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Trends and Awareness of Nutritional and Health Aspects of Dahi Consumption: A Consumer Analysis in Anand and Vidyanagar, Gujarat, India

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

This study investigates the consumption patterns and consumer awareness of dahi in Anand and Vidyanagar cities. India, as a major dairy producer, relies heavily on fermented milk products like dahi, which plays a crucial role in the national diet and dairy industry. This research aims to analyze current trends in dahi consumption and assess awareness levels regarding its nutritional and health benefits. Through a survey of 100 respondents, the study reveals demographic

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characteristics, dahi consumption habits, and awareness levels regarding health benefit of dahi. The results show a high prevalence of dahi consumption (94%) with a preference for packed dahi (56%) and frequent consumption (49% consuming a few times a week, 36% daily). However, consumer awareness about nutritional content and health benefits of dahi was relatively low, with only 41% aware of its probiotic benefits and 33% aware of its potential role in weight management. The study employs descriptive statistics to analyze the data, finding that females predominantly make dahi purchase decisions (83%) and that joint families (60%) are more common among consumers. The findings underscore the need for increased consumer education on the nutritional and health benefits of dahi to enhance informed consumption choices. These insights can guide policymakers and industry stakeholders in designing effective educational campaigns and interventions to promote dahi consumption, ultimately supporting healthier dietary practices and boosting the dairy sector's growth.

Keywords: Dahi consumption; consumption pattern; consumer awareness; dairy industry; nutritional benefits; fermented milk products.

1. INTRODUCTION

The Indian dairy industry stands as a pillar of the country's agricultural sector, playing a vital role in the national economy and rural livelihoods [1,2]. India has maintained its position as the world's largest milk producer, with an output of approximately 230.58 million tonnes in 2022-2023, accounting for about 24.62% of global milk production [3,4]. This remarkable achievement is supported by India's vast bovine population of around 192.5 million cattle [5]. The industry's success is largely attributed to its robust cooperative framework, shown by major players like Amul, which involves over 3.6 million milk producers in its operations [6,7].

Within the dairy sector, fermented milk products, particularly dahi (yogurt), occupy a significant place in both the Indian diet and economy [8]. Dahi is not only a staple in Indian households but also a major product in the commercial dairy industry [9]. It is highly valued for its rich nutritional profile, containing essential proteins, vitamins, and minerals, as well as probiotics that contribute to gut health [10,11]. The health benefits of dahi extend beyond basic nutrition, with studies indicating its potential role in improving digestion, boosting immunity, and managing weight [12-14].

The dahi market in India has been experiencing steady growth, driven by increasing health consciousness among consumers and the product's cultural significance in Indian cuisine [15,16]. The market is expected to continue its upward trajectory, with projections suggesting a compound annual growth rate (CAGR) of 8.5% from 2023 to 2028 [17]. This growth is further fueled by urbanization, rising disposable incomes, and a shift towards healthier food options [18,19].

Despite its popularity, there is a need to understand consumer awareness regarding the specific health benefits of dahi and consumption patterns in different regions of India [20]. Previous studies have shown variations in dairy product consumption across different demographic groups and geographic areas [21,22]. However, research specifically focusing on dahi consumption in urban areas of Gujarat, a state known for its significant contribution to India's dairy sector, is limited.

This study aims to investigate the consumption patterns of dahi in Anand and Vidyanagar, two cities in Gujarat [23,24]. By examining factors such as consumption frequency, preferred types of dahi, and purchase decision-making, this research seeks to provide insights into consumer behavior regarding dahi [25,26].

In addition, the study aims to assess consumer awareness of the nutritional and health benefits of dahi in Anand and Vidyanagar [20]. Understanding the level of awareness regarding dahi's rich nutritional profile, probiotic content, and potential health impacts can inform the development of targeted educational campaigns and interventions [27,28].

The findings of this study will be valuable for policymakers, dairy industry stakeholders, and health professionals in designing effective strategies to enhance dahi consumption and improve public understanding of its health benefits [29]. As India continues to urbanize and consumer preferences evolve, such insights become increasingly important for shaping the future of the dairy industry and public health initiatives [30].

1.1 Research Objectives

1. Analyze the current trends in dahi consumption among the residents of Anand and Vidyanagar.
2. Assess the level of awareness regarding the nutritional and health benefits of dahi.

2. METHODOLOGY

The relevant data for the research study was collected by using a primary survey done by a questionnaire. The questionnaire was filled out by respondents using Google Forms. In the present study, there were 100 number of respondents were randomly selected from Anand and Vidyanagar Cites. The collected data was analysed using descriptive statistics.

3. RESULTS AND DISCUSSION

3.1 Demographic Profile of Respondents

The demographic characteristics of respondents from Anand and Vidyanagar were surveyed, covering various aspects such as gender, age, educational qualification, occupation, type of family, and monthly family income. Below is a detailed description of the data collected:

Table 1. Demographic profile of respondents (n=100)

Sr No.	Particular	No. of Respondents					
		Anand	%	Vidyanagar	%	Total	%
Gender							
1	Male	30	64	35	66	65	65
2	Female	17	36	18	34	35	35
	Total	**47**	**100**	**53**	**100**	**100**	**100**
Age							
1	Below 20	1	2.1	2	3.8	3	3
2	20 - 30	19	40.4	16	30.2	35	35
3	31 - 40	14	29.8	23	43.4	37	37
4	41 - 50	10	21.3	10	18.8	20	20
5	Above 50	3	6.4	2	3.8	5	5
	Total	**47**	**100**	**53**	**100**	**100**	**100**
Educational Qualification							
1	Primary	4	8.5	1	1.9	5	5
2	Secondary	1	2.1	1	1.9	2	2
3	Higher Secondary	11	23.4	7	13.2	18	18
4	Diploma	0	0	1	1.9	1	1
5	Undergraduate	18	38.3	33	62.3	51	51
6	Postgraduate	13	27.7	5	9.4	18	18
7	Doctoral degree or above	0	0	5	9.4	5	5
	Total	**47**	**100**	**53**	**100**	**100**	**100**
Occupation							
1	Student	6	12.8	6	11.2	12	12
2	Job	20	42.6	26	49.1	46	46
3	Self-employed	11	23.4	8	15.1	19	19
4	Retired	2	4.2	2	3.8	4	4
5	Not yet working	8	17	11	20.8	19	19
	Total	**47**	**100**	**53**	**100**	**100**	**100**
Type of Family							
1	Joint	29	61.7	31	58.5	60	60
2	Nuclear	18	38.3	22	41.5	40	40
	Total	**47**	**100**	**53**	**100**	**100**	**100**
Monthly Income							
1	<10000	1	2.1	1	1.9	2	2
2	10000 - 20000	8	17	3	5.7	11	11
3	20001 - 30000	11	23.4	6	11.3	17	17
4	30001 - 40000	11	23.4	19	35.8	30	30
5	More than 40000	16	34.1	24	45.3	40	40
	Total	**47**	**100**	**53**	**100**	**100**	**100**

Gender distribution: The gender distribution of the respondents indicates a slightly higher number of males compared to females. Overall, 65% of respondents were male, while females constituted 35% of the total sample.

Age distribution: The age distribution shows a diverse range of ages among respondents. The largest age group was those aged 31-40 years, making up 37% of the total respondents. This was followed by those aged 20-30 years (35%), 41-50 years (20%), and those above 50 years (5%). The smallest group was those below 20 years, accounting for 3% of the respondents.

Educational qualification: Respondents' educational qualifications varied significantly. Most of respondents were undergraduates, comprising 51% of the total. Higher secondary education and postgraduate qualifications were equally represented at 18% each. Primary education accounted for 5% of respondents, while 5% held doctoral degrees or above. Secondary education and diplomas were the least common, at 2% and 1% respectively.

Occupational status: The occupational status of the respondents reveals that 46% were employed. Self-employed individuals and those not yet working each accounted for 19% of the respondents. Students made up 14% of the total respondents, while 4% were retired.

Type of family: The survey also captured the type of family structure. Joint families were more common, accounting for 62.5% of the total respondents. Nuclear families represented 37.5% of the respondents.

Monthly family income: Monthly family income was categorized into five brackets. The most common income bracket was more than 40,000 INR, representing 35% of the respondents. The second most common income range was 30,001 to 40,000 INR, comprising 30.5% of respondents. The income ranges of 20,001 to 30,000 INR (19.5%), 10,000-20,000 INR (11%), and less than 10,000 INR (2%) followed.

3.2 Consumption Pattern of Dahi

This Table 2 provides a breakdown of respondents' consumption patterns of dahi in Anand and Vidyanagar, along with their respective percentages and totals.

The table presents a comprehensive analysis of dahi consumption and purchasing habits among respondents from Anand and Vidyanagar. It reveals that an overwhelming majority (94%) of respondents in both cities consume dahi, with only 6% not consuming it. Reason for not consuming dahi was mostly due to their taste preference respondents do not like to consume dahi due to their personal choices. Among those who consume dahi, 56% prefer packed dahi, while 30% consume homemade dahi and 14% consume loose dahi.

The frequency of dahi consumption shows that 49% of respondents consume dahi a few times a week. 36% consume dahi once a day, while 13% consume dahi multiple times a day. Only 2% rarely consume dahi.

In terms of the point of purchase, 30% of respondents make their own dahi at home. 27% buy dahi from company outlets. Home delivery was preferred by 12% of respondents. Local vendors accounted for 14% of dahi purchases, while 9% bought from malls and 8% from retail shops.

Regarding the purchase decision for buying dahi, it was predominantly made by female family members, accounting for 83% of the decisions, with male family members making up 17% of the decisions.

3.3 Awareness level of Nutritional and Health Aspects of dahi among Respondents

The Table 3 provides a detailed breakdown of respondents' awareness of various aspects of dahi in Anand and Vidyanagar, along with their respective percentages and totals.

The Table 3 reveals various aspects of consumer awareness regarding dahi in Anand and Vidyanagar. It shows that 69% of respondents were aware of dahi contents such as proteins, carbohydrates, fats, calcium and vitamins, while 31% were unaware. Regarding awareness that dahi contains good gut bacteria and boosts metabolism, 41% of respondents were informed, while 59% were not aware. Concerning the awareness that dahi was a fat burner and helps in weight loss, 33% of respondents were aware, while 67% were unaware. A smaller proportion of respondents (22%) were aware that lactose intolerant people can consume dahi, while a significant 78% were unaware of this fact. Only 20% of respondents were aware that plastic used for making cups and buckets are easier to recycle than those used for making pouches, while 80% were unaware of this information.

Table 2. Consumption pattern of Dahi

Consumption of dahi (n=100)							
Sr No.	**Particular**	**No. of Respondents**					
		Anand	**%**	**Vidyanagar**	**%**	**Total**	**%**
1	Consume dahi	45	95.7	49	92.5	94	94
2	Do not consume dahi	2	4.3	4	7.5	6	6
	Total	**47**	**100**	**53**	**100**	**100**	**100**
Type of Dahi Consumed (n=94)							
1	Home Made	16	36	12	25	28	30
2	Loose	5	11	8	16	13	14
3	Packed	24	53	29	59	53	56
	Total	**45**	**100**	**49**	**100**	**94**	**100**
Frequency of Dahi Consumption (n=94)							
1	A few times a week	20	44	26	53	46	49
2	Once a day	18	40	16	33	34	36
3	Multiple times a day	7	16	5	10	12	13
4	Rarely	0	0	2	4	2	2
	Total	**45**	**100**	**49**	**100**	**94**	**100**
Point of Purchase for Dahi							
1	Company outlet	13	29	12	25	25	27
2	Home Delivery	5	11	6	12	11	12
3	local vendor	5	11	8	16	13	14
4	Mall	3	7	6	12	9	9
5	Retail shop	3	7	5	10	8	8
6	Home Made	16	35	12	25	28	30
	Total	**45**	**100**	**49**	**100**	**94**	**100**
Purchase Decision of Buying Dahi							
1	Female family member	37	82	41	84	78	83
2	Male family member	8	18	8	16	16	17
	Total	**45**	**100**	**49**	**100**	**94**	**100**

Table 3. Awareness level of nutritional and health aspects of dahi (n=100)

Sr No.	Awareness	No. of Respondents					
		Anand	**%**	**Vidyanagar**	**%**	**Total**	**%**
Awareness about dahi contents such as proteins, carbohydrates, fats, calcium and vitamins							
1	Aware	29	61.7	40	75.5	69	69
2	Unaware	18	38.3	13	24.5	31	31
	Total	**47**	**100**	**53**	**100**	**100**	**100**
Awareness about dahi contains good gut bacteria and boosts metabolism							
1	Aware	21	44.7	20	37.7	41	41
2	Unaware	26	55.3	33	62.3	59	59
	Total	**47**	**100**	**53**	**100**	**100**	**100**
Awareness about dahi was fat burner and helps in weight loss							
1	Aware	14	29.8	19	35.8	33	33
2	Unaware	33	70.2	34	64.2	67	67
	Total	**47**	**100**	**53**	**100**	**100**	**100**
Aware that lactose intolerance people can consume dahi							
1	Aware	9	19.1	13	24.5	22	22
2	Unaware	38	80.9	40	75.5	78	78
	Total	**47**	**100**	**53**	**100**	**100**	**100**
Aware that plastic used for making cu ps and bucket are easier to recycle than used for making pouches							
1	Aware	7	14.9	13	24.5	20	20
2	Unaware	40	85.1	40	75.5	80	80
	Total	**47**	**100**	**53**	**100**	**100**	**100**

4. CONCLUSION

This study provides a detailed profile of respondents in Anand and Vidyanagar regarding dahi consumption patterns and awareness of its nutritional and health benefits. The gender distribution shows more males (65%) than females (35%), with the majority of respondents aged between 20-40 years (72%). Educational attainment was high, with 51% being undergraduates. Employment status reveals 46% were employed, with 19% each being selfemployed or not yet working. Joint families were more common (60%) than nuclear families (40%). The most common income bracket was above 40,000 INR (40%).

The study reveals that 94% of respondents in Anand and Vidyanagar consume dahi, with 56% preferring packed dahi. Consumption frequency was high, with 49% consuming dahi a few times a week and 36% consuming it daily. Home-made dahi (30%) and company outlets (27%) were common sources. Females predominantly make dahi purchase decisions (83%).

This study reveals moderate to low consumer awareness regarding nutritional and health benefits of dahi in Anand and Vidyanagar. While 69% were aware of basic nutritional content of dahi, only 41% knew about its probiotic benefits, and 33% were aware of its potential role in weight management. Notably, only 22% knew that lactose-intolerant individuals can consume dahi, and just 20% were aware of the recyclability differences in packaging materials.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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