

Assessment of the determinants of the use of herbal products in selected municipalities in Cavite, Philippines

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ABSTRACT

There had been limited studies that estimated the prevalence of use of herbal products and assessed the predictors for their consumption in the Philippines despite the growing evidence that their unregulated and irrational use could cause serious adverse reactions. This study therefore aimed to assess the determinants of herbal products use among selected municipalities in Cavite, Philippines. It employed a descriptive, cross-sectional study design. Stratified, systematic random sampling was conducted among heads of families in three municipalities in Cavite. A total of 178 respondents (100.0%) were interviewed. We found that 85.5% regularly used herbal products. Of these, 57.6% did not inform their physicians, 40.9% used concomitantly with conventional medicines, and 33.8% substituted herbal products for conventional medicines. Also, 52.8% preferred herbal products over conventional medicines since they were easier to find, more natural, more effective and cheaper than conventional medicines. Using $p < 0.10$ as a cut-off for significance, we found that sex ($p = .001$), municipality ($p = .026$), perceived benefits ($p = .095$) and perceived health status ($p = .085$) are significant determinants of herbal products use. In conclusion, herbal products use in Cavite was prevalent. There may be potential risks to population's health due to underreported and concomitant use with conventional medicines. Although the consumption of herbal products was influenced by various factors, it is recommended to explore other relationships among variables and to include other possible predictors. Rational use of herbal products should be cautiously observed among populations to prevent the occurrence of adverse effects. Information dissemination about herbal products may be further done focusing on the results found in the study.

Key words: complementary and alternative medicine, herbal products, prevalence, determinants of use, Philippines

1. Introduction

Herbal products encompassed herbs, herbal materials and finished processed herbal preparations that contain parts of plants or other plant materials, or combinations of such as active ingredients (World Health Organization [WHO], 2005). The use of herbal products, which could be classified under complementary and alternative medicine (CAM), has been increasing globally (Welz et al., 2018; WHO, 2005). In fact, studies conducted by Nyeko et al. in Uganda (2016), Laelago et al. in Ethiopia (2016), Pearson et al. in Cambodia (2018) and de Moraes Mello Boccolini et al. in Brazil (2020) similarly reported that herbal products had been commonly and broadly used, which might indicate limited access to conventional health care. Furthermore, people who used

herbal products had been generally considered from the marginalized sector (Hartigan-Go, 2002). They believed that herbal products were natural and thus safer, cheaper, more effective and more accessible as compared with conventional drugs (Aronson, 1998; Bharucha et al., 2003; Hartigan-Go, 2002; Lin et al., 2019). However, there has been growing evidence that these products could lead to serious adverse effects, such as liver toxicity and injuries (Lin et al., 2019), hypertension, arrhythmia and stroke (Valli and Giardina, 2002). They could also cause significant interactions with conventional drugs (Shi and Klotz, 2012). Although herbal products have promising potential, many remained untested, had limited efficacy and safety data, and were poorly monitored. These could result to inadequate knowledge of their mechanisms of action, adverse reactions, contraindica-

tions, and interactions with concurrent pharmaceutical products (Ekor, 2014). Such pieces of information are very important because of the issues surrounding the use of these products, especially when taken concomitantly with other medicines or upon long-term regular consumption.

There has been growing evidence worldwide on herbal products, as well as the factors that may contribute to their use (Ong et al., 2005; WHO, 2002, 2004). Nevertheless, there has been limited evidence and studies on herbal products in the Philippines. A study by Dahilig and Salenga (2012) compared the prevalence of and perceptions on CAM and identified its predictors of use among adults in rural barangays in Batangas and in urban communities of Caloocan and Parañaque. Since the primary focus of the study was on complementary and alternative medicines, herbal products and the determinants for their use were not explored in detail and were not given much emphasis. Notably, the model proposed in the previous study only explained 27% of the variability in the odds of using CAM. As such, future studies were warranted to supplement gaps in literature and further assess the factors that influence CAM use. Meanwhile, Catublas (2016) explored the knowledge, attitudes, and practices on herbal products among urban and rural mothers in Makati and Ilocos Sur, respectively. Although the study was relevant to the variable of interest, its unit of analysis was limited to mothers with a small sample size ($n = 30$). Thus, there might be reduced generalizability of the key findings, and the possibility that significant differences found were due to chance.

Assessment of the knowledge and common practices of Filipino consumers on herbal products would provide basis for formulating a proper and practical way of promoting the safe and effective use of these preparations in a local perspective. This study therefore assessed the determinants of the use of herbal products among general population in three municipalities in Cavite, Philippines. Specifically, it aimed to: (1) describe respondents, in terms of socio-demographic characteristics, perceived health status and income perception; (2) estimate the prevalence of herbal products use; (3) identify the common herbal products used; (4) determine the sources of knowledge on herbal products; (5) determine the perceptions on benefits and risks of herbal products use; and, (6) identify the predictors of herbal products use.

2. Materials and Methods

2.1. Research design

We employed a descriptive, cross-sectional research design. We conducted the study in three out of the 16 municipalities in Cavite, Philippines since the University of the Philippines Manila (UPM) implemented a community health development program (CHDP) in the area during the period of research. These included Alfonso, General Emilio

Aguinaldo and Mendez. It was worth noting that the sampled municipalities had different average annual incomes during the last four fiscal years, which might influence the results of the study.

2.2. Sampling design

We used a stratified, systematic, random sampling. For the three municipalities, each barangay served as a stratum, and systematic random sampling was then conducted to determine the households to be part of the study. This was performed by counting an interval, n , of houses starting from the right side of the barangay hall. For General Emilio Aguinaldo, n is 16; for Mendez, n is 13; and for Alfonso, n is 12. The difference in intervals was based on the average population and the sample size to be taken from the municipality. Using the 2015 population census (Philippine Statistics Authority, 2016), the sample size of 173 was computed using 90% confidence interval, and 80% positive prevalence for the use of herbal products. Notably, the 80% positive prevalence was taken from the WHO's point estimate on herbal product consumption among developing countries (WHO, 2004).

2.3. Data collection

Data was collected through an interview checklist from March to April 2018. All researchers conducted the interviews. Prior to data collection, all were trained to minimize interviewer bias, to ensure that interviews would be conducted according to protocol, and to control quality of collected data. The interview lasted between 25 and 35 minutes for each respondent. The pretesting of the questionnaire or interview checklist was firstly performed in the municipality of Indang. The pretesting utilized respondents who had similar characteristics with the other municipalities included in the study. For the actual testing, letters were initially sent to the authorities, and municipal and provincial health officers among Alfonso, General Emilio Aguinaldo and Mendez for permission to conduct the study. We also sought approval from the barangay officials. Upon obtaining approval, sampling was performed to determine respondents. Respondents were included if they were 18 years of age and above, had the capacity to think, reason, and understand for themselves at the level that the research requires, and agreed to participate in the study through a written informed consent form. A brief introduction of the study, which discussed the respondent's rights and the study's purpose and objectives, was presented before data collection begun. The respondents were asked to read, comprehend, and sign the informed consent form prior to being interviewed. A researcher conducted the interview and recorded the respondents' answers in the interview checklist. The interview was conducted in the respondent's domicile if the participant was willing. In cases of non-availability and non-participation of the head of household, the house was

skipped, and an additional house was selected by resuming the counting of the interval starting from the next house.

2.4. Instrumentation

An interview checklist was developed, and it generally had six parts: (1) socio-demographic characteristics (e.g., sex, age, educational attainment), (2) general health perception as adapted from the RAND short-form 36 for perceived health status (Hays and Morales, 2001), (3) knowledge on herbal products as adapted from a study conducted by Sumngern et al. (2011), (4) sources of information on herbal products, (5) herbal products use, and (6) perceived benefits and harm on herbal product consumption. The standard questionnaires were translated and back translated by the Center of Filipino Language in the Philippines. The interview checklist is available as an appendix and can be accessed at the end of this article.

2.5. Data processing and analysis

The study employed the health belief model for analysis. For this context, we used a psychological model that explained and predicted herbal products use. This was performed by focusing on the attitudes and beliefs of individuals (Conner and Norman, 2005). Descriptive statistics were used to determine the characteristics of the study population and the prevalence of herbal product use. As for the perceived benefits and harms, the mean scores for each question were classified as low, moderate or high perceived benefit or harm using the ranges of 1.00–2.50, 2.51–4.00, and 4.01–5.00, respectively. As for the knowledge on herbal products use, respondents whose score was greater than or equal to 70% were categorized as knowledgeable, while those with a score of less than 70% were categorized as not knowledgeable.

Logistic regressions using Stata 15/SC were used to predict the outcome of the dependent variable on the basis of the independent variables. In this study, the dependent variable was the use of herbal products, and the independent variables were age, sex, educational attainment, income perception, municipality, perceived health status, knowledge on use, chronic disease status, and perceived benefits and harm.

The level of significance was set at 0.1. Hence, variables with generated p-values less than 0.1 were considered statistically significant. Notably, a value of 0.1 was used as the cut-off of the p-value since the authors sought to identify possible determinants of the use of herbal products in selected municipalities in Cavite, Philippines, even if the statistical evidence may be weak. The decision to use such value considered the fact that there have been limited studies on herbal products use in the country. As such, the results in the study could be used as reference for conducting more studies about herbal products use in the country.

2.6. Ethical considerations

The study was reviewed and approved in 2018 by the University of the Philippines Manila Research Ethics Board (UPMREB) under the approval number UPMREB 2018-008-UND.

3. Results

There was a total of 178 respondents from the three municipalities of Alfonso (n = 85), Mendez (n = 57) and Gen. Emilio Aguinaldo (n = 36), with a mean age of 53 ± 16 years (range: 20–90) (see Table 1). Most of them were female (73.0%), high school graduate (43.3%) and employed (47.8%). Majority (64.6%) also perceived that they had sufficient monthly income to sustain the health of their family.

As for the assessment of perceived health status among respondents, the mean score of the general health perception was initially determined ($\bar{x} = 71.2$). Those with scores more than the average of the general health perception score were then categorized as healthy. Consequently, we found that more than half of the respondents (59.6%) perceived themselves to be healthy. Nevertheless, upon further inquiry, it was found that more than half of them (51.7%) actually had chronic health problems. Whereas the most common chronic disease was hypertension (77.2%). Other chronic illnesses included diabetes mellitus, arthritis, asthma, and cardiovascular diseases (see Table 2). As for herbal medicines use, majority (85.5%) consumed them either regularly or when the need arose. The commonly used medicinal plant preparations were Oregano (28.3%), Lagundi (15.8%) and Sambong (15.1%). They were mainly indicated for coughs and colds (see Table 3).

When the respondents were assessed in terms of their

Table 1. Socio-demographic characteristics and perceived health status of the respondents.

Personal Factors (n = 178)	n (%)
Mean age (in years)	53 ± 16 (range: 20–90)
Sex	
Male	48 (27.0)
Female	130 (73.0)
Educational Attainment	
No education	1 (0.6)
Elementary	21 (11.8)
High school	77 (43.3)
Vocational	18 (10.1)
College	58 (32.6)
Post-Graduate	3 (1.7)
Employment Status	
Unemployed	63 (35.4)
Employed	85 (47.8)
Retired	30 (16.9)
Income Perception	
Sufficient	115 (64.6)
Insufficient	63 (35.4)

Table 2. Perceived health status and disease states of respondents.

Perceived Health Status (n = 178)	n (%)
Healthy	106 (59.6)
Unhealthy	72 (40.4)
Diagnosed Illness (n = 178)	
Chronic illness	92 (51.7)
No chronic illness	86 (48.3)
Characteristics of those with chronic illnesses (n = 92)*	
Hypertension	71 (77.2)
Diabetes mellitus	22 (23.9)
Arthritis	7 (7.6)
Asthma	7 (7.6)
Cardiovascular diseases	7 (7.6)
Kidney Stones	3 (3.3)
Urinary tract infection	3 (3.3)
Gall Bladder stones	2 (2.2)
Migraine	2 (2.2)
Thyroid problems	2 (2.2)
Cataract	1 (1.1)
Lupus	1 (1.1)
Cancer	1 (1.1)
Hernia	1 (1.1)
Scoliosis	1 (1.1)
Glaucoma	1 (1.1)
Ulcer	1 (1.1)
Uric Acid	1 (1.1)
Vertigo	1 (1.1)
Vitiligo	1 (1.1)

*Some respondents with diagnosed chronic illnesses had co-morbidities.

Table 3. Use of herbal products and commonly used medicinal plants.

Use of Herbal Products (n = 178)	n (%)
Yes	152 (85.5)
No	26 (14.5)
Medicinal Plants Used (n = 152)*	n (%)
Oregano (<i>Plectranthus amboinicus</i>)	43 (28.3)
Lagundi (<i>Vitex negundo</i>)	24 (15.8)
Sambong (<i>Blumea balsamifera</i>)	23 (15.1)
Serpentina (<i>Rauvolfia serpentina</i>)	19 (12.5)
Guyabano (<i>Annona muricata</i>)	18 (11.8)
Bayabas (<i>Psidium guajava</i>)	15 (9.9)
Malunggay (<i>Moringa oleifera</i>)	14 (9.2)
Luya (<i>Zingiber officinale</i>)	13 (8.6)
Paragis (<i>Eleusine indica</i>)	8 (5.3)
Calamansi (<i>Citrus microcarpa</i>)	7 (4.6)

*Some respondents used more than one medicinal plant.

knowledge on herbal products, it was found that many had limited understanding on them. It was worth noting that less than half of the respondents had correctly known that: (1) the doctor should be informed about any herbal product consumption (42.1%), (2) not all herbal products are safe (48.9%), (3) not all herbal products are effective (46.1%), and (4) drinking herbal products alongside conventional

Table 4. Knowledge of the use of herbal products.

Questions	Response	
	Correct n (%)	Incorrect n (%)
1. I should inform my doctor about my herbal product consumption	75 (42.1)	103 (57.9)
2. Should you be aware of your condition before drinking herbal products?	148 (83.1)	30 (16.9)
3. Different parts of plants have different amounts of medicine	123 (69.1)	55 (30.9)
4. All herbal products undergo extensive testing in the FDA before being released into the market	71 (39.9)	107 (60.1)
5. All herbal products are safe	87 (48.9)	91 (51.1)
6. All herbal products are effective	82 (46.1)	96 (53.9)
7. Is it permissible to drink herbal products alongside conventional medicines?	75 (42.1)	103 (57.9)
8. Drinking herbal products with conventional medicines may have unexpected effects	82 (46.1)	96 (53.9)
9. The amount of herbal product intake should be reduced when taken alongside conventional or other herbal products	90 (50.6)	88 (49.4)

Table 5. Sources of knowledge on herbal products.

Sources of Knowledge (n=178)	n (%)
Family	126 (70.8)
TV	120 (67.4)
Neighbors	120 (67.4)
Friends	120 (67.4)
Albularyo	87 (48.9)
Radio	78 (43.8)
Facebook	57 (32.0)
Newspaper/Magazine	46 (25.8)
Doctor	29 (16.3)
Billboard/Poster	27 (15.2)
Promoter	14 (7.9)

medicines may not be permissible (42.1%) (see Table 4).

As for the sources of knowledge on herbal products, the most common sources were family (70.8%), television (67.4%), neighbors (67.4%), and friends (67.4%). The results showed that more respondents (48.9%) rely on *albularyos* or traditional healers for their information on herbal products than doctors (16.3%) and that majority of residents relied on second-hand information from family and friends (see Table 5).

As for preference between the use of herbal products and conventional medicines, more than half (52.8%) of the respondents preferred herbal products over conventional medicines. The majority believed that herbal products are more natural (71.3%) and effective (59.6%) than conventional medicines. Other perceived reasons were that herbal products were easier to find (73.4%) since they could be grown or requested from neighbors or friends, and they

Table 6. Preference and common reasons for herbal product use of the residents among the three municipalities in Cavite.

Preference (n = 178)	n (%)
Herbal products	94 (52.8)
Conventional medicines	84 (47.2)
Reasons for preference on herbal products (n = 94)	n (%)
Easier to find	69 (73.4)
More natural	67 (71.3)
More effective than conventional	56 (59.6)
Cheaper	56 (59.6)
Safer	42 (44.7)
More recommended	20 (21.3)

Table 7. Perceived benefits and advantages of use of herbal products.

Perceived Benefits and Advantages	Overall		
	Mean	SD	Category
Treatment of Illness	4.12	0.07	High
Sustenance	3.65	0.08	Moderate
Gives relief of symptoms	4.09	0.06	High
Maintenance of good health	3.71	0.09	Moderate
Used in food	3.75	0.09	Moderate
Cheaper alternative to conventional medicine	4.25	0.08	High
More convenient to use than conventional medicine	3.96	0.09	Moderate

Table 8. Perceived harm and disadvantages of use of herbal products.

Perceived Harm and Disadvantages	Overall		
	Mean	SD	Category
May cause other disease	2.86	0.09	Moderate
Side Effects	2.89	0.09	Moderate
Inconvenient	2.68	0.08	Moderate
Less Effective	2.57	0.09	Moderate
Takes time to take effect	2.93	0.08	Moderate
Unavailability	2.59	0.06	Moderate
Expensive	2.34	0.05	Low

were cheaper to acquire as compared with conventional medicines (59.6%). A number of respondents (44.7%) believed that herbal products were safer than modern medicine, which could be correlated with the belief that they were more natural (see Table 6). Furthermore, respondents had moderate to high perception on the benefits and advantages of herbal products use (see Table 7). They also had low perception on its harm and disadvantages (see Table 8).

As for predictors of herbal products use, the determinants were sex, type of municipality, perceived health status, and perceived benefits. Whereas the odds of herbal products use were higher among females (odds ratio [OR] = 6.50, 90% confidence interval [CI] = 2.51–16.86), residents of Mendez municipality (OR = 6.44, 90% CI = 1.62–25.56), and

Table 9. Possible determinants of use of herbal products.

Determinant	OR	90% CI	p-value	
Age	0.98	0.95	1.02	0.351
Sex				
Male	1.00	–	–	–
Female	6.51	2.51	16.86	0.001*
Educational Attainment				
College	1.00	–	–	–
Elementary	0.22	0.04	1.34	0.169
High School	0.60	0.20	1.77	0.439
Vocational	0.80	0.18	3.64	0.810
Income Perception				
Not sufficient or not enough	1.00	–	–	–
Sufficient or enough	0.75	0.28	1.96	0.619
Municipality				
Alfonso	1.00	–	–	–
Gen. Emilio Aguinaldo	0.60	0.19	1.87	0.458
Mendez	6.44	1.62	25.56	0.026*
Perceived Health Status				
Unhealthy	1.00	–	–	–
Healthy	0.36	0.14	0.96	0.085*
Knowledge				
Not Knowledgeable	1.00	–	–	–
Knowledgeable	0.36	0.12	1.05	0.115
Chronic Disease Status				
With chronic disease	1.00	–	–	–
Without chronic disease	2.22	0.82	6.04	0.190
Perceived Benefits				
Low	1.00	–	–	–
Moderate	1.50	0.25	9.09	0.710
High	7.34	1.03	52.40	0.095*
Perceived Harm				
Low	1.00	–	–	–
Moderate	1.69	0.64	4.44	0.373
High	3.40	0.08	136.37	0.586

* = statistically significant based on 90% confidence interval.

respondents with high perceived benefits (OR = 7.34, 90% CI = 1.03–52.40). Meanwhile, the odds of those who perceived themselves to be healthy are 0.36 times lower than those who perceived themselves as unhealthy (90% CI = 0.14–0.96) (see Table 9).

4. Discussion

To the authors' knowledge, this is the first study in the country that employed appropriate method and sampling design to estimate the prevalence of herbal products use and assess the determinants of use of herbal products among Filipino adults. As for the socio-demographic characteristics, results showed that the youngest age among the respondents was 20, and there was a high proportion of female respondents. First, being the head of a household or family may have been interpreted differently as this could denote being the breadwinner of the family even at a young age, which could explain why the youngest participant was at the

age of 20. Second, it was not common to have a relatively high proportion of females as compared with males as a recent census in Cavite reported that the population was almost equally distributed, in terms of sex (Government of Cavite, 2017). These findings suggest that proper caution is advised, especially when applying or generalizing the results. Although the coverage of the study was limited to municipalities in Cavite, Philippines, the results could still serve as baseline data when disseminating information, conducting awareness campaigns, and planning interventions on the rational use of herbal products. Moreover, the methodology could serve as guide for researchers who are interested in conducting future studies on herbal products use to larger populations and at different scopes.

Notably, the prevalence of regular herbal products use in the area (85.5%) was higher than the estimates of the World Health Organization (2004) on herbal product consumption among developing countries (80.0%) and from a study conducted by El-Dahiyat et al. (2020) (80.2%). High consumption prevalence might be due to the respondents' perceptions that herbal products were more natural and effective, had cheaper price, and better accessibility as compared with conventional medicines. These attributes conformed with the study by Hassali et al. (2012) that emphasized that herbal products were easier to locate, and therefore facilitated their utilization. They were also aligned with the study by Ondicho (2015) that showed a high proportion of respondents who preferred herbal products because they were perceived to be more effective than conventional medicines. Furthermore, they were consistent with the study of Sumngern et al. (2011) that stated that the ability of herbal products to provide nourishment, cure disease, relieve symptoms and cheap price were among the most agreed upon benefits of herbal product use.

Of the ten commonly used medicinal plants among respondents, only three herbal medicines had been approved by the Philippine Department of Health (Principe and Jose, 2002). Although some plants had been used for long periods of time, further clinical studies are still needed to prove their efficacy and safety for their intended purposes. These implied that respondents regularly used plants which had not yet been proven safe and efficacious. Furthermore, although they had self-perceived harms on the use of herbal products, such as the ability to cause other diseases and side effects, these were not sufficient enough for them to limit their promotion and use of herbal products.

The most common sources of knowledge on herbal products were similar to findings from the studies by Algier et al. (2005) and Aydin et al. (2008) that stated that friends and families were the common sources of knowledge, respectively. Nevertheless, these sources have been perceived to be among the most unreliable. Furthermore, there was an observed reliance among respondents on traditional healers and second-hand information from

families and friends regarding the herbal products. These findings might explain the fact that only few respondents had a good knowledge and understanding on herbal products. Although physicians should be the most reliable source of information, we found that a small proportion of respondents obtained information from them. Respondents feared that physicians would react negatively if they informed them of their use. Also, they argued that physicians did not ask about their herbal product use, did not recommend the use of herbal products, and were unaware of the effectiveness of herbal products. Alarmingly, half of the respondents used conventional medicines alongside herbal products, and one-third of them replaced their conventional medicines with medicinal plants. The concurrent use of conventional medicine with herbal products or their replacement to conventional medicines should raise serious concern among health care professionals because these practices place patients at risk of adverse events and would suggest non-compliance to scientifically proven treatment regimens (Dahilig and Salenga, 2012). Therefore, health care professionals should always be mindful whether their patients use herbal products and ensure that patients who used herbal products are well-informed, in terms of efficacy and safety (Tulunay et al., 2015).

As the consumption of herbal products increases, we expect that the risks for potential adverse events would also be higher. However, to date, there is little information on the monitoring and reporting of adverse events attributed to herbal products use in the country. This has been quite alarming since numerous herbal products remained untested and their quality had been unassured (Ekor, 2014), and their incorrect use might lead to fatal outcomes (Aronson, 1998; Lin et al., 2019; Shi and Klotz, 2012). Since safety and efficacy are considered main concerns for herbal products use, it is imperative that governing authorities adopt appropriate measures and policies to protect public health by: (1) ensuring all herbal products are safe and of suitable quality, and (2) monitoring and documenting for adverse events arising from the use of such products.

The determinants of herbal product use were sex, the municipality of Mendez, perceived health status, and perceived benefits. First, the odds of females using herbal products were 6.5 times higher than males. This was similar to the studies by Aydin (2008), which suggested that females sought actions to manage illness more rapid than males. A study by Ek (2015) also pointed out that men were often less willing and lacked the motivation to engage with health-related information. Second, the odds of herbal products used by residents from Mendez were 6.4 times higher than those of other municipalities. This could be attributed to the fact that Mendez was more rural than the others. A study by Dahilig and Salenga (2012) suggested that populations predominantly living in rural areas had higher prevalence of use as compared to those living in urban areas. Third,

perceived health status was found to be a significant predictor. According to a study by Adusumilli (2004), individuals who were worried about their health status consumed herbal products. This was supported by the fact that perceived health status was a cue to action construct, with almost half of the respondents claiming to consume herbal products as a response to feeling unwell. This implied that respondents were likely to use herbal products on their own as a reaction to being unhealthy. Fourth, the perceived benefits were found to be a significant predictor of use. The perceived benefits construct determines one's belief of the positive effect of herbal product use or the seriousness of the act of consuming herbal products (Glanz and Rimer, 1997). The moderate to high results of the perceived benefits showed that many respondents believed that herbal products were advantageous, especially for the treatment of illnesses and relief of symptoms. Ondicho et al. (2015) showed that respondents believed in the importance of herbal products for maintaining health, and thus, have positive attitudes towards the efficacy of such products. Herbal products were also deemed safe because of its long-standing use despite their limited scientific evidence (Kifli et al., 2013). Perceived harm on the other hand, was not found to be a significant predictor with almost all respondents believing that there was only low-to-moderate harm in using herbal products. This implied a lack of knowledge of the physiological effects of herbal products and conventional medicines.

The study has certain limitations. First, the data was collected from only three municipalities in Cavite, Philippines, and thus proper caution is advised when generalizing the results to other populations. Furthermore, as herbal products vary widely and their growth is heavily influenced by the environment, regional features may be present which could influence the results of the study. As such, the findings from the study may not be directly applied to other regions. It is imperative that when conducting studies on herbal products, the sampling should include more regions and provinces to account for such features. Second, since the study used interviews for data collection, it might be influenced by significant biases, such as recall bias and those arising from respondents' selective memory and attribution of positive effects experienced towards herbal products use. Third, the study employed a health belief model, which still had several limitations: (1) its design is more descriptive than explanatory, (2) it has limited capacity to suggest strategies for changing health-related actions, and (3) it does not consider non-health related reasons for health behaviors (LaMorte, 2019). Therefore, it is recommended that the model should be applied and integrated with other useful models that could objectively provide recommendations and strategies for positive change in the behavior.

5. Conclusions

There was a high prevalence of herbal products use in the

three municipalities in Cavite, Philippines, which could be explained by numerous self-perceived benefits. Significant predictors for herbal products use were sex, type of municipality, perceived health status, and perceived benefits. Notably, majority of the herbal products used still required further clinical evidence for efficacy and safety. The common sources of information regarding herbal products were mostly unreliable. Alarmingly, there might be potential risks to population's health due to underreported, unmonitored and concomitant use of herbal products with conventional medicines. Hence, interventions promoting the rational use of herbal products should be developed and implemented to prevent adverse events and optimize health outcomes of populations.

Conflict of Interest Statement

Authors declare that they have no conflict of interest.

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Appendix: Interview Checklist for the study entitled, “Assessment of the Determinants of the Use of Herbal Products in Selected Municipalities in Cavite, Philippines”

Directions: Please fill out the interview checklist based on the sample’s responses as accurate and as complete as possible.

I. Details for the Interview:

1. Name of Barangay:
 - Alfonso
 - General Emilio Aguinaldo
 - Mendez
2. Respondent Code: _____
3. Interviewer: _____
4. Date: _____
5. Time started: _____
6. Time ended: _____

II. Datos ukol sa sosyolohikal na demograpiya ng mga sumasagot (Data on socio-demographic characteristics)

1. Kasarian (Sex):
 - Lalake (Male)
 - Babae (Female)
2. Edad, sa taon (Age, in years): _____
3. Natapos na antas ng pag-aaral (Educational Attainment):
 - Walang pormal na edukasyon (No formal education)
 - Elementarya (Elementary)
 - Mataas na paaralan (High School)
 - Bokasyunal (Vocational)
 - Kolehiyo (College)
 - Higit pa sa kolehiyo (post-Graduate studies)
4. Bilang ng mga taong kasalukuyang naninirahan sa iyong tahanan (Number of people in your household): _____
5. Kalagayan ng trabaho (Employment Status):
 - May Trabaho (Employed)
 - Walang Trabaho (Unemployed)
 - Retirado (Retired)
6. Pinagsamang sahod kada buwan, sa PhP (Combined monthly household income, in PhP):
 - < 10,000
 - > 10,000 - < 25,000
 - > 25,000 - < 40,000
 - > 40,000 - < 70,000
 - > 70,000 - < 100,000
 - > 100,000
7. Sa iyong palagay, sapat ba ang pinagsamang sahod ng buong pamilya kada-buwan? (Do you think your combined household income per month is sufficient?)
 - Oo (Yes)
 - Hindi (No)
8. Mayroon ka bang sakit o karamdaman? (Do you have any disease or illness?)
 - Oo (Yes)
 - Hindi (No)
9. Kung oo, anu-ano ang iyong mga sakit o karamdaman? (If yes, what are your diagnosed diseases or illnesses?) _____

III. Kalagayan ng kalusugan ayon sa sariling pananaw (General health perception, based on the RAND Short-Form 36)

1. Sa kabuuan, masasabi mo bang ikaw ay: (In general, would you say your health is)
 - Napakalusog (Excellent)
 - Malusog na malusog (Very Good)
 - Malusog (Good)
 - Katamtaman ang lusog (Fair)
 - Hindi malusog (Poor)
2. Kumpara noong nakalipas na isang taon, paano mo susukat in ang kalusugan mo ngayon, sa kabuuan? (Compared to one year ago, how would you rate your health in general now?)
 - Mas bumuti ngayon kaysa noong nakaraang taon (Much better now than one year ago)
 - Medyo bumuti ngayon kaysa noong isang taon (Somewhat better now than one year ago)
 - Halos pareho lang (About the same)
 - Medyo masama ang lagay ngayon kaysa noong isang taon (Somewhat worse now than one year ago)
 - Mas masama ang lagay ngayon kaysa noong isang taon (Much worse now than one year ago)

Ang mga sumusunod na aytem ay tungkol sa mga gawain na maaaring ginagawa mo sa karaniwang araw. Nalilimitahan ka ba ngayon ng iyong kalusugan sa mga gawaing ito. Kung oo, gaano ka nalilimitahan? (The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?)

	Oo, lubos akong nalilimitahan (Yes, limited a lot)	Oo, nalilimitahan ako nang kaunti (Yes, limited a little)	Hindi ako nalilimitahan (No, not limited at all)
3. Mabibigat na gawain gaya ng pagtakbo, pagbubuhat ng mabibigat na bagay, pagsali sa mga nakakapagod na isport. (Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Di-gaanong mabibigat na gawain gaya ng paglilipat ng lamesa, pagtutulak ng vacuum cleaner, pagbo-bowling, o paglalaro ng golf. (Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Pagbubuhat o pagkarga ng mga pinamili sa grocery (Lifting or carrying groceries)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Pag-akyat ng ilang baitang sa hagdan (Climbing several flights of stairs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Pag-akyat ng isang baitang sa hagdan (Climbing one flight of stairs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Pagbaluktot, pagluhod, o pagyuko (Bending, kneeling, or stooping)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Paglakad ng mahigit sa isang milya (Walking more than a mile)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Paglakad ng mga ilang kanto (Walking several blocks)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Paglakad ng isang kanto lamang (Walking one block)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Sariling pagligo o pagbihis (Bathing or dressing yourself)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sa loob ng nakalipas na apat na linggo, nagkaroon ka ba ng kahit alin sa mga sumusunod na problema, sa trabaho, o sa iba pang gawain sa araw-araw dahil sa pisikal mong kalusugan? (During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?)

	Oo (Yes)	Hindi (No)
13. Binawasan ang oras sa trabaho at iba pang gawain (Cut down the amount of time you spent on work or other activities)	<input type="checkbox"/>	<input type="checkbox"/>
14. Makatapos ng kakaunting gawain sa ninais mo (Accomplished less than you would like)	<input type="checkbox"/>	<input type="checkbox"/>
15. Limitado sa uri ng trabaho o iba pang uri (Were limited in the kind of work or other activities)	<input type="checkbox"/>	<input type="checkbox"/>

16. Nahihirapang gawin ang trabaho o iba pang gawain, halimbawa, kailangang pagsikapang mabuti para maggawa (Had difficulty performing the work or other activities (for example, it took extra effort))	<input type="checkbox"/>	<input type="checkbox"/>
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Sa loob ng nakalipas na 4 na linggo, dahil sa problema sa emosyon, nagkaroon ka ba ng kahit alin sa mga sumusunod na problema, (gaya ng pagiging malungkot o pagkabalisa)? During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

	Oo (Yes)	Hindi (No)
17. Binawasan ang oras sa trabaho at iba pang gawain (Cut down the amount of time you spent on work or other activities)	<input type="checkbox"/>	<input type="checkbox"/>
18. Kakaunti ang natatapos na trabaho kaysa sa ninanais mo (Accomplished less than you would like)	<input type="checkbox"/>	<input type="checkbox"/>
19. Hindi maingat na ginagawa ang trabaho o iba pang mga gawain gaya ng dati (Didn't do work or other activities as carefully as usual)	<input type="checkbox"/>	<input type="checkbox"/>

20. Sa loob ng nakalipas na apat na linggo, gaano nahadlangan ng iyong pisikal na kalusugan o problema sa emosyon ang iyong normal na pakikitungo sa pamilya, mga kaibigan, kapitbahay o grupo? (During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?)

- Hindi nahadlangan (Not at all)
- Bahagyang nahadlangan (Slightly)
- Medyo nahadlangan (Moderately)
- Nahadlangan nang kaunti (Quite a bit)
- Lubhang nahadlangan (Extremely)

21. Gaano kalaki ang kirot sa katawan na naranasan mo sa loob ng nakalipas na apat na linggo? (How much bodily pain have you had during the past 4 weeks?)

- Wala (None)
- Napakakaunting kirot (Very mild)
- Kaunting Kirot (Mild)
- Medyo may kirot (Moderate)
- Napakakirot (Severe)
- Lubhang napakakirot (Very severe)

22. Sa loob ng nakalipas na apat na linggo, gaano nakasagabal ang kirot sa normal mong trabaho (kasama na pareho ang trabaho sa labas ng bahay at gawaing bahay)? (During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?)

- Hindi nakasabagal (Not at all)
- Nakasagabal nang kaunti (A little bit)
- Medyo nakasagabal (Moderately)
- Nakasagabal (Quite a bit)
- Lubhang nakasagabal (Extremely)

Ang mga katanungang ito ay tungkol sa kung ano ang nararamdaman mo at kung paano ang mga bagay-bagay sa loob ng nakalipas na apat na linggo. Sa bawat katanungan, mangyaring magbigay ng isang sagot na pinakamalapit sa nararamdaman mo. (These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling.)

Gaanong oras sa loob ng nakalipas na apat na buwan: (How much of the time during the past 4 weeks)

	Lahat ng oras (All of the time)	Halos lahat ng oras (Most of the time)	Maraming oras (A good bit of the time)	Ilang oras (Some of the time)	Kaunting oras (A little of the time)	Walang oras (None of the time)

23. Naramdaman mo ba na puno ka ng sigla? (Did you feel full of pep?)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Naramdaman mo ba ang pagka-nerbiyos? (Have you been a very nervous person?)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Naramdaman mo ba na sobrang bagsak ang pakiramdam mo na wala nang nakakapagpasaya sa iyo? (Have you felt so down in the dumps that nothing could cheer you up?)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Naramdaman mo ba ng panatag at payapa ang iyong damdamin? (Have you felt calm and peaceful?)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. Naranasan mo ba na punong-puno ka ng lakas? (Did you have a lot of energy?)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Naramdaman mo ba na nasiraan ka ng loob at nalungkot? (Have you felt downhearted and blue?)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Naramdaman ka ba ng sobrang pagod? (Did you feel worn out?)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. Naging masayahing tao ka ba? (Have you been a happy person?)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. Napagod ka ba? (Did you feel tired?)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

32. Sa loob ng nakalipas na 4 na linggo, gaano kahabang oras nakasagabal sa pakikipagkapuwa mo ang iyong pisikal na kalusugan o emosyonal na problema (katulad ng pagbisita sa mga kaibigan, kamag-anak, at iba)? (During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?)

- Sa lahat ng oras (All of the time)
- Halos lahat ng oras (Most of the time)
- Ilang oras (Some of the time)
- Kaunting oras (A little of the time)
- Walang oras (None of the time)

Gaano katotoo o hindi katotoo para sa iyo ang bawat sumusunod na pahayag. (How TRUE or FALSE is each of the following statements for you.)

	Totoong-totoo (Definitely true)	Halos totoo (Mostly true)	Hindi alam (Don't know)	Halos hindi totoo (Mostly false)	Talagang hindi totoo (Definitely false)
33. Mukhang mas madali akong magkasakit kaysa ibang tao (I seem to get sick a little easier than other people)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. Malusog ako gaya ng mga kakilala ko (I am as healthy as anybody I know)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. Inaasahan kong hindi magiging maganda ang kalusugan ko (I expect my health to get worse)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. Malusog na malusog ako (My health is excellent)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

IV. Kaalaman tungkol sa halamang gamot (Knowledge on herbal products)

1. Dapat ipaalam ko sa doctor ang pag-inom ng halamang gamot (I should inform my doctor about my herbal product consumption.)
 - Oo (Yes)
 - Hindi (No)
 - Hindi ko alam (I do not know; I have no idea)
2. Nararapat bang alamin mo muna kung ano ang sakit mo bago ka pwedeng uminom ng halamang gamot? (Should you be aware of your condition before drinking herbal products?)
 - Oo (Yes)
 - Hindi (No)
 - Hindi ko alam (I do not know; I have no idea)
3. Ang iba't ibang parte ng halaman ay may iba-ibang dami ng gamot. (Different parts of plants have different amounts of medicine.)
 - Oo (Yes)
 - Hindi (No)
 - Hindi ko alam (I do not know; I have no idea)
4. Lahat ng halamang gamot ay dumaan sa matinding pagsusuri sa Food and Drug Administration (FDA) bago maipasa bilang gamot o herbal product (All herbal products undergo extensive testing in the Food and Drug Administration before being released into the market.)
 - Oo (Yes)
 - Hindi (No)
 - Hindi ko alam (I do not know; I have no idea)
5. Lahat ng halamang gamot ay ligtas. (All herbal products are safe.)
 - Oo (Yes)
 - Hindi (No)
 - Hindi ko alam (I do not know; I have no idea)
6. Lahat ng halamang gamot ay mabisa. (All herbal products are effective.)
 - Oo (Yes)
 - Hindi (No)
 - Hindi ko alam (I do not know; I have no idea)
7. Maaari bang inumin ang halamang gamot kasabay ng mga kumbensyonal na gamot? (Is it permissible to drink herbal products alongside conventional medicines?)
 - Oo (Yes)
 - Hindi (No)
 - Hindi ko alam (I do not know; I have no idea)
8. Ang pag-inom ng halamang gamot kasabay ng kumbensyonal na gamot ay maaaring magdulot ng hindi magandang epekto (Drinking herbal products with conventional medicines may have unexpected bad effects.)
 - Oo (Yes)
 - Hindi (No)
 - Hindi ko alam (I do not know; I have no idea)
9. Dapat ay bawasan ang pag-inom ng halamang gamot kapag sabay itong iniinom sa kumbensyonal na gamot o sa ibang herbal products (The amount of herbal products intake should be reduced when taken alongside conventional or other herbal products.)
 - Oo (Yes)
 - Hindi (No)
 - Hindi ko alam (I do not know; I have no idea)

V. Mga pinagmumulan ng impormasyon tungkol sa herbal products (Sources of information about herbal products)

1. Ano/Sino ang pinag-mulan ng impormasyon niyo tungkol sa halamang gamot? (Where do you get your information about herbal products?)
 - Television
 - Kamag-anak (Family/Relatives)
 - Facebook
 - Kaibigan (Friends)
 - Newspaper/Magazine
 - Kapit-bahay (Neighbor)
 - Billboard/Poster
 - Doktor (Physician)
 - Radio
 - Albularyo (Traditional healer)
 - Promoter
 - Iba pa: _____

VI. Paggamit ng halamang gamot (Herbal products use)

1. Gumagamit ka ba ng halamang gamot? (Are you using or taking herbal products?)
 - Oo (Yes)
 - Hindi (No)
2. Anu-ano ang mga halamang gamot na alam mo? (What are the herbal products that you are familiar with?)
 - Ampalaya
 - Sambong
 - Akapulko
 - Lagundi
 - Yerba Buena
 - Niyog-niyogan
 - Tsaang Gubat
 - Bawang
 - Ulasimang Bato
 - Bayabas
 - Luya
 - Oregano
 - Malunggay
 - Tawa- tawa
 - Banaba
 - Iba pa: _____
3. Tuwing kailan ka umiinom ng halamang gamot? (On what occasions do you use or take herbal products?)
 - Tuwing hindi mabuti ang pakiramdam (Whenever I feel unwell)
 - Araw-araw (Every day)
 - Paminsan-minsan lamang (Sometimes)
4. Paano mo hinahanda ang halamang gamot? (How do you prepare these herbal products?)
 - Binibili (Store-bought)
 - Iba pa, Ilahad (Others, please specify)
 - Herbal products #1: _____
 - Preparasyon (Preparation): _____
 - Herbal products #2: _____
 - Preparasyon (Preparation): _____

5. Umiinom ka ba ng medisinas kumbensyonal. (Do you drink conventional medicine?)
 - Oo (Yes)
 - Hindi (No)
6. Pinapagpapalit mo ba ang kumbensyonal na gamot sa halamang gamot? (Do you replace conventional medicines with herbal products?)
 - Oo (Yes)
 - Hindi (No)
7. Iniinom mo ba ang halamang gamot kasabay ng mga medisinas kumbensyonal? (Do you drink herbal products alongside conventional medicines?)
 - Oo (Yes)
 - Hindi (No)
8. Ano ang mas pinapaboran mo, kumbensyonal na gamot o halamang gamot? (What do you prefer conventional medicine or herbal product?)
 - Kumbensyonal na medisina, tumuloy sa #9. (Conventional medicine, proceed to #9.)
 - Halamang gamot, tumuloy sa #10. (Herbal products, proceed to #10.)
9. Bakit mo pinapaboran ang kumbensyonal na medisina (Why do you prefer conventional medicines?)
 - Mas mura (Cheaper)
 - Mas madaling makahanap (Easier to find)
 - Mas mabisa (More effective)
 - Mas ligtas (Safer)
 - Mas nirerekomenda (More recommended)
 - Iba pa. _____
10. Bakit mo pinapaboran ang halamang gamot? (Why do you prefer herbal product?)
 - Mas mura (Cheaper)
 - Mas madaling makahanap (Easier to find)
 - Mas mabisa (More effective)
 - Mas ligtas (Safer)
 - Mas nirerekomenda (More recommended)
 - Mas natural (More natural)
 - Iba pa. _____

VII. Pananaw sa mga benepisyo at pinsala ng pag-inom ng herbal products (Perceived Benefits and Harm of Taking and Using Herbal Products)

1. Anu-ano ang mga rason at pakinabang ng pag-inom ng halamang gamot? (What are the reasons for use and perceived benefits of taking and using herbal products?)

	Labis na sang-ayon (Strongly Agree)	Sang-ayon (Agree)	Walang opinyon (Neutral)	Hindi sang-ayon (Disagree)	Labis na hindi sang-ayon (Strongly Disagree)
1. Gamit sa sakit (Treatment of illness)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Nakakapagbigay sustansya (Sustenance)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Nakakatulog sa pag-ginahawa ng mga sintomas ng sakit (Gives relief of symptoms)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Pampanatili ng magandang kalusugan (Maintenance of good health)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Ginagamit sa pagkain o pampalasa (Flavorant)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Mas murang kahalili kaysa sa kumbensyonal na medisina (Cheaper alternative to conventional medicine)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Mas kumbiniente kaysa sa ibang medisina (More convenient to use than other medicine)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Anu-ano ang mga rason ng hindi pag-inom at maaaring pinsala ng pag-inom halamang gamot? (What are the reasons for non-use and perceived harm of taking and using herbal products?)

	Labis na sang-ayon (Strongly Agree)	Sang-ayon (Agree)	Walang opinyon (Neutral)	Hindi sang-ayon (Disagree)	Labis na hindi sang-ayon (Strongly Disagree)
1. Maaaring makapagdulot ng hindi inaasahang sakit (May cause other diseases)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Maaaring makapagduolot ng hindi inaasahang epekto (May cause other side effects)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Maselan at mahirap ang paggawa ng ganitong klaseng gamot (Inconvenient to prepare)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Mas hindi epektibo ang halamang gamot kumpara sa kumbensyonal na gamot. (Herbal products are less effective than conventional medicines.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Matagal umepekto pagkatapos inumin (Herbal products take a longer time to take effect.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Wala sa komunidad (Unavailable in the community)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Mahal ang halamang gamot (Herbal products are expensive.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>