

Awareness and Practices Towards Nutraceuticals Among Medical Practitioners

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Introduction

- Nutraceutical is a term derived from “nutrition” and “pharmaceutics.” The term is applied to products that are isolated from herbal products, dietary supplements (nutrients), specific diets, and processed foods such as cereals, soups, and beverages that other than nutrition are also used as medicine.”
- A nutraceutical product may be defined as a substance, which has physiological benefit or provides protection against chronic diseases. Nutraceuticals may be used to improve health, delay the aging process, prevent chronic diseases, increase life expectancy, or support the structure or function of the body.

- Majority of the nutraceuticals possess multiple therapeutic properties.
- Nowadays, nutraceuticals have received considerable interest due to potential nutritional, safety and therapeutic effects. A market research recently proposed that the worldwide nutraceuticals market is expanding and would reach US \$250 billion by 2018.
- Nutraceuticals differ from Pharmaceuticals by not having patent protection. Most of the nutraceutical products marketed are potential nutraceuticals and have not undergone any clinical trials

Classification

- Nutraceuticals are categorized on the basis of foods available in the market
 1. Traditional nutraceuticals
 2. Non-traditional nutraceuticals

Traditional nutraceuticals are simply natural with no changes to the food. Food contains several natural components that deliver benefits beyond basic nutrition, such as lycopene in tomatoes, saponins in soy etc.

- Traditional Nutraceuticals are further grouped on the basis of

1. Chemical Constituents

- a) Nutrients

- b) Herbals

- c) Phytochemicals

2. Probiotic Micro-organism

3. Nutraceutical Enzymes

- A) Nutrients-Substances such as vitamins, minerals, amino acids and fatty acids with established nutritional functions.
- B) Herbals-Nutraceuticals holds a great promise to improve health and prevent chronic diseases with the help of herbals. Some examples are willow bark (*Salix nigra*), having active component as salicin, which is anti-inflammatory, analgesic, antipyretic, astringent and antiarthritic.

- Phytochemicals-They are classified on the basis of chemical name given according to their phytochemical properties.

For example

1. Carotenoids (Isoprenoids) found in various fruits.
2. Flavonoid polyphenolics are found in berries, fruits, vegetables, and legumes, which are potent antioxidants.
3. Non-flavonoid polyphenolics are present in dark grapes, raisins, berries, peanuts, turmeric roots are strong anti-inflammatory, antioxidants, and effective anti-clotting agents and reduce cholesterol

2. Probiotic Micro-organism

Probiotics' mean 'for life' and are defined as live microorganisms, which when consumed in adequate amounts, confer a health effect on the host.

They are friendly bacteria that promote healthy digestion and absorption of some nutrients. They act to crowd out pathogens, such as yeasts, other bacteria and viruses that may otherwise cause disease and develop a mutually advantageous symbiosis with the human gastrointestinal tract.

Sources are- Lactobacillus acidophillus (Milk)

Bifido-bacterium adolescentis(Yoghurt) etc.

2. Non-traditional nutraceuticals

These are artificial foods prepared with the help of biotechnology. Food samples contain bioactive components which are engineered to produce products for human- wellness.

They are arranged into

- a) Fortified nutraceuticals
- b) Recombinant nutraceuticals

Fortified Nutraceuticals

- It constitutes fortified food from agricultural breeding or added nutrients and/or ingredients.

Examples are-

1. Orange juice fortified with calcium
2. Cereals with added vitamins or minerals and flour with added folic acid.
3. Milk fortified with cholecalciferol used in vitamin D deficiency.
4. Banana fortified using soybean ferritin gene in iron deficiency

Recombinant Nutraceuticals

- The production of probiotics and the extraction of bioactive components by enzyme/fermentation technologies as well as genetic engineering technology are achieved through biotechnology.
- Products are produced by-
 1. Recombinant Microorganism- *Acetobacter xylinum* , *Spirulina Pacifica*.
 2. Recombinant Plant- Potatoes for Protein Deficiency, Golden Mustard for Vitamin A deficiency, Iron rice for Iron deficiency .
 3. Recombinant Animals- Fermented soya milk for Calcium deficiency.

Scope of the Project

- Nutraceuticals are increasingly becoming a part of diet in a health-conscious society. People have changed their outlook towards nutraceuticals because of varying lifestyle diseases and they see the need to improve their physical and mental health
- The present study was designed to assess the awareness and perception of doctors to get insight of Nutraceutical market and to study the opportunities driving the growth of Nutraceutical market.

Aim & Objectives

- AIM OF THE STUDY

To gain an in-depth knowledge about the factors that can promote the further growth of Nutraceutical Market in the region.

- OBJECTIVE OF THE STUDY-

1. To assess the awareness and perception of doctors to get insight of Nutraceutical market .
2. To study the opportunities driving the growth of Nutraceutical market.

Research Methodology

Study design:

Cross-Sectional study focusing on understanding Awareness and Practices towards Nutraceuticals among registered medical practitioners

Location covered

The study was be conducted in Ludhiana.

Sample Size

100 respondents (General Physician/Gastro-enterologists)

Duration of the study

February 2017 to May 2017 (three months)

Sampling technique

Purposive Convenience Sampling

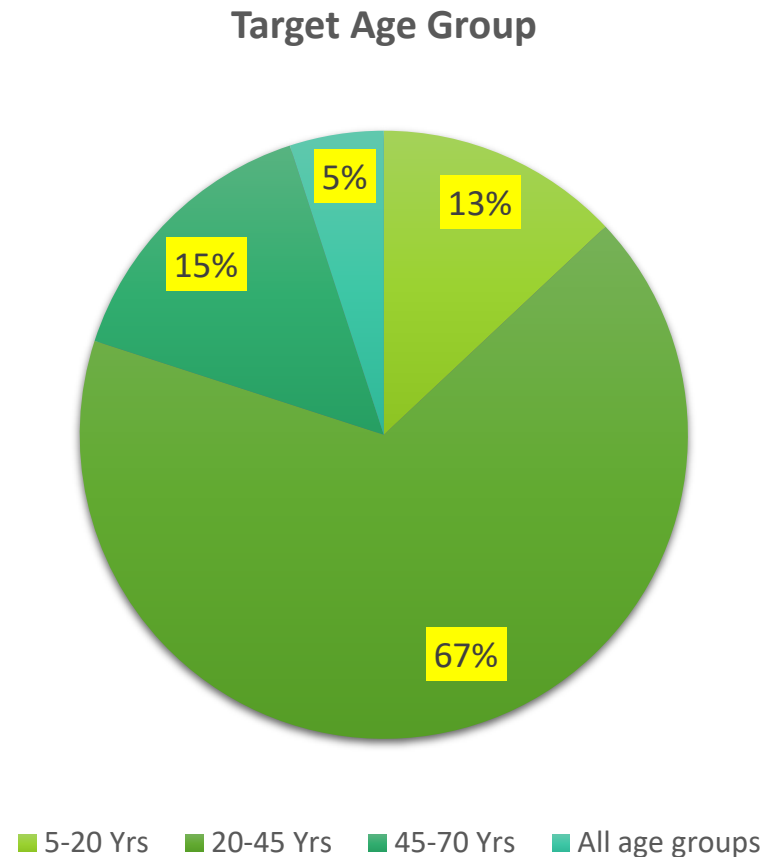
Tool for Data collection

Primary Data – The primary data for this project was gathered through survey using a structured questionnaire

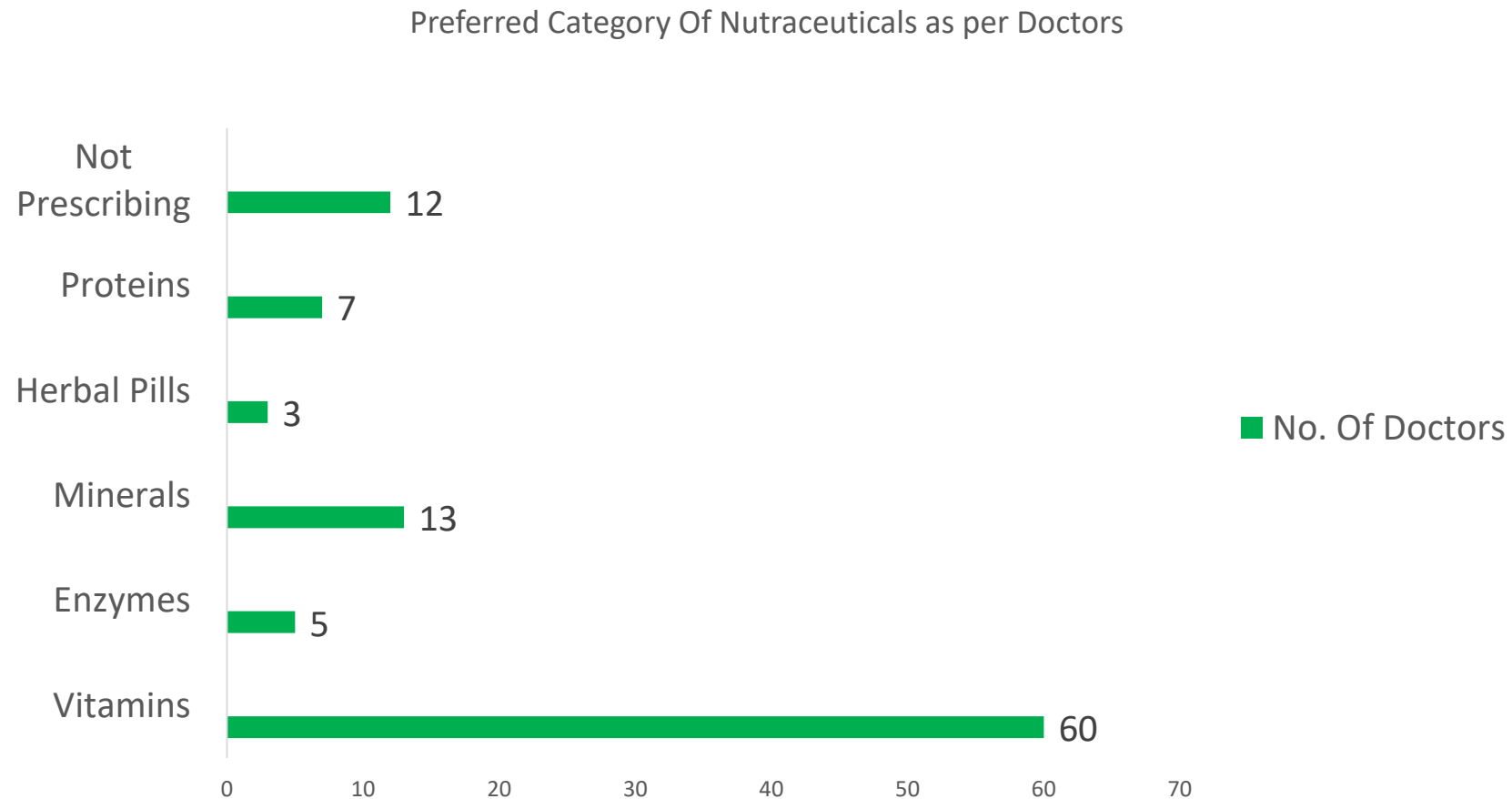
KEY FINDINGS



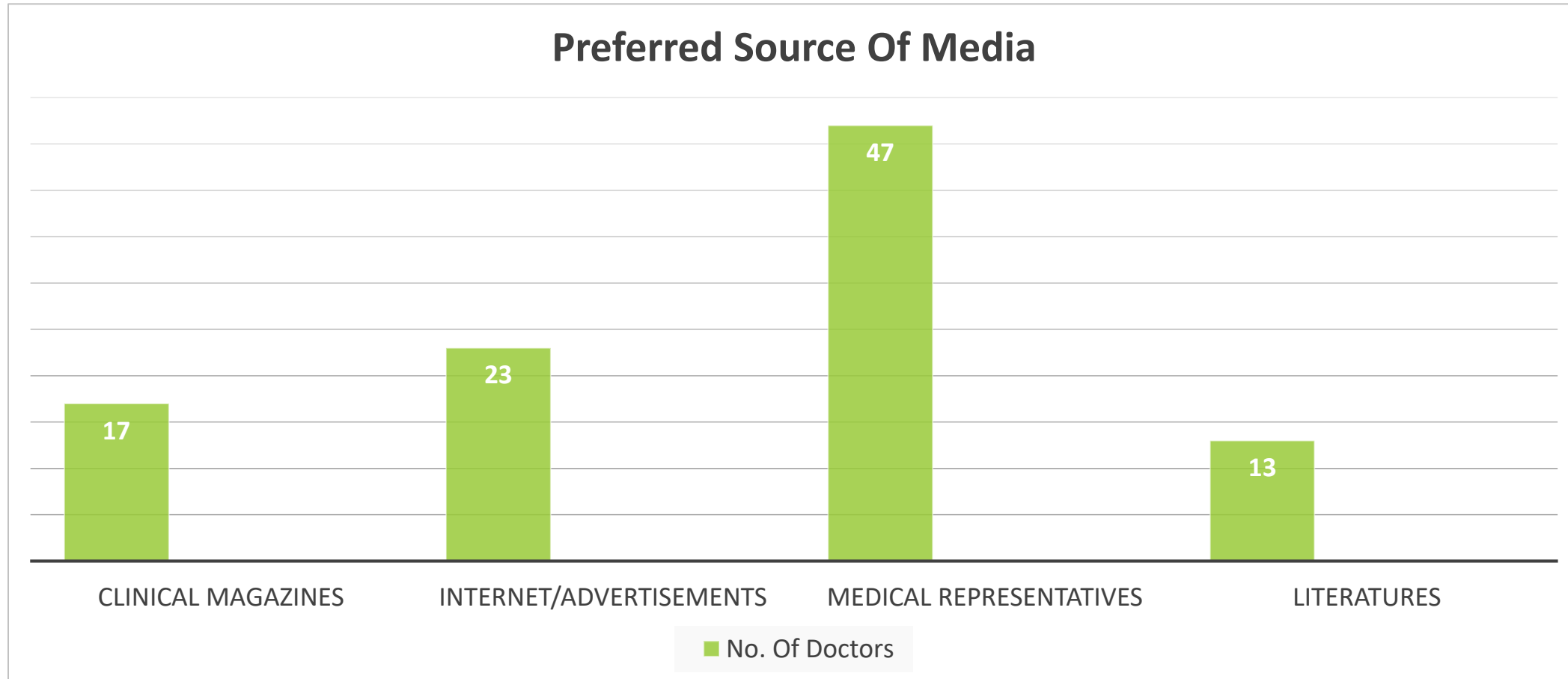
Which age group of patients do you commonly prescribe Nutraceuticals?



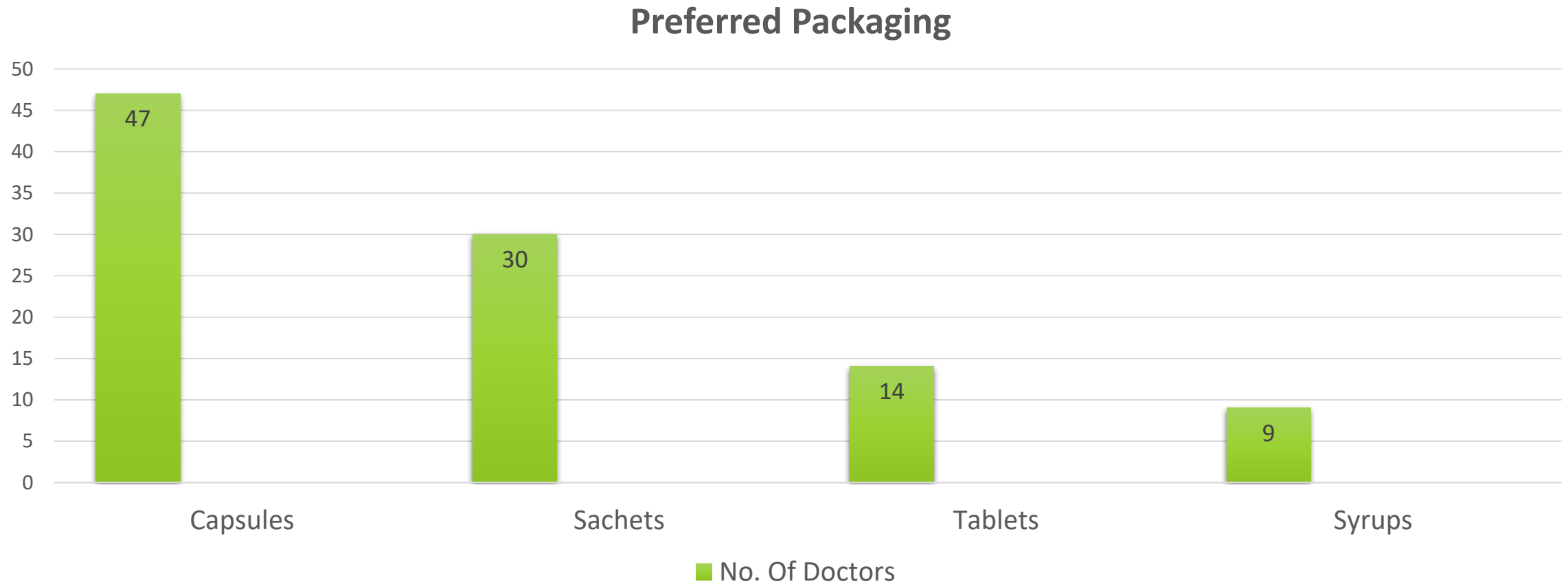
Preferred Category Of Nutraceuticals as per Doctors



Preferred Source of Media

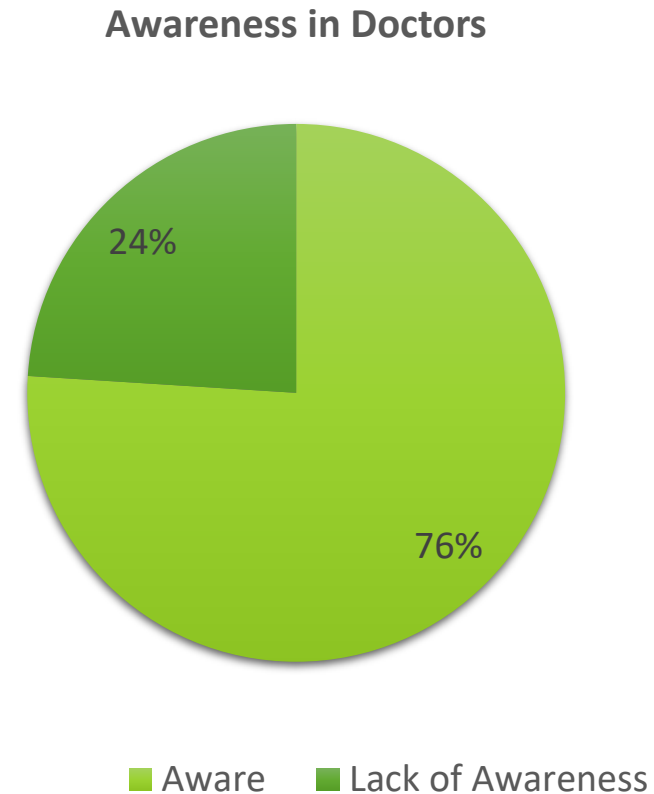


Which dosage form do they prefer?



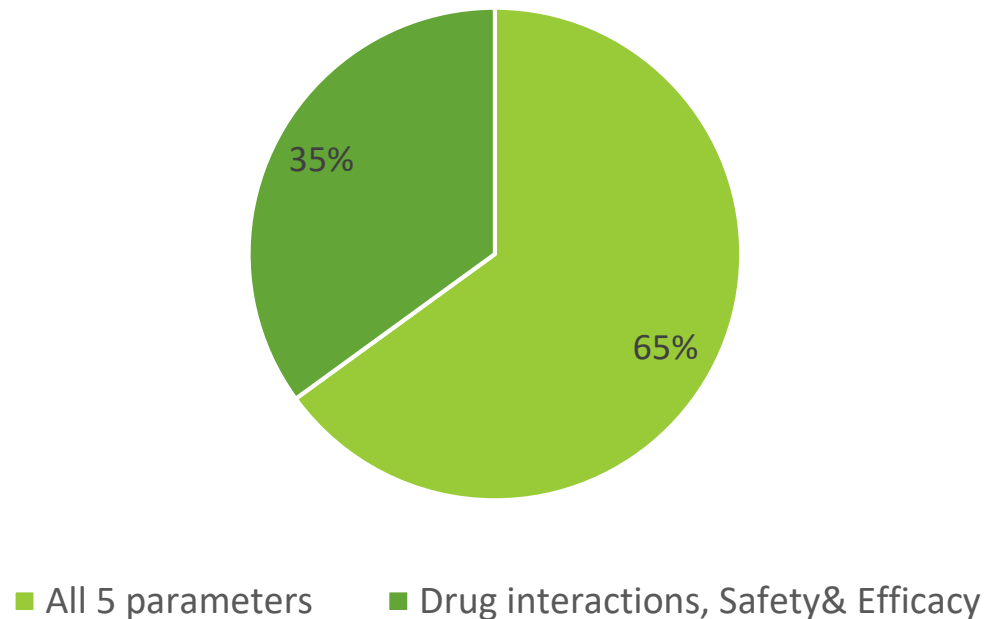
Awareness and Supply as per Demand in the region

- The percentage of Doctors who showed lack of awareness of nutraceutical products in the region.



Information about which parameters should be known to greater extent in regard to usage of nutraceuticals?

Information Of Parameters for usage



5 Parameters to be known

1. Dosage
2. Formulations
3. Adverse effects
4. Drug Interactions
5. Safety & Efficacy.

Recommendations

- It is imperative that a doctor educates the public and creates an awareness of the required number of nutraceuticals that can be safely used.
- The future of nutraceuticals is bright and can transform healthcare, More studies need to be taken up on prescription of nutraceuticals in healthcare.
- Assuming the increase in awareness and knowledge over the use of Nutraceuticals will improve the health outcome of consumers.
- The factors that would improve the knowledge are conducting CMEs, free subscriptions to magazines to Doctors, keeping the physicians updated about the products and therapy options

Conclusion

- The present challenges need a systematic approach and proper coordination from the organization's aspects to the physicians for better growth.
- The expenditures within the healthcare system have increased exponentially and the need for continuation and sustainability of the system has forced many patients and consumers to hunt for further cost-effective alternatives.

THANK YOU

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