

STUDY ON DETERMINING PATIENT KNOWLEDGE FOR THE USE OF NUTRACEUTICALS

Dissertation submitted to



The IIHMR University, Jaipur

for the partial fulfilment for the award of the
degree of Master of Business Administration
MBA - Pharmaceutical Management

by

Viraj Chandraprakash Jain

Under the Supervision and Guidance of

Dr Sudhinder Singh Chowhan

Associate Professor – School of Pharmaceutical Management

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DECLARATION BY STUDENT

I hereby declare that this dissertation titled STUDY ON DETERMINING PATIENT KNOWLEDGE FOR THE USE OF NUTRACEUTICALS is the bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

(Signature)

Viraj Chandraprakash Jain

Date:

CERTIFICATE

This is to certify that Viraj Chandraprakash Jain in partial fulfillment of the requirements for the award of the degree of MBA (Pharmaceutical Management) from the IIHMR University, Jaipur has completed his at IIHMR University during February 20- May 19, 2023.

Place:

Signature of Guide

Date:

Dr Sudhinder Singh Chowhan

Associate Professor

School of Pharmaceutical Management

IIHMR University, Jaipur

CERTIFICATE

This is to certify that the dissertation titled STUDY ON DETERMINING PATIENT KNOWLEDGE FOR THE USE OF NUTRACEUTICALS is a record of the research work undertaken by (Name of Student) in partial fulfilment of the requirements for the award of the degree of MBA (Pharmaceutical Management) from the IIHMR University, Jaipur under my guidance and supervision and his approach to the research study has been sincere, scientific, and analytical.

Faculty Guide

IIHMR University, Jaipur

School Dean

IIHMR University, Jaipur

Date:

ACKNOWLEDGEMENT

At the outset of my project report, I'd want to express my sincere gratitude to all the individuals who have assisted me with this project report. I would not have made any progress on the assignment without their strong leadership, participation, and consolation.

I am inexpressibly obliged to Mr. Saurabh Kumar, Associate Professor and Dean SPM, IIHMR University for his upright direction and support to finish this report. It is my radiant sentiment to place on record my best regards, and deepest sense of gratitude to Mr. Vinod Tejwani, Dean- Placements & Alumni Relations IIHMR University, and Mr. Rahul Sharma, Associate Professor, my Mentor at IIHMR University.

Finally, I'd like to express my gratitude to every companion who directly or indirectly assisted me in completing this assignment. Any omission from this brief affirmation does not imply a lack of gratitude.

Thank You.

Sincerely,

Viraj Jain

Roll no. –0355

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Abbreviations

D&C Act	Drug and Cosmetic Act
AAFCO	Association of American Feed Control Official
Nceuticals	Nutraceuticals
NSAIDs	Non-Steroidal Anti-Inflammatory Drugs
CGMPs	Currents Goods Manufacturing Practices
DSHE Act	Dietary Supplement Health Education Act

Abstract

The purpose of the study was to understand patient knowledge of the use of Nceuticals. One hundred patients were virtually given a self-administered form. The questionnaire may contain a variety of questions about the use of Nceuticals, information about patients and the patient, information about their benefits and drawbacks, and questions about the physician's understanding of the dosage and dosing method of Nceuticals, which is crucial in understanding the mode of transmission and knowledge. The study's findings revealed some interesting things. Due to people's dynamic behaviour as they transition from curative to preventative care (evolution from acute to chronic illness), Nceuticals have recently become a significant component of the biological process and prescription medicine industries. The need for Nceuticals is growing rapidly on a global scale. It is caused by the widespread use of herbal remedies for various illnesses. Examples include chemotherapy for cancer, liver diseases, and response disorders. However, there are various issues with the use of Nceuticals in underdeveloped nations. the aid of accurate information on Nceuticals is provided to patients and their appropriate medical advice. Almost every prescription written by doctors includes nutraceutical goods like vitamins, but many of these doctors are unaware of the proper dosage or the potential side effects of taking too many of these products. Therefore, appropriate measures should be done to make Nceuticals more beneficial and healthful for people, including informing everyone about how to utilize Nceuticals and training prescribing doctors.

1)Introduction

A pharmaceutical-grade, standardized nutrient may be a nutraceutical. Nutraceuticals are regulated as food additives and dietary supplement by the agency operating under the Federal Food, D&C Act in the US, where the term "nutraceuticals" is not a recognized regulatory category. 'Nutrient and Pharmaceuticals' is a part of the word nutraceuticals. According to AAFCO, 1996, "nutrient" refers to a feed component of any kind and quality that will aid in the maintenance of a creature or animal over time, while "nutraceutical" refers to any harmless food component with medically demonstrate health benefits as well as the ability to prevent and treat disease. Products that are isolated or sublimated from food are marketed as healthy alternatives to food. A nutritional supplement has a physiological benefit that guards against chronic illnesses. On the global market, there are significant issues with product quality. Nutraceuticals on the market may make claims about using organic or unusual components. The safety and effectiveness of those medications could, however, be jeopardized if there are no restrictions in place. Businesses that want to reap more rewards are lowering the standards of their goods. A dietary supplement is defined as a product taken through an oral route that contains a "dietary ingredient" intended to supplement the diet in the United States under the DSHE Act of 1994. The "dietary ingredients" in these products may include any or all of the following: vitamins, minerals, herbs or other botanicals, amino acids, and materials such as enzymes, organ tissues, glandular tissue, and metabolites. Dietary supplements come in a variety of shapes and sizes, including tablets, capsules, soft gels, gel caps, liquids, and powders. They can also be extracts or concentrates. Dietary supplements don't need to be mandated or approved by a government agency before being marketed, however, modern firms should register with the Food Drug Administration and adhere to cGMPs. In some special cases, nutraceuticals are also advertised as supporting the body's functioning and composition; this should include a label stating: "These claims have not yet been evaluated by the FDA." No disease may be identified, treated, mitigated, or interfered with using this product. The exclusions are made after a health claim has been examined and approved by the Food Drug Administration.

2) Review of literature

Sr no	Title	Authors	Objective	Method	Result
1	Evaluation of Microalgae for use as Nutraceuticals and Nutritional Supplement 2012	West Bishop Heidi M. Zubeck.	In terms of production, nutritional value, and proven health advantages, To Evaluate assesses the usage of nutraceuticals and nutritional supplements.	Internet search engine and Database	correct nourishment for increasing population is becoming a concern, property sources of nutritionary price are needed. Numerous types of algae have proven health benefits, including boosting the immune system and preventing cancer and heart disease.
2	Understanding the perceived need for complementary and alternative nutraceuticals: lifestyle issues 2001	Whitman M.	To study the need for complementary and alternative results.	Internet search engine and Database	In order to enhance health, halt cancerous processes, and treat symptoms, biological therapies known as nutraceuticals are used. Once the DSHE Act of 1994 was passed, the usage of complementary and completely different nutraceuticals increased substantially. Motivations to be used of these

					merchandise embrace changes in consumption patterns, problems regarding adequacy of purchaser food supply, and interactions with normal attention suppliers that are looked as if it would be insensitive, too brief, or uncaring.
3	How do people with knee osteoarthritis use osteoarthritis pain medications and does this change over time? Data from the Osteoarthritis Initiative	Sarah R Kingsbury, Elizabeth MA Henso, Ceara AE Walsh, Marc C Hochberg and Philip G Conaghan	The purpose of this investigation was to investigate associated demographic and clinical characteristics and to provide a detailed description of the cross-sectional and longitudinal patterns of analgesic and nutraceutical medicine usage for knee osteoarthritis (OA) in a current US cohort.	Cohort study	the utilization of nutraceuticals in degenerative joint disease and concluded that we tend to include specific subjects, including 71% white people, men, and men aged 61 on average. At the outset, 68% of people reported using a traditional analgesic or nutritional supplement often for joint pain. Even though many of the patients were over 75 years old, NSAIDs were the most often reported

					prescriptions with 26% of all reports. 11% used a number of traditional analgesics. In women and other people who were in more pain, frequent analgesic usage was more likely. The likelihood of using nutritional supplements was lower in non-whites over 74.
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3) RESEARCH OBJECTIVE

- 1) Determine the patients' baseline degree of awareness of practical foods and Nceuticals.
- 2) The study additionally correlates the impact on health while using Nceuticals.
- 3) To reconsider the role of Nceuticals in disease prevention among patients.

Significance of study

Considering very little work has been completed in this respect in Asian countries, this study offers us with useful information about nutraceutical knowledge among patients in various regions. This study gives important data on more typical prevailing disorders because of deficient sickness and aids in the requirement for preventative steps to avoid problems that we tend to tear very frequently. This study and other studies are being compared to measure patient understanding and use of Nceuticals. In addition, data is evaluated in terms of age, gender, and socioeconomic level. During this investigation, we considered both the good and negative effects of using nutraceuticals. On the other hand, the study also confirms a high demand for Nceuticals in major Indian cities. The study also assesses patient adherence to their prescription. This study also gives practical information about community attitudes toward Nceuticals during illness.

4) RESEARCH METHODOLOGY

Research Method:

A cross-sectional survey method was used to validate patient data on the use of Nceuticals in key cities in the geographical area. Population data is gathered from major Indian cities such as Jaipur, Delhi, and Mumbai. These are India's important cities with a significant population and the fastest-rising cities in the country. People from these cities were mostly used for this study and other investigations about the use of Nceuticals. In our study, a limited number of people were self-addressed.

A structured questionnaire was utilized to collect information to assess patients' understanding of the usage of Nceuticals. This is a cross-sectional survey distributed through Google Forms to patients in rural and urban locations concerning the use of Nceuticals from March to May 2023.

During this study, children, adults, and the elderly were all involved. The investigation was conducted using a pre-designed questionnaire. To facilitate this study and maximize the Validity of the results, the form was translated into English and Hindi throughout the patient interviews. Because most of the patients do not speak English, the questions were asked in their original language. The outcome variables of my study were patient data on the use of Nceuticals. Based on their responses to the Google forms, knowledge was gathered from the patients. I attempted to ensure the veracity of knowledge, for which we had assistance from medical personnel and famous lecturers.

Study tool:

For the aim of the study, a pre-structured form was ready and accustomed get the information concerning the utilization of Nceuticals from patients.

Patients Perspective

We employed a tool that included questions about the patient's demographics, awareness of Nceuticals, cognition, and correct use. The form consists of questions about patients' understanding of Nceuticals. Concerns patient adherence during the usage of Nceuticals. The influence of Nceuticals on patient health? includes a variety of questions on proper usage and their effect on health, and what circumstances may necessitate the use of Nceuticals.

Study sample

This study included 100 patients who used Nceuticals.

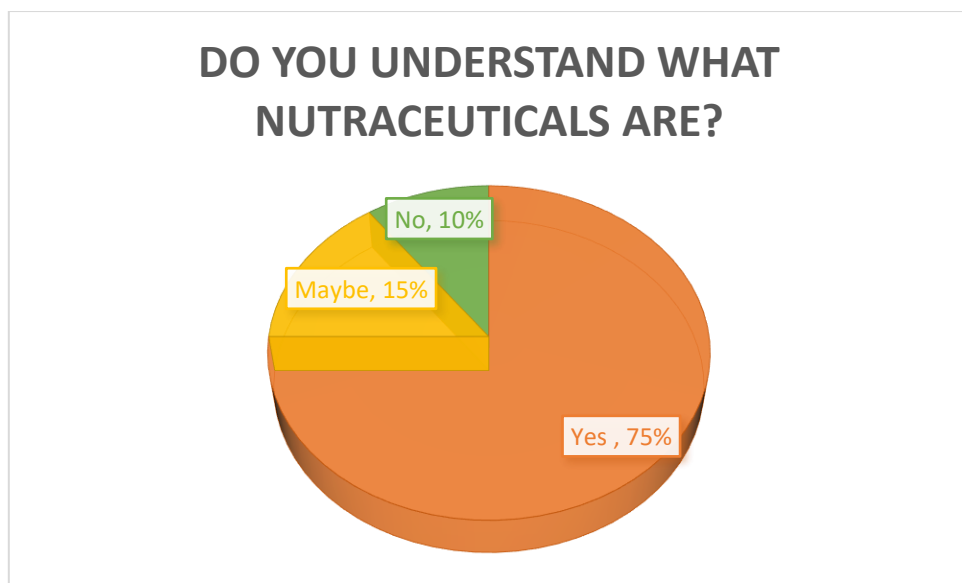
The dimensions of this study were one hundred patients' victimization Nceuticals, which was collected online through the response of Google forms, and they were given a consent form regarding the confidentiality of their response, which is to be kept.

Inclusion and Exclusion criteria

The study covered both male and female patients and was conducted on adults and elderly individuals. Subjects were eliminated if they could not recognize the Nceuticals, had a mental health issue, and any other ailment, or those who were unable to participate actively agreed with the researcher's evaluation. Patients who actively participated in the study's conduct additionally inclusion criteria were regarded.

5) RESULT

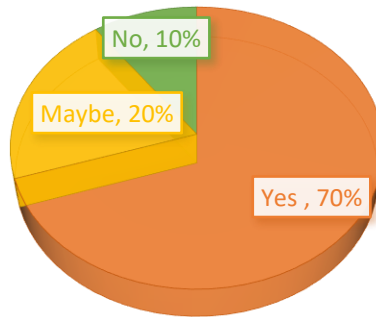
I examined patient assessment data regarding the use of Nutraceuticals in several Indian cities. These cities include Mumbai, Delhi, and Jaipur. The following are the findings of this study: These findings came from asking patients about their knowledge of nutraceuticals. Of those surveyed, 75% believe they are clear on the topic, 70% believe they are helpful for their health, and 60% believe that taking a supplement improves one's health. 50% of individuals follow doctors' advice while using nutraceuticals, 25% believe nutraceuticals have a negative impact on their health, and 50% prefer taking lab tests while using nutraceuticals.



Graph 5.1: Knowledge regarding Nutraceuticals

The survey's findings revealed that a sizable majority of respondents (76.9%) had a thorough understanding of nutraceuticals. A smaller majority (15.4%) gave their answer as "Maybe," showing some degree of skepticism or imperfect understanding. Finally, a small percentage of respondents (7.7%) indicated "No," indicating a lack of knowledge or unfamiliarity with the idea of nutraceuticals.

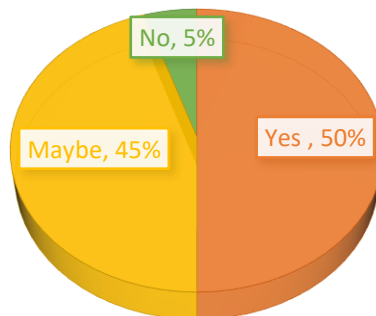
DO YOU BELIEVE THAT NUTRACEUTICALS ARE BENIFICIAL TO YOUR HEALTH



Graph 5.2: Are Nutraceuticals Beneficial to health

According to the analysis of the survey data, a sizable majority of respondents (70%) think that nutraceuticals provide health advantages. A smaller percentage (10%), on the other hand, had a different opinion, indicating they do not think nutraceuticals are advantageous. Additionally, 20% of respondents gave a response that suggested doubt or conflicting feelings about the possible health benefits of nutraceuticals.

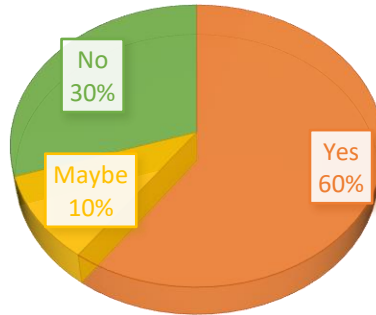
DO YOU FOLLOW YOUR DOCTOR'S ADVICE WHEN UTILIZING NUTRACEUTICALS



Graph 5.3: Compliance with the healthcare provider

According to the interpretation of the survey results, the majority of respondents (50%) said they typically heed their doctor's recommendations when using nutraceuticals. A sizable minority (45%) said they occasionally followed their doctor's recommendations, demonstrating a range of adherence to medical advice. A lower number (5%) said they did not follow their doctor's recommendations when using nutraceuticals, suggesting that there was a lack of compliance in this area.

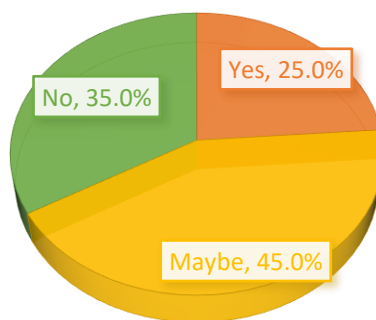
DO YOU BELIEVE THAT USING NUTRACEUTICALS HAS A POSITIVE IMPACT ON YOUR BODY



Graph 5.4: Exploring the positive impact on the body.

According to the analysis of the survey data, 60% of respondents hold the opinion that consuming nutraceuticals has a good impact on their health. A lower percentage (10%) of respondents said "Maybe," showing some degree of doubt or conflicting views regarding the effects of nutraceuticals on health. A significant portion (30%) of respondents indicated a negative belief, indicating that they do not believe nutraceuticals will improve their health.

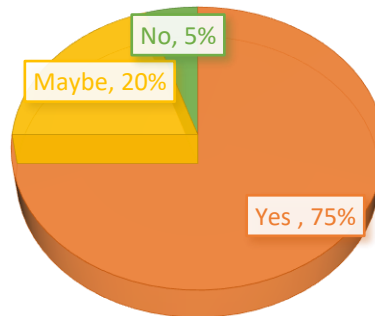
DO YOU BELIEVE THAT USING NUTRACEUTICALS HAS A NEGATIVE IMPACT ON YOUR BODY



Graph 5.5: Exploring Negative Impact on the Body

According to the interpretation of the survey data, the majority of respondents (60%) think that nutraceuticals have a good impact on their health. Only 10% of respondents gave the option "Maybe," showing some degree of ambiguity or conflicting views on the effects of nutraceuticals on health. A significant portion (30%) gave a contrary opinion, indicating that they do not believe nutraceuticals have a favourable impact on their health.

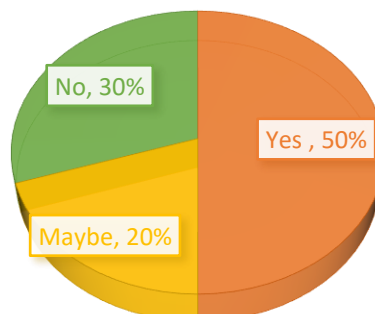
DO YOU BELIEVE THAT ACTUAL FOOD SHOULD BE USED INSTEAD OF NUTRACEUTICALS



Graph 5.6: Comparing natural food with Nutraceuticals

According to the analysis of the survey data, a sizable majority of participants (75%) believe that real food should be favoured over nutraceuticals for nutritional absorption. This suggests a preference for using whole food sources rather than supplements. A lower percentage (20%) of respondents said "Maybe," showing some doubt or conflicting views on the need of prioritising actual meals. Only a tiny percentage (5%) of respondents said they thought real food should not be utilised in place of nutraceuticals, suggesting a different point of view.

DO YOU PREFER LABORATORY RESULTS WHILE USING NUTRACEUTICALS



Graph 5.7: Quantifying Efficacy of Nutraceuticals

According to the analysis of the survey data, different people have different preferences for laboratory findings when utilising nutraceuticals. About 50% of respondents said they preferred laboratory findings, showing a significant preference for scientific confirmation

and evidence. Contrarily, 30% of participants said they preferred other criteria or information sources above laboratory results, suggesting a dependence on such. Another 20% of respondents said "Maybe," expressing doubt or a split decision on whether laboratory results are preferred in the context of using nutraceuticals.

6) Discussion

I conducted this study to evaluate patient familiarity and understanding of Nceuticals in several parts of India, including Delhi, Jaipur, and Mumbai. My research indicates that the medical industry's fastest-growing sector is Nceuticals. The modern concept of medicine is being replaced by Nceuticals, and various natural products are being extracted and discovered for several diseases, including cardiovascular disorders, cancer chemotherapeutic agents such as antioxidants and other agents, and growth simulators such as various supplements and hormonal products. The shift from curative to preventative care is being aided by Nceuticals in the health industry. However, there are several issues that need to be resolved regarding their use, efficacy studies, quantitative approaches to establish the proper dose, and education and awareness among consumers and healthcare professionals.

Data from 65% female and 35% male participants were gathered for my study. Cities where women are more likely than men to utilize Nceuticals because women are more likely to face difficulties like anaemia, lower calcium and lower iron concentration in RBCs, menstruation, abortion, and other related disorders. Critical observations while conducting study indicate that patients have very little knowledge of Nceuticals; some patients are even unfamiliar with the term; they are unaware of the efficacy, side effects, and dosing of Nceuticals; and there is a grave lack of patient counselling. Fifteen percent of people are unsure of whether Nceuticals are good for their health or bad for it. Furthermore, consuming Nceuticals had a negative impact on the health of 45% of patients.

India lacks regulations governing the distribution and use of Nceuticals, despite the industry there growing exponentially. Measures to restrict the transmission and provision of information to patients are not included in our customs or health law. Without the completion of key preclinical studies, nutritional supplements are being made. Data on effectiveness and toxicity are scarce. Basic product literature is not provided by manufacturers.

This study also suggested that there should be an immediate incorporate rising awareness of Nceuticals. For greater growth, the current difficulties require a scientific strategy and proper cooperation between the public and non-public attention sectors.

The post-recession global market is allegedly experiencing some expansion in India right now. The market for Nceuticals is projected to keep expanding even after the impacts of the recession subside, propelled by the increasing economies of nations like India, China, Brazil, and so on. The right steps must be done to monitor the employment of Nceuticals' impacts on people's health, nevertheless, when it comes to plant extracts and phytochemicals.

7) CONCLUSION

Almost every doctor prescribes supplements at various organizations, but the main problem with prescribing supplements is that the prescriber does not inform the patients they are prescribing supplements to of the correct information about supplements, making the prescriptions less convincing. Therefore, there is a need to raise awareness about Nceuticals among patients and at all levels of the healthcare system. For better results and progress, these issues require a comprehensive and well-coordinated strategy from each personal and public health care system. Due to the exponential growth of the nutraceutical industry among alternative medical aids, there needs to be a system for consumers and patients to evaluate the Pharmacoeconomics and efficacy of Nceuticals and learn how to find any cost-effective alternatives. A knowledgeable group from society was selected based on their familiarity with the use, necessity, correct information, and supply of Nceuticals, and it was discovered that there was a moderate level of knowledge of them. The above observations were made to check the data in patients regarding the employment of Nceuticals for that purpose. Therefore, appropriate actions must be done to provide attention regarding the use of Nceuticals.

8) Limitations

Sample Size: The study's sample size was quite small, with just 100 patients participating. This small sample may not adequately represent the varied range of patients' knowledge about nutraceuticals in India, thus influencing the generalizability of the findings.

Geographic Representation: The study did not consider geographical differences in diabetes care practices within India. As a result, the findings may not represent the entire spectrum of prescription behaviors across different geographic locations, which may differ in terms of healthcare infrastructure, access to resources, and cultural variables.

STUDY ON DETERMINING PATIENT KNOWLEDGE FOR THE USE OF NUTRACEUTICALS

My name is Viraj Jain. A student of IIHMR University. I am conducting this survey as a part of an academic project needed for the completion of my MBA Degree. I am requesting you to provide your views on " **STUDY ON DETERMINING PATIENT KNOWLEDGE FOR THE USE OF NUTRACEUTICALS**". Please answer the question with due responsibility. I hereby assure you that the information provided by you will be confidential and will be used just for this research purpose. I am looking forward to your co-operation and Thank you for your participation

Mail id- viraj.j21@iihmr.in

jainviraj443@gmail.com [Switch accounts](#)

 Not shared



* Indicates required question

I agree to participate in this study

- ☐ No
- ☐ Yes
- ☐ Maybe

If above question is NO you can close your survey
Thank you for your time

Name *

Your answer

City *

Your answer

Do you understand what nutraceuticals are?

- ☐ Yes
- ☐ No
- ☐ Maybe

Do you believe that nutraceuticals are beneficial to your health?

- ☐ Yes
- ☐ No
- ☐ Maybe

Do you believe that using nutraceuticals has a positive impact on your health? *

- ☐ Yes
- ☐ No
- ☐ Maybe

Do you follow your doctor's advice when utilizing nutraceuticals? *

- ☐ Yes
- ☐ No
- ☐ Sometimes

Do you believe that consuming nutraceuticals has any negative effects on your health? *

- ☐ Yes
- ☐ No
- ☐ Maybe

Do you believe that actual food should be used instead of nutraceuticals? *

- ☐ Yes
- ☐ No
- ☐ Maybe

Do you prefer the laboratory results while using nutraceuticals? *

- ☐ Yes
- ☐ No
- ☐ Maybe

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