

## Perception and Effect of Socio Economic Factors of Indian Elderly on Yoghurt

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Received date: Jan 21, 2016; Accepted date: Feb 3, 2016; Published date: Feb 10, 2016

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### Abstract

The role of probiotic foods prompt to increase the quality of life of the elderly. Present study is an attempt to analyze the awareness about yoghurt by Indian elderly and their characteristics and socio-economic factors influencing the consumption of yoghurts through motivation. Therefore, understanding of the elderly consumers, their nutritional needs and preferences through knowing socio-economic status, dietary habits and morbidity pattern of different diseases were considered primarily important. In India, the familiarity of yoghurt is sparse, and elderly people often opt for natural and monotonous type of foods, which has led to poor nutritional status and impaired general health. Eighty two percent in the current study reported that they were unaware of the probiotic yoghurt. Motivation through counseling is not one time job for encouraging elderly to consume yoghurt continuously but regular new way of conveying methods and remarkable health beneficial effects may affect their perception and consumption of yoghurts where economic level plays crucial role.

**Keywords:** Yoghurt awareness in India; Influence of socio economic factors; Motivation on consumption of yoghurts

### Introduction

In India, the familiarity of probiotic yoghurt is scanty and elderly people often opt for natural and monotonous type of foods, which has led to poor nutritional status and impaired general health. While the industry people are paying little attention to the needs of elderly people resulting in the lacunae of yoghurts. The role of probiotic foods prompt to increase the quality of life of the elderly, who are rapidly growing consumers worldwide. The fundamental to innovation of functional foods is optimizing health by its nutrition beyond the traditional nutrients and focus on prevention of nutrient deficiency diseases [1-4]. However, the long-term success of functional foods in the market is depends on consumer acceptance and perceptions about these products [5-7].

Among consumers, the awareness and perceptions of elderly people related to functional foods is of particular interest, as this population could greatly benefit from the inclusion of functional foods in their diets [4]. The geriatric population segment is rapidly increasing along with chronic age-related diseases such as cardiovascular diseases, cancer, osteoporosis and other muscular degeneration are also increasing [3,8] posing a significant burden on the health care system. Probiotic yoghurts with their bioactive constituents are a potential strategy to mitigate the increased risk of chronic disease among elderly [2]. As nutrition and health information can influence consumer acceptance of functional food products, there is a need of more preferred sources of information regarding probiotic yoghurts among elderly population.

Nutrition information sources on food labels, advertisements on TV and newspapers, distribution of pamphlets as an annexure of

newspapers, attractive packaging and containers, magazines, announcement of free gifts, etc. are a valuable consumer educational tools that could influence their usage [9,10]. Counseling and awareness are main criteria used in the present study. Research has shown that health claims related the food product to a physiological benefit or the reduction of disease risk tend to be preferred by consumers than claims relating to a psychological benefit, such as reduced tiredness or stress [11-13].

Present study is an attempt to analyze the personal characteristics and socio-economic factors influencing the consumption of probiotic yoghurts. The objective of this study is to generate information related to consumption of yoghurts among the sample of elderly people and to encourage consuming the probiotic yoghurt at least once in a day. In India, there are no studies on the awareness or motivation for the consumption of yoghurts. Therefore, understanding of the elderly consumers, their nutritional needs and preferences through knowing socio-economic status, dietary habits and morbidity pattern of different diseases were considered important. Generally, elderly people chose very common and familiar foods and take less risk in attempting to consume a new product, unless it is trustworthy. The older population is heterogeneous in nature in terms of health status such as usage of medication, nutritional status and dental problems.

In developing countries, many factors display the drastic differences in product consumption based on the income and life style whereas in this study, free of cost products also were hesitated to accept before explaining about the benefits of the product and education [14] are common important influencing factors. Lack of knowledge and unfamiliarity of the products led to non- acceptability of the product though it is good for improving health. From an evolutionary perspective, 'food neophobia', the avoidance of novel foods [15] ensured that humans were careful in trying unknown foods, because they did not know if these foods were poisonous [16]. Even research by

food professionals for food acceptance has focused on familiarity instead of novel foods [17] with little modifications and foresee which food innovations will be appreciated [18] and more accepted. Stressing the familiarity of an unknown food product is important for the promotion of unknown food item. Health promotion of a product is required if the health is main criteria or output of a product.

However, creating awareness about new or unfamiliar probiotic yoghurt is not merely help in healthy living but also including provision of economical healthy diet is important in developing countries. Regular consumption of food products improves the health status.

## Materials and Methods

Details of socio-economic factors (n=210) were collected by research administered one to one questionnaire for assessing the influence of socio economic factors on awareness and motivation to consume yoghurts. Elderly people (>55 yr) from two old age homes, normal and abandoned people, third group randomly selected from locally located homes. The study questionnaire was a part of a comprehensive and designed to explore numerous factors related to consumption of yoghurt among old age groups. The information about familiarity of yoghurt also was collected from them.

A written consent was taken and appraised them to know their opinion and other details to the study. Ethical committee approval was taken for this study. All the respondents participated voluntarily, interviewed individually and expressed their needs and experiences prior to and after consumption of the different yoghurt types prior to supplementation. No compensational rewards been given for collecting the data. In order to avoid ambiguity in their understanding and answer each question fully, it was administered using an interactive process. Functional yoghurt samples were provided to all the three segments of elderly people, who reacted differently.

## Statistical analysis

Data was analyzed through the calculation of summary statistics including frequencies and percentages [19].

### Age

The elderly subjects were categorized into two groups based on the age i.e., 55-65 yrs and above 65 yrs. The frequency distribution of elderly subjects based on age on awareness about yoghurt and motivation to consume functional yoghurts is given in Figure 1. Age had significant influence on the awareness and motivation of the subjects to consume functional yoghurts. Elderly subjects between the age group of 55-65 yrs had significantly higher scores (88.89%) towards motivation to consume yoghurt compared to the subjects in the age group of >65 yrs as they felt that, they would be living very few years and yoghurt or any new product will not impede their fatality.

### Gender

Gender had significant role on the consumption of yoghurt. Female elderly subjects significantly showed more (93.02%) interest and motivated to consume functional yoghurts compared to males (50.00%). It was told that the female elderly subjects shared their views about the health benefits of consumption of yoghurts while doing skill works during leisure time in the homes and encouraged one another to consume the yoghurt (Figure 2).

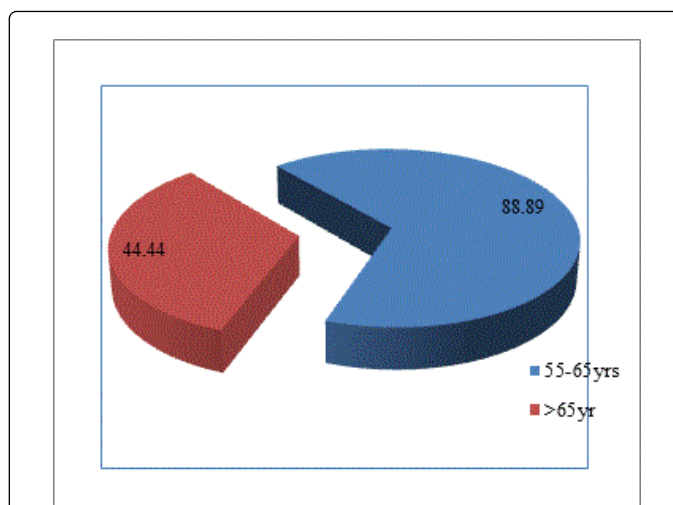


Figure 1: Frequency distribution of elderly subjects based on age on motivation to consume yoghurts.

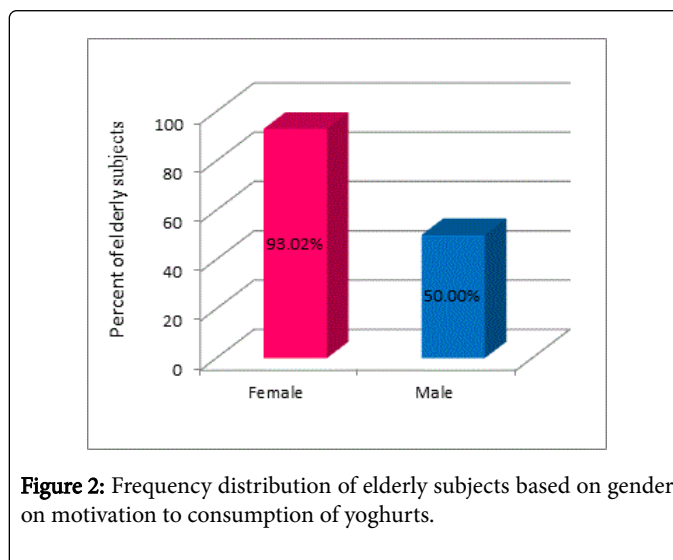


Figure 2: Frequency distribution of elderly subjects based on gender on motivation to consumption of yoghurts.

### Education

Among the subjects studied 80.00% (n=168) were illiterates and the remaining 20.00% (n=42) were literates (Figure 3). Education level showed no significant difference either on awareness about the yoghurt or on motivation. Eighty two percent of the elderly subjects do not know what yoghurt is and its health benefits irrespective of their educational level. However, very few literates (6.34%) expressed awareness and health benefits of consumption of yoghurt such as in reducing cholesterol and formation and maintenance of bone health. Educated elderly were explained about yoghurt benefits, but failed to receive it as an optimistic way when the contents of yoghurt was good bacteria which benefits health, answered on their probe about the yoghurt and its beneficial contents. However, it was observed that educated elderly expressed discomfort, self-esteem while listening about the product. They raised the questions like how bacteria can give good health.

However, illiterates and secondary educated elderly responded optimistically and very much immediately after yoghurt awareness counseling and showed willingness towards yoghurt consumption. Surprisingly, higher educated elderly were in controversy towards yoghurt consumption, its benefits and not shown interest for consumption of yoghurt still probed many questions as they complained health problems after consumption of yoghurts earlier. It may be because the coincidence of their health problems at time of consumption of yoghurts, pre occupied minds and pessimistic feelings about yoghurts.

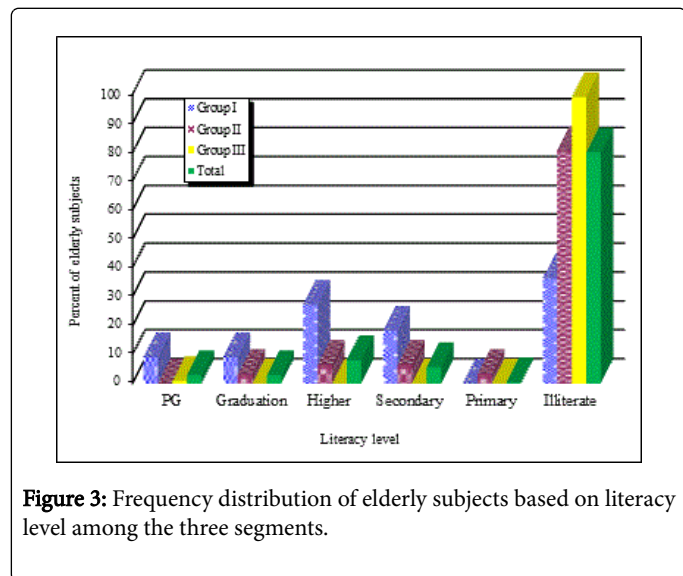


Figure 3: Frequency distribution of elderly subjects based on literacy level among the three segments.

These results are coinciding with the observations made by [20] Sanchez et al. who demonstrated that the consumer evaluation was mostly based on gender, age and level of education in relation to sensory and market attributes of the products prepared from US beef and Spanish-produced beef. Study on perception levels of medical students about probiotics found that approximately acceptable level of knowledge about probiotics and their health effects, their awareness about common available form of probiotic products was less. It was suggested that the use of efficient education material on probiotics for the benefit of the students [21]. Seventy percent of consumers were not familiar with the term probiotic [22].

### Income level

Frequency distribution of the subjects based on income is given in Figure 4. Income level showed no significant influence on mean scores of awareness about the yoghurt. However, it had significant influence on motivation to consume yoghurts by the elderly subjects.

### Awareness

Lack of awareness and little knowledge were the most frequently identified factors, which needs to promote consumption of yoghurt. When the probiotic yoghurt was offered to the volunteer elderly subjects (n=70), they felt as it was nothing like a normal curd and raised the question about what yoghurt is and the difference between curd and yoghurt which reflected their unawareness and lack of knowledge about the yoghurt. Only 18% of the elderly subjects knew about the synbioic yoghurts (Figure 5). The majority of the elderly subjects (82%) in the current study reported that they were unaware of

the yoghurt. Though statistically not significant, the participants with a higher education background were more likely to report being aware of health benefits compared those with low education level. Percentage (22.85%) of the subjects discontinued (n=16) the consumption of yoghurt after one week of supplementation due to sourness, diarrhea and personal dislike.

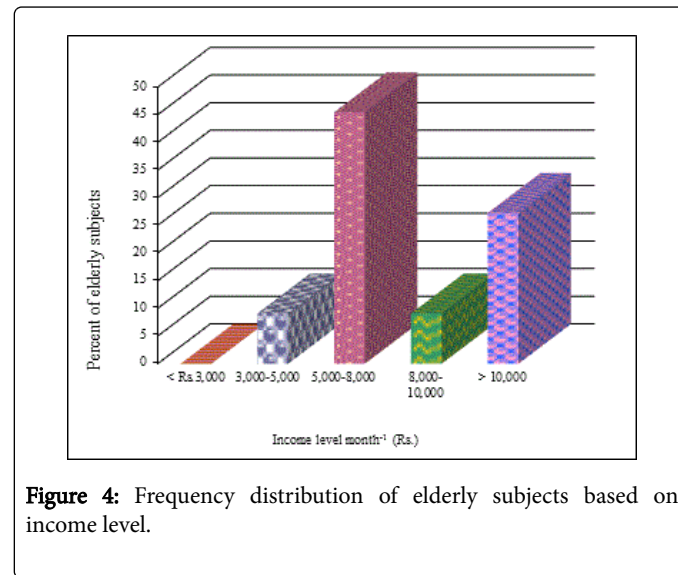


Figure 4: Frequency distribution of elderly subjects based on income level.

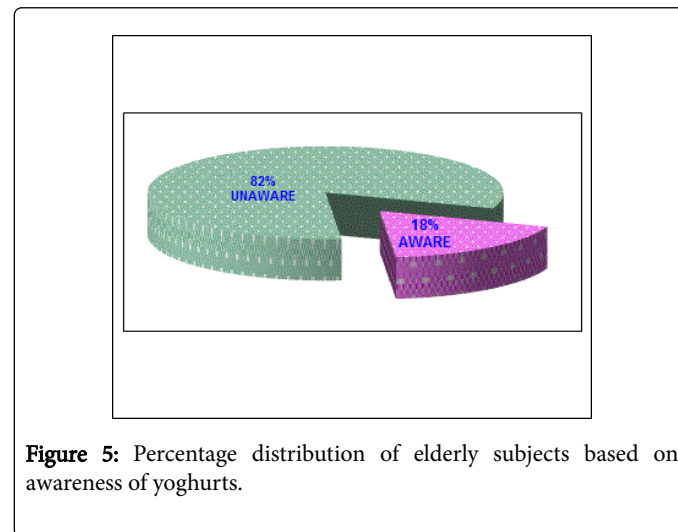


Figure 5: Percentage distribution of elderly subjects based on awareness of yoghurts.

Research on knowledge of probiotics by Nigerian clinicians on recommending probiotics in patient care and found that 95.2% of the respondents (n=62) were not familiar with the term probiotics and all clinicians were willing to participate in clinical trials on probiotics and were extremely interested to learn more about scientifically and clinically proven products [23].

### Dietary habits

Dietary habits such as vegan or non-vegan did not show significant difference on mean scores for awareness and motivation for consumption of yoghurts among the subjects. However, traditional habits due to religious customs or traditions significantly affected the consumption of onion mixed yoghurts. But after shifting to another

variety of yoghurt i.e., without onion extract, they were willing to consume the product.

### Counseling

Since it was very difficult to create awareness and motivate elderly about an unknown product benefits such as yoghurt became one of the major and hard tasks of this study for making them to believe. Counseling, awareness and motivation about yoghurt in this study conveyed benefits of unfamiliar yoghurt and influenced to drive them towards consumption of healthy yoghurt. Explanation and evidence showed through scientific research findings, samples of yoghurts available in the markets and consuming the random samples of prepared yoghurts by research scholars in front of elderly subjects to make them confident about the product were the main tools used in counseling for the promotion and motivation of yoghurts. However, motivation and counseling is not enough for single time for elderly subjects to consume continuously but regular promotions, new way of conveying methods, remarkable health beneficial effects may affect their perception and consumption of yoghurts.

After two weeks of consumption of the product, neighbors of randomly selected families showed interest to consume the yoghurt. This was due to popularizing about the benefits of functional yoghurts by consumers through word of mouth. Also consistent with the current study, focus group research has identified family and/or friends as key sources of information pertaining to functional foods, confirming similar observations reported earlier [24-26].

Advertising slogans could influence cognitive and effective responses to unknown dairy products in neophobics [27] the avoidance of novel foods [15] and neophilics. Slogans aimed at food neophilics need to stress the novelty of the product. However, slogans alone seem to be inefficient for neophobics.

Overall, these findings indicate that elderly consumers with the yoghurts are cognizant of the health benefits on functional food products and active counseling with real testimonies of beneficiaries make them a role in consumer awareness of health claims. These findings indicate illiterates easily accept unknown beneficial food products upon little counseling from health professionals whereas it was reverse in case of majority of highly educated. However, elderly from highly educated showed interest in consumption of yoghurt upon separate second time individual counseling. Age, gender and economic status showed significant difference in the awareness of functional yoghurt by the subjects. Knowledge and awareness of probiotics and prebiotics and its health benefits among the consumers were found to be dependent on gender, educational and occupational status of the consumers [28].

Most of the elderly in the present study also indicated that they found nutrient content advantages, disease risk reduction to be informative and that the presence of these health benefits on a functional food level would increase their likelihood of consuming the yoghurt. Group with abandoned elderly group has shown interest to consume product even though they could not understand what have been talked about the product. Their managers said since the probiotic yoghurt similar to the curd in appearance which they take regularly in their institute and they thought it was a curd and did not hesitate to have it. Age, gender and economic status showed significant difference in the awareness of functional yoghurt by the subjects.

Suggestions from elderly after 45 days of supplementation of yoghurt were to reduce the sourness of yoghurt by adding sugar which

is sensitive factor to elderly especially above 60 yrs age group for regular consumption. Similar observations reported in elderly who consumed more flavor amplified yoghurts than common ones [28].

Ultimately, further research is needed in order to elucidate the relationship between socio-demographic variables in large level and consumer perceptions of health benefits on functional food products in order to develop targeted nutrition information that will appeal to these groups.

### Conclusion

This study provides insight into the information on functional foods, unawareness, perceptions and understanding of health benefits by the different groups of elderly consumer segment. Among the elderly subjects, lack of awareness and knowledge pertaining to functional foods was the most frequently reported factor, suggesting that elderly were motivated to expand their knowledge and understanding of functional food products. Education, level of income and status of living are influencing factors of awareness program for yoghurt consumption among different groups of elderly. Motivation can be done for all groups by developing familiarity of the product.

With little motivation and awareness, it is possible to make elderly to consume healthy yoghurt in developing countries where less familiarity towards functional food products. However, motivation and counseling is not one time job for making people to consume continuously but regular promotions, new way of conveying methods, remarkable health beneficial effects may win their guts. This investigation advances the area of knowledge to provide information that can be utilized by elderly consumers, health care professionals and the food industry to improve functional food acceptance among elderly population. Overall, the results of the current study provide valuable information regarding the needs and perceptions of nutrition and health benefits due to functional foods among the elderly consumer segment. It is concluded in this study, that need of awareness and motivation of healthy products among elderly is alarming in India which not only promotes health but also good required food eating habits which extends healthy life.

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