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Preference and Utilization of Online Drug Information Resources among Pharmacists in Selected Hospitals in Manila, Muntinlupa, and Quezon City, Philippines

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Introduction

According to ASHP Guidelines on the Pharmacist's Role in Providing Drug Information, the provision of drug information (DI) is among the fundamental professional responsibilities of all pharmacists.[4] Nowadays, there are many sources where drug information is available. Law[8] stated that drug information is not limited to verbal communication by a pharmacist to patient, but can also be retrieved through electronic devices and resources. Also, online drug information has become abundant recently due to technological advancement. They provide broad information on pharmacology, efficacy, safety and other topics related to drug properties and therapeutic use.[11] Compared to more traditional drug information sources, they present unquestionable advantages, such as, ease of access due to online availability and user-friendly platforms, and frequent content updates.[6] However, there is so much information available on medicines that it can be hard to identify accurate, current, unbiased and evidence-based resources.[7] The pharmacist must come up with a decision based upon availability, personal preference, source reliability, and the level of detail needed to provide a response. Proper preference and discretion in the procurement of health-related data using pharmacy online resources are needed.

The study aims to determine the preference and utilization of online drug information resources of hospital pharmacists within Manila, Muntinlupa, and Quezon City and to assess the knowledge of hospital pharmacists in searching for drug information from online resources.

Methods

A quantitative, cross sectional research method was utilized in the conduct of this study. A survey form was used to collect information.

A. Selection of Subjects and Study Site

The participants who were included in this research were licensed pharmacists, currently practicing in the hospital setting. The respondents chosen came from Level III General Hospitals of both government and private ownership within Manila, Muntinlupa, and Quezon City, Philippines. Purposive sampling was used to select the respondents for the study. The target number of participants in the study was at least 100 hospital pharmacists.

B. Data Measure

The survey questionnaire made use of open-ended questions that assessed the participants' knowledge on relevant drug information resources. Completion of this form was voluntary and strictly confidential. Only approved members of the research team were allowed access to the data.

C. Data Gathering Procedure

Upon the approval of the Ethics Review Committee, the survey tool and the informed consent form were distributed to all licensed hospital pharmacists selected as respondents. Once properly accomplished, the forms were collected by the researchers, evaluated and tabulated with corresponding equivalent points.

D. Ethical Consideration

Ethical approval for the study was submitted to the Faculty of Pharmacy Ethics Research Committee before the study was conducted. Informed consent forms were explained to each participant and appropriate permissions were obtained for usage of the given data.

E. Mode of Analysis

Frequency analysis was one of the quantitative methods used in this study. In this method, the measures of central tendency, particularly the mean was calculated. This was used to analyze the demographic characteristics of the respondents, their utilization and knowledge on drug information resources. Pearson correlation coefficient was computed to identify if age and length of working experience are associated with the knowledge of hospital pharmacist in searching for drug information through online sources. To test the effect of gender on the knowledge of hospital pharmacist in searching for drug information through online sources, independent-samples t-test or independent t-test was used. For the effect of tertiary education and hospital, one-way ANOVA was utilized. These analyses were administered using Statistical Package for the Social Sciences (SPSS), a Windows based program that can be used to perform data entry and analysis and to create tables and graphs.

Results and Discussion

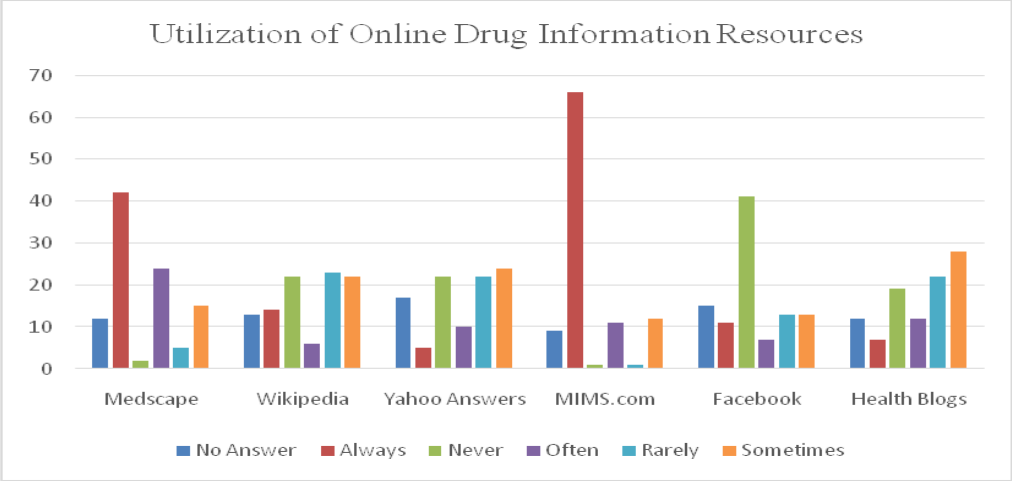

Figure 1. Utilization of Online Drug Information Resources among Pharmacists in Selected Hospitals within Manila, Muntinlupa, and Quezon City

For the online drug information resources, pharmacists in selected hospitals in Manila, Muntinlupa, and Quezon City always use MIMs.com as their preferred reference, followed by Medscape and WebMD. On the other hand, Global RPH, Mayo Clinic, and other health blogs were sometimes visited. Wikipedia, Yahoo answers, and Facebook were never or rarely used.

Many drug information requests are being received by pharmacists. The quality of information gathered may be limited when the pharmacist selects only the easiest and most familiar sources of information.[12] The use of smartphones, tablets, and internet resources has changed the strategies on how information is retrieved, but not the process of providing drug information. The provision of drug information continually expands into new areas innovation, thus affecting selection of resources. Drug information gathered from online sources may be used for development of therapeutic guidelines, medication selection and use[10] thus, obtaining a high quality of online information is essential.

The test administered was composed of 2 parts: Drug information inquiry type and case analysis. 10 points was the maximum number of score that can be attained in the drug information inquiry type while 30 points was the maximum number of score that can be attained in the case analysis. The maximum sum was 40 points overall. The measure of the scores was designed in accord to the tests only answered by the respondents.[13]

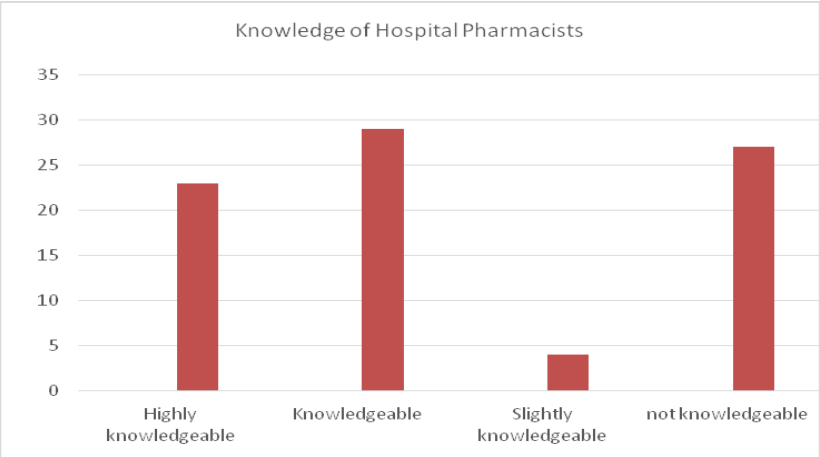

Figure 2. Knowledge in Searching for Drug Information among Pharmacists in Selected Hospitals within Manila, Muntinlupa and Quezon City, Philippines

The knowledge of hospital pharmacists using drug information resources were determined from the scores for the drug information inquiry type and case analysis and categorized as Highly knowledgeable for scores between 26 to 40, Knowledgeable between 16 to 25, Slightly knowledgeable between 11 to 15, and Not knowledgeable for scores below 10.[2] 29 hospital pharmacists were deemed knowledgeable, getting the majority of the respondents. On the other hand, 23, 4 and 27 pharmacists were deemed highly knowledgeable, 4 were slightly knowledgeable and not knowledgeable respectively.

Online drug information is readily available on the internet, hosted by both private and public entities. Knowledge regarding online resources may potentially expedite the information gathering and decision-making process which leads to improve patient care.[5] The electronic resources commonly used includes were Medscape and Wikipedia.[3] Wikipedia is an online encyclopedia which has 4,704,035 articles in English and is open to anyone to edit the articles on any topic. A study in the International Journal of Pharmacy Education & Practice found that the majority of respondents regarded Wikis to be useful for knowledge consolidation and improving interaction with their peers.[9] Wikipedia's scope is narrower, less complete, and has more omission errors than Medscape. Wikipedia may be useful but it is not authoritative and should only be used as a supplemental source of drug information. Other recognized open-access pharmaceutical websites include, PubMed which is a free online search engine of the MEDLINE database that contains over 24-million citations of health land biomedical literature.[1]

Conclusion

One hundred hospital pharmacists around Manila City, Muntinlupa, and Quezon City in the Philippines were chosen to answer the questionnaire that contains five different parts. These parts assessed their knowledge and determined their utilization of online drug information resources. Also, these parts identified the factors affecting the knowledge of hospital pharmacists in answering drug-related questions or problems in using online drug information resources.

In the preference and utilization of online and printed drug information resources, data showed that hospital pharmacists prefer the use of MIMs.com, Medscape, and WebMD as online drug information resources. Mayoclinic.org were also often used and Global RPh and Healthblogs are sometimes visited.

For the assessment of knowledge of the hospital pharmacists, drug information inquiry and three case analyses were answered in these parts. Answers were given corresponding scores and the most common online resources used in answering the case analyses were Drugs.com and Medscape, because of its easy access and reliability. Cross-referencing and comparisons with other journals were found necessary by the pharmacists to decide and assess on what online drug information resources were to be used in finding the best answer.

29 hospital pharmacists were deemed knowledgeable, getting the majority of the respondents. On the other hand, 23 pharmacists were deemed highly knowledgeable, 4 pharmacists were slightly knowledgeable and 27 were not knowledgeable. This concludes that pharmacists were knowledgeable enough to ascertain

the most efficient and appropriate online drug information resources. The pharmacists were knowledgeable in utilizing the reliable online drug information resources and with an average score of 17.57, and they were knowledgeable enough as to what type of drug queries these sources are best used.

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