condition and medication, and then if you visit the doctor, you would not follow the doctor's advises if it is different from the information you have gathered	19	8.92	26	12.21	32	15.02	40	18.78	96	45.07	2.21	1.362	Disagree
R5. Following the internet's medical and medication advise may harm your health	41	19.25	55	25.82	90	42.25	21	9.86	6	2.82	3.49	1.003	Neutral

Table 10. *Perceived Benefits of the Respondents in Utilizing the Internet-Based Medical Advises*

	Mean	S.D.	V.I.
B1. The medical advises on the internet helps you in understanding your condition	3.93	0.733	Agree
B2. The medical advises on the internet actually helped in alleviating minor ailments	3.94	0.747	Agree
B3. The medical advises you found on the internet helped you to stop taking unnecessary medications (e.g. using antibiotics for flu)	3.63	0.955	Agree
B4. When the condition and medications that you have searched looked serious and severe, it gave you the push to visit the doctor for a consult	4.14	0.800	Agree
B5. The gathered medical information that you have searched helped you to understand the advice and medical plans that the doctor gave to you.	4.15	0.713	Agree
Overall	3.9596	0.58282	Agree

**CONFLICT OF INTEREST**

The authors declare no conflict of interest.

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