

# Effect of Educational Video in the Level of Knowledge of Herbal Supplements Among Patients

Khawla U. Abdulkarem, Cybil Mave H. Gonzales, Kainah Quennie Marisell O. Mapa, Sheriel Blaize L. Mañapao

Faculty of The Pharmacy Department St. Alexius College, City of Koronadal Bachelor of Science in Pharmacy

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## ABSTRACT

Patient education plays a vital role in promoting health literacy, treatment adherence, and overall wellness. Traditional methods, such as verbal instructions or printed materials, are often limited by literacy levels, comprehension barriers, and time constraints in clinical settings. With the growing accessibility of multimedia tools, this study explores the effects of educational videos in enhancing patient's level of knowledge.

This quasi-experimental study was conducted among selected patients to assess their understanding of specific health-related topics before and after viewing educational videos. A pre-test and post-test design was used to measure knowledge levels. The intervention involved presenting a short, informative, and professionally curated educational video tailored to the patients' needs. Data collected were analyzed using appropriate statistical tools to determine whether there was a significant improvement in knowledge after the intervention.

The results revealed that most participants demonstrated a notable increase in their knowledge levels following exposure to the educational video. Statistical analysis confirmed a significant difference between pre-test and post-test scores, indicating that audiovisual content can serve as an effective tool for patient education.

The findings highlight the importance of adopting modern, engaging, and patient-centered educational strategies in healthcare. Educational videos offer a visual and auditory experience that enhances comprehension and information retention. This study provides valuable insight into the potential of integration of technology within pharmacy and clinical practice to improve patient outcomes. Further research is recommended to examine long-term effects, different video formats, and their applicability across diverse patient populations and medical topic.

**Keywords:** Patient education, health literacy, treatment adherence, multimedia tools, patient level of knowledge.

## INTRODUCTION

### Background of the Study

A troubling trend has emerged regarding the use of herbal supplements, largely due to misconceptions surrounding their safety and effectiveness. Many patients mistakenly believe that these products are entirely nontoxic and risk-free, simply because they are derived from natural sources. Consequently, many consumers choose not to disclose their use of such supplements to health care professionals (Kalkuz & Goktas, 2022). This lack of awareness possesses serious health risks, including drug-drug interactions and other adverse effects that arise from the unsupervised consumption of herbal products. (Syed et al., 2022).

Digital media play a significant role in shaping perceptions about herbal supplements worldwide. Through these platforms, consumer behavior are greatly studies have shown that digital platforms have a substantial impact on purchasing behaviors, suggesting that educational videos may also serve as effective tools to increase awareness about herbal supplements. By presenting information in a clear and engaging manners, such as videos can help dispel myths about safety and effectiveness of these products. In the Philippines, many patients continue to use

herbal supplements without informing their attending healthcare providers. A study conducted in a tertiary hospital, revealed that most patients used herbal supplements during treatment but barely reported their use to their medical teams (Enriquez & Esplana, 2022). Lack of communication lead to harmful complications. Hence, the use of educational videos as a medium to inform patients about herbal supplements can empower them to make informed decisions about their health.

There remains a research gap concerning the effectiveness of educational intervention, particularly those delivered through digital media, in enhancing knowledge about herbal supplements. For example, an analysis of video advertisements revealed that many of these advertisements lacked adequate information about potential risks and drug interactions (Lye et al., 2021). This finding raises concern about whether sufficient educational resources exist to properly inform consumers.

The urgency of this study lies in addressing the knowledge gap to the use of herbal supplements and their associated health risks. As the consumption of these products continues to rise, misconception that “natural” equates to “safe” persists, often resulting in dangerous outcomes due to inadequate communication between patients with healthcare providers (Kalkuz & Goktas, 2022). This study aims to benefit multiple stakeholders including patients, health-care professionals and regulatory bodies- by providing evidencebased information about herbal supplements. In doing so, it seeks to promote informed decision-making and enhance patient safety.

To ensure that the findings reach the appropriate stakeholders, a dissemination plan will be implemented. This will include publication in peer reviewed journals focusing on public health, herbal medicine, and complementary- and alternative therapies. Such dissemination will not only contribute to the existing body of academic literature but also enhance the visibility of this research within the scientific community.

### **Statement of the Problem**

This study aims to evaluate the effectiveness of an educational video in enhancing the knowledge patients of herbal supplements in select barangays in Koronadal City. specifically seeks to answer the following questions:

What are the profiles of the respondents in terms of:

1. Age
2. Gender
3. Year using herbal medicine

What is the level of knowledge of patients before and after the integration of the educational video?

Is there a significant difference in the level of knowledge of patient before and after the integration of educational video?

What is the effect size of the educational video after the integration?

### **Research Objectives**

This study seeks to assess the effectiveness of an educational video in improving patient knowledge about herbal supplements in select barangays in Koronadal City

#### **General Objectives:**

To determine whether educational videos are effective in increasing patients’ knowledge about herbal supplements in select barangays in Koronadal City.

#### **Specific Objectives:**

To describe the demographic profile of the respondents in terms of age, gender, and years of using herbal medicine.

To determine the level of knowledge of patients before and after viewing

### Expected Output of the Study

1. **Demographic Profile of Respondents:** The main outcome will be an overall demographic profile of the respondents in terms of age, gender, and period of using herbal supplements. This will put the data into perspective regarding which of the demographic factors have an influence on knowledge levels in relation to herbal supplements.
2. **Assess the knowledge level:** The study will create assessments of participants' knowledge on herbal supplements before and after the intervention. Comparison of these two datasets will point out changes in the knowledge levels as a result of the educational video. Such analysis will help find out if the video conveyed information about herbal supplements effectively.
3. **Statistical Outcomes on Improvement in Knowledge:** A key output of the study will include statistical analyses to determine whether there is a significant difference levels before and after the integration of the educational video. Appropriate statistical test, such as paired t-tests or ANOVA will be applied to confirm the effectiveness of the intervention.
4. **Effect size calculation:** The effect size of the educational video will be calculated to assess its impact on enhancing participants' knowledge. Effect size quantifies the magnitude of change in knowledge levels, providing insights into whether the intervention had a small, moderate, or large effect. Understanding the effect size is essential for determining the practical significance of the findings.
5. **Recommendations for the future Educational Interventions:** Based on the study's findings recommendations for future educational interventions will be proposed. These may include suggestions on content delivery methods, topics to cover, and strategies to increase.

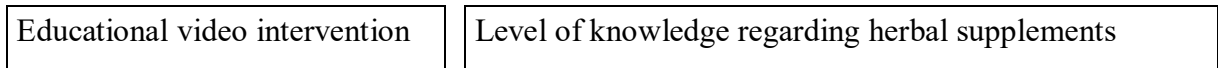
### Hypothesis

**Null Hypothesis (H0):** There is no significant difference in patients' knowledge regarding herbal supplements among patients before and after the integration of the educational video.

**Alternative Hypothesis (H1):** There is a significant difference in patients' knowledge regarding herbal supplements among patients before and after the integration of the educational video.

### Conceptual Framework

#### DV



The conceptual framework of the current study involves two major variables; the independent variable (IV) and dependent variable (DV). The IV is the educational video intervention, which was specifically designed to increase patients' knowledge of herbal supplements. The DV refers to the level of knowledge that patients possess regarding herbal supplements measured both before and after viewing educational video. This framework allows the study to evaluate whether the educational video leads to significant increase in knowledge, helps dispel misconceptions, promotes safer practices among patients in selected barangays in Koronadal City.

### THEORETICAL FRAMEWORK

The Health Belief Model (HBM), proposed by Rosenstock in 1966, is a psychological framework that explains and predicts health behaviors based on individual beliefs about health conditions. According to the model, a person's willingness to engage in healthpromoting behavior depends on their perception of the severity of potential health threats, the perceived benefits of taking preventive actions, and the perceived barriers to those

actions. In the context of this study, the HBM is highly relevant as it helps explain how patients' beliefs about herbal supplements can influence their knowledge and usage of these products. For instance, if patients perceive herbal supplements as beneficial and believe that associated risks are manageable, they are more likely to seek information and use the supplements safely. By increasing patients' knowledge, interventions guided by the HBM can improve awareness of both benefits and risks, ultimately supporting informed decisionmaking and safer health practices.

The Social Cognitive Theory (SCT), proposed by Bandura in 1986, emphasizes that learning behaviors is facilitated through observation, imitation, and modeling. SCT suggests that individuals acquire knowledge not only through direct experience but also by observing others within their social context, which influences their beliefs and behaviors. This theory is applicable to the current study because educational videos can serve as models for patients to learn appropriate knowledge and attitudes toward herbal supplements. By incorporating engaging visual and auditory materials, videos can enhance learning and retention of critical information. Additionally, SCT highlights the importance of self-efficacy; when patients feel confident in their ability to make informed decisions about herbal supplements, they are more likely to engage in safe practices. Interventions based on SCT principles can therefore improve patients' health literacy and decision- making regarding herbal supplement use.

The Theory of Planned Behavior (TPB), proposed by Ajzen in 1991, posits that individual behavior is determined by behavioral intentions, which are influenced by three core elements: attitudes toward the behavior, subjective norms, and perceived behavioral control. TPB is relevant to this study because it provides a comprehensive framework for understanding how educational videos may shape patients' attitudes toward herbal supplements and their willingness to engage in informed decision-making. Effective educational interventions can foster positive attitudes toward the safe use of herbal supplements. Awareness of social norms- such as knowing that peers and healthcare providers support informed usage-can further influence patients' behaviors, encouraging them to seek accurate information and adopt safe practices. Moreover, enhancing perceived behavioral control by providing knowledge empowers patients to confidently discuss supplement use with healthcare providers. According to TPB, bridging knowledge gaps alongside addressing beliefs and social influences promotes better health choices and adherence to recommended practices regarding herbal supplement.

### **Significance of the Study**

The following are expected to benefit from this study:

1. **Patients:** This study will enable patients to make informed decisions regarding their health through education on herbal supplements delivered via video. Increased knowledge will enhance their understanding of the potential benefits of herbal products and promoting safer practices ultimately contributing to better health outcomes.
2. **Health Providers:** The study helps healthcare providers identify common myths and misconceptions regarding to herbal supplements. This knowledge will allow providers to educate and counsel patients more effectively improving communication and fostering informed decision-making.
3. **Pharmacies:** Findings from this study can assist pharmacist in addressing patients' knowledge gaps about herbal supplements. Pharmacists will be equipped to provide guidance on potential interactions between herbal products and prescription medications.
4. **Public Health Services:** By increasing health literacy regarding herbal Communities in terms of enhanced health benefits will reduced risks because of misnomers. Supplements, the study can contribute to communities making informed choices.
5. **Researchers:** This study can serve as a foundation for future research thereby enhancing health benefits and reducing risks associated with misuse or mis information on educational interventions related to herbal supplements encouraging further studies on strategies to improve on strategies to improve patient knowledge.

6. Educators: The outcomes may guide educators in the healthcare field to design circular that prepare future healthcare providers to effectively discuss and educate, patients about herbal supplements.
7. Policy Makers: Findings may inform policy makers in developing regulations and guidelines for the safe use of herbal supplements, enhancing public safety and supporting consumer choices.
8. Community Leaders: Local leaders can use the study's findings to advocate for community education programs, fostering a culture of informed decision-making regarding the use of herbal supplements.

### Scope and Delimitation

The purpose of this research is to assess the effectiveness of an educational video in improving knowledge about herbal supplements among patients in barangays selected of Koronadal City. The study will focus on patients who have some prior experience with herbal medicine, that the findings are relevant to individual who already possess understanding of the subject. Data gathering will be conducted over a period of three months, allowing for a substantial assessment of changes of knowledge. The study will employ pre and post intervention questionnaire specifically designed to measure knowledge regarding herbal supplements, including information on the uses, benefits, and potential risks. The selection of barangays has been carefully considered to ensure that the insights gained are applicable to the local community.

The several factors delimit this study and define the boundaries. First, only patients who have previously used or are currently using herbal supplements will be included. Professional backgrounds in healthcare or pharmacology will not be considered as the study focuses on the layperson's understanding. Second, the assessment will be limited strictly to knowledge of herbal supplements and will not extend to other forms of medications or treatment. While long-term retention of knowledge may be evaluated in future studies, this research focuses on immediate knowledge of changes following exposure to the educational video. These delimitations ensure that the results are target population in Koronadal City.

### Definition of Terms

For better understanding, the following terms are defined conceptually and operationally:

**Educational Videos:** These are multimedia resources designed to convey information about herbal supplements, including their uses, benefits, risks, and interactions with other medications. In this study, educational videos will be utilized as a tool to enhance patients' understanding and knowledge regarding herbal supplements (Jalil et al., 2022).

**Herbal Supplements:** Herbal supplements refer to products made from plants or plant extracts that are used to support health and wellness. They can be in various forms, including capsules, powders, teas, or tinctures. This study specifically focuses on how patients perceive and understand these supplements' efficacy and safety (Medical News Today, 2022).

**Knowledge Level:** Knowledge level pertains to the degree of understanding that patients have regarding herbal supplements before and after exposure to educational videos. This includes awareness of potential benefits, risks, proper usage, and interactions with conventional medications (Stanojević- Ristić et al., 2022).

**Effect Size:** Effect size is a quantitative measure of the magnitude of a phenomenon. In this study, it will be used to assess the impact of educational videos on patients' knowledge levels regarding herbal supplements. It provides insight into the practical significance of the intervention beyond statistical significance (Cohen, 1988).

**Significant Difference:** A significant difference refers to a statistically meaningful change in knowledge levels among patients before and after the integration of educational videos. This term is crucial for determining whether the educational intervention had a measurable impact on patient understanding (Field, 2013).

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## REVIEW OF RELATED LITERATURE

This chapter presents a review of local and foreign literature and studies which have relevance to the study.

### Impact of Educational Videos on Patient Knowledge Enhancement

Guo et al. (2023) presented a scoping review focusing on the efficacy of 3D videos in medical education, especially in improving the comprehension of complex information like herbal medicine. According to their results, visual aids have greater improvement and retention if it engages more senses than the other type, and this is essential in informing the benefits and risks of herbal remedies. The authors advise the integration of multimedia resources into educational curricula to arm patients with knowledge for better decisionmaking on their health. This would improve the outcomes of the patients and increase their confidence in herbal treatments. A quasi-experimental study.

Herron et al. (2019) compared video simulations versus case studies about the impact of this methodology on nursing students' perceived satisfaction and retention of information. They determined that higher levels of student satisfaction with self-confidence in students engaged with video-based learning when compared to students using the case study. Thus, this study shows video-based education is effective for retaining information and its application to students and even in patient education concerning herbal remedies. The authors advocate for a wider use of video simulations in nursing education, as this method can improve overall competency in discussing herbal treatments with patients and foster better patient-provider communication.

Furthermore, Wynter et al. (2019) discussed the educational materials used by medical students, finding that video content was among the most accessed materials. Their research found that students viewed videos as an essential learning resource for different medical topics, such as herbal medicine. This result emphasizes the need to include highquality video resources in medical education curricula. Educational institutions should, therefore, focus on the development of these resources as a way of making their students understand herbal treatments better for improved patient care and, by extension, informed debates about herbal remedies.

Khayru and Issalillah (2021) explored consumer behavior in the purchasing of

herbal medicine and highlighted effective communication as a tool in educating consumers about herbal medicine. They recommended that incorporating educational videos into marketing will significantly enhance consumer knowledge on herbal remedies. Using visual content, marketers can do better in informing consumers on the benefits and risks involved with herbal products. This approach not only heightens consumer awareness but also encourages more informed purchasing decisions, which in turn contributes to safer use of herbal medicines.

Lee et al. 2019 investigated the effect of Soshiho-Tang, a traditional herbal medicine that is commonly prescribed for the relief of symptoms associated with atopic dermatitis. The authors noted the necessity of educating patients on the science underpinning herbal medicines and encouraged the use of multimedia education, such as video content, to explain to the patients how specific herbal medicines are supposed to work biochemically, thereby promoting further patient understanding and confidence.

By providing explanations that are clear through appealing media, healthcare providers may promote a more informed population of patients who feel assured of using herbal remedies within their treatment plans. Lastly, Geck et al. (2020) focused on the traditional herbal medicine in Mesoamerica and urged evidence-based approaches to ensure better health coverage.

It was suggested that educational videos of successful case studies with herbal medicine could be one of the most powerful tools in raising awareness among healthcare providers and patients. These videos would effectively bridge the gap between traditional practices and modern medical standards by illustrating real-life applications and outcomes, promoting greater acceptance and integration of herbal medicine into healthcare systems.

## Gender Differences in Herbal Supplement Usage

According to Jermini et al. (2019), younger cancer patients significantly made use of complementary medicine as compared to the older ones, thus clearly indicating an age-related trend in health knowledge and attitudes towards herbal supplements. Furthermore, the findings pointed out that women tend to engage more than men in these therapies, and hence there are gender-related differences in awareness and usage patterns. Thus, the authors suggest that providers discuss herbal supplements as part of regular cancer care, specifically among younger populations who might be more open to learning. Such practice may improve patient education and safety about potential herb-drug interactions during the cancer treatment process.

Expanding on these research results, Kasole, Martin, and Kimiywe (2019) showed that younger adults generally have a more positive perception of traditional medicine in controlling diabetes compared to older people, who mostly were skeptical based on their experience and varying levels of information. In addition, the results indicated that women had a higher rate of usage of herbal remedies than men and this indicates a significant difference between the two genders in their health-seeking behavior. Therefore, the authors would recommend increasing educational outreach specifically to the elderly for better understanding and acceptance of herbal treatments. With customized interventions targeted towards different demographics, health care providers would support the patients in safe and appropriate use of traditional medicine.

Related to this, Smith et al. (2019) reported that herbal supplement sales in the U.S. grew 9.4%. That report sheds light on the demographic trends of consumer behavior regarding these products. The results showed that younger adults are more likely to purchase herbal supplements, suggesting an increase in the interest of that age group in alternative health options. Moreover, the study showed that women purchased herbal products more than men at all times. Hence, the authors suggest focused marketing strategies based on these demographics to encourage safe and efficient use of herbal supplements by consumers. These trends should be known to healthcare providers while guiding patients on appropriate herbal product use. In addition, Smith et al. (2021) reported a remarkable 17.3% growth in U.S. herbal supplement sales in 2020, mainly attributed to younger consumers who are now more health-conscious. The study confirmed persistent gender differences, with women being more likely than men to buy these products. As of this understanding, the authors recommend that further research based on how demographics affect the buyer's decision and health-related beliefs about herbal supplements will help in the design and proper implementation of effective public health campaigns. These should help educate consumers on the value and risks of herbal products and specific demographic needs concerning improvement in general public health outcomes.

In addition to consumer behavior, Tan and Lee (2021) identified risks in the interaction of warfarin with dietary supplements, especially in the elderly who are more vulnerable because of polypharmacy. The study showed that older adults usually have different levels of knowledge regarding the risks of herbal supplements. Therefore, the authors suggest more education of the elderly on safe practices regarding prescription medications combined with herbs. Such an approach is necessary for the betterment of patient safety and proper decision-making regarding supplement usage among different populations.

Rezaei-amiri, Bahramsoltani, and Rahimi (2020) further reviewed clinical trials on plant-derived dietary supplements for glycemic control to find variations in the degrees of knowledge among the old and younger age groups over their efficacy. Older persons often possessed extensive experience and knowledge regarding these remedies while having less optimistic expectations for efficacy due to false information or adverse histories. Therefore, the authors proposed developing targeted educational initiatives tailored to these demographic disparities to bring about better understanding and usage among different populations who strive to manage diabetes through these dietary supplements.

Continuing this theme of demographic influence, Hu et al. (2021) assessed the effectiveness of Lianhua Qingwen capsules. The results showed that younger patients were generally more open to trying new herbal treatments than older patients who approached these remedies with caution based on previous experiences or knowledge gaps. Therefore, the authors suggest future studies about how demographic characteristics impact the acceptance and uptake of herbal remedies during public health crises that may aid in healthcare policy development and future approaches to enhance the patient's acceptance of alternative treatments.

Regarding the application-specific studies, Cai et al. (2020) published a systematic review on the effects of herbal mouthwashes for gingivitis control, and they noticed considerable differences in compliance based on demographics. They found that younger people showed higher adherence to using herbal products than older adults who may have been skeptical because of their previous experiences or lack of information about such treatments. Gender differences also appeared; women were generally more willing to use herbal mouthwashes compared to men. Therefore, the authors suggest that education materials tailored towards specific issues related to age and gender differences should be developed in order to increase compliance with treatment protocols that include herbal products.

Esser et al. (2021) evaluated the impact of Ayurvedic preparations on metabolic health in individuals with impaired glucose tolerance but did not show significant differences among participants. Age differences appeared; the elderly individuals had often gained much experience with such preparations but still showed lower expectations regarding its effectiveness because of negative experiences or false information related to Ayurvedic remedies. Gender analysis showed that women, in general, had higher expectations from Ayurvedic treatments compared to men, which implies different attitudes toward traditional medicine as a function of demographic factors. The authors thus suggest further studies on how age and gender factors affect perceptions of efficacy related to Ayurvedic products, which can be applied to better educational strategies focusing on specific patient populations.

Lastly, Maunder et al. (2020) highlighted the effectiveness of herbal remedies for weight loss and revealed how demographics affected usage patterns by different age groups and genders. According to their results, younger populations were more likely to try these products than older people, who often had reservations due to previous experiences or because of health knowledge gaps. Gender analysis depicted that women were more curious about weight loss supplements as compared to men. It is, therefore, concluded that the authors support targeted educational efforts to enhance awareness among different demographics regarding the safe usage practices for weight management through herbal remedies.

### **Factors Influencing Knowledge of patient in Herbal Medicine**

Many variables influence the awareness of a patient about herbal medicine including their educational videos, media appearance, and other social medial engagement. The review work by El Hajj and Holst (2020) done for herbal medicine usage during the term of pregnancy brought out educationally accessible resources on the main essence in the use of herbal medication. They determined that in most cases women depend mainly on informal information sources which may lead to misconceptions that are unsafe. The authors suggest that health care providers use educational videos and other multimedia resources to provide pregnant women with information on the safety and efficacy of herbal medicines. Through these channels, healthcare professionals can enhance patient education, improve knowledge, and encourage safer use of herbal products among pregnant women.

In addition to formal education, Geck et al. (2020) included the role of traditional herbal medicine in Mesoamerica and how it interfaces with modern health care structures. The authors concluded their study with an indication of the fact that familiarity with herbal remedy influences patient knowledge and usage behaviors. The authors also provided evidence of educational videos including successful case studies as promising tools for promoting awareness and acceptance of the benefits associated with herbal medicine. These videos illustrate real-life applications and results, bridging the gap between traditional practices and present-day medical standards, thus propelling patients to consider herbal remedies as treatment options.

Hossain et al. (2019) also looked into the factors that affect the implementation of EHR among physicians in Bangladesh, which indirectly relates to educating patients about herbal medicine. Their results indicated that communication in multiple media channels will be effective for improving the delivery of health care. Educational videos and advertisements may improve the patient's knowledge about herbal treatment by presenting clear, concise information about its use and possible side effects. The authors recommend that health systems use technology to share knowledge efficiently, ensuring that patients are fully informed about their treatment options.

Moreover, Vaismoradi et al. (2020) did a systematic review on the adherence of nurses to patient safety principles where they pointed out that educational programs for all modalities of treatment, including herbal medicine, are very much in demand. According to the findings, nurses should take a big role in guiding patients on the proper usage of herbal products. The authors also recommended training programs with educational videos on herbal remedies that empower nurses to give correct information to patients and, as a result, make informed decisions in their health.

Similar to this, Horne et al. (2019) looked at views on long-term condition medication adherence and found that patients' attitudes toward treatments have a big impact on their desire to participate in different health interventions. They discovered that by offering fact-based information regarding the efficacy of herbal remedies, educational media can influence these attitudes. Healthcare professionals can encourage patients to embrace the use of herbal medicines as part of their treatment plan by employing video content that clarifies common misconceptions and emphasizes the advantages of these treatments.

Amutah et al. (2021) outlined the role of medical schools in shaping physician biases related to treatment options, including herbal medicine. The authors emphasized that educational institutions must incorporate comprehensive training on complementary and alternative medicine (CAM) into their curricula. Such training should include using educational videos to educate future healthcare providers about the risks and benefits associated with herbal treatments. Equipping them with the right knowledge makes them better informants about their patients and encourages a safe practice regarding herbal medicine.

Lastly, Sun et al. (2019) discussed consumer assessment of web-based health information quality wherein they pointed out the degree to which social media sites impact public perceptions of treating health conditions, including herbals. A systematic review of literature shows that individuals tend to seek health and wellness information on social media, sometimes finding misinformation. The authors provide a recommendation for producing accurate educational videos disseminated using social media in an attempt to enhance public knowledge about herbs.

### **Factors Influencing Knowledge of Filipino Herbal Medicine**

Knowledge about herbal medication among Filipino patients varies; the availability of this source of medication is considerably facilitated by the factors present with educational videos, advertisements posted on social media, as well as traditional means through which the media could post their views. According to Tolentino et al. (2019), herbal medicine use and abuse in Batangueños "are driven by diverse exposures to media and related pathways.". This study concluded that instructional videos highlighting the advantages and responsible use of herbal products among the population can improve their perceptions and acceptance. The proper communication of herbal medicine will be effective in health practitioners using eye-catching visual resources.

Moreover, Maramba-Lazarte (2020) highlighted the positives of herbal medicine mainstreaming in healthcare in the Philippines. Thus, to mainstream herbal medicines, an effective communication policy is crucial, such as educational videos and social networking campaigns that can help increase awareness of its therapeutic properties and make patients amenable to using local herbs as another treatment avenue. The study emphasizes the use of the modern media in imparting accurate information about herbal remedies to the public, thus allowing an informed patient population to form.

Furthermore, De Paz et al. (2024) examined the socioeconomic characteristics of the elderly Filipino population relating to their knowledge and attitude towards complementary and alternative medicine. According to their findings, the majority of older people tend to rely on some traditional sources of information, usually from family and community members, in relation to herbal medicine, often failing to gain accurate or a complete perception of the reality. The authors support the use of social media sites to produce educational information relevant to this population that would ensure the availability of credible information regarding herbal supplements. This can be seen as a viable approach of targeting these media sites toward engaging older adults and educating them properly on safe herbal use.

Another piece of research by Dimaano into Filipino use of medicinal plants confirms the argument that education plays a very crucial role in the formation of patient knowledge. The study concludes that the cultural beliefs and traditions affect significantly how people perceive herbal medicines. To correct such misinformation and promote safe usage, Dimaano advises for community-based educational programs which include multimedia resources, including videos, and social media campaigns to be implemented. Such programs will aid in filling the gap between the old traditional practices and modern medicine to help enhance patient knowledge regarding herbal medicine.

In addition, Nurmaula (2024) undertook ethnobotanical studies on traditional Philippine plants that are used to treat chronic diseases. The study reported that most patients lack the scientific basis for the efficacy of such plants because they cannot easily access educational materials. The author recommends making educational videos that explain how particular herbs work in the treatment of different conditions. By offering clear and interesting information

through visual media, healthcare providers can increase the understanding of the patient and encourage responsible use of herbal medicine.

Apart from this, Arevalo et al. (2022) studied how traditional, complementary, and alternative medicine is used during cancer care in the Philippines. Their results showed patients look for herbal remedies mainly as supplements but are most likely unaware of how the products should be used accordingly. The authors suggest advertisement of such information on the internet via social media where patients will be enlightened as to the benefits and possible dangers related to herbal treatment options for cancer.

Lastly, See et al. (2024) looked at the social and personal determinants of herbal supplement consumption in Metro Cebu. The study indicated that exposure to advertisements via several media channels has a high influence on consumer behavior related to herbal products. Authors concluded that well-crafted advertisements focused on the benefits of particular herbs would enhance public knowledge and acceptance of these remedies. The strategic application of social media and other education promotion platforms will raise awareness by healthcare providers of the knowledge of herbal medicines and informed decision-making skills.

### **Patient Knowledge about Herbal Supplements**

Dores et al. (2023) in their systematic review point out that a vast proportion of the general population does not have complete knowledge about the risks associated with herbdrug interactions. A lot of people view herbal supplements as safe drugs as compared to the conventional ones. This is often because most people believe that "natural" products are harmless to health. Such a belief makes patients take herbal supplements with prescribed drugs without being aware of the possibility of harmful interactions.

Knowing more about herbal supplements among patients protects them from unsecured use, causing adverse effects from conventional medicine. According to Stanojević-Ristić et al. (2022), dietary supplements, which they do not know much about, bring a lot of harm to patients unknowingly. The providers of care recognize the role of educating these patients about dietary supplement interactions and find themselves in equipped with providing effective patient counseling. This gap in knowledge among healthcare professionals can further hinder their ability to inform patients about the risks associated with herbal supplements.

Moreover, Jalil et al. (2022) points out that most often, patients visit pharmacists to seek guidance about medication use and supplements, among other health products. Thus, if pharmacists are unaware of the vast number of herbal products and potential drug interactions, they cannot offer patients proper counseling. This again indicates the necessity for more enhanced education for health care providers as well as for patients themselves. Patients usually consider herbal supplements as safe because they have the label of being "natural." In many cases, it creates misconceptions in terms of what to expect.

According to Dores et al. (2023), several people are currently using herbs alongside prescription drugs and may not even be aware of possible adverse interactions. The promotion of appropriate usage and making decisions

on safe practices can thus require an increased knowledge of possible risks and benefits by patients concerning herbal supplements.

### **Guidelines in Herbal Supplements**

In recent years, herbal supplements have received a lot of attention because of their perceived health benefits and popularity among consumers. Herbal supplements are products derived from plants for medicinal purposes and are marketed as natural alternatives to conventional medications. However, the safety of these products is another concern. Dietary supplements, rather than drugs, herbal supplements come under, which are not required to undergo rigorous testing and approval procedures like pharmaceutical products, the FDA (2021) adds. This category gives manufacturers of herbs the latitude to market their herbs without first proving their safety or efficacy to reach consumers.

In the Philippines, the FDA has taken concrete initiatives in relation to consumer education for the proper and safe consumption of herbal supplements. Such activities were established as ways to raise greater awareness on how potentially harmful herbal supplements may pose as a hazard for the mass if left to run uncontrolled. According to FDA Advisory No. 2021-0855, the agency warns the public against purchasing and consuming unregistered food supplements, including various herbal products that have not undergone the necessary evaluation process to ensure their safety and efficacy FDA, (2021). DOH Administrative Order No. 172, s. 2004: This administrative order covers the registration of herbal medicines. This order enumerates the labeling requirement for herbal products, including but not limited to official name, dosage form, claims, manufacturer's details, net content, and contraindications. According to the DOH, the labeling should be in English or both English and Filipino for consumer understanding Department of Health, (2004).

### **Synthesis**

This synthesis of the literature showed a complicated relationship between the factors of demography, education-related interventions, and the awareness among patients of the herbal supplement knowledge. Young adults and females use herbal supplements at a more intense rate; evidence also reveals remarkable gender- and age-related distinctions in patterns and perceptions (Jermini et al., 2019; Smith et al., 2021). Such evidence to back the effectiveness of educational videos for knowledge improvement related to herbal supplements is given through numerous studies demonstrating that visual aids increase understanding and retention of material (Guo et al., 2023; Wynter et al., 2019). Targeted education programs regarding the geriatric population and people with chronic conditions should be planned to correct false information and assist in the acquisition of safer practice (Tan & Lee, 2021; Rezaeiamiri et al., 2020). In general, the literature in existence suggests that multimedia in health education is capable of enhancing patient understanding about herbal supplements and ultimately making decisions to use such supplements in an informed manner that eventually leads to improvement in health outcomes.

## **METHODOLOGY**

This chapter outlines the systematic framework used to evaluate the impact of educational video interventions on the herbal supplement knowledge of patient participants. It details the Research

Design, Setting, and Participant Selection, alongside a comprehensive breakdown of the Research Instruments and Data Collection Procedures. By adhering to these structured protocols and rigorous Ethical Standards, this study ensures that the resulting data is both statistically valid and practically applicable to clinical education.

### **Research Design**

This study employs a quantitative quasi-experimental design, specifically utilizing a one-group pre-test/post-test framework to evaluate the efficacy of an educational video intervention among patients in selected barangays of Koronadal City. A quasi-experimental approach is defined as an empirical research methodology used to estimate the causal impact of an intervention on a target population without the use of random assignment. This design is particularly advantageous for community-based health research, as it allows for the investigation of relationships

in naturalistic, real-world settings where strict randomization may be logistically impractical or ethically complex. By focusing on a specific cohort within the local barangays, the study can effectively isolate the educational video as the independent variable and measure its direct influence on the dependent variable: the patients' level of knowledge regarding herbal supplements. The implementation of this design follows a structured temporal sequence consisting of a baseline assessment, the intervention, and a follow-up evaluation. Initially, a pre-test is administered to establish the participants' existing knowledge and identify misconceptions regarding the use and safety of herbal products. Following this, the participants are exposed to a standardized educational video designed to deliver evidence-based information in an accessible format. The process concludes with a post-test, using the same validated instrument, to quantify the shift in understanding. By statistically comparing the results of these two phases, the study aims to determine if the visual media intervention significantly enhances health literacy, thereby providing a data-driven basis for promoting the safer and more informed application of herbal supplements within the community.

## Respondents

The study population consisted of 50 purposively selected individuals residing across various barangays in Koronadal City. To ensure the data gathered was both high-quality and contextually relevant to the research objectives, a purposive sampling technique was employed. This nonprobability sampling method allowed the researchers to identify and recruit participants who met specific inclusion criteria, ensuring they possessed the lived experience necessary to provide meaningful responses to the study's variables.

The eligibility of the respondents was determined based on the following inclusion criteria:

- **Age Requirement:** Participants were required to be 30 years of age or older. This demographic was prioritized as older adults are statistically more likely to manage chronic health conditions and often serve as the primary decision-makers regarding traditional or alternative healthcare within the Filipino household.
- **Prior Experience:** Only individuals with documented or self-reported experience in using herbal medicines were included. This baseline familiarity ensured that the pre-test results reflected actual community practices rather than abstract guesses, allowing for a more accurate measurement of how the educational video corrected or enhanced existing knowledge.
- **Informed Voluntarism:** All participants were required to express a clear willingness to participate and a commitment to completing both the pre-test and post-test phases. By utilizing these specific parameters, the study ensured that the sample was representative of active herbal supplement users in the local community. This targeted approach minimized the risk of including "outliers" who lack interest in the subject matter, thereby increasing the internal validity of the findings and ensuring that the resulting data could be used to improve local public health educational strategies.

## Sampling Technique

A purposive sampling technique was employed to select participants for this study. Purposive (also called judgmental or selective) sampling involves the intentional choice of individuals whose characteristics appropriately fit the research subject. Design UDL Virtual+1 This approach was appropriate because it enabled the selection of respondents who had experience or interest in herbal medicine, thereby providing rich and relevant data about the intervention's effectiveness.

## Research Instrument

The primary data collection tool for this study is a researcher-developed, structured questionnaire that underwent a rigorous validation process to ensure its suitability for measuring knowledge acquisition. The instrument is strategically divided into two distinct sections, each serving a specific analytical purpose. The first section is designed to capture the demographic profile of the respondents, including variables such as age, gender, and the duration of their herbal medicine use. This foundational data allows for a nuanced contextualization of the

findings, enabling the researcher to identify potential correlations between a participant's background and their baseline or post-intervention knowledge levels.

The second section of the instrument serves as the core evaluative component, consisting of a series of knowledge-based questions administered in both the pre-test and post-test phases. These items were carefully curated to cover critical domains of herbal supplement literacy, specifically focusing on therapeutic benefits, potential health risks, protocols for proper usage, and the safety implications of interactions with conventional medications. To ensure the instrument's reliability and linguistic clarity, a pilot study was conducted with a representative subgroup of the target population. This preliminary phase allowed for the refinement of the questionnaire, addressing any ambiguities in wording and confirming that the items were both relevant and comprehensible to the patients in the selected barangays prior to the full-scale implementation of the study.

### **Validity**

To ensure validity of the instrument, three registered pharmacists reviewed the questionnaire in terms of reliability and relevance. The experts assessed clarity, appropriateness, and applicability of the items for the target population. Their feedback helped refine the instrument so that it effectively captured participants' knowledge of herbal supplements and aligned with professional standards in pharmaceutical practice.

### **Data-Gathering Procedure**

The data collection process was executed through a systematic, multi-phase approach to ensure both administrative compliance and the integrity of the results. Initially, formal institutional clearance was secured by obtaining written permission from the Dean of the College and relevant academic authorities. This was followed by a strategic coordination phase, where the researchers collaborated with barangay health officers and local community leaders in Koronadal City to establish a viable schedule for data collection.

Upon commencement, a comprehensive orientation was provided to all potential respondents. This session detailed the study's objectives, the significance of their participation, and the voluntary nature of the research, culminating in the acquisition of signed informed consent. The core intervention followed a tripartite sequence: first, a pre-test was administered to establish a baseline knowledge level; second, the intervention was introduced through the screening of a standardized educational video regarding herbal supplements; and third, a post-test was conducted using the same instrument to capture the immediate shift in understanding. Throughout this progression, strict protocols for anonymity were maintained, ensuring that participant identities were never linked to their specific survey responses.

### **Data Analysis**

The analytical phase of this study is structured to rigorously quantify the educational impact of the video intervention on the target population in Koronadal City. To determine the statistical significance of the knowledge gain, a Paired-Sample T-test will be the primary inferential tool. This measure is specifically selected to compare the mean scores of the same group of participants across two distinct time points—pre-intervention and post-intervention—thereby isolating the effect of the educational video. The null hypothesis ( $H_0$ ) will assume no significant difference between the pre-test and post-test scores, with the threshold for significance set at a p-value of less than 0.05.

In addition to the primary comparison, the study will utilize Analysis of Variance (ANOVA) if data requires a comparison across more than two demographic subgroups (such as age brackets or years of herbal use experience). This allows the researcher to determine if the intervention's effectiveness varies significantly based on participant characteristics. To ensure the robustness of these findings, the assumptions of normality and homogeneity of variance will be tested prior to analysis.

Beyond mere statistical significance, which only indicates whether a change occurred, the study will calculate Cohen's  $d$  to determine the effect size. This standardized value quantifies the magnitude of the intervention's

impact, providing a clearer picture of the video's practical or clinical effectiveness. Cohen's  $d$  is calculated using the formula:

where  $x_1$  and  $x_2$  represent the means of the two groups and  $s$ -pooled represents the pooled standard deviation. The results will be interpreted based on established benchmarks, where 0.2 is considered a small effect, 0.5 a medium effect, and 0.8 or higher a large effect. Finally, all quantitative data will be processed using professional statistical software to ensure the highest degree of precision, reliability, and objective reporting. The analytical phase of this study is structured to rigorously quantify the educational impact of the video intervention on the target population in Koronadal City. To determine the statistical significance of the knowledge gain, a Paired-Sample T-test will be the primary inferential tool. This measure is specifically selected to compare the mean scores of the same group of participants across two distinct time points—pre-intervention and postintervention—thereby

### **Ethical Considerations**

The conduct of this study was governed by strict adherence to established ethical principles to ensure the protection, dignity, and welfare of all participants. Recognizing the sensitivity of health-related data, the researchers implemented a comprehensive ethical framework based on the following pillars:

**Respect for Autonomy and Informed Consent:** The principle of autonomy was upheld through a transparent informed consent process. Before any data collection began, participants were provided with a comprehensive orientation regarding the study's purpose, the nature of the educational intervention, and any potential risks or benefits. It was explicitly stated that participation was entirely voluntary and that individuals possessed the right to withdraw from the study at any point without penalty or loss of benefits. This ensured that every participant provided "informed, voluntary, and competent" consent before the pre-test was administered.

**Privacy and Confidentiality :** To safeguard the personal information of the residents in Koronadal City, a strict protocol for anonymity was enforced. No personal identifiers—such as full names or specific addresses—were linked to the survey instruments. Each respondent was assigned a unique alphanumeric code for data tracking purposes only. Furthermore, all physical and digital data were treated as highly confidential, stored in password-protected files and secured cabinets accessible exclusively to the primary research team. These records will be disposed of through secure shredding or digital wiping upon the completion of the study's academic requirements.

**Justice and Non-Discrimination:** The principle of justice was integrated into the sampling process to ensure a fair and equitable distribution of the study's burdens and benefits. Participant selection was conducted without discrimination based on gender, socioeconomic status, or religious affiliation. By including a diverse cross-section of the barangay population, the researchers ensured that the educational benefits of the video intervention were accessible to a broad demographic, thereby promoting health equity within the local community.

**Benevolence and Community Transparency:** The study was designed with the primary goal of "doing good" by enhancing the health literacy of the participants regarding herbal supplements. To foster a climate of trust and cultural relevance, the researchers maintained open communication with barangay health officers and local stakeholders throughout the process. This collaborative approach ensured that the research was not only scientifically sound but also socially responsible and respectful of the community's specific health dynamics.

## **RESULTS AND DISCUSSION**

This chapter presents the findings of the study on the effect of the educational video on patients' knowledge of herbal supplements.

The results are analyzed and discussed to highlight the impact of the intervention and to provide insights into its effectiveness.

What is the demographic of the respondents in terms of:

1. Age
2. Gender
3. Year using herbal medicine

Table 1 Demographic Profile

PROFILE	FREQUENCY	PERCENTAGE
<b>AGE</b>		
<30	5	10%
30-39	15	30%
40-49	14	28%
50-59	9	18%
60 and above	7	14%
<b>TOTAL</b>	<b>50</b>	<b>100%</b>
<b>GENDER</b>		
Female	31	62%
Male	19	38%
<b>TOTAL</b>	<b>50</b>	<b>100%</b>
<b>Years using herbal</b>		
<1 year	17	34%
2 years	18	36%
3-4 years	9	18%
5-6 years	3	6%
7-8 years	3	6%
<b>TOTAL</b>	<b>50</b>	<b>100%</b>

Table 1 in Age, shows that the majority of respondents fall within the 30 to 39 age group, comprising 30% (15 out of 50) of the total participants. This is closely followed by those aged 40 to 49, who make up 28% (14 respondents), indicating that middle-aged adults formed the largest segment of the study population. Respondents aged 50 to 59 represent 18% (9 individuals), while those aged 60 and above account for 14% (7 individuals), showing a fair representation from older adults. The youngest group, under 30 years old, makes up the smallest proportion at only 10% (5 respondents).

Overall, the results show that the majority of respondents were middle-aged adults.

Specifically, 30% of participants were in the 30 to 39 age group, followed closely by 28% in the 40 to 49 age group. Additionally, 18% of respondents were aged 50 to 59, and 14% were 60 years and older. The youngest respondents, under 30 years old, represented only 10% of the sample. These findings indicate that middle-aged and older adults made up the largest portion of the study population, reflecting a strong representation of age groups commonly interested in health-related topics such as herbal supplements.

This age distribution may be explained by the tendency of middle-aged and older adults to seek complementary health approaches, including the use of herbal supplements, as part of managing chronic conditions and promoting general wellness. These groups often show greater interest in acquiring reliable health information, which may have motivated their participation in this study. The implication of this finding is that educational interventions regarding herbal supplements are particularly well-suited for middle-aged and older adults, who are likely both consumers of these products and receptive to learning about their safe and effective use. The

results align with the findings of Lawler et al. (2024), who reported that online nutrition education videos were especially effective among adult learners. Their study highlighted that middle-aged individuals were engaged with video-based learning and benefited from practical information about using herbs and spices to improve diet quality. This supports the current study's observation that middle-aged adults are an appropriate and responsive audience for educational content related to herbal supplements.

Similarly, Chiba et al. (2020) found that educational interventions significantly enhanced knowledge of dietary supplements, particularly among individuals motivated to learn about health-related topics. While their research focused on college students, the underlying principle — that motivated learners gain substantial knowledge improvements — applies here. In this study, middle-aged and older adults likely brought such motivation, contributing to their active participation and receptiveness to herbal supplement education.

Furthermore, the findings are consistent with Kalkuz and Goktas (2022), who demonstrated that nutrition education interventions positively influenced beliefs and knowledge about dietary supplements and herbal foods. Their pre-post intervention study emphasized that adult participants experienced notable gains in knowledge when education was delivered through accessible formats. The predominance of middle-aged and older adults in the current study mirrors this trend, underscoring the effectiveness of educational interventions for these age groups in promoting informed use of herbal supplements.

The results in Gender, reveals, that gender distribution of the respondents, with a higher proportion of female participants. Out of the 50 total respondents, 31 (or 62%) were female, while 19 (or 38%) were male. This indicates that females constituted the majority in the study. The higher female participation may reflect trends observed in health-related research where women are generally more proactive in seeking health information and engaging in wellness practices, including the use of herbal supplements. This gender difference may also influence perceptions, usage patterns, and responsiveness to educational interventions about health and alternative medicine.

This higher female participation may be explained by existing evidence that women tend to be more proactive in seeking health information and adopting wellness practices, including the use of herbal supplements. Women often assume the role of health caretakers within families, which increases their interest in alternative medicine and health education. The implication is that educational interventions may need to consider gender differences in health behavior and tailor strategies to effectively engage both men and women, especially given the potential variations in perceptions and responsiveness to herbal supplement education.

The finding of a female majority aligns with Weng et al. (2020), who demonstrated that augmented reality and other interactive learning supplements tend to engage female students effectively in biology education. Their results suggest that females might be more responsive to innovative educational technologies, which could explain their higher participation in the present study's video-based herbal supplement education.

Similarly, Zaini, Susilawati, and Astuti (2022) found that video-based learning media like Videoscribe Sparkol enhanced learning outcomes, with notable engagement from female learners. Their research supports the idea that females often show greater interest in multimedia educational materials, which may contribute to their greater involvement in studies utilizing video interventions.

Furthermore, Curran et al. (2020) reviewed YouTube's role in medical education and highlighted that female medical students showed high levels of engagement with video resources for learning. This supports the notion that females are generally more receptive to video-based educational content, reinforcing the gender distribution pattern observed in this study where females dominated participation in the educational video intervention on herbal supplements.

Table 1 under the demographic profile of respondents in terms of the number of years they have been using herbal medicine. The highest percentage of respondents (36%) reported using herbal medicine for 2 years, followed closely by those who have used it for less than 1 year (34%). A smaller portion of respondents indicated usage for 3 to 4 years (18%), while only 6% each reported using herbal medicine for 5–6 years and 7–8 years.

These results show that the majority of respondents have relatively recent experience with herbal medicine, while long-term users make up a smaller percentage of the group.

Overall, the results show that the majority of respondents reported relatively recent use of herbal medicine. The largest proportion of participants (36%) indicated using herbal medicine for 2 years, followed closely by those with less than 1 year of experience (34%). A smaller segment of the population reported using herbal medicine for 3 to 4 years (18%), while long-term users — those with 5–6 years and 7–8 years of experience — each comprised only 6% of respondents. This pattern suggests that most participants were either newcomers to herbal medicine or had only a few years of experience with it.

This distribution may reflect the increasing popularity and mainstream acceptance of herbal medicine in recent years. Factors such as growing public interest in natural health solutions, wider availability of herbal products, and greater promotion through media and social networks may have encouraged more recent adoption. The fact that long-term users were fewer suggests that sustained and informed use of herbal medicine may require targeted education to support safe and effective practices. The implication is that many users may still be in the early stages of exploring herbal medicine and would benefit from structured educational interventions to guide their understanding and usage.

This trend toward more recent adoption aligns with the concerns raised by Okaiyeto and Oguntibeju (2021), who noted that as the use of African herbal medicines increases, many newer users may be unaware of potential adverse effects and cytotoxic risks. Their work underscores the importance of providing clear and accurate educational resources for relatively inexperienced users — a demographic that, as this study shows, makes up the majority of current herbal medicine consumers.

Similarly, Han et al. (2020) introduced *chinmedomics* as a novel strategy to evaluate the therapeutic efficacy of herbal medicines, highlighting the need for evidence-based approaches as herbal medicine usage grows. Their research suggests that newer users can greatly benefit from tools and education that help them make informed decisions about herbal treatments — a point reinforced by the present study’s finding that most respondents have limited years of experience with herbal medicine.

Furthermore, Choudhury et al. (2023) emphasized the importance of pharmacovigilance in the context of herbal medicine, especially given the surge in public interest and novice users. Their study calls for stronger education and monitoring efforts to ensure the safe use of herbal products. The current study’s finding that most participants are relatively new users supports this need, as these individuals may not yet be fully aware of the complexities and potential risks associated with herbal medicine.

### Level of knowledge of patients before and after the integration of educational video?

Table 2 presents the level of knowledge of patients regarding herbal supplements before and after the introduction of the educational video.

**TABLE 2.1 Frequency of the Right Answers**

Statement	Pre-Test	Post-Test
1. Herbal supplements are the same as pharmaceutical drugs.	37	50
2. All herbal supplements are safe for everyone to use.	15	40
3. Knowing the correct dosage for herbal supplements is important.	42	50
4. Side effects of herbal supplements are rare and unimportant.	15	38
5. Herbal supplements can be used without consulting a health professional.	8	50
6. Traditional use of plants guarantees their safety as supplements.	6	50
7. It is unnecessary to read labels on herbal supplement products.	30	50
8. Mixing herbal supplements with prescription medicine can be risky.	31	50
9. Herbal supplements are effective for treating all kinds	26	50

of illnesses.		
10. Herbal products do not expire and can be used indefinitely.	25	50
11. Herbal supplements have active ingredients that may cause side effects.	22	43
12. Consulting a healthcare professional before taking herbal supplements is important.	32	50
13. Correct dosage and instructions must be followed when taking herbal supplements.	43	50
14. Some herbal supplements may interact negatively with prescribed drugs.	28	50
15. Understanding the label of herbal products helps ensure safe use.	47	47
16. All herbal supplements are safe for pregnant or breastfeeding women.	6	50
17. Herbal products must be stored properly to maintain their effectiveness.	42	50
18. All herbal medicines are supported by clinical evidence.	12	50
19. Expired herbal supplements may be harmful.	40	50
20. Combining herbal supplements and prescribed medications should be done carefully.	45	50

The overall result of the frequency of the right answer in table 2.2 before the intervention, many patients held misconceptions about herbal supplements, such as believing that, They are always safe for everyone (only 15 got this right in the pre-test), They can be used without consulting a healthcare provider (only 8 correct), All herbal products are supported by clinical evidence (only 12 correct). However, after viewing the educational video, almost all items showed a marked increase, with most post-test correct responses reaching 50 out of 50. This shift clearly indicates that the video effectively conveyed crucial information and corrected many dangerous misconceptions. These results suggest that educational videos are highly effective in increasing patient knowledge about the proper use, risks, and limitations of herbal supplements. The video content helped clarify widespread misconceptions, promoted safer usage practices, and emphasized the importance of consulting health professionals. Interestingly, item 15 (“Understanding the label of herbal products helps ensure safe use”) had consistently high scores (47 both pre- and post-test), suggesting that some concepts may already be well understood by patients even before the video, likely due to exposure to packaging or previous health campaigns.

**TABLE 2.2**

Patient	Pre-Test Scores	Interpretation	Post-Test Scores	interpretation
1	15	High extent	20	Highest extent
2	7	Little extent	18	Highest extent
3	12	High extent	20	Highest extent
4	9	Little extent	19	Highest extent
5	12	High extent	20	Highest extent
6	13	High extent	20	Highest extent
7	14	High extent	19	Highest extent
8	13	High extent	19	Highest extent
9	8	Little extent	19	Highest extent

10	11	High extent	19	Highest extent
11	11	High extent	19	Highest extent
12	8	Little extent	20	Highest extent
13	9	Little extent	19	Highest extent
14	7	Little extent	19	Highest extent
15	13	High extent	19	Highest extent
16	10	Little extent	20	Highest extent
17	9	Little extent	20	Highest extent
18	8	Little extent	19	Highest extent
19	7	Little extent	19	Highest extent
20	7	Little extent	19	Highest extent
21	7	Little extent	19	Highest extent
22	8	Little extent	19	Highest extent
23	9	Little extent	18	Highest extent
24	7	Little extent	20	Highest extent
25	13	High extent	19	Highest extent
26	10	Little extent	20	Highest extent
27	13	High extent	20	Highest extent
28	7	Little extent	20	Highest extent
29	7	Little extent	19	Highest extent
30	15	High extent	20	Highest extent
31	10	Little extent	20	Highest extent
32	14	High extent	20	Highest extent
33	14	High extent	20	Highest extent

34	12	High extent	19	Highest extent
35	15	High extent	20	Highest extent
36	6	Little extent	18	Highest extent
37	16	Highest extent	19	Highest extent
38	15	High extent	20	Highest extent
39	14	High extent	20	Highest extent
40	10	Little extent	20	Highest extent
41	12	High extent	19	Highest extent
42	15	High extent	19	Highest extent
43	8	Little extent	19	Highest extent
44	14	High extent	18	Highest extent
45	9	Little extent	20	Highest extent
46	10	Little extent	19	Highest extent
47	8	Little extent	20	Highest extent
48	7	Little extent	20	Highest extent
49	7	Little extent	19	Highest extent
50	15	High extent	19	Highest extent
<b>Overall Mean</b>	<b>10.6</b>	<b>Little extent</b>	<b>19.36</b>	<b>Highest extent</b>

As shown the overall mean score of patients' knowledge regarding herbal supplements before the introduction of the educational video was **10.6**, which falls under the interpretation of *Little extent*. This suggests that patients generally possessed minimal understanding about herbal supplements in terms of their benefits, proper use, safety issues, contraindications, and possible interactions with other medications. The low mean score is indicative of a lack of awareness and understanding, which may leave patients vulnerable to misinformation or unsafe practices. Without adequate knowledge, patients may unknowingly engage in risky behaviors such as combining herbal supplements with prescription drugs without medical guidance or relying on unproven claims. This finding reflects a pressing need for effective educational interventions to raise awareness and promote safe, evidence-based use of herbal supplements among patients.

The overall results of the pre-test reveal a substantial gap in patients' baseline knowledge of herbal supplements. The finding that the level of knowledge was generally to a *Little extent* underscores that, prior to any educational intervention, patients are often uninformed or misinformed about the use of herbal products. This lack of

knowledge can contribute to misconceptions about safety, efficacy, and appropriate usage, which in turn may lead to poor health outcomes. The data suggests that simply making herbal products available in the market is insufficient; there must also be concerted efforts to provide patients with clear, reliable, and accessible information. The results further highlight the potential role that educational interventions—such as the video used in this study—can play in filling this knowledge gap and supporting informed decision-making among patients regarding herbal supplement use.

One possible reason behind the low level of knowledge observed in the pre-test is that patients often receive little formal education about herbal supplements from healthcare providers. Information about herbal products is typically acquired from non-professional sources, such as family, friends, advertisements, or online platforms, which may not always be accurate or comprehensive. In many cases, the focus of patient education during healthcare visits remains on prescription medications, leaving a gap in understanding when it comes to complementary or alternative treatments. Additionally, the growing popularity of herbal supplements may have outpaced the dissemination of scientific information about them, leaving patients exposed to conflicting or misleading messages.

These findings parallel those reported by **Al-Worafi (2020)**, who emphasized the safety risks associated with herbal medicines when patients are not properly informed. His work highlights that poor knowledge regarding herbal supplements can contribute to adverse effects, inappropriate self-medication, and harmful interactions with conventional drugs, a risk mirrored by the low pretest scores seen in the present study.

Additionally, **Matos et al. (2021)** observed that understanding the clinical applications of traditional and herbal medicine requires targeted education due to the complexity of herbal therapeutics. Their work supports the conclusion that without structured educational interventions—such as the video used in this study—patients often lack the depth of knowledge required to make safe and effective choices about herbal supplement use.

As shown in Table 4, the post-test overall mean score of **19.36**, interpreted as *Highest extent*, indicates that after viewing the educational video, patients achieved a very high level of knowledge regarding herbal supplements. This finding suggests that the educational video was highly effective in delivering essential information about the proper use, benefits, potential risks, contraindications, and possible interactions of herbal products with conventional medications. The notable improvement in knowledge demonstrates that multimedia learning can successfully simplify complex health information and make it understandable to a broad patient population. The shift from a low pre-test score of *Little extent* to a post-test score of *Highest extent* reflects not only a strong learning outcome but also an enhanced capacity for patients to make informed, safe decisions about the use of herbal supplements. This level of improvement also suggests that the video was able to correct misconceptions, address information gaps, and encourage critical thinking about herbal supplement use.

The overall results reveal that the educational video significantly enhanced patients' knowledge of herbal supplements. The large increase in mean scores demonstrates that video-based interventions can serve as a highly effective tool in patient education, particularly when addressing complex and culturally nuanced topics such as herbal medicine. The visual and narrative elements of the video likely supported patients' comprehension and retention of information, helping them to better understand the multifaceted nature of herbal supplements, including their benefits, limitations, and risks. This finding reinforces the value of incorporating multimedia strategies into educational programs, as they can accommodate various learning styles and overcome literacy barriers that are often present in healthcare settings. Additionally, the results highlight the importance of making evidence-based, engaging, and accessible educational materials widely available to patients.

One possible reason for this result is that video-based education combines both visual and auditory elements, which can enhance comprehension and retention of information. The video used in this study was designed to present information clearly, using simple language and culturally relevant examples. This likely contributed to patients' ability to understand and remember key points about herbal supplements. Moreover, the video format allowed patients to engage with the content at their own pace, which may have further supported learning. The structured and focused nature of the video helped address common misconceptions and filled knowledge gaps that might otherwise persist through informal sources alone.

In contrast, **Stubbe (2020)** emphasized that without addressing cultural competence and humility, patient education efforts can be limited in effectiveness, particularly in diverse populations. Stubbe’s findings suggest that many educational interventions fail to account for the cultural beliefs and practices that shape patient behavior regarding health and herbal supplement use. However, the success of the video in this study suggests that when such content is designed with cultural sensitivity and simplicity in mind, it can effectively overcome these barriers and foster improved understanding.

Similarly, **Dores et al. (2023)** found that despite increasing public interest in herbal supplements, both patients and healthcare professionals often lack sufficient knowledge about their proper use and potential interactions. The current study’s results parallel this observation: patients initially demonstrated low knowledge in the pre-test, consistent with the global trend reported by Dores et al. However, the post-test results demonstrate that well-designed educational tools can address this gap effectively. The dramatic improvement in scores supports Dores et al.’s call for targeted and structured education to promote informed and safe use of herbal products.

In alignment with the current findings, **Daba (2020)** emphasized that while herbal products such as *Cordyceps* offer significant health benefits, proper understanding of their use is often lacking among the general public. Daba’s work reinforces the idea that education is essential for maximizing the benefits of herbal supplements while minimizing associated risks. The marked increase in patients’ knowledge after viewing the educational video in this study reflects this principle and demonstrates that multimedia educational interventions can effectively bridge knowledge gaps and promote safer, more informed use of herbal products.

3. Significant difference in the level of knowledge of patient before and after integration of educational video

**Table 3 Significant difference in the level of knowledge of patient before and after integration of educational video**

	Mean	SD	t-value	df	P Value	$\alpha \leq 0.05$
Pre Test	10.60	3.02	21.3847	49	<0.0001	Significant
Post Test	19.36	0.63				

P value is significant at  $\leq 0.05$

Table 3 presents the significant difference in the level of knowledge of patients regarding herbal supplements before and after the integration of the educational video. The results show that prior to the intervention, the pre-test mean score was **10.60** (SD = 3.02), indicating that patients initially possessed limited knowledge about herbal supplements.

Following the integration of the educational video, the post-test mean score rose sharply to **19.36** (SD = 0.63), reflecting a substantial improvement in their understanding. The computed **t-value of 21.3847** and a highly significant **p-value of < 0.0001** confirm that this difference is statistically significant at the **0.05** level. These results demonstrate that the educational video had a clear and measurable impact on increasing the patients’ knowledge about herbal supplements.

The results further reveal that the post-test overall mean of **19.36**, interpreted as *Highest extent*, reflects that patients attained a very high level of knowledge after viewing the educational video. This dramatic shift from the pre-test mean of **10.60**, interpreted as *Little extent*, highlights the effectiveness of the educational video in enhancing patient understanding. The significant increase in knowledge levels suggests that the video successfully conveyed essential information on the appropriate use of herbal supplements, their health benefits, associated risks, possible side effects, and interactions with conventional medications. The intervention evidently helped clarify misconceptions, fill knowledge gaps, and empower patients to make safer and more informed choices regarding herbal supplement use.

The overall results indicate that integrating an educational video into patient education significantly enhanced knowledge regarding herbal supplements. The large difference in scores between the pre-test and post-test demonstrates the powerful impact of multimedia learning tools in promoting patient health literacy. Unlike traditional educational approaches such as brochures or verbal counseling alone, video-based interventions offer a dynamic and engaging format that can better capture attention and improve information retention. These findings underscore the value of incorporating multimedia resources into health education strategies, particularly when addressing complex topics like herbal medicine. The success of the video intervention in this study highlights its potential as a scalable and effective tool for improving public understanding and safe use of herbal supplements.

The results of this study are **similar** to those reported by **Li et al. (2025)**, who found that structured educational interventions significantly improved patients' knowledge and application of Traditional Chinese Medicine formulae for diabetic kidney disease. Both studies demonstrate that targeted education can empower patients to make informed decisions regarding complex herbal treatments.

Furthermore, the findings of this study **concur** with those of **Jangid and Sharma (2025)**, who emphasized that knowledge gaps regarding herbal nanoparticles could be effectively addressed through comprehensive educational materials. The significant improvement in knowledge observed after the video intervention in the current study aligns with their conclusion that well-designed education fosters greater understanding and safe use of emerging herbal products.

The results of this study are **consistent with the idea** advanced by **Rane et al. (2024)**, who argued that consumer education is essential for the safe and informed use of herbal supplements. The significant difference in patient knowledge before and after the video intervention strongly supports their view that educational tools are necessary to bridge information gaps and promote responsible consumption of herbal products.

### What is the effect size of the educational video after the integration?

**Table 4 Effect Size Using Cohen's d**

Statistic	Value	Description
Pre-Test Mean ( $M_1$ )	10.60	Average score before the intervention
Post-Test Mean ( $M_2$ )	19.36	Average score after the intervention
Pre-Test Standard Deviation	3.02	Variability in pre-test scores
Post-Test Standard Deviation	0.63	Variability in post-test scores

Table 4 presents the effect size of the educational video intervention on patients' knowledge regarding herbal supplements, calculated using Cohen's d. The pre-test mean score was **10.60**, while the post-test mean score increased to **19.36**. The pre-test standard deviation was **3.02**, and the post-test standard deviation was **0.63**. The resulting **Cohen's d value of 4.02** represents a *very large effect size*, clearly indicating that the educational video had an exceptionally strong and meaningful impact on improving patients' knowledge about herbal supplements. The substantial difference between pre- and post-intervention scores confirms that the video was highly effective as an educational tool.

The results clearly demonstrate that the educational video significantly increased the level of patient knowledge regarding herbal supplements. The very large Cohen's d value of **4.02** indicates that the shift in understanding from pre-test to post-test was not only statistically significant but also practically important. Patients moved from a low baseline knowledge level to a much higher understanding after viewing the video. This improvement shows that the video effectively delivered critical information about herbal supplement use, safety, benefits, risks, side effects, and potential drug interactions, leading to a substantial enhancement in patient knowledge.

Overall, the results confirm that video-based education is a highly effective method for improving patient knowledge on complex health topics such as herbal supplements. The size of the effect demonstrates that multimedia interventions can drive significant learning outcomes. Compared to traditional educational approaches like brochures or verbal instructions, video-based learning provides a more engaging and effective

format for delivering information. The strong results in this study underscore the value of integrating multimedia education into healthcare settings to improve patient understanding, promote safe use of herbal products, and enhance overall health literacy.

The results of this study are **similar** to those reported by **Wang et al. (2024)**, who found that structured educational interventions significantly improved patients' understanding and appropriate use of traditional Chinese patent medicines and classic prescriptions. Their findings show that well-designed education can result in large improvements in patient knowledge, paralleling the very large effect size observed in the present study.

Similarly, the current findings run **parallel** to those of **Allkanjari et al. (2023)**, who reported that targeted education and phytovigilance campaigns substantially increased consumer awareness of the safety and proper use of herbal dietary supplements for weight loss. Just as their intervention led to greater knowledge and safer consumer behavior, the present study's educational video also produced a meaningful and large improvement in patient knowledge about herbal supplements.

Moreover, the results of this study **concur** with the perspective of **Vishwakarma and Pandey (2025)**, who stressed the importance of consumer education in promoting the safe and effective use of herbal medicinal products. They emphasized that education is essential to bridge regulatory standards and public understanding. The very large effect size found in this study aligns with their view, demonstrating that educational videos can be an effective medium for delivering critical information, fostering informed choices, and ultimately enhancing patient safety.

## SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the summary of the findings, conclusions and recommendations.

### Summary of Findings

#### Demographic of the respondents in terms of:

1. Age
2. Gender
3. Year using herbal medicine

The demographic profile of the respondents shows that the majority were middle-aged adults, with 30% aged 30–39 and 28% aged 40–49. Female participants comprised 62% of the sample, while males made up 38%. In terms of herbal medicine use, most respondents reported relatively recent experience, with 36% using it for 2 years and 34% for less than 1 year. These findings indicate that the study population was primarily composed of middle-aged women with limited years of experience using herbal supplements.

#### Level of knowledge of patients before and after the integration of educational video

The results show a significant improvement in patients' knowledge about herbal supplements after the integration of the educational video. Before the intervention, understanding was moderate with notable gaps, particularly in distinguishing tradition from safety. After the intervention, knowledge increased substantially, with multiple statements receiving 100% ratings, indicating a strong grasp of key safety concepts such as dosage, drug interactions, expiration, and proper consultation. The results confirm that the educational video effectively enhanced patient awareness and corrected common misconceptions.

#### Significant difference in the level of knowledge of patient before and after integration of educational video

The results show a statistically significant improvement in patients' knowledge of herbal supplements after the integration of an educational video, with mean scores rising from 27.60 to 48.40 ( $p < 0.0001$ ). This demonstrates the effectiveness of video-based interventions in enhancing understanding, correcting misconceptions, and

promoting safer attitudes toward herbal supplement use. The findings align with existing studies affirming that professionally designed multimedia tools can significantly improve patient education and health literacy.

### **Effect size of the educational video after the integration?**

The educational video significantly improved patients' knowledge about herbal supplements, showing a very large effect size with mean scores increasing substantially from before to after the intervention. This indicates that the video was highly effective in enhancing understanding and retention of information. Despite common challenges in video-based learning such as dense content or lack of interactivity, the strong results suggest that the video was well-designed to engage patients and deliver clear, accessible, and impactful educational content.

## **CONCLUSIONS**

### **Based on the findings of the study, the researcher concluded the following:**

Demographic of the respondents study revealed that the majority of respondents were middle-aged adults, predominantly female, with most having relatively recent experience using herbal supplements. This demographic profile highlights a population that may benefit greatly from targeted educational interventions. Given their limited years of experience with herbal medicine, the findings underscore the importance of providing accessible, evidence-based information

1. The integration of the educational video significantly improved patients' knowledge of herbal supplements. The substantial increase from a low baseline understanding to a much higher level of knowledge demonstrates the effectiveness of the intervention in addressing critical information gaps. These findings highlight the value of video-based education in promoting informed and safe use of herbal products, ultimately empowering patients to make better health decisions.
2. The results show a significant improvement in patients' knowledge of herbal supplements after the educational video intervention. The difference between pre- and post-intervention scores was statistically significant, confirming that the video effectively enhanced understanding of proper use, benefits, risks, and potential interactions of herbal products. The intervention successfully addressed knowledge gaps and empowered patients to make more informed and safer decisions regarding herbal supplement use.
3. The results demonstrate that the educational video had a very large and meaningful impact on patients' knowledge of herbal supplements. The significant improvement in understanding confirms that video-based education is an effective tool for enhancing comprehension of herbal supplement use, safety, benefits, and risks. These findings underscore the value of multimedia interventions in promoting health literacy and supporting informed decision-making in complex health topics.

## **RECOMMENDATIONS**

Based on the findings and conclusions, the study arrived at the following recommendations:

1. Health education initiatives may focus on middle-aged female users who are new to herbal medicine by providing targeted information to enhance their understanding and promote safe and informed use of herbal supplements.
2. Healthcare facilities may utilize educational videos as part of their patient information strategies to improve knowledge about herbal supplements. These videos may emphasize critical safety aspects such as correct dosage, possible drug interactions, and the need for professional consultation. Educational content may also be regularly updated to ensure relevance and accuracy in addressing evolving health concerns.
3. Healthcare providers may incorporate video-based educational materials into patient learning programs to improve knowledge about herbal supplements. Educational videos may help clarify misconceptions and

promote safer usage habits. Furthermore, health educators may use multimedia tools to reach diverse patient populations effectively and support ongoing health literacy efforts.

#### 4. Effect size of the educational video after the integration?

The educational video produced a very large and significant effect size, clearly demonstrating its strong impact on improving patients' knowledge about herbal supplements. The substantial increase in mean scores from pre- to post-intervention indicates that the video was highly effective in enhancing both understanding and retention of information. These results confirm that the video was well-designed to overcome common challenges in video-based learning, making the educational content clear, engaging, and accessible to patients.

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