

The Effect of Advertisements and the “No Approved Therapeutic Claim” Label on the Knowledge, Perception, and Use of Herbal Supplements

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Abstract— *Introduction:* Herbal supplements are used for their perceived health benefits. However, users tend to assume that they are all safe due to their pure natural components, hence leading to possible misuse. Advertisements of herbal supplements include the phrase “no approved therapeutic claim” which consumers often fail to understand, thus influencing their supplement use. *Objective:* This study aimed to discuss the effect of advertisements and the “no approved therapeutic claim” label on the knowledge, perception, and use of herbal supplements. *Methodology:* A survey was conducted among middle aged adults (35-55 years old). The perception and knowledge of the respondents on the effect of advertisements and ‘no therapeutic claim’ label of herbal supplements were measured using a five-point Likert scale. Wilcoxon signed ranks test was used to determine if there is a significant difference wherein $p < 0.05$. *Results:* A total of 273 respondents were obtained. Majority defined herbal supplements as products containing plants used to prevent or treat certain conditions. Broadcasted advertisements were identified as the most common media from which information on herbal supplements are received (49%). Through these media, consumers perceive herbal supplements as safe and effective, although no significant difference was found between the consumers’ view on the efficacy of herbal supplements when compared to conventional medicine. The herbal supplements with the “no approved therapeutic claim” label were defined as products that are not yet proven effective in treating conditions. Respondents agreed on the significance of the claim label on herbal supplements (76%) but are neutral in agreeing that they are likely influenced to use herbal supplements because of the advertisements and the claim label. *Conclusion:* Majority of the respondents are aware of the correct definition of herbal supplements and the meaning of the “no approved therapeutic claim” label. The greatest factors for awareness regarding herbal supplements were television and radio commercials. The advertisements and the “no approved therapeutic claim” label were deemed significant, and the participants were more likely to agree that herbal supplements are effective and better than medicine due to the advertisements.

Index Terms— advertisements, herbal supplements, knowledge, “no approved therapeutic claim” label, perception

1 INTRODUCTION

Herbal supplements have been around for centuries. According to Weinrauch (2005), herbal supplements are made from natural plants that are used to enhance conventional medicines. It is commonly used to treat certain diseases such as high blood, joint pain, high cholesterol and asthma. The Food and Drug Administration (FDA) does not consider herbal supplements as drugs so they are not regulated. Furthermore, herbal remedies consist of portions of plants or unpurified plant extracts containing several constituents which are often generally believed to work together synergistically (Ekor, 2013).

In the Philippines alone, almost all Filipino households use herbal supplements for a variety of reasons including illness

prevention, immunity improvement, energy boost, performance improvement, correct proper diet, and for perceived short-term health benefits (O’Dea, 2002). However, Filipinos tend to be unaware of their definite use and possible harmful effects. They believe that it is almost purely safe since it is all-natural. Thus, possible misuse and overdose of supplements may occur. Additional perceived benefits and reasons for the use of herbal supplements may include greater interest in alternative drugs, belief that herbal supplements are better than manufactured drugs, belief of misdiagnosis therefore adhering to self-medication, energy boost, increased immunity, and improved diet (Ekor, 2013; Bandaranayake, 2006).

In a circular mandated by the Bureau of Foods and Drugs (Circular No. 02, s. 1999), the caption “No Approved Therapeutic Claim” was placed on the labels of all food supplements to ensure any misconception of the consumer that the effectiveness of the product is verified. In 2010, the Department of Health (DOH) together with the FDA set forth directives specifically to change the statement “No Approved Therapeutic Claim” stating that it is not a drug and not to be used to cure any kind of disease, thus to promote proper infor-

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mation and protect consumer's health. Moreover, AO No. 2011-008 was released by the FDA which stated that these products sold in the market should strictly carry on their labels the phrase "Mahalagang paalala: Ang (name of product) ay hindi gamot at hindi dapat gamiting panggamot sa anumang uri ng sakit" ("Important reminder: This is not a medicinal drug and should not be used to treat the symptoms of any disease").

Advertisements have also been a factor in influencing people's perception on medication use. Advertisements such as broadcast media, social media, and print advertisements about herbal supplements usually bear the phrase "no approved therapeutic claim" at the end, which people fail to see or understand its meaning. According to Ayimey, *et al.* (2013), majority of the consumers of herbal products have been influenced by advertisements (e.g. radio) as it serves as the source of information pertaining to the supplement. Moreover, there are varying perceptions about herbal medicines based on these advertisements and the "No approved therapeutic claim" label.

This study aimed to discuss the effect of the "no approved therapeutic claim" label and advertisements on the knowledge, perception, and use of herbal supplements. Moreover, the different interpretations and perceptions regarding the label were determined along with the different kinds of advertisements affecting medication use. Additionally, this paper sought to impart knowledge about herbal supplements and raise awareness on the benefits and importance of knowing the definition behind the "no approved therapeutic claim" label.

2 METHODOLOGY

An observational cross-sectional research design was used in this study.

2.1 Participants of the Study

The inclusion criteria of the study were middle aged adults (35-55 years old) of both genders either residing in an urban or rural area. The study encompassed unemployed, employed, and self-employed respondents earning less than PhP 5,000.00 to more than PhP 20,000.00. The exclusion criteria were those who are less than 35 years old and above 55 years old. The respondents were chosen via conventional sampling.

2.2 Materials and Methods

A survey questionnaire was utilized for data gathering and was conducted through both online and actual acquisition of data in one week. The questionnaire was subdivided into four parts: the demographics of the respondents (age, gender, estimated monthly income, educational attainment, employment status and type of community); the knowledge and perception in the use of herbal supplements measured based on the effect of advertisements; and the 'no approved therapeutic claim' label (safety, efficacy, equivalence to medicine, comparison to conventional medicine, and impact of advertisements and 'no therapeutic claim' label to its usage); and, their usage of herbal supplements (indication of the supplement, physician's recommendation, concomitant use of other medications, frequency, duration and desirable/undesirable effects of the supple-

ments).

2.3 Statistical Analysis of Data

The percentage frequencies of the following data were obtained: usage of herbal supplements, common medium of advertisement, definition of herbal supplements, reason for its use, familiarity of the label 'no approved therapeutic claim,' awareness to the presence of the label, relevance of the label and definition. The perception and knowledge of the respondents with regards to effect of advertisements and 'no therapeutic claim' label of herbal supplements were measured using the mean scores from the five-point Likert scale. The two mean scores were compared through Wilcoxon signed-ranks test to determine if there is a significant difference on the effect of advertisements and the 'no approved therapeutic claim' label on safety, efficacy, equivalence to conventional medicine, superiority to conventional medicines and to its usage. The results were interpreted with the use of the software program Statistical Package for the Social Sciences (SPSS) version 23. The statistical significance is determined with the value of $p < 0.05$.

3 RESULTS AND DISCUSSION

A total of 273 participants answered the survey questionnaire. The respondents hear and learn about herbal supplements mostly from broadcasted advertisements such as television and radio commercials (49%) (Table 1). Word of mouth from family members is the second most popular (29%) while the least is advertisements by healthcare professionals (6%). This finding confirms that television and radio commercials are still currently considered the fastest and most effective way to appeal to consumers. In line with the study of Cebrynski (2006), as cited by William *et al.* (2011), it was noted that product placement television shows can raise brand awareness by 20%.

Mode	Percent (%)
Broadcasted advertisements (television, radio)	40
Word of mouth (family, friends)	29
Online (internet, social media)	15
Print (brochures, leaflets, newspapers, magazines)	8
Healthcare professionals (doctors, nurses, pharmacists)	6
Others	2

Based on what the respondents learn from advertisements, herbal supplements are mostly defined as "products containing plants used to prevent or treat certain conditions," (60%) (Table 2). This is the most correct definition among the choices. Herbal supplements are also commonly defined as vitamins and minerals (24%) and as "proven safer and cheaper alternatives to conventional medicine" (12%), both of which are incorrect.

Table 2

Definition of Advertisements	
Definition	Percent (%)
Herbal supplements are products containing plants used to prevent or treat certain conditions	60
Herbal supplements are vitamins and minerals.	24
Herbal supplements are proven safer and cheaper alternatives to conventional medicine	12
Herbal supplements are wonder drugs, giving hope in critical circumstances	3

When asked about what they think is the most common reason herbal supplements are used, the top answers were to maintain a healthy diet (32%), receive additional nutrients (26%), and cure diseases (23%) (Table 3).

Table 3 Use of Herbal Supplements	
Use	Percent (%)
to maintain healthy diet	32
to receive additional nutrients	26
to cure diseases	23
to boost immunity	18

With the advertisements of herbal supplements as their basis, the respondents agree that herbal supplements are safe and effective. However, they have neutral opinion about herbal supplements being better than or equivalent to medicine. The respondents agree that advertisements matter in the use of herbal supplements (72%) but they neither agree nor disagree in being likely influenced to use herbal supplements because of advertisements.

Most of the respondents are familiar with the "no approved therapeutic claim" label (84%). The remaining respondents have no familiarity with the label (11%) and are not certain with its meaning (4%). Additionally, most are aware that herbal supplements bear the particular label (72%) and believe that it has a significant bearing on the use of herbal supplements (76%).

The respondents interpreted the "no approved therapeutic claim" on herbal supplements as products that are not yet proven effective in treating conditions (59%). This is the most correct answer among the other choices. Other respondents believed that the label means herbal supplements have no side effects (19%) and should be used at the consumer's own discretion (16%). There is a small number of respondents who believe the label signifies herbal supplements have no difference with drugs (5%) (Table 4).

Table 4 Meaning of the "No Approved Therapeutic Claim" Label	
Meaning	Percent (%)
Herbal supplements are not yet proven effective in treating conditions	59
Herbal supplements have no side effects	17
Herbal supplements should be used at consumer's own discretion	16
Herbal supplements have no difference with drugs	5

With the presence of the claim label and its implications as

their basis, the respondents agree that herbal supplements are safe. However, they have neutral opinion in herbal supplements being effective, better, and equivalent to medicines.

The respondents agree that the "no approved therapeutic claim" label is significant in the use of herbal supplements (76%) but they neither agree nor disagree that they are likely influenced to use herbal supplements because of the label.

Based on the outcome of the study, advertisements on herbal supplements and the bearing of the "no approved therapeutic claim" label provide consumers similar views regarding the safety of herbal supplements (Table 5).

Table 5 Comparison of the Effect of Advertisements and the "No Approved Therapeutic Claim" Label on the Knowledge, Perception and Use of Herbal Supplements		
	<i>p-value</i>	<i>Interpretation</i>
Safety	$p > 0.05$ ($p = 0.288$)	There is no significant difference on the perception of the safety of herbal supplements between advertisements and the "no approved therapeutic claim" label
Efficacy	$p < 0.05$ ($p = 0.001$)	There is a significant difference on the perception of the efficacy of herbal supplements between advertisements and the "no approved therapeutic claim" label
Equivalent to Medicine	$p > 0.05$ ($p = 0.193$)	There is no significant difference on the perception that herbal supplements are equivalent to medicine between advertisements and the "no approved therapeutic claim" label
Better than Medicine	$p < 0.05$ ($p = 0.008$)	There is a significant difference on the perception that herbal supplements are better than medicine between advertisements and the "no approved therapeutic claim" label
Use	$p > 0.05$ ($p = 0.346$)	There is no significant difference on the use of herbal supplements between advertisements and the "no approved therapeutic claim" label

On the context of whether an herbal supplement is effective or not, the impression consumers obtain from advertisements is different from that of the "no approved therapeutic claim" label. They are more likely to agree that herbal supplements are effective because of the advertisements than because of the claim label.

Both the label claim and the advertisements similarly affect the consumers' perception as to whether herbal supplements are equal to medicines. But with regards to having perceived that herbal supplements are better than medicines, consumers perceive differently based on the statement or information the advertisements and the label claim provide. Consumers are more likely to agree that herbal supplements are better than medicine because of advertisements.

Based on the results, it is shown that advertisements and the label claim provide similar impact on the consumers' use and consumption of herbal supplements.

4 CONCLUSION

Herbal supplements, according to consumer belief, are commonly defined as "products containing plants used to prevent

or treat certain conditions". The most common reasons for purchasing and using these products are mainly to maintain a healthy diet, receive additional nutrients, and cure diseases.

Broadcasted advertisements such as radio and television are the most common forms of media from which respondents gather information on the effects and uses of herbal supplements. Through these media, consumers perceive herbal supplements as safe and effective, although no significant difference can be made between the consumers' views on the efficacy of herbal supplements when compared to conventional medicine.

The "no approved therapeutic claim" label defined as "products that are not yet proven effective in treating conditions" likewise had an impact on consumer perception of herbal supplements as safe, and the label was also deemed significant by the respondents when using these products.

Upon the comparison of the effect of the advertisements and the "no approved therapeutic claim" label on the knowledge, perception and use of herbal supplements, the respondents had similar views regarding the products' safety, equality to medicines, and use, but they were more likely to agree that herbal supplements are effective and better than medicine due to the advertisements.

5 RECOMMENDATIONS

This research may serve as a basis for national guidelines on the proper labeling and definition of herbal supplements since there are still misconceptions regarding the safety and efficacy of these products. Moreover, pharmacists may initiate programs that would increase the awareness and knowledge of the public on the supplements and their proper use. Interdisciplinary approach would also be beneficial to encompass the needs of the patients that may be provided with the correct knowledge and use of the herbal supplements.

For future studies, the researchers recommend the conduction of more in-depth interviews to enhance validity or accuracy of results. More specific demographics can also be used to determine the effect of advertisements and the "no approved therapeutic claim" label relevant to the use of herbal supplement among various groups of people based on factors such as age, educational attainment and the like.

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