



(RESEARCH ARTICLE)



Impact of direct-to-consumer pharmaceutical advertisement on the buying behavior of over-the-counter drugs in Cabanatuan city, Nueva Ecija

Antonino K.C.T, Arena R.M, Baroña G.E, Cura C.U, David T.K.G *, Dela Cruz A.N.O, De Vera R.E, Llanes C.A.S, Lu J.E.G and Tan A.C.L

Bachelor of Science in Pharmacy, School of Pharmacy, Centro Escolar University, Manila, Philippines.

GSC Biological and Pharmaceutical Sciences, 2022, 20(02), 196–205

Publication history: Received on 26 June 2022; revised on 16 August 2022; accepted on 18 August 2022

Article DOI: <https://doi.org/10.30574/gscbps.2022.20.2.0310>

Abstract

Direct-to-consumer pharmaceutical advertisements have slowly made its way as the main medium of endorsements for over-the-counter drugs in the Philippines. Over the years, the consumer's level of understanding regarding over-the-counter drugs and self-medication possesses a gap that has caused misuse and abuse of over-the-counter drugs. This study was designed to determine the impact of direct-to-consumer pharmaceutical advertisement on the buying behavior of consumers on over-the-counter drugs within Cabanatuan City, Nueva Ecija. An analytical-observational quantitative study will be conducted using a self-made questionnaire on a sample of 384 individuals selected using a non-probability purposive sampling design. Statistical treatments are addressed using descriptive statistics with frequency and percentage distributions to ascertain the respondents' sociodemographic characteristics. The second objective addressed uses weighted mean and standard deviation to ascertain the consumer's level of understanding regarding over-the-counter drugs. The correlation will be employed using Pearson's Correlation. The chi-square test will be utilized to determine any associations between the underlying causes of OTC medication misuse and abuse and the utilization of DTCA in OTC drug advertising

Keywords: Pharmaceutical Advertisements; Direct-to-consumer advertisements; Direct-to-consumer Pharmaceutical advertisements; Over-the-counter drugs; Buying behavior

1. Introduction

Pharmaceutical advertising has become increasingly prevalent in recent years since advertising is a tremendous force in today's world and is playing an integral part in influencing people's attitudes and behaviors. With the advancement of technology, pharmaceutical businesses have begun venturing into different direct-to-consumer advertisement (DTCA) methods to promote drugs, such as electronic and conventional DTCA. Direct-to-consumer advertising of pharmaceutical products has grown exponentially over the following decade, allowing for greater access to drug and health-related information [1].

DTCA refers to any presentation, dissemination, or promotion of information about medications by pharmaceutical companies directly to the public or consumers. Pharmaceutical companies have increased their budgets for medical drug advertising as it significantly reflects on their increasing sales. However, this deemed beneficial information has the potential to mislead consumers. DTCA could result in the medicalization of minor conditions and even the overuse and misuse of pharmaceuticals.

Therefore, several rules and regulations are implemented to govern pharmaceutical advertisements. It includes sections of Republic Act 9711, also known as the Food and Drug Administration Act ("FDA Act"), which regulates the

* Corresponding author: David T.K.G

Bachelor of Science in Pharmacy, School of Pharmacy, Centro Escolar University, Manila, Philippines.

manufacture, importation, distribution, sale, marketing, promotion, and advertisement of medicines or drugs, in the Philippines. Additionally, the advertising of consumer goods is enforced by Republic Act No. 7394 or the Consumer Act of the Philippines ("Consumer Act"), which safeguards the consumers' interests by promoting public health and safety measures and prohibiting deceptive and unfair business practices. Moreover, according to an act regulating and modernizing the practice of pharmacy in the Philippines, repealing for Republic Act of 5921, commonly referred to as the "Pharmacy Law," a pharmacist plays a vital role in delivering high-quality health care services by providing safe, effective, and high-quality pharmaceutical goods, pharmaceutical care, drug information, patient medication counseling, and health promotion, among other things.

Nowadays, consumers' buying preferences decide what should be manufactured, in what quantity, and the quality of the product. People have been using medicines in different forms to keep them healthy and safe from harmful diseases for ages. Nevertheless, these days, the use of these medicines has undoubtedly changed into misuse [2].

Medications are categorized as prescription drugs or non-prescription drugs. Prescription drugs are dispensed with a prescription from a licensed medical practitioner. On the other hand, non-prescription drugs, often known as over-the-counter (OTC) drugs, are those which consumers can obtain without a prescription. This study mainly focuses on OTC medications, which have different categories with multiple alternative brands, including antacids, and painkillers which the public may use for self-medication. People prefer OTC over prescription medicines for a multitude of reasons, including to cut cost, to save time and effort of a doctor's appointments, easy and immediate availability, and appropriateness because they are only experiencing a minor complaint and are afraid of serious illness [3][4].

This research aims to fill the gaps of previous studies by developing a conceptual framework to determine the relationship between advertising policies, OTC medications, and consumers' buying behavior. Rules and provisions establish the limitations of pharmaceutical advertising, which impact the consumers' buying behavior. The correlation between their socio-demographic profile and their level of understanding of drugs and self-medication will manifest in their buying behavior. It incites awareness about the importance of having accurate and complete information on advertised drugs and emphasizes the difference between pharmacist-assistance medications and OTC drugs. Hence, compared to previous researches in the same field, this research would be more specific on the top brands of OTC and pharmacist-assistance medications in the Philippines.

2. Methodology

2.1. Method of the Research Used

Researchers will use a quantitative research approach to examine phenomena through collecting quantifiable data and performing statistical, mathematical, or computational techniques [5]. A quantitative study determines the relationship between variables, such as an independent variable and a dependent or outcome variable [6]. The findings will be interpreted to establish the relationship and interaction between the given variables.

2.2. Research Design

This study is a quantitative non-experimental analytical-observational design. The researchers utilize an online survey to collect the dependent variable (customer buying behavior) and independent variables (drug advertising to consumers, socio-demographic profile) for each subject.

The study aims to determine the relationship between customer buying behavior and direct-to-consumer advertising. In a study by (Ranganathan et al.,2019), in analytical observational studies, researchers look for a relationship between the exposure(s) and the result (s). An observational study is which individuals are observed or certain outcomes are measured. This is supported by (Howick, 2018) an analytical study aims to quantify the link between two variables, i.e., the impact of an exposure or intervention on a result.

2.3. Respondents of the Study

The respondents of the study will be drawn from the overall population of Cabanatuan city, Nueva Ecija. The researchers will select residents of Cabanatuan city who are at least 18 years old regardless of gender. They must also have an internet connection and an email address. Keeping these characteristics in mind will assist the researchers in selecting respondents for their study.

2.4. Number of Respondents and Sampling Technique

In this study, the computation of sample size was based on a priori power analysis [9], where the sample size is computed as a function of the required power level (13), the prespecified significance level, and (α). The population effect size is to be detected with probability (1-3). Thus, the maximum sample size is 232 with a medium effect size (0.30), with a statistical power of 0.95 (the maximum parameter) using an alpha level of 0.05.

Purposive sampling technique will be used in this study. The researchers will use this technique to ensure that each respondent will meet all the following requirements: (1) ages 18 and above, (2) lives in Cabanatuan city, Nueva Ecija, Philippines, (3) with existing email address, (4) has a moderately fast to a high-speed internet connection, (5) who has encountered DTCPA, (6) who uses over-the-counter drugs.

2.5. Survey Instrument

The researchers prepared a research instrument with an adaptation of questions to the following studies: (Helal et al. 2017), (Al Haddad et al. 2013), and (Ghia et al. 2014). Following this, the researchers kept the guidelines implemented by the World Health Organization (WHO), Centers for Disease Control and Prevention (CDC), and Department of Health (DOH) into consideration in formulating the questionnaire.

The study will divide the research instrument into four parts. The first part is the sociodemographic profile of the respondents. The second, third and fourth parts are the Influence Level of Pharmaceutical Advertisements on Consumers, The Relationship of DTCPA to the buying behavior of consumers on OTC drugs, and the relationship between a consumer's sociodemographic profile and their buying behavior. This portion will assess the impact of direct-to-consumer pharmaceutical advertisements on the buying behavior of consumers.

The researchers will draft the questionnaire in English. Furthermore, the researchers will provide an electronic consent form to the respondents to assure confidentiality and that the information they provide will only be used for this study.

The researchers will ensure that the respondents' responses are kept anonymous and that any information acquired will be strictly for research purposes. Survey was designed using Google Forms since paper-based study would be impossible due to the current pandemic.

2.6. Collection of Data

The researchers will utilize social networking sites in data collection by posting on different social media platforms. The researchers plan to hold a raffle to award 500 pesos to one (1) randomly selected respondent. Google forms will be used which were written in English and with specific terms translated into Filipino. All of the data will be used strictly for the purpose of conducting research. The results will then be reviewed and interpreted by the researchers.

2.7. Statistical Treatment of Data

The researchers will apply statistical treatment to the raw data collected through the online survey using Google Forms. It will verify the accuracy and transparency of the process by determining the respondents' percentage, mean, and standard deviation.

SPSS version 27.0 will be used to sort and code the survey data to conduct the analysis. The first objective will be addressed using descriptive statistics with frequency and percentage distributions to ascertain the respondents' sociodemographic characteristics. Second objective handled using weighted mean and standard deviation to verify the consumer's understanding regarding over-the-counter drugs.

To establish the relationship between a consumer's socio-demographic profile and their purchasing behavior. The correlation will be employed using Pearson's Correlation. To determine any associations between the underlying causes of OTC medication misuse and abuse and the utilization of DTCPA in OTC drug advertising. The chi-square test will be utilized. $P < 0.05$ will be the priority level for statistical significance.

2.8. Ethical Considerations

The researchers will seek approval of the protocol from Centro Escolar University Research and Evaluation Office and Institutional Ethics and Review Board (IERB) before conducting the survey.

3. Results and discussion

The results of this research were gathered through respondents that were made aware of the contents of the research. They were given the information that the questionnaire solely relies on direct-to-consumer pharmaceutical advertisements within the television or commercials and social media platforms.

Table 1 Socio-demographic Profile of Respondents

Characteristic	Frequency (f) (n=384)	Percentage (%)
Sex		
Female	244	63.50
Male	140	36.50
Age		
18-29	303	78.90
30-39	20	5.20
40-49	26	6.80
50-59	26	6.80
60 and above	9	2.30
Educational Attainment		
Elementary	1	0.30
High School	100	26.00
College	259	67.40
Post Graduate	24	6.30
Average Monthly Income		
Less than Php 9,520	182	47.40
Php 9,521 to 19,040	59	15.36
Php 19,041 to 38,080	49	12.76
Php 38,081 to 66,640	36	9.38
Php 66,641 to 114,240	28	7.29
Php 114,241 to 190,400	30	7.81
Residence		
Within Cabanatuan City	100	100
Outside of Cabanatuan City	0	0.00

Individuals' capacity to learn knowledge is influenced by socio-demographic profiles, which are used to classify respondents into distinct sub-groups. According to Allen (2017), in a survey, demographic questions allow researchers to learn more about their respondents. These questions give context to the survey data obtained, allowing researchers to define their participants and evaluate their data more effectively. The sex of the respondents is divided into male and female. It is a way of examining how social norms and power structures influence the lives and possibilities of diverse groups of men and women [14]. According to Cleave (2020), age is an important factor to consider in surveys. This is a characteristic of age groupings in which individuals born around the same time and within the same generation have certain common traits and ways of thinking. Consumer education and awareness about labels influence buying and decision-making. Consumers' pre- and post-purchase selections are validated by their knowledge [16]. In purchasing

drugs and self medicating, the educational attainment of the respondents are concerned in order to assess the needed factors. The respondents' average monthly income was subdivided into several categories according to PUBLiCUS Asia (2020) to determine the extent to which they could purchase different brands of over-the-counter drugs. In addition, this is done to identify the underlying cause of self-medication.

Table 1 shows that out of 384 respondents, The majority of the respondents were young adults ages 19-29 years old (78.9%). 63.5% were female. More than half of the total population are college graduates, with a frequency of 259 (67.45%). The respondents' average monthly income was subdivided into several categories according to PUBLiCUS Asia (2020) to determine the extent to which they could purchase different brands of over-the-counter drugs. 47.4% has a monthly income of less than ₱9, 520. 100% of the respondents were residing in Cabanatuan City, Nueva Ecija. Consumer education and awareness about labels influence buying and decision-making. In addition, this is done to identify the underlying cause of self-medication and the correlation between the variables to determine the influence of direct-to-consumer pharmaceutical advertisements.

Table 2 The influence and perception of consumers to DTCPA

Characteristic	Frequency (f) (n=384)	Percentage (%)
Completeness of Information		
What medication to drink for the specific ailment	277	72.10
How to intake the medication	48	12.50
When to consume the medication	35	9.10
What is the appropriate dose of the medication	24	6.30

Table 2 shows that showcase the source of information are deemed to be the most effective (M = 3.88). The major topic of the questions is the importance and impacts of information distribution through advertising in terms of medications.

As stated in the first choice under the statements, advertising is an important resource for customers, making them more selective while purchasing drugs. It is also stated that it promotes social messages and lifestyles by displaying the ideal consumer's position and stimulating social action toward the purchase of that drug [18]. It allows for the expression and validation of inner drives. Thus, rather than attempting to reinforce people's already dominating position as consumers, it is necessary to nurture and appreciate what is fantastic about promoting medical treatments.

Table 3 Effectiveness of the Advertising Medium

Statement	Effectivity					Std. Deviation	Weighted Mean	Verbal Interpretation
	5	4	3	2	1			
Advertisements show this level as a source of information for medications.	80	202	84	14	4	0.809	3.89	Good
The performance of advertisements in showing the information needed to know in taking medication.	65	192	92	24	11	0.916	3.72	Good
Performance of advertisements in terms of fast service in seeking information.	83	173	96	21	11	0.945	3.77	Good
Advertisement's level of trustworthiness than the internet.	59	169	120	28	8	0.901	3.63	Good
Total Mean Score							3.75	Good

*5-Excellent, 4-Good, 3-Average, 2-Poor, 1-Very Poor

Reliability of information is a reliable source and as a support for strong evidence. In this section, it is important to measure the quality of the research based on the evidence provided. Thus, rather than attempting to reinforce people's

already dominating position as consumers, it is necessary to nurture and appreciate what is fantastic about promoting medical treatments.

Table 3 shows 46.40% of the respondents believed that advertisements encourage them to seek health information and the majority of the respondents also believe that advertisements influence them

to buy a specific brand (71.60%). In terms of advertisement as a basis in purchasing their medication, 50.80% of the respondents don't rely on their choice of drug or medication in the advertisement. Majority of the respondents said that the specified uses of medication should be included in the pharmaceutical advertisement (52.60%).

Table 4 Knowledge of Consumers on uses of medications

Characteristic	Frequency (f) (n=384)	Percentage (%)
Cough and Cold medication		
Bioflu	180	46.88
Amoxicillin	24	6.25
Neozep	153	39.84
Tuseran	27	9.90
Fever medication		
Bioflu and Biogesic (combined)	114	29.69
Biogesic	242	63.02
Alaxan FR	6	1.56
Temptra	22	5.73
Headache medication		
Saridon	14	3.65
Dolfenal 500mg	56	14.58
Advil	65	16.93
Biogesic	249	64.84
Stomachache medication		
Kremil S	206	53.65
Maalox	31	8.07
Gaviscon	111	28.91
Omeprazole (capsule)	36	9.38
Muscle Pain medication		
Medicol Advance 400	61	15.89
Advil	124	32.29
Skelan 550 mg	40	10.42
Alaxan FR	159	40.41

The major topic of the questions is the importance and impacts of information distribution through advertising in terms of medications. As stated in the first choice under the statements, advertising is an important resource for customers, making them more selective while purchasing drugs.

It is also stated that it promotes social messages and lifestyles by displaying the ideal consumer's position and stimulating social action toward the purchase of that drug [18]. According to the second point, customers may feel compelled to stop consulting their doctors and instead rely only on these advertisements for medication. In the third portion, it mostly raises public knowledge of an illness, which enhances your likelihood of seeing a doctor immediately, increasing your chances of receiving the prescription recommended (Holmer, 1999). Finally, it allows for the expression and validation of inner drives in terms of promoting medical services, which in this case is selling medications.

The most used medication by the respondents to self-medication for Cough and Cold were Bioflu (47%), 63% chose Biogesic for Fever, 65% chose Biogesic for Headache, 54% chose Kremil S for Stomach Ache, and 41% chose Alaxan FR for Muscle Pain. 72.10% of the respondents were also looking for what medication to drink for a specific disease when watching advertisements. Moreover, 60.90% of the respondents take medicines that are not prescribed by a doctor which can lead to the misuse and abuse of certain over-the-counter medication due to its availability.

In developing countries where there is poor economic status, there is a great tendency for people to self-medicate [19]. People have less access or have more unfiltered knowledge regarding risks associated with self-medication. This can be supported by the data from above where a number of respondents chose error medications. Proper awareness and education regarding the self-medication and strictness regarding pharmaceutical advertising must be overseen in order for this problem to be handled better. Improved knowledge and understanding about self-medication may result in rationale use and thus limit emerging microbial resistance issues which can and maybe be seen from the respondents that chose amoxicillin, which is an antibiotic, for their cough and cold ailment. This data is served in order to have better dispensing and educating modes through proper education, strict regulatory and managerial strategies to make health care easily accessible and cost-effective.

Table 5 Relationship between direct-to-consumer pharmaceutical advertising and the buying behavior of consumers on over the counter drugs

Characteristic	Frequency (f) (n=384)	Percentage (%)
Effect of Advertisements	Frequency (f)	Percentage (%)
Advertisements motivate me to seek health information	178	46.40
Drug seen in advertisements are perceived to be highly effective	112	29.20
I see drugs marketed to be entirely safe	88	22.90
I increase the use of drugs because of advertisements	6	1.50

Table 5 shows 60.90% of the respondents take medicines that are not prescribed by a doctor which can lead to the misuse and abuse of certain over-the-counter medication due to its availability.

This data's relevancy highlights the most interesting type of info in pharmaceutical ads. Furthermore, it is intended to offer patients with scientifically correct information such that they have been better educated about their medical and treatment alternatives. It is also in conjunction with improving provider expertise, promoting rational prescription, and reducing pharmaceutical mistakes.

Consumers should be thorough in their analysis of a particular advertising before purchasing a drug that they saw in a commercial, according to Ian Linton. The amount of awareness should be measured since it might be another source of future differences, especially when it comes to a living being's health and lifestyle. Knowing when and what to believe in is critical, given that today's society is full of untrustworthy information circulations that may be damaging to consumers and medical health patients alike. Despite the fact that advertising is crucial because it may fuel business growth, customers should be able to distinguish between real and fraudulent promises.

Table 6 exhibits and summarizes the expressed data of the respondents regarding the type of information needed to be shown in pharmaceutical advertisements. Overall, it is seen that the majority of the respondents reiterated that the specified uses of medication (e.g. a specific drug and/or medication for colds) should be included in pharmaceutical advertisements. This is composed of 52.60 percent or 202 respondents. Aside from this, the middle portions of values

which are the 21.9% of the respondents answered that side effects should also be shown in particular advertisements pertaining to drugs and medicines, mainly because it helps a consumer or a buyer to be aware of the possible outcome of the medicine, thus this also intakes that these particular initiatives may push them to rely on these advertisements more, rather than efficiently asking for a doctor's prescription.

Table 6 Relationship between a consumer's socio demographic profile and their buying behavior

Characteristic	Frequency (f) (n=384)	Percentage (%)
Advertisement as a Basis in Purchasing Drugs and/or Medication		
Yes	189	49.20
No	195	50.80
Most Interest Type of Information in Pharmaceutical Advertisements		
Cases that the advertised medication is used to treat (Example: a single drug can be used for cold, cough, and fever altogether)	202	52.60
Side effects were shown	84	21.90
Ease of use	69	18.00
Cost	29	7.60

Table 7 Level of Awareness and Demographic Profile of the Respondents

Dependent Variable	Buying Behavior	
	Chi-Square	P
Gender	0.09	0.767
Age Group	9.99	0.041**
Educational Attainment	1.04	0.791
Monthly Income	23.4	0.01*

Table 7 shows the association between the respondents' demographic profile and their purchasing behavior. Buying behavior was revealed to be substantially connected to age group ($\chi^2(4) = 9.99, p < 0.05$) and average monthly income ($\chi^2(5) = 23.4, p < 0.01$) using the chi-square test.

The table states that age and monthly income are factors that affects a consumer's buying behavior as opposed to gender and educational attainment where it did not show relevance. The majority of the respondents of which are at the age range of 18-29 years old responded that advertisements tend to influence them of choosing a certain type of brand. This result is also seen with the profile of the respondents on their monthly income. The majority of the responses of consumers that earn less than Php 9, 520 shows that advertisements influence them to pick a certain brand. Young individuals, low income earners, males, the less-educated, were less likely to use health-promoting goods and services than others [21]. They can be perceived to not seek medical help or consultation and solely rely on advertisements to determine what medications and brands to buy for their ailment.

4. Conclusion

The analysis substantiated that there was a statistical relationship between the impact of direct-to-consumer pharmaceutical advertisements on consumers' buying behavior on over-the-counter drugs showing there was a high correlation between the variables. The study will benefit studies and can serve as a data to determine the underlying variables to the growing concern of medication resistance as well as medicine-induced diseases arised from buying behaviors consumers are presenting.

Compliance with ethical standards

Acknowledgments

This research work would not attain its full - pledged success without the aid of the following persons, who kept acquainted, helped and guided us in the preparation and completion of this work. As we strive to study this together, we have honor and our deepest and greatest gratitude to them. Allow us to express and extend our endless appreciation to:

- Our beloved family, most especially our parents, for the full support, concern, love and for providing us with the financial needs.
- To Dr. Cecilia D. Santiago and Mrs. Mylene S. And al , our research advisers, for the encouragement, suggestions, support and all the help they had given to us to finish this undergraduate research paper.
- To all the members of this research group, who played such important roles along the journey, as we mutually engaged in the challenges we faced and in providing encouragement to each other at times when it seemed impossible to continue.

Disclosure of conflict of interest

No conflict of interest.

Statement of ethical approval

The study protocol was approved on Apr 22, 2022 from the Institutional Ethics Review Board (IERB) of Centro Escolar University with the granted reference number of CEU_IERB_2022-0405_SOP.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

References

- [1] Ventola CL. Direct-to-consumer pharmaceutical advertising: Therapeutic or toxic? *P T*. 2011;36(10):669–84.
- [2] Iyer P, McFarland R, La Caze A. Expectations and responsibilities regarding the sale of complementary medicines in pharmacies: perspectives of consumers and pharmacy support staff. *Int J Pharm Pract* [Internet]. 2017;25(4):292–300. Available from: <http://dx.doi.org/10.1111/ijpp.12315>
- [3] Yousef A-MM, Al-Bakri AG, Bustanji Y, Wazaify M. Self-medication patterns in Amman, Jordan. *Pharm World Sci* [Internet]. 2008;30(1):24–30. Available from: <http://dx.doi.org/10.1007/s11096-007-9135-x>
- [4] Habash R, Al-Dmour H. Factors influencing the intention to buy over-the-counter medicines: empirical study. *Int J Pharm Healthc Mark* [Internet]. 2020;14(2):305–23. Available from: <http://dx.doi.org/10.1108/ijphm-07-2019-0050>
- [5] Lestari AP. An analysis of collocation used by the main character in the Hidden Figures movie. University of Muhammadiyah Malang; 2019.
- [6] Research guides: Organizing your social sciences research paper: Quantitative methods. 2009; Available from: <https://libguides.usc.edu/writingguide/quantitative>
- [7] Ranganathan P, Aggarwal R. Study designs: Part 3 - Analytical observational studies. *Perspect Clin Res*. 2019;10(2):91-94. doi:10.4103/picr.PICR_35_19
- [8] Study designs [Internet]. Ox.ac.uk. 2020 [cited 2022 Aug 26]. Available from: <https://www.cebm.ox.ac.uk/resources/ebm-tools/study-designs>
- [9] Lachenbruch PA, Cohen J. Statistical Power Analysis for the Behavioral Sciences (2nd ed.). *J Am Stat Assoc* [Internet]. 1989;84(408):1096. Available from: <http://dx.doi.org/10.2307/2290095>
- [10] Helal RM, Abou-ElWafa HS. Self-medication in university students from the city of Mansoura, Egypt. *J Environ Public Health* [Internet]. 2017;2017:9145193. Available from: <https://www.hindawi.com/journals/jep/2017/9145193/>

- [11] Al-Haddad MS, Hamam F, Al-Shakhshir SM. General public knowledge, perceptions and practice towards pharmaceutical drug advertisements in the Western region of KSA. *Saudi Pharm J* [Internet]. 2014;22(2):119–26. Available from: <http://dx.doi.org/10.1016/j.jsps.2013.03.002>
- [12] Ghia C, Jha R, Rambhad G. Assessment of the impact of pharmaceutical advertisements on patient's drug consuming behavior: A questionnaire based survey. *J Young Pharm* [Internet]. 2014;6(2):58–63. Available from: <http://dx.doi.org/10.5530/jyp.2014.2.9>
- [13] Survey: Demographic Questions. In: *The SAGE Encyclopedia of Communication Research Methods*. 2455 Teller Road, Thousand Oaks California 91320: SAGE Publications, Inc; 2017.
- [14] Kangas, A., Haider, H., and Fraser, E. Gender - GSDRC [Internet]. Gsdrc.org. 2014. Available from: <https://gsdrc.org/wp-content/uploads/2015/07/gender.pdf>
- [15] Cleave P. Why ask for survey respondents' age? [Internet]. SmartSurvey. 2020. Available from: <https://www.smartsurvey.co.uk/blog/why-ask-for-survey-respondents-age>
- [16] van der Merwe D, Bosman M, Ellis S, van der Colff N, Warnock M. Consumers' knowledge of textile label information: an exploratory investigation: Consumers' knowledge of textile labels. *Int J Consum Stud* [Internet]. 2014;38(1):18–24. Available from: <http://dx.doi.org/10.1111/ijcs.12053>
- [17] NCR COVID-19 Survey 2: Family conditions deteriorating under ECQ [Internet]. PUBLiCUS Asia, Inc. 2020. Available from: <https://www.publicusasia.com/ncr-covid-19-survey-2-family-conditions-deteriorating-under-ecq/>
- [18] Pollay RW, Mittal B. Here's the beef: Factors, determinants, and segments in consumer criticism of advertising. *J Mark* [Internet]. 1993;57(3):99–114. Available from: <http://dx.doi.org/10.1177/002224299305700307>
- [19] Bennadi D. Self-medication: A current challenge. *J Basic Clin Pharm* [Internet]. 2013;5(1):19–23. Available from: <http://dx.doi.org/10.4103/0976-0105.128253>
- [20] Linton I. How Does Advertising Affect Product Awareness & Use? [Internet]. Small Business - Chron.com. Chron.com; 2011. Available from: <https://smallbusiness.chron.com/advertising-affect-product-awareness-use-36750.html>
- [21] Cheah YK. Factors influencing consumer purchase decisions for health-promoting goods and services in malaysia. *Malays J Med Sci*. 2014;21(6):36–44.