

Laypeople's Perception of the Uses of Herbal Medicine



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ABSTRACT

Herbal medicines are used worldwide mostly for treating different health-related problems and improving overall wellbeing since herbals are safer than conventional drug therapy. This study aimed to assess laypeople's perceptions of the uses of herbal medicine. Through a cross-sectional with an analytical component study design, 300 laypeople were conveniently involved from outpatient clinics at Samanoud Hospital affiliated with the Ministry of Health and Population. The researchers collected demographic and socio-economic characteristics and assessed the knowledge, self-reported practices, and attitudes of laypeople through four structured interview questionnaires and a structured interview scale. Results declare that 73.0% and 65.7% of laypeople had poor knowledge and improper self-practice levels, respectively, regarding the uses of herbal medicine. In addition, 94.3% of laypeople had a positive attitude level. The researchers conclude that the highest percentages of laypeople have poor knowledge and improper self-reported practices regarding the use of herbal medicine, while most of them have a positive attitude level. Finally, the researchers recommend conducting health education programs via different methods toward the use of herbal medicine to improve the knowledge and practices of laypeople and creating health educational materials toward herbal medicine appropriate to laypeople attending outpatient clinics.

Keywords: community health nursing, herbal medicine, laypeople, perception.

Introduction:

Complementary medicine (CAM) includes herbal medicine, acupuncture, chiropractic manipulation, meditation, homeopathy, and other approaches. Herbal medicines play a significant part in providing the population's primary healthcare needs (Elfaki, 2022).

Herbal medicine is the use of plant parts such as roots, leaves, flowers, bark, berries, and seeds to prevent and treat illnesses. Herbs are used to treat numerous acute and chronic illnesses, including serious conditions such as depression, inflammations of the prostate, cardiovascular diseases, and compromised immune systems (James, Taidy-Leigh, Bah, Kanu, Kangbai, & Sevalie, 2018).

The population relies on herbal medicines for their medical needs, representing 80%, to achieve their health goals. In developing nations, rural residents, as a consequence of a lack of access to modern medical care and poverty, are typically forced to use medicinal plants as a means of healing. Egypt, as one of the developing nations, has a similar demand for herbal remedies as other developing nations looking for substitutes for conventional medicine (World Health Organization [WHO], 2019).

The idea is that herbal medicine is mostly safe and free from risks since it comes from natural sources, leading to an increase in the use of herbal products and medicine worldwide. Indeed, otherwise, there are worries about the potential negative consequences of medicinal plants (El-Dahiyat et al., 2020).

Occasionally, herbal medicine causes many side effects because of frequent use, bad preparations, and excessive doses, such as renal failure, liver cirrhosis, and toxicity (Hasen & Hashim, 2021). Furthermore, healthcare professionals need to be aware of herbal medicine alongside conventional medicine to be aware of patients' patterns of treatment (Hilal, & Hilal, 2017).

Health perception (HP) means an individual's personal beliefs and statements regarding their health status. Although HP is a subjective term, it is a reliable indicator of a person's level of social, mental, and physical well-being. HP has an impact on people's health-seeking behaviors and health-related responsibilities (Souto, Ramires, Leite, Santos, & Santo, 2018).

In general, nurses have a positive attitude relating to herbal medicine, considering it to be embraced as a holistic approach to health.

Therefore, community health nurses have a pivotal role in equipping laypeople with basic knowledge about the benefits and side effects of herbal medicine (Nurses Association, 2018).

A layperson is someone who lacks expertise, training, or experience in a certain field. From this point, the current study contributes evidence to assess laypeople's knowledge, reported practice, and attitude toward the uses of herbal medicine to stand out from the existing state.

Aim of the Study

This study aimed to assess laypeople's perceptions of the uses of herbal medicine.

Research Questions

1. What is the level of laypeople's knowledge of the uses of herbal medicine?
2. What is the level of laypeople's self-reported practice toward the uses of herbal medicine?
3. What is laypeople's attitude toward the use of herbal medicine?

Method

Research Design

A cross-sectional, analytical component study design was utilized to accomplish this study.

Setting

This study was carried out at seven outpatient clinics at Samanoud Hospital affiliated with the Ministry of Health and Population, including medical, surgical, children, dermatology, dentists, physiotherapists, and rheumatologists.

Participants

Participants of the present study included laypeople under the following criteria: both genders, adults aged between 20 and 60 years old, suffered from chronic diseases such as diabetes and hypertension, were from different social classes, and consumed herbal medicine.

Sample Size and Technique

Calculating sample size for studying laypeople's perceptions toward uses of herbal medicine through clincalc.com sample size calculator software at α type 1 error 5% error (95.0% significance) and 20.0% b error (80% power of the study). The percentage of people practicing herbal medicine is 25.0% (Qazi Majaz & Molvi Khurshid, 2016). It is expected to be 33% in our community. The calculated sample size is 242 subjects; add 20.0% for better quality of collected data, so the field study sample was 300 laypeople, recruited conveniently.

Tools for Data Collection

The researchers collected data using four tools, adopting the second part of the first tool while developing the remaining tools after reviewing the related literature.

Tool I: Laypeople's demographics, and socio-economic

The researchers constructed this tool from two parts, as follows:

Part i. Laypeople's demographics structured interview questionnaire.

The researchers used this structured interview questionnaire to collect laypeople's demographic characteristics such as age, gender, residence, marital status, and level of education.

Part ii. Laypeople's socio-economic structured interview scale.

The researchers adopted it from Fahmy, and El-Sherbini's socio-economic scale in 1983, which was modified by El-Gilany, El-Wehady, and El-Wasify (2012). The researchers identified the socio-economic characteristics of lay people. This scale includes seven domains with a total score of 84. It classifies socioeconomic level into very low, low, middle, and high levels depending on the quartiles of the score calculated as the following:

- Very low socio-economic level (0-20)
- Low socio-economic level (21-41)
- Middle socio-economic level (42-62)
- High socio-economic level (63-84)

Tool (II): Laypeople's knowledge of the uses of herbal medicine was assessed through a structured interview questionnaire.

The researchers developed this structured interview questionnaire based on El-Dahiyat et al. (2020). The researchers assessed laypeople's knowledge about herbal medicine. The questionnaire was classified into 11 categories; all of these categories were composed of 56 closes.

Laypeople's knowledge scoring system. The researchers awarded zero for wrong and did not know responses and one mark for each correct response of 56 questions as follows: definition of herbal medicine (it includes 3 items), highly utilized herbal medicine (it includes 8 items), types of herbal medicine (it includes 5 items), forms of herbal medicine (it includes 6 items), causes of using herbal medicine (it includes 5 items), benefits of using herbal medicine (it includes 5 items), side effects of herbal medicine (it includes 7 items), precautions of using herbal medicine (it includes 5 items), precautions for storing herbal medicine (it includes 4 items), herbal medicine losing its value

by boiling (it includes 4 items), sources of knowledge about herbal medicine (it includes 4 items).

The total score of knowledge ranged from zero to 56 marks. According to the researchers' cut point, the knowledge level was categorized into three levels as follows:

- Poor =scores less than 50% of total scores (less than 28)
- Fair =scores 50% to less than 75% of total scores (28 to less than 42)
- Good =scores more than 75% of total scores (42 and more).

Tool III: Laypeople's self-reported practices toward uses of herbal medicine were assessed through a structured interview questionnaire. The researchers developed this structured interview questionnaire based on Jamal, Hatem, and Samih (2017) and El-Dahiyat et al. (2020). The researcher assessed laypeople's self-reported practices about herbal medicine. It consisted of 11 closed-ended questions.

Scoring system of laypeople's self-reported practices. The researchers awarded zero for the wrong and did not know response and one mark for each correct response as the following: the sources of purchased herbal medicine (it includes 4 items), indications of used herbal medicine (it includes 7 items), contraindications to not use herbal medicine (it includes 3 items), Types of used herbal medicine (it includes 7 items), The methods used to prepare herbal medicine (it includes 4 items), The methods used to store herbal medicine (it includes 4 items), the frequency of use of herbal medical in the last three months (it includes 4 items), the commonest time of using herbal medicine (it includes 4 items), methods of preparing the commonest herbal medicine for use (it includes 5 items), side effects of used herbal medicine (it includes 3 items) and precautions followed during the use of herbal medicine (it includes 3 items).

The total score of self-reported practices about herbal medicine ranged from zero to 48 marks. According to the researchers' cut point, the self-reported practices consisted of two categories:

- Improper scores = less than 50% of total scores (less than 24)
- Proper scores = 50% of the total score and more (24 and more)

Tool (III): Laypeople's attitude toward uses of herbal medicine was assessed using a structured interview scale. The researchers assessed laypeople's attitudes toward the use of herbal medicine. This scale consisted of 13 statements requiring a response on a three-point Likert rating scale (agree, neutral, and disagree).

Scoring system of laypeople's attitude. The researchers assigned each point's value from one to three. The value of positive statement options starts with "disagree" at one mark and "agree" at three marks. If the statements were negative, the scoring system was reversed in Statistical Package for Social Science (SPSS) as "disagree" at three marks and "agree" at one.

The total scores of attitudes ranged from zero to 39 marks. According to the researchers' cut point, the attitude levels were categorized into two levels the following:

- Negative. Scores less than 60% of the total score (less than 23)
- Positive. Scores of 60% of the total score or more (23 or more)

Procedure

Administrative phase. The vice dean of the postgraduate students and researcher, Faculty of Nursing, submitted an official letter to the director of Samanoud Hospital, affiliated with the Ministry of Health and Population, to obtain approval for the researchers to conduct the study. The researchers informed the director about the aim of the study to gain his cooperation and support during the data collection.

Ethical considerations. The researchers obtained approval from the Research Ethics Committee, Faculty of Nursing, Mansoura University. The researchers explained the aim of the study to the participants and assured them that their data would be treated anonymously and confidentially and used for research purposes only. In addition, each participant had the right to ask any question related to the study as well as withdraw at any time without giving any reason.

Literature review. The researchers reviewed national and international literature on the various aspects of herbal medicine using scientifically published articles, internet searches, and sourcebooks. This review was a guide for developing study tools.

Development of study tools. The researchers developed tools (I part i, II, III, and IV) after reviewing the related literature and adopted part ii

of tool I from El Gelany, El-Wehady, and El-Wasify (2012).

Face and content validity. Five experts in the field of community health nursing tested the study tools for face and content validity, and the required modifications were carried out.

A pilot study was carried out on 10% of the study sample (n = 30 laypeople) excluded from the main study sample to evaluate the clarity, reliability, and applicability of the study tools and to estimate the approximate time required for data collection. The researchers made modifications based on pilot results relevant to the change in the structure of some questions.

Tool's reliability. Cronbach's alpha tested the reliability of the attitude scale (IV); its value was 0.8, which was a good measure for the internal consistency of the tool (Vaske, Beaman, & Sponarski, 2017).

Operational phase. It included the following steps:

Initial data collection. The researchers initiated data collection once they were granted permission to conduct the study from December 2021 to the end of May 2022. The researchers attended Samanoud Hospital affiliated with the Ministry of Health and Population (medical, surgical, children, dermatology, dentist, physiotherapy, and rheumatoid outpatient clinics) three days per week (Saturday, Monday, and Wednesday) from 9 a.m. to 1 p.m. The researchers introduced themselves and explained the aim and process of the study. Each layperson interview lasted from 20 to 30 minutes, and the average number of interviewers was from six to eight per day. The researchers interviewed laypeople individually to collect their socio-demographic and economic characteristics, knowledge, self-reported practices, and attitudes toward herbal medicine using-tools I, II, III, and IV.

Statistical analysis

The researchers coded, entered, and analyzed the collected data by personal computer using the Stand for Statistical Product and Service Solutions (SPSS) program version 23 and presented it with simple frequency tables. Mean and standard deviation were used for continuous variables and percentages for categorical variables. The correlation coefficient was used for correlation testing.

Results

Table 1 represents that 45.0%, 83.4%, 61.7, 76.6 %, and 40.0% of laypeople aged from 30 to less than 40 years, are women, residents in urban areas, married, and illiterate respectively. Regarding socio-economic levels, 25.7 % of them belonged to the lower socioeconomic class.

Figure 1 declares that families were the source of knowledge about herbal medicine for laypeople.

Table 2 reveals that 57.7% of laypeople defined herbal medicine as herbal containing dietary supplements. Concerning highly utilized herbal medicine, 58.3%, 57.3%, 55.7%, and 60.3% were among the elderly, women, chronic diseases, and low social class, respectively. Anise and tea were the types and forms of herbal medicine among 71.3% and 65.7% of laypeople, respectively.

Table 3 shows that 73.7% and 62.7% of laypeople know that one of the causes of using herbal medicine is that it is a safe product, and one of its benefits is decreasing cholesterol, respectively.

Table 4 demonstrates that 51.3% of laypeople stated that nausea is one of the side effects of herbal medicine. Regarding the precautions of using and storing herbal medicine, 54.7% and 48.7% of laypeople stated preparation in a clean pot and keeping away from contamination, respectively. In addition, 39.0% of laypeople reported that black cumin herbs lose their value when boiling.

Table 5 shows that 73.0% of the laypeople had a poor level of knowledge about herbal medicine, while 27.0% had a fair level of knowledge.

Figure 2 displays that 73.3% of laypeople purchased herbal medicine from perfume shops.

Table 6 indicates that 66.3% of laypeople used herbal medicine for colic, while 46.3% did not use it, fearing its harm. Concerning the types and preparation methods of herbal medicine used, 62.7% and 72.0% of laypeople used mint and boiling, respectively. Finally, 56.3% of laypeople used special containers for the storage of herbal.

Table 7 illustrates that 34.0% and 41.3% of laypeople use herbal medicine once per day and before breakfast, respectively.

Table 8 represents that 71.3%, 13.3%, and 48.7% of laypeople prepared mint, turmeric, and roselle by boiling, grinding, and soaking in water, respectively.

Table 9 declares that 53.7% of laypeople had nausea as a side effect of using herbal medicine. Concerning precautions followed during the use of herbal medicine, 64.3% of laypeople prepared it in a clean pot.

Table 10 reveals that 65.7% of laypeople had improper self-reported practices, while 34.3% of laypeople had proper self-reported practices of herbal medicine use.

Table 11 reflects that 71.3% and 70.0% of laypeople agreed that the use of herbal medicine is one of the treatment methods and sources of herbal medicine must be detected, respectively. In addition, 54.7%, 54.3%, 54.0%, 52.7%, 46.7%, 55.0%, and 43.3% of laypeople agreed that methods of use of herbal medicine must be arranged, correct methods of storing and preparing herbal medicine must be known, use suitable herbal medicine for each age group, avoid overusing herbal medicine, herbal medicine must be available

to households, and people should consult doctors when using herbal medicine for a positive attitude.

Whereas negative attitudes were prevalent, 54.0% of laypeople disagreed that herbal medicine reduces morbidity. Additionally, 36.3% and 45.0% of laypeople agreed that herbal medicine negatively affects personal health and that herbal medicine must be used daily for all family members, respectively. Finally, 35.3% of laypeople disagreed that herbal medicine can be used at any time when feeling ill.

Table 12 demonstrates that 94.3% of laypeople had a totally positive attitude toward herbal medicine use.

Table 13 shows that there is a statistically significant relationship between socio-economic levels and knowledge levels of lay people about the use of medical herbs, $p = 0.040$.

Table 1. Demographic and socio-economic characteristics of the laypeople (n=300)

Items	N	%
Age		
20 -< 30 years	65	21.6
30 -< 40 years	135	45.0
40 -< 50 years	54	18.0
≥ 50	46	15.4
Gender		
Man	50	16.6
Woman	250	83.4
Residence		
Rural	115	38.3
Urban	185	61.7
Marital status		
Married	230	76.6
Single	70	23.4
Level of education		
Illiterate	120	40.0
Read and write	62	20.7
Elementary education	40	13.3
Secondary education	54	18.0
University education	24	8.0
Socioeconomic levels		
Very low	72	24.0
Low	77	25.7
Moderate	76	25.3
High	75	25.0

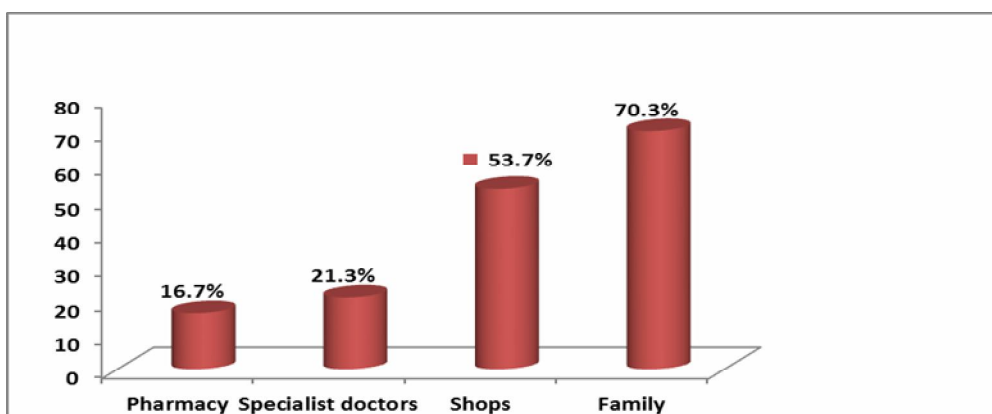


Figure 1. Laypeople's sources of knowledge about herbal medicine (n=300)

Table 2. Laypeople's knowledge regarding the general features of herbal medicine use (n=300)

Items	N	%
Definition of herbal medicine		
The plant has properties that can treat different diseases	68	22.7
Herbal medicine doesn't help to relieve pain	158	52.7
Herbal contains dietary supplements	173	57.7
Highly utilized herbal medicine		
Regarding age		
Children	119	39.7
Adults	165	55.0
Elderly	175	58.3
Regarding gender		
Man	93	31.0
Woman	172	57.3
Regarding health status		
Acute diseases	68	22.7
Chronic diseases	167	55.7
Regarding socioeconomic status		
High social class	92	30.7
Low social class	181	60.3
Types of herbal medicine		
Turmeric	104	34.7
Mint	141	47.0
Ginger	159	53.0
Hibiscus	185	61.7
Anise	214	71.3
Forms of herbal medicine		
Powdered	23	7.6
Capsules	67	22.3
Powder	106	35.3
Green plants	108	36.0
Dried plants	140	46.7
Tea	197	65.7

Note. Total number can be more than 300 as more than one answer was allowed.

Table 3. Laypeople's knowledge regarding the causes and benefits of using herbal medicine (n=300)

Items	N	%
Causes of using herbal medicine		
One of the drug compositions	74	24.7
Cheap	106	35.3
Prophet medicine	113	37.7
Fewer side effects	191	63.7
Safe product	221	73.7
Benefits of using herbal medicine		
Improve indigestion	113	37.7
Cure arthritis	141	47.0
Cure chronic diseases	150	50.0
Decrease cholesterol	188	62.7

Note. Total number can be more than 300as more than one answer was allowed.

Table 4. Laypeople's knowledge regarding the side effects and precautions of herbal medicine (n=300)

Items	N	%
Side effects of herbal medicine		
Renal inflammation	31	10.3
Liver fibrosis	42	14.0
Allergy	58	19.3
Skin rash	73	24.3
Vomiting	108	36.0
Diarrhea	153	51.0
Nausea	154	51.3
Precautions for using herbal medicine.		
Buying from a confident source	109	36.3
Wash it thoroughly if it is dry	115	38.3
Washing hands after preparation	124	41.3
Washing hands before preparation	155	51.7
Preparation in a clean pot	164	54.7
Precautions for storing herbal medicine		
Kept in clean pages		
Kept in opaque containers	96	32.0
Kept in special containers	122	40.7
Kept away from contamination	139	46.3
	146	48.7
Herbal medicine loses its value when it boils		
Oils	61	20.3
Chamomile	61	20.3
Hibiscus	114	38.0
Black cumin	117	39.0

Note. Total number can be more than 300as more than one answer was allowed.

Table 5. Laypeople's total knowledge levels scores regarding herbal medicine (n=300)

Knowledge levels	N	%
Poor knowledge	219	73.0
Fair knowledge	81	27.0

Note. Poor less than 50% (< 28). Fair from 50% to less than 65% (28 < 42). Good 75% and more (≥ 42).

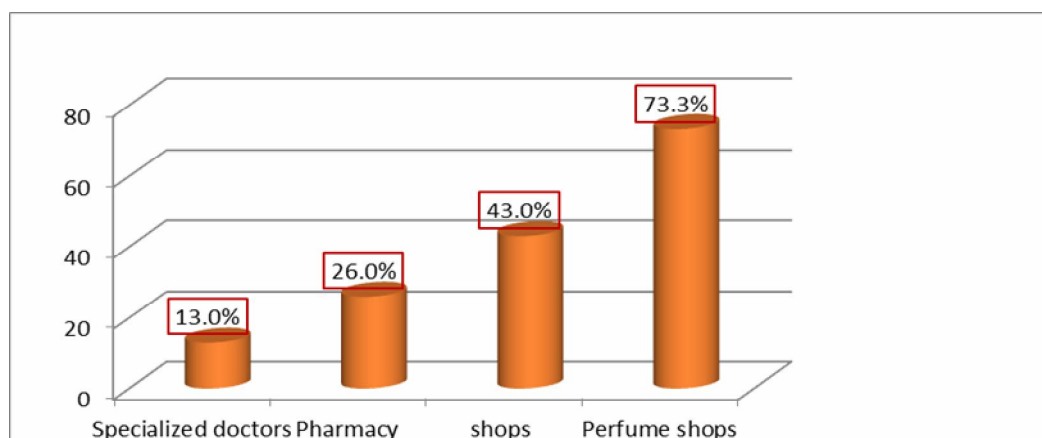


Figure 2. Laypeople's source of purchased herbal medicine (n=300)

Table 6. Laypeople's self-reported practices regarding the uses of herbal medicine (n=300)

Items	N	%
Indications of using herbal medicine		
Bronchial asthma	95	31.7
Diabetes mellitus	100	33.3
Hypertension	127	42.3
Obesity	130	43.3
Headache	135	45.0
Tooth ache	155	51.7
Colic	199	66.3
Contraindication to not use herbal medicine		
Do not convict		
I do not know the suitable one	84	28.0
Fear of its harm	132	44.0
	139	46.3
Types of herbal medicine used		
Cinnamon	97	32.3
Ginger	132	44.0
Green tea	151	50.3
Turmeric	154	51.3
Anise	174	58.0
Hibiscus	177	59.0
Mint	188	62.7
The methods used to prepare herbal medicine		
Mixing with other components		
Grinding	63	21.0
Soaking with water	96	32.0
Boiling	153	51.0
	216	72.0
The methods used to store herbal medicine		
Impermeable to light containers		
Special bags	92	30.7
Closed containers	120	40.0
Special containers	123	41.0
	169	56.3

Note. Total number can be more than 300 as more than one answer was allowed.

Table 7. Laypeople self-reported practices regarding frequency and commonest time of using herbal medicine (n=300)

Items	N	%
The frequency of use of herbal medicine in the last three months		
Once a week	52	17.3
Twice per day	94	31.3
As needs	102	34.0
Once per day	102	34.0
The commonest time to use herbal medicine.		
As needs		
Before dinner	35	11.7
After lunch	79	26.3
Before breakfast	110	36.7
	124	41.3

Note. Total number can be more than 300as more than one answer was allowed.

Table 8. Laypeople's methods of preparing the commonest herbal medicine

Medical Herbs	Methods of preparing									
	Boiling		Grinding		Soaking in water		Mixing		Did not use	
	N	%	N	%	N	%	N	%	N	%
Mint	214	71.3	21	7.0	2	0.7	4	1.3	59	19.7
Anise	214	71.3	24	8.0	45	15.0	2	0.7	15	5.0
Turmeric	70	23.3	40	13.3	43	14.3	12	4.0	135	45.0
Cloves	85	28.3	27	9.0	85	28.3	7	2.3	96	32.0
Roselle	126	42.0	4	1.3	146	48.7	4	1.3	20	6.7

for use (n=300)

Table 9. Laypeople self-reported their practices regarding the side effects and precautions of using herbal medicine (n=300)

Items	N	%
Side effects of used herbal medicine		
Vomiting	137	45.7
Diarrhea	142	47.3
Nausea	161	53.7
Precautions should be followed during the use of herbal medicine		
Hand washing after preparation	133	44.3
Hand washing before preparation	165	55.0
Preparation in a clean pot	193	64.3

Note. Total number can be more than 300as more than one answer was allowed.

Table 10. Laypeople's total self-reported practice levels scores about herbal medicine use (n=300)

Practice levels	N	%
Improper	197	65.7
Proper	103	34.3

Note. Proper = scores 50% or more of total scores, improper = scores less than 50% of total scores.

Table 11. Laypeople's attitude toward herbal medicine use (n=300)

Items	Disagree (1)		Neutral (2)		Agree (3)	
	N	%	N	%	N	%
Positive attitude						
The use of herbal medicine is one of the treatment methods	32	10.7	54	18.7	214	71.3
Sources of herbal medicine must be detected	30	10.0	60	20.0	210	70.0
Methods of use of herbal medicine must be arranged	29	9.7	107	35.7	164	54.7
Correct methods of storing herbal medicine must be known	42	14.0	95	31.7	163	54.3
The correct methods of preparing herbal medicine must be known	44	14.7	94	31.3	162	54.0
Use suitable herbal medicine for each age group	38	12.7	104	34.3	158	52.7
Avoid overusing herbal medicine	41	13.7	119	39.7	140	46.7
Herbal medicine must be available to households	43	14.3	95	31.7	162	54.0
Consult doctors when using herbal medicine	48	16.0	122	40.7	130	43.3
Negative attitude						
Herbal medicine negatively affects personal health	70	23.3	121	40.3	109	36.3
Herbal medicine reduces morbidity	162	54.0	81	27.0	57	19.0
Herbal medicine can be used at any time when feeling ill	106	35.3	99	33.0	95	31.7
Herbal medicine must be used daily for all family members	71	23.7	94	31.3	135	45.0

Table 12. Laypeople's total attitude levels scores toward the use of herbal medicine (n=300)

Attitude levels	N	%
Negative attitude	17	5.7
Positive attitude	283	94.3

Note. Negative (<60%): less than 23 and positive (≥ 60%): 23-39.

Table 13. Relationship between socio-economic levels and the knowledge levels of laypeople about the use of herbal medicine (n=300)

Socio-economic levels	knowledge levels				χ ² = 8.321, P0.040
	Poor knowledge (219)		Fair knowledge (81)		
	No	%	No	%	
Very Low	60	83.3	12	16.7	
Low	58	75.3	19	24.7	
Moderate	54	71.1	22	28.9	
High	47	62.7	28	37.3	

Note. Statistically significant p<0.05.

Discussion

Herbal medicine in numerous forms has been used for several decades, playing a significant role in providing primary healthcare for the populace. Many conditions are treated with alternative medicine, such as chronic pain, diabetes, multiple sclerosis, and dyslipidemia (Parvez, & Vikas, 2019).

The use of herbal medicines to treat illness and maintain health is the oldest and most widely used type of healthcare that humans have ever known. All cultures and all ages have engaged in its practice throughout the history of civilization. Herbal medicine is historically known as "the people's medicines" due to their accessibility,

safety, and simplicity of preparation (WHOa, 2019).

Therefore, it is becoming widely recognized that there has been a rapid rise in the global use of herbal medicines over the last few years. Herbal materials are subjected to extraction, fractionation, purification, and concentration to produce herbal preparations; they might be used for direct consumption or after processing herbal materials. Herbal products may contain excipients, or ingredients, as well as active ingredients; for this, the main concerns have to be about the safety and quality of herbal products (WHO, 2019).

This part discusses the results of the current study, culminated to achieve the aim of assessing laypeople's perceptions toward the uses of herbal

medicine, comparing them with other related studies and recent literature, and representing the researchers' interpretations of the present results.

The result of the present study reveals that less than three-quarters of laypeople report that families are the source of knowledge about herbal medicine. This result agrees with Mohammed, Sabu, and Parveen (2022), whose study aimed to assess the public's knowledge, attitude, and practice towards herbal medicines in India and reported that the major source of knowledge about herbal medicine was families.

Regarding knowledge about the causes of using herbal medicine, the result of the current study shows that almost three-quarters of laypeople report that the safer product is one of the causes of using herbal medicine. This result is similar to the results of Eid, and Jaradat (2020), which aimed to assess Palestine's knowledge, attitude, and practice of herbal remedies and reported that herbal medicine products were safe for all users. Along the same lines, a study conducted by Mohammed, Sabu, and Parveen (2022) illustrated that most of the participants reported that herbal medicines were safe and efficacious, as they might not have experienced adverse effects or harms.

Concerning knowledge about the benefits of using herbal medicine, the result of the present study shows that more than two-thirds of laypeople report that decreasing cholesterol is one of the benefits of using herbal medicine. This result agrees with the findings of Al-Yousef, Wajid, and Sales (2019), who conducted a community-based survey on knowledge, beliefs, and attitudes towards herbal medicine in a central region of Saudi Arabia. They reported that the participants' knowledge regarding the usage, administration, and effectiveness of herbal medicines was better.

Regarding knowledge about the side effects of using herbal medicine, the result of the current study shows that more than half of the laypeople state that nausea is one of the side effects of herbal medicine. This result agrees with El-Dahiyat et al. (2020), whose study aimed to assess Jordanian adults' knowledge and beliefs about herbal medicine use. They showed that nausea was the most common reported side effect.

Regarding laypeople's total knowledge level scores, the result of the present study shows that almost three-quarters of laypeople have a poor level of knowledge regarding herbal medicine. This result agrees with Alsubaie, Alshehri, and Ghalib (2017), whose study aimed to determine Saudi women's level of awareness, patterns of use, and

beliefs regarding the safety of herbal medicine. They reported that women had poor knowledge and awareness about herbal medicine.

On the other hand, this finding disagrees with a Nigerian study in Plateau City by Ohemu et al. (2021), which declared that the population had good knowledge of traditional medicine, especially herbal medicine. As well, a study carried out by Aragaw, Afework, and Getahun (2020), aimed at assessing Ethiopian communities' knowledge, attitude, and utilization of traditional medicine, reported that they had good knowledge.

These study findings can be attributed to less than half and almost three-quarters of laypeople belonging to young age, which ranged between 30 and less than 40 years and had education levels ranging from illiterate to elementary education, respectively. Furthermore, only more than one-third of laypeople rely on professionals such as pharmacists and physicians as a source of knowledge.

With regards to self-reported practice about indications of consuming herbal medicine, the result of the current study shows that more than two-thirds of laypeople use herbal medicine for hypertension. This result agrees with El-Dahiyat et al. (2020), who reported that the study population used herbal medicine to treat hypertensive patients. As well, Al Kury, Al Shehhi, and Hijazi (2023) studied the use of herbal medicine among the Dhabi United Arab Emirates public and reported that herbal medicine was effective in the treatment of chronic disease.

From the researchers' point of view, hypertension is one of the most common non-communicable chronic diseases among Egyptians, and numerous patients rely on the use of herbal medicine to cure hypertension instead of medication.

Regarding self-reported practices about contraindications to using herbal medicine, the result of the present study shows that almost half of laypeople do not use herbal medicine because of a lack of knowledge about its benefits and a fear of harm. This result agrees with El-Dahiyat et al. (2020), who illustrated that lack of awareness was the reason for not using herbal medicines.

The result of the current study shows that more than one-third of laypeople's frequency of consumption of herbal medicine in the last three months, if needed, agrees with Mohammed et al. (2022), who reported that the participants consumed herbal medicines only if necessary or required.

The Arab world widely uses herbal medicine, most likely because it is believed that all herbal preparations are safe. But this impression isn't entirely accurate. These days, general practitioners who prescribe herbal medicine for the treatment of common illnesses have also been observed to exhibit these behaviors (Zaidi, 2022).

Regarding laypeople's total self-reported practice level scores related to herbal medicine use, the findings of the present study reveal that more than two-thirds of the laypeople have improperly self-reported practice of herbal medicine use. This finding is in agreement with the findings of a study in Amhara Regional State, North Central Ethiopia, by Aragaw, Afework, and Getahun (2020), which assessed the Debre Tabor Town community's knowledge, attitude, and practice towards traditional medicine. They illustrated that the population has poor practices.

As regards laypeople's attitudes towards herbal medicine, less than three-quarters agree that the use of herbal medicine is one of the treatment methods, and sources of herbal medicine must be detected. These results follow a cross-sectional study by Alsubaie et al. (2017) that studied Saudi women's awareness, use, and attitude toward herbal medicine and reported that herbal remedies are healthier and safer.

The attitude and behavior of the people towards herbal medicines are of great concern for regulators and policymakers. With increased curiosity and orientation toward herbal medicines, there is a proportionate increase in the production, sale, and advertisement of these medicines. However, there is a considerable knowledge deficit in this area of herbal medicine. Yet, some patients have a strong belief in most natural medicines and consider them safe (Alyami et al., 2020).

With regards to the laypeople's total attitude level scores about herbal medicine, the researchers find that almost all of the laypeople have a positive attitude. This result is similar to the results of Al-Yousef et al. (2019), who reported that the population had a more positive attitude towards herbal medicine. Also, a study in the Udipi region of Karnataka, India, by Bhat et al. (2019) assessed patients' knowledge and attitudes toward herbal medicine use and revealed that the patients had positive attitudes.

The current study demonstrates that there is a statistically significant relationship between laypeople's socioeconomic levels and self-reported practice levels about the use of herbal medicine. These results agree with Aina et al. (2020) study of

Nigeria's prevalence, determinants, and knowledge about herbal medicine and non-hospital utilization in the southwest, which reported that there was a significant association between low-income classes and using herbal medicine. The researchers interpret this as being due to almost half of laypeople belonging to very low socioeconomic levels, so they directed their financial resources to be focused on fulfilling their basic daily necessities rather than spending much on the promotion and maintenance of health.

The researchers' arguments regarding the results of the current study contextualize that herbal medicine, which was used by ancient ancestors, positively impacted laypeople's attitudes, even if they had poor knowledge and improper self-reported practice. In conclusion, herbal medicine is a pivotal aspect of Egyptian culture and has numerous uses in daily life.

Conclusion

The researchers conclude that the highest percentages of laypeople with poor knowledge and improperly self-reported practices are inclined toward the use of herbal medicine. For attitude level, most of the laypeople have positive attitudes toward the uses of herbal medicine. Furthermore, a statistically significant association exists between laypeople's socioeconomic levels and self-reported practice levels about the uses of herbal medicine.

Recommendations

- Conducting health education programs via different methods toward the use of herbal medicine to improve the knowledge and practices of the laypeople.
- Creating health educational materials toward herbal medicine appropriate to laypeople attending outpatient clinics.

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