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RESEARCH ARTICLE

KNOWLEDGE, ATTITUDES, AND PRACTICES ABOUT GOGHRUTA (COWS GHEE) IN ADOLESCENTS IN MUMBAI

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Abstract

In India, traditionally ghee is being used in both rural and urban areas. Adolescents' modern lifestyles are influenced by the western diet, which excludes cow's ghee. The purpose of this KAP study was to investigate teenage consumption habits, attitudes, and knowledge regarding cow ghee in Mumbai, India. Eight hundred and fourteen teenagers, aged 14 to 19, were asked to complete a questionnaire regarding their awareness of the qualities of cow's ghee and practices and habits of consumption of cow's ghee. Out of these 13 % did not respond. Out of those who have responded; Sixty-eight percent of the individuals did not include cow ghee in their diet. Butter and cheese intake was greater than average. Merely 32% of the subjects regularly included cow's ghee in their diet. Out of 32%, only 7 % utilized their own homemade ghee; the rest used commercial ghee. People making ghee at home weren't sure if it came from buffalo milk. Of the participants, about 14.8% thought ghee was beneficial for health. Merely 11.3% of the population was aware of A1 and A2 milk and ghee, and only seven of them knew enough about the subject. These results suggest that teens are less likely to consistently consume ghee in comparison to cheese and butter. They are ignorant of the health advantages of cow ghee. The study also emphasizes the importance of teaching teenagers about the benefits of incorporating cow ghee into their diets and the necessity to adjust their eating habits.

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Introduction:-

Ghee constitutes important position in Indian culinary. Cows' ghee is mentioned in Ayurveda as Medhya (enhancing cognitive abilities), Deepan (increases digestive enzymes), Pachan (enhances metabolism)¹. It contains Ca (~239 mg), P (~183.5 mg), K (~224 mg), Mg (~18.4 mg), riboflavin (~0.2 mg), and other nutrients.² Teenagers are influenced by Western food habits.³ Despite a wealth of research, not many people are aware of the health advantages of cow ghee⁴. Considering the nutritional value and health advantages that ghee offers, it's critical

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to comprehend the viewpoint of the consumer. Thus, the purpose of this study is to ascertain the attitudes, beliefs, and knowledge that teenagers and young adults have about ghee and ghee-related products.

Materials and Methods:-

The study involved 814 teenagers from Mumbai and Navi Mumbai city, ages 14 to 19. In order to perform the current study, personal meetings were held during camps held between August 2022 and January 2024 with all of the screening participants. Parent's and kid's assent was acquired with informed consent, respectively. Of the 814 participants, 13 (%) chose not to answer. Thus, a total of 708 individuals took part in this investigation. collection of Information : Three Ayurvedic vaidyas and a nutritionist helped create and validate a questionnaire. An Ayurvedic Vaidya with training ;questioned each participant to find out what kind of ghee they ingested, how much and how often and in which form they took it, and which beverages (such rice or chapatti) they had with it during the day. The participants were also given pictures of a list of ghee goods that are widely available and consumed in Mumbai, such as laddoo, kheer, and halwa. They were questioned about whether they ate these goods and if they made them themselves or bought them from the store. In addition, participants were asked if eating ghee and ghee products caused them to have any other gastric discomforts, such as, constipation, flatulence, diarrhoea, stomach aches, nausea, or vomiting. As ghee is mentioned as Anuloman in Ayurveda, they were also questioned about their regular bowel evacuation habits. Additionally, questions were asked regarding awareness about ghee prepared from A1/A2 milk.

Results and Discussion:-

Among the total population who responded ;Girls (n= 475 (67%) made up a higher portion of the study sample than boys 233(n= 33%) (figure1). Of the individuals involved,255(36%) ingested ghee and its derivatives (Group 1), while 453(64%) did not consume any ghee at all (Group 2) (figure 2). Group 1 was composed of boys (n= 46.5%) in a significantly higher percentage than girls (n =34.5%). Among those in group 2, 48.4% disapproved of ghee due to its smell and frequent evacuation .

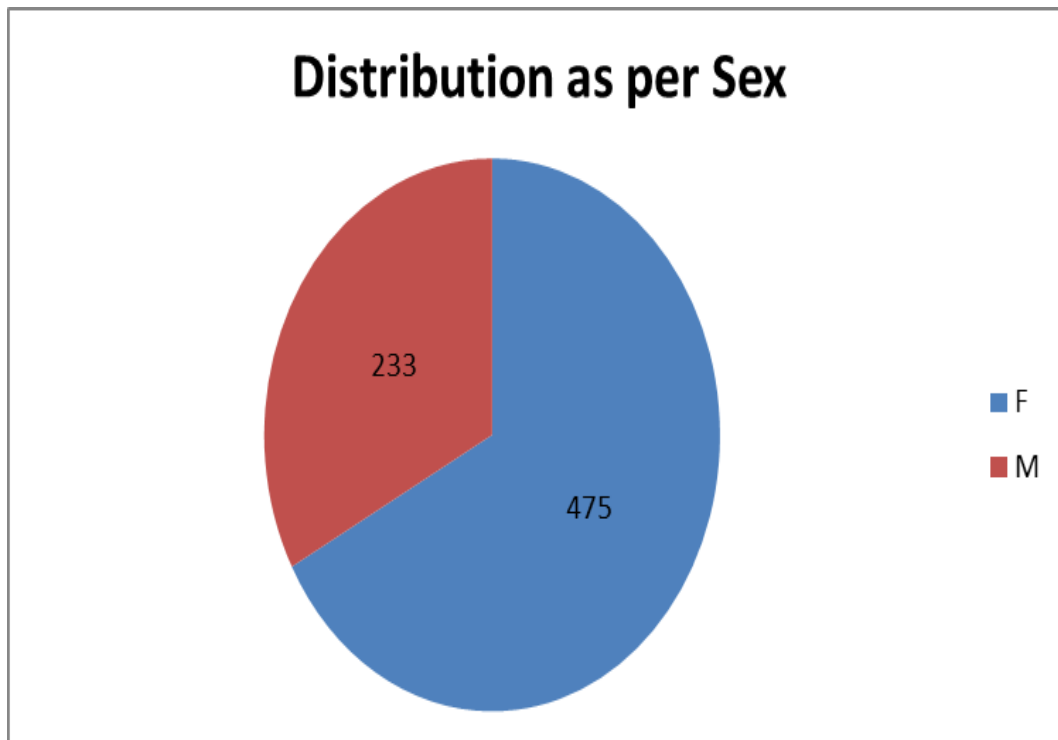


Figure 1:- Distribution as per sex.

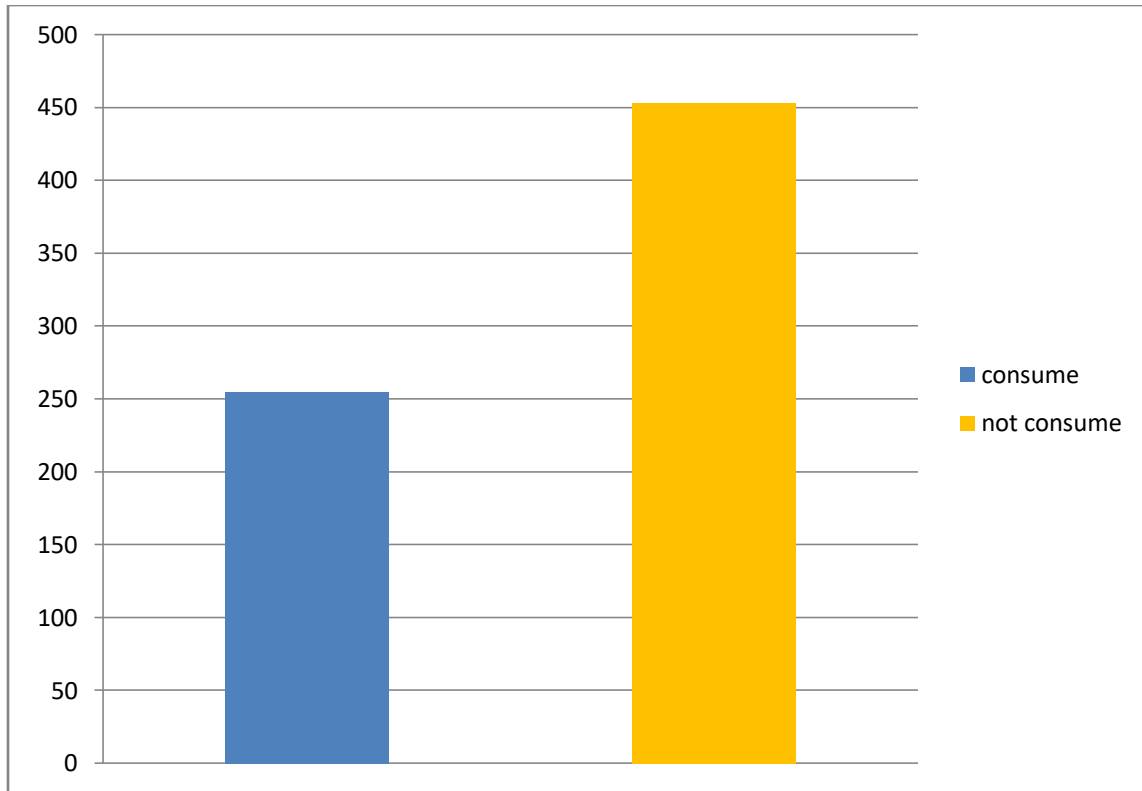


Figure 2:- Distribution as per ghee consume / not consume.

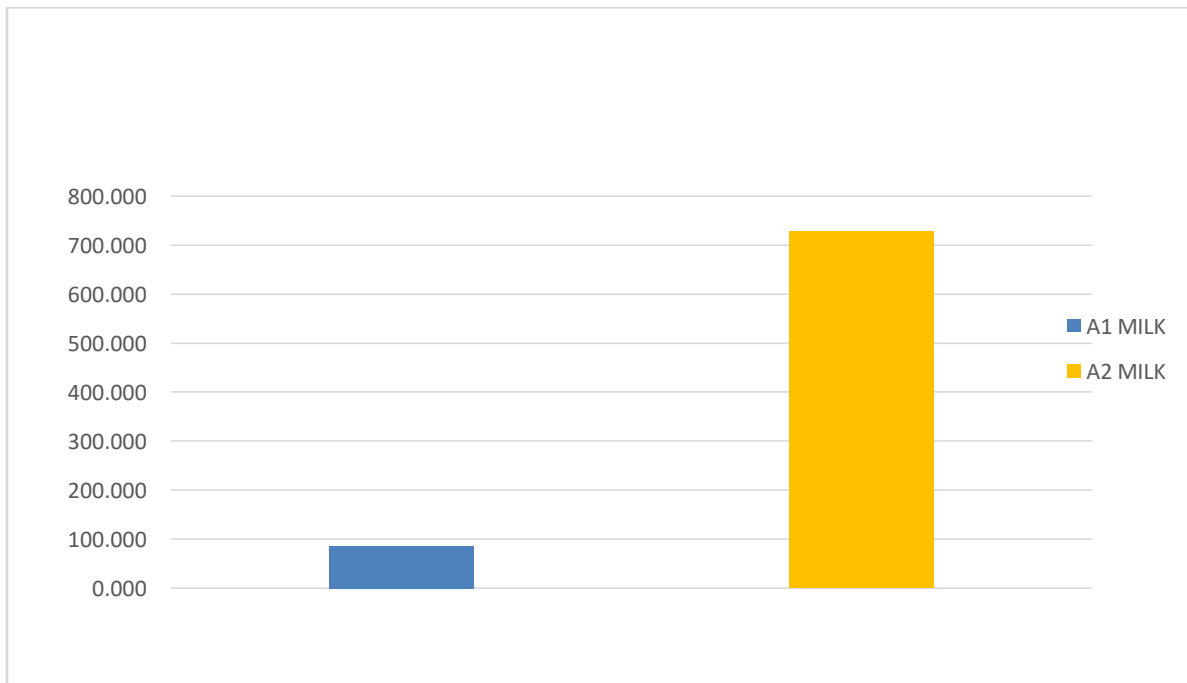


Figure 3:- Knowledge about A1 and A2 milk.

Four participants reported avoiding ghee due to high cost (n=4 , 1.01%), Three participants (0.7 %) did not provide any reason for not consuming ghee. All participants from group 1 who used ghee in practice had used it on chapatti or with rice or sometimes with laddoo or kheer.

Knowledge about A1 and A2 milk : The participants were inquired about their awareness of A1 and A2 milk and the extent of their knowledge about it. The majority of participants (n=727, 89.31%) were not aware of A1 and A2 milk, and only 87 of the total participants (10.7 %) knew about it. Nine participants (1.10 %) did not respond to this question. The 87 participants who knew about A1/A2 milk were further asked what they knew about benefits of these two types of milk (Figure 3). Among them, 22 participants (25.3%) did not reply and 20 participants (22.9%) did not know any details about A1/A2 milk. Only five participants (5.7%) provided accurate scientific information about milk casein and the difference between A1 and A2 milk.

Opinions about ghee as a health-giving food : Participants were asked whether they considered ghee to be health-giving. Of the participants, 369 (45.3%) did not respond. Among the remaining, participants 148 (33.2%) opined that ghee was good for health because their mothers insist so. Only 5 (1.3 %) participants knew that ghee contains several nutrients including protein, calcium, vitamins, other minerals, etc. 47 (10.56%) participants opined that ghee increases weight and is the cause of obesity. Three participants replied that it increases cholesterol. Seven participants 1.57 % opined it to be healthy but not a dietary essential. 11 respondents (2.47%) stated that ghee is not important in the diet, and another 11 (2.47%) believed that it should be consumed only in limited amounts. 9 participants (2.02%) consumed ghee out of compulsion of mother. 13 Participants opined that it creates nausea when there is a smell of ghee. Three of the participants (0.67%) did not have any opinion about ghee, and the remaining three participants (0.67%) were unsure of ghee being a health-giving food. Out of 255; 179 participants had regular bowel moments and had not experienced gastric discomfort. Rest of them had experienced flatulence sometimes and irregular bowel habits.(figure 4)

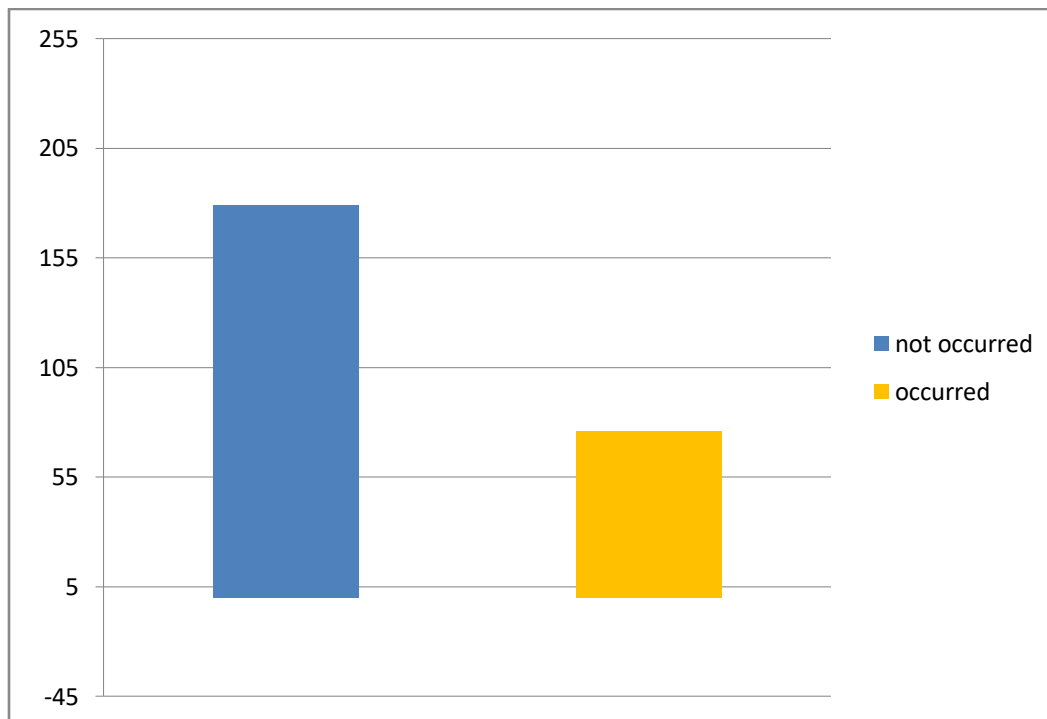


Figure 4:- Distribution as per GI problems occur/not occur after ghee consumption.

Discussion:-

Ghee is an important part of Indian culture and plays a vital role in the different regional cuisines of the country. Ayurvedic texts speak highly of ghee for its medicinal and nutritional properties. Besides cow ghee, Indians also consume buffalo ghee.⁵ In our study, results show a wide disparity in consumption patterns. The majority of participants, i.e., 343 participants (60.9%) were found to be lacking ghee content in daily diet. The 340 number of participants were using cheese and butter in daily diet instead of ghee. Cheese and butter have been reported to be the of major etiological factor PCOD⁶

Goghru (Cow Ghee) is mentioned as medhya rasayana. It is believed to support acquisition, memory, and abrogation—the three facets of mental functioning.⁷ According to the traditional scriptures, cow ghee also helps enhance cognitive functions.^{8,9} Ghee is described as “product exclusively obtained from milk, cream, or butter, by means of processes which result in almost total removal of water and non-fat solids, with an especially developed flavour and physical structure” by the Food Safety Standards Authority of India (FSSAI) and CODEX Alimentarius.^{10,11} Ghee is mostly made up of less than 98.9% fat and less than 0.5% moisture content. Furthermore, ghee is composed of vit. E and vit. A, beta carotin, omega 3 alpha linoleic acid, calcium phosphate.¹²

Sussan et al; had found that consuming ghee in usual diet reduces the cardiometabolic risk factor in healthy adults.¹³

In an animal study; Cow ghee has been found beneficial in enhancing the permeation of fluocinolone acetonide medication.¹³ Another study has shown that vitamin E and cow ghee were useful in treating cataracts in sheep eye lenses caused by glucose.¹⁴

Karandikar et al. found that obese mice in the cow ghee group lost weight. This weight loss could be attributed to the therapeutic benefits of cow ghee, which promotes rapid meal absorption and digestion. While other fats and oils can slow down the body's digestive process, ghee promotes the secretion of digestive enzymes that improve metabolism.¹⁵ The cow ghee-fed group experienced a lower increase in TG and VLDL. Short chain saturated fatty acids, which are easier to digest, are abundant in cow's ghee.¹⁶ Additionally, ghee promotes the excretion of bile acids and dietary cholesterol from the digestive system. This could also be the reason why rats in the ghee group had lower increases in blood and LDL cholesterol levels than those in the butter group.¹⁷ Antioxidants including vitamin A, vitamin E, and carotenoids, which are abundant in ghee, may help stop lipid peroxidation.¹⁸ Western diet including cheese butter has been a major cause of obesity in young adolescents. This has also led to an increase of PCOS in adolescent girls.¹⁹

Conclusion:-

Our study reveals that there is a lack of awareness and knowledge about nutritional and cognitive values of cow's ghee in adolescents. Also, there are misconceptions that it may add to weight, where scientifically it is shown in one of the experiments that it decreases the weight.

Very few adolescents are consuming ghee daily, so the practice of cow's ghee in the daily diet of Indians (Mumbai residents) is reduced, and consumption of western diet has been increased significantly. Recently, there has been an increase in PCOS in adolescent females.

Way Forward: It is necessary to create awareness about scientific nutritional and cognitive functions of cow's ghee among young adults as their health is national health.

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