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Perceptions of individuals on a vegan diet: a questionnaire-based cross-sectional study

Harijith Raghav Senthilkumar[1], Murali Krishna Bharadhi[2], Saranya Varadarajan[3,*], Thodur Madapusi Balaji[4]

[1] The Alt School, Chennai, Tamil Nadu 600020, India.
[2] PSP Medical College and Research Institute Oragadam Tamil Nadu 631604. India.
[3] Saveetha University. Department of Oral Pathology and Microbiology Saveetha Dental College and Hospitals, Saveetha Institute of Medical and Technical Sciences, Chennai - 600077, Tamil Nadu, India.
[4] Tagore Medical College and Tagore Dental College and Hospital, Near Vandalur, Melakkottaiyur Post, Rathinamangalam, Tamil Nadu 600127, India.

*Corresponding author: Dr. Saranya Varadarajan.
Saveetha University. Department of Oral Pathology and Microbiology
Saveetha Dental College and Hospitals, Saveetha Institute of Medical
and Technical Sciences, Chennai - 600 077, Tamil Nadu, India.
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Abstract

Introduction: Vegan diets are gaining attention for their potential ethical, environmental, and health benefits. However, public opinion on veganism is highly diverse. **Objective:** This study used a questionnaire to explore perceptions, beliefs concerning animal sentience and welfare, and the willingness to adopt a vegan diet among individuals from different age groups, genders, and dietary backgrounds. **Methods:** An online cross-sectional survey was conducted with 357 participants after excluding responses where consent was not provided. The questionnaire gathered data on demographics, dietary habits, ethical beliefs about animals, and openness to a vegan lifestyle. Data were analyzed using descriptive statistics and chi-square tests in using IBM SPSS Statistics for Windows, Version 26.0 (IBM Corp., Armonk, NY, USA). A p-value < 0.05 was considered statistically significant. All statistical tests were two-tailed. **Results:** The sample (n=59) was 50.8% female and 45.8% male, with the largest age cohort being 18-26 years (42.4%). Only two participants were existing vegans. However, a considerable 42.4% stated they 'may consider' trying a vegan diet, and another 20.3% were explicitly willing. We identified statistically significant associations between current diet type and willingness ($p<0.001$), as well as between age group and willingness ($p=0.0023$). A large number of respondents recognized animal sentience and endorsed stronger animal welfare legislation. **Conclusion:** An individual's current diet and their age appear to be significant factors in their openness to veganism. While awareness of animal sentience is common, practical and ethical obstacles remain. Initiatives in education and policy could be instrumental in improving public acceptance of plant-based diets.

Keywords: Vegan diet. Dietary patterns. Dietary ethics. Attitudes toward veganism. Cross-sectional survey.

Introduction

Veganism, a diet excluding all animal products, has evolved from a niche practice to a global movement driven by ethical, environmental, and health considerations. In recent years, numerous countries in the West and Asia have noted a consistent rise in people adopting vegan or predominantly plant-based diets. This trend seems to be fueled by a better understanding of the health impacts of meat-centric diets, ethical issues related to industrial animal farming, and the significant role of livestock in climate change **[1-3]**.

From a health standpoint, a properly planned vegan diet is linked to lower risks of cardiovascular

disease, type 2 diabetes, and obesity, largely thanks to a higher intake of fiber and antioxidants and lower consumption of saturated fats **[4,5]**. That said, worries about potential nutrient shortfalls, especially vitamin B12, iron, and calcium—continue to deter people **[6,7]**. Culturally, food habits are often deeply embedded in tradition, and in many societies, meat and dairy products carry important social or religious meaning, making a shift to veganism challenging **[8]**.

Ethical reasons are another powerful motivator. Many people turn to veganism after becoming aware of intensive farming conditions, animal confinement, and slaughtering processes. Advocacy efforts focusing on animal sentience - the capacity of animals to feel pain and emotion - have been particularly influential in shifting public opinion. Additionally, sustainability concerns have brought veganism into the environmental conversation, given that livestock production is a major source of greenhouse gases and deforestation **[9-12]**.

Despite this growing consciousness, the willingness to fully embrace a vegan lifestyle is still relatively low. Research shows that factors like perceived inconvenience, a lack of affordable plant-based alternatives, and social pressures can discourage dietary change. Even among vegetarians, the transition to veganism can be difficult due to an attachment to dairy or cultural food practices **[12]**.

Grasping public perceptions is therefore key to designing effective interventions that encourage plant-based eating. Surveys on perceptions can uncover both knowledge deficits and attitudinal hurdles. Previous studies have indicated generational and gender disparities in attitudes toward veganism, with younger people and women typically showing more receptiveness **[13,14]**. Still, data are scarce from specific cultural settings.

This study, therefore, sought to investigate perceptions of vegan diets within a diverse respondent group using a structured questionnaire. Our specific goals were: 1) to describe the demographics of participants and their beliefs about animal sentience and ethics, and 2) to identify any relationships between age, gender, dietary patterns, and willingness to try a vegan diet. The insights from this research can help clarify the motivational and social factors affecting the adoption of vegan diets and inform public health promotion tactics.

METHODS

Study Design and Participants

This cross-sectional study collected data through an online questionnaire. The present study was conducted and reported according to STROBE guidelines. All individuals who completed the survey and provided informed consent were included in the present study. Any responses where participants selected "I do not consent" were excluded from the analysis. The final sample size was 357 respondents based on convenience sampling. However, evaluation of post-hoc adequacy was done using Chi-Square Test assumptions, to ensure adequate expected cell counts and statistical power.

Ethical Approval

The present study was approved by the Institutional Ethical Committee of Bharathiraja Hospitals, reference number BHRI/4th September/2025. Informed consent was obtained from all respondents via a checkbox at the start of the questionnaire. Nonconsenting responses were deleted before analysis. The study was conducted anonymously; any names present in the raw data were not used in the analysis, and optional comments were handled to prevent identification.

Questionnaire

Questionnaire validation

The first 5 questions were related to demographics, and the remaining were related to diet and pet ownership, and demographics. Face and content validation was done by a team of six members. Pre-testing was done on ten volunteers of varied age groups and modified based on the assessment of feasibility. Internal consistency was assessed using Cronbach's alpha coefficient. It was observed that the overall value was **α = 0.30**, showing low internal consistency. This could be attributed to the fact that the nature of the questionnaire is multidimensional and lacks a single unified scale.

Questionnaire description

The survey instrument included the following sections:

- Demographics: Age group, gender, and place of residence.
- Self-Reported Diet: Options were omnivore, vegetarian, vegan, or other.
- Knowledge and Beliefs: Items probed beliefs about animal sentience (the
- understanding that animals can feel pain and emotions), the ethics of killing animals for food, and awareness of practices in dairy farming (e.g., calf separation).
- Attitudes toward Veganism: An optional open-ended question on general thoughts about veganism, beliefs on whether using products like milk or honey harms animals, and support for stricter animal welfare laws, even if it demands dietary changes.
- Social/Cultural Pressure: Whether the participant

feels social pressure against following a vegan diet.

- Willingness: A single item asking, "Would you consider trying a vegan diet in the future?" with response options of yes, maybe, or no.

Some questions allowed for optional free-text comments; these were reviewed for contextual understanding but were not subjected to formal coding.

Response recording

The questionnaire was sent to willing participants through Google Forms, and responses were recorded.

Statistical Analysis

Data were analysed using IBM SPSS Statistics for Windows, Version 26.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics were used to summarise the data as frequencies and percentages. The Chi-Square Test was applied to assess associations between age group, pet ownership status, and attitudes or beliefs related to animals, food ethics, and veganism. A p-value<0.05 was considered statistically significant. All statistical tests were two-tailed.

Results

Sample Characteristics

A total of 357 participants were included in the final analysis. Respondents represented a broad range of age groups, genders, dietary patterns, and pet ownership status. The sample included individuals with and without companion animals, as well as participants identifying as omnivores, vegetarians, and vegans. This diversity enabled the examination of associations between demographic and lifestyle variables and perceptions of animal sentience, food ethics, dairy practices, and willingness to consider a vegan diet. The descriptive statistics, including age, gender, and dietary patterns, are described in Figures 1 and 2.

Figure 1 depicts age distribution of the stud participants with x axis showing the age groups and y axis demonstrating percentage of participants in each group.

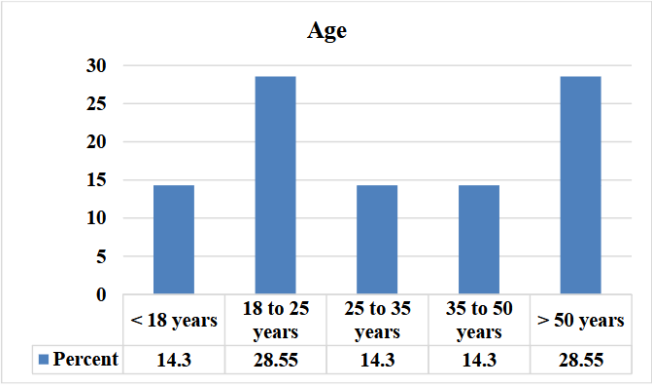

Figure 1. Demographic data representing age distribution. Source: Own authorship.

Figure 2 represents dietary pattern of the study participants with x axis representing dietary pattern and y axis representing percentage of participants following said dietary pattern.

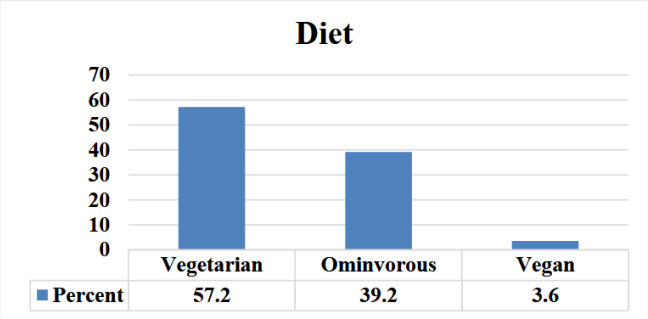

Figure 2. Demographic data representing dietary pattern. Source: Own authorship.

Dietary pattern and perception of veganism

Table 1 presents the association between dietary patterns and individuals' perceptions toward animals and pet-related ethics. A statistically significant association was observed between dietary habits and ethical attitudes toward animals ($p < 0.001$ for most comparisons).

Table 1 Association between dietary pattern of individuals and their perception towards pets.

Variables	Response Categories	Vegetarian n (%)	Omnivorous n (%)	Vegan n (%)	*X^2 (DF)	p-value
Type of pet owned	None	199 (97.5)	98 (70.0)	0 (0.0)	132.187 (4)	<0.001
	Dogs	0 (0.0)	37 (26.4)	13 (100)		
	Cats	5 (2.5)	5 (3.6)	0 (0.0)		
Visited petting zoo/adoption centre	Yes	34 (16.7)	91 (65.0)	0 (0.0)	92.507 (2)	<0.001
	No	170 (83.3)	49 (35.0)	13 (100)		
Heard of "sentient"	Yes	89 (43.6)	57 (40.7)	13 (100)	17.086 (2)	<0.001
	No	115 (56.4)	83 (59.3)	0 (0.0)		
Animals feel pain & emotions	Strongly disagree	0 (0.0)	11 (7.9)	0 (0.0)	90.246 (6)	<0.001
	Neutral	6 (2.9)	0 (0.0)	0 (0.0)		
	Agree	0 (0.0)	45 (32.1)	0 (0.0)		
	Strongly agree	160 (78.4)	84 (60.0)	13 (100)		
Plants are living organisms	Yes	184 (90.2)	140 (100)	13 (100)	15.890 (2)	<0.001
	No	20 (9.8)	0 (0.0)	0 (0.0)		
Plants are sentient	Yes	179 (87.7)	106 (75.7)	0 (0.0)	60.867 (2)	<0.001
	No	25 (12.3)	34 (24.3)	13 (100)		
Ethical to kill animals for food	Yes	20 (9.8)	50 (35.7)	0 (0.0)	128.566 (4)	<0.001
	No	144 (70.6)	17 (12.1)	13 (100)		
	Not sure	40 (19.6)	73 (52.1)	0 (0.0)		
Eating pigs/cows acceptable	Yes	0 (0.0)	23 (16.4)	0 (0.0)	80.838 (4)	<0.001
	No	123 (60.3)	33 (23.6)	13 (100)		
	Depends	81 (39.7)	84 (60.0)	0 (0.0)		
Support dog meat legalization	Yes	0 (0.0)	12 (8.6)	0 (0.0)	70.567 (4)	<0.001
	No	144 (70.6)	112 (80.0)	0 (0.0)		
	Not sure	60 (29.4)	16 (11.4)	13 (100)		
Use of dairy harms animals	Yes	15 (7.4)	17 (12.1)	13 (100)	97.715 (4)	<0.001
	No	116 (56.9)	86 (61.4)	0 (0.0)		
	Not sure	73 (35.8)	37 (26.4)	0 (0.0)		
Aware of calf separation	Yes	129 (63.2)	97 (69.3)	13 (100)	10.872 (4)	0.028
	No	35 (17.2)	27 (19.3)	0 (0.0)		
	Want to know more	40 (19.6)	16 (11.4)	0 (0.0)		
Support stricter welfare laws	Yes	171 (83.8)	41 (29.3)	13 (100)	118.273 (4)	<0.001
	No	20 (9.8)	37 (26.4)	0 (0.0)		
	Neutral	13 (6.4)	62 (44.3)	0 (0.0)		

Right to kill sentient beings	Yes	37 (18.1)	36 (25.7)	0 (0.0)	30.231 (4)	<0.001
	No	128 (62.7)	55 (39.3)	13 (100)		
	Not sure	39 (19.1)	49 (35.0)	0 (0.0)		
	Maybe	98 (48.0)	81 (57.9)	—		
Social/cultural pressure	Yes	53 (26.0)	22 (15.7)	0 (0.0)	9.768 (2)	0.008
	No	144 (70.6)	118 (84.3)	13 (100)		
Have pets	Yes	5 (2.5)	42 (30.0)	13 (100)	111.847 (2)	<0.001
	No	199 (97.5)	98 (70.0)	0 (0.0)		

*Chi-square test p-value <0.05 shows statistical significance. Source: Own authorship.

Vegans consistently demonstrated the strongest pro-animal ethical stance. Among vegan dog owners, 100% strongly agreed that animals experience pain and emotions, opposed killing animals for food, rejected the consumption of pigs and cows, supported stricter animal welfare legislation, and acknowledged that dairy production harms animals (all p<0.001). Additionally, all vegans were aware of calf–mother separation practices in the dairy industry (p=0.028).

In contrast, omnivores were more likely to justify killing animals for food (35.7%) and to consider the consumption of pigs and cows acceptable (16.4%). They also showed greater uncertainty in response to several ethical questions. Vegetarians generally exhibited intermediate attitudes; however, a substantial proportion opposed killing animals for food (70.6%) and strongly supported stricter animal welfare laws (83.8%).

Significant differences across dietary groups were also observed with respect to pet ownership patterns, zoo visitation, beliefs regarding plant sentience, support for the legalization of dog meat, and perceived social pressure toward veganism (p < 0.001).

Gender variations in perception of veganism

Table 2 illustrates the relationship between gender and perceptions related to veganism, animal sentience, and associated ethical considerations. Statistically significant gender differences were identified across most of the perceptions examined (p<0.05).

Table 2. Gender-Based Variations in Perception of Veganism.

Variable	Response Categories	Male n (%) (n=201)	Female n (%) (n=147)	Total (N)	χ^2 (df)	p-value
Heard of the word "sentient"	Yes	71 (35.3)	79 (53.7)	150	11.744 (1)	0.001
	No	130 (64.7)	68 (46.3)	198		
Animals can feel pain & emotions	Strongly disagree	2 (1.0)	0 (0.0)	2	17.397 (3)	0.001
	Neutral	5 (2.5)	1 (0.7)	6		
	Agree	35 (17.4)	10 (6.8)	45		
	Strongly agree	124 (61.7)	133 (90.5)	257		
Plants are living organisms	Yes	185 (92.0)	143 (97.3)	328	4.302 (1)	0.038
	No	16 (8.0)	4 (2.7)	20		
Ethical to kill animals for food	Yes	41 (20.4)	20 (13.6)	61	22.101 (2)	<0.001
	No	79 (39.3)	95 (64.6)	174		
	Not sure	81 (40.3)	32 (21.8)	113		
Eating pigs/cows acceptable	Yes	8 (4.0)	6 (4.1)	14	17.088 (2)	<0.001
	No	79 (39.3)	90 (61.2)	169		
	Depends	114 (56.7)	51 (34.7)	165		
Support dog meat legalization (TN)	Yes	6 (3.0)	6 (4.1)	12	3.210 (2)	0.201
	No	142 (70.6)	114 (77.6)	256		
	Not sure	53 (26.4)	27 (18.4)	80		
Use of dairy harms animals	Yes	15 (7.5)	30 (20.4)	45	17.945 (2)	<0.001
	No	128 (63.7)	65 (44.2)	193		
	Not sure	58 (28.9)	52 (35.4)	110		
Aware of calf separation in dairy	Yes	152 (75.6)	87 (59.2)	239	50.044 (2)	<0.001
	No	40 (19.9)	13 (8.8)	53		
	Want to know more	9 (4.5)	47 (32.0)	56		
Support stricter welfare laws	Yes	131 (65.2)	94 (63.9)	225	5.644 (2)	0.059
	No	21 (10.4)	27 (18.4)	48		
	Neutral	49 (24.4)	26 (17.7)	75		
Right to kill sentient beings	Yes	54 (26.9)	10 (6.8)	64	41.035 (2)	<0.001
	No	85 (42.3)	111 (75.5)	196		
	Not sure	62 (30.8)	26 (17.7)	88		
Consider trying vegan diet	Yes	13 (6.5)	29 (19.7)	42	68.395 (2)	<0.001
	No	102 (50.7)	12 (8.2)	114		
	Maybe	84 (41.8)	95 (64.6)	179		
Social/cultural pressure to be vegan	Yes	31 (15.4)	44 (29.9)	75	10.649 (1)	0.001
	No	166 (82.6)	100 (68.0)	266		
Have pets	Yes	17 (8.5)	34 (23.1)	51	14.612 (1)	<0.001
	No	184 (91.5)	113 (76.9)	297		

*Chi-square test p-value <0.05 shows statistical significance. Source: Own authorship.

Overall, female respondents expressed comparatively stronger pro-animal ethical perspectives. A significantly greater proportion of females reported familiarity with the term "sentient" (53.7% vs. 35.3%; p = 0.001) and strongly endorsed the view that animals are capable of experiencing pain and emotions (90.5% vs. 61.7%; p=0.001). Ethical opposition to animal killing for food was also more pronounced among females, with 64.6% considering it unethical compared to 39.3% of males (p<0.001). Similarly, rejection of the consumption of pigs and cows was higher among females (61.2% vs. 39.3%; p < 0.001), as was disagreement with the notion that humans have the right to kill sentient beings (75.5% vs. 42.3%; p<0.001). In addition, females were more likely to report owning pets and to perceive social or cultural pressure related to veganism (p<0.001 and p=0.001, respectively), suggesting a closer personal or social engagement with animal-related issues.

In contrast, male participants demonstrated relatively greater acceptance of animal use for food and expressed higher levels of ambivalence on certain ethical questions. A larger proportion of males justified killing animals for food (20.4% vs. 13.6%) and agreed that humans have the right to kill sentient beings (26.9% vs. 6.8%). Interestingly, males reported greater awareness of calf–mother separation practices within the dairy industry (75.6% vs. 59.2%; p < 0.001), whereas a substantial proportion of females indicated a desire to learn more about such practices, reflecting curiosity and engagement rather than lack of concern.

No significant gender difference was observed in attitudes toward the legalization of dog meat (p=0.201). Although support for stricter animal welfare

legislation was high in both groups, the difference between males and females did not show statistical significance (p=0.059). With all these findings, it is suggested that female participants tended to adopt more ethically restrictive and empathetic positions regarding animal use and exhibited greater openness toward vegan-related considerations, whereas male participants showed comparatively higher acceptance of traditional practices involving animals.

Pet ownership and perception of veganism

Table 3 presents the association between pet ownership status (no pets, dogs, or cats) and perceptions related to animal sentience, dietary ethics, and veganism. Statistically significant associations were observed for most of the variables examined (p<0.05), indicating that pet ownership was related to ethical attitudes toward animals. However, no significant differences were found in visiting petting zoos or adoption centers (p=0.587), belief that plants are living organisms (p=0.118), or perceived social or cultural pressure to adopt veganism (p=0.187), suggesting that these perceptions were relatively consistent across groups.

Table 3. Association between Type of Pet owners and their perception.

Variable	Response categories	No pet n (%)	Dogs n (%)	Cats n (%)	Total (N)	χ^2 (df)	p-value
Visited petting zoo/adoption centre	Yes	102	18	5	125	1.067 (2)	0.587
	No	195	32	5	232		
Heard of the word "sentient"	Yes	117	37	5	159	20.872 (2)	<0.001
	No	180	13	5	198		
Animals can feel pain and emotions	Strongly disagree	0	11	0	11	71.506 (6)	<0.001
	Neutral	6	0	0	6		
	Agree	45	0	0	45		
	Strongly agree	208	39	10	257		
Plants are living organisms	Yes	277	50	10	337	4.280 (2)	0.118
	No	20	0	0	20		
Plants are sentient	Yes	260	20	5	285	65.764 (2)	<0.001
	No	37	30	5	72		
Ethical to kill animals for food	Yes	39	31	0	70	74.489 (4)	<0.001
	No	150	19	5	174		
	Not sure	108	0	5	113		
Eating pigs/cows acceptable	Yes	12	11	0	23	34.346 (4)	<0.001
	No	140	19	10	169		
	Depends	145	20	0	165		
Support dog meat legalization (TN)	Yes	12	0	0	12	20.752 (4)	<0.001
	No	220	26	10	256		
	Not sure	65	24	0	89		
Use of dairy harms animals	Yes	27	13	5	45	46.486 (4)	<0.001
	No	160	37	5	202		
	Not sure	110	0	0	110		
Aware of calf separation in dairy	Yes	190	39	10	239	16.611 (4)	0.002
	No	51	11	0	62		
	Want to know more	56	0	0	56		
Support stricter welfare laws	Yes	201	19	5	225	26.978 (4)	<0.001
	No	39	18	0	57		
	Neutral	57	13	5	75		
Right to kill sentient beings	Yes	49	24	0	73	39.257 (4)	<0.001
	No	165	26	5	196		
	Not sure	83	0	5	88		
Consider trying vegan diet	Yes	37	0	5	42	31.369 (4)	<0.001
	No	99	24	0	123		
	Maybe	161	13	5	179		

*Chi-square test p-value <0.05 shows statistical significance. Source: Own authorship.

Awareness and understanding of animal sentience differed significantly by pet ownership. Pet owners were more likely to have heard the term "sentient" (p<0.001). Strong agreement that animals can feel pain and emotions was universal among cat owners and high among dog owners (p<0.001). Perceptions on the ethicality of killing animals for food differed significantly (p < 0.001), with cat owners predominantly showing disinterest towards them. Similar trends were noted regarding the acceptability of consuming pigs and cows (p<0.001). Support for the legalization of dog meat in Tamil Nadu was also significantly associated with pet ownership (p<0.001).

Perceptions related to dairy production harms animals (p<0.001) and awareness of calf - mother separation (p=0.002) were significantly associated with pet ownership, with pet owners showing higher awareness than participants having none. Support for stricter animal welfare legislation (p<0.001), views on the right to kill sentient beings (p<0.001), and willingness to consider trying a vegan diet (p<0.001) also varied significantly across groups. Overall, pet ownership was associated with stronger pro-animal ethical positions and greater openness toward vegan-related perspectives.

Age and perception of veganism

Table 4 presents that age was significantly associated with pet ownership patterns (χ^2=140.256, p<0.001). Dog ownership was highest among participants aged 18 - 25 years (44.1%), whereas those aged 25 - 35 years and >50 years predominantly reported having no pets (100% each). Cat ownership was mainly observed in the 35–50-year group (13.7%). Visitation to petting zoos or adoption centers also differed significantly across age groups (χ^2=86.031, p<0.001), with the highest visitation among 35-50-year participants (64.7%), while none of those aged > 50 years reported visiting.

Table 4. Association between Age and their perception on pets.

Variable	Response Categories	<18 yrs n (%)	18–25 yrs n (%)	25–35 yrs n (%)	35–50 yrs n (%)	>50 yrs n (%)	χ^2 (df)	p-value
Type of Pet Owned	No pets	43 (84.3)	57 (55.9)	51 (100)	44 (86.3)	102 (100)	140.256 (8)	<0.001
	Dogs	5 (9.8)	45 (44.1)	0	0	0		
	Cats	3 (5.9)	0	0	7 (13.7)	0		

Visited Petting Zoo / Adoption Centre	Yes	20 (39.2)	45 (44.1)	27 (52.9)	33 (64.7)	0	86.031 (4)	<0.001
	No	31 (60.8)	57 (55.9)	24 (47.1)	18 (35.3)	102 (100)		
Heard of the Term "Sentient"	Yes	27 (52.9)	56 (54.9)	11 (21.6)	14 (27.5)	51 (50.0)	24.046 (4)	<0.001
	No	24 (47.1)	46 (45.1)	40 (78.4)	37 (72.5)	51 (50.0)		
Animals Feel Pain & Emotions	Strongly disagree	0	11 (11.2)	0	0	0	121.694 (12)	<0.001
	Neutral	0	6 (6.1)	0	0	0		
	Agree	3 (6.8)	12 (12.2)	27 (52.9)	3 (5.9)	0		
	Strongly agree	41 (93.2)	69 (70.4)	24 (47.1)	48 (94.1)	75 (100)		
Plants Are Living Organisms	Yes	48 (94.1)	89 (87.3)	51 (100)	47 (92.2)	102 (100)	19.413 (4)	0.001
	No	3 (5.9)	13 (12.7)	0	4 (7.8)	0		
Plants Are Sentient	Yes	46 (90.2)	48 (47.1)	51 (100)	38 (74.5)	102 (100)	110.997 (4)	<0.001
	No	5 (9.8)	54 (52.9)	0	13 (25.5)	0		
Ethical to Kill Animals for Food	Yes	8 (15.7)	52 (51.0)	0	10 (19.6)	0	135.917 (8)	<0.001
	No	27 (52.9)	31 (30.4)	24 (47.1)	13 (25.5)	79 (77.5)		
	Not sure	16 (31.4)	19 (18.6)	27 (52.9)	28 (54.9)	23 (22.5)		
Eating Animals Acceptable	Yes	0	17 (16.7)	0	6 (11.8)	0	36.637 (8)	<0.001
	No	23 (45.1)	49 (48.0)	24 (47.1)	22 (43.1)	51 (50.0)		
	Depends	28 (54.9)	36 (35.3)	27 (52.9)	23 (45.1)	51 (50.0)		
Support Dog Meat Legalization	Yes	0	6 (5.9)	0	6 (11.8)	0	77.055 (8)	<0.001
	No	43 (84.3)	46 (45.1)	51 (100)	37 (72.5)	79 (77.5)		
	Not sure	8 (15.7)	50 (49.0)	0	8 (15.7)	23 (22.5)		
Dairy Products Harm Animals	Yes	6 (11.8)	19 (18.6)	0	20 (39.2)	0	115.730 (8)	<0.001
	No	18 (35.3)	58 (56.9)	51 (100)	24 (47.1)	51 (50.0)		
	Not sure	27 (52.9)	25 (24.5)	0	7 (13.7)	51 (50.0)		
Aware of Calf–Mother Separation	Yes	26 (51.0)	79 (77.5)	27 (52.9)	33 (64.7)	74 (72.5)	74.497 (8)	<0.001
	No	14 (27.5)	13 (12.7)	24 (47.1)	11 (21.6)	0		
	Want to know more	11 (21.6)	10 (9.8)	0	7 (13.7)	28 (27.5)		
Support Stricter Welfare Laws	Yes	27 (52.9)	25 (24.5)	51 (100)	20 (39.2)	102 (100)	187.566 (8)	<0.001
	No	3 (5.9)	41 (40.2)	0	13 (25.5)	0		
	Neutral	21 (41.2)	36 (35.3)	0	18 (35.3)	0		
Right to Kill Sentient Beings	Yes	5 (9.8)	38 (37.3)	24 (47.1)	6 (11.8)	0	93.962 (8)	<0.001
	No	25 (49.0)	36 (35.3)	27 (52.9)	29 (56.9)	79 (77.5)		
	Not sure	21 (41.2)	28 (27.5)	0	16 (31.4)	23 (22.5)		
Consider Vegan Diet	Yes	13 (25.5)	8 (9.0)	0	21 (41.2)	0	90.686 (8)	<0.001
	No	12 (23.5)	45 (50.6)	24 (47.1)	15 (29.4)	27 (26.5)		
	Maybe	26 (51.0)	36 (40.4)	27 (52.9)	15 (29.4)	75 (73.5)		
Social/Cultural Pressure for Veganism	Yes	17 (35.4)	30 (30.6)	0	0	28 (27.5)	40.503 (4)	<0.001
	No	31 (64.6)	68 (69.4)	51 (100)	51 (100)	74 (72.5)		
Have Pets	Yes	8 (15.7)	45 (44.1)	0	7 (13.7)	0	85.714 (4)	<0.001
	No	43 (84.3)	57 (55.9)	51 (100)	44 (86.3)	102 (100)		

*Chi-square test p-value <0.05 shows statistical significance. Source: Own authorship.

Knowledge of the term "sentient" was higher among <18 years (52.9%) and 18 - 25 years (54.9%), but lower in the 25 - 35 years (21.6%) and 35 - 50 years (27.5%) groups (χ^2=24.046, p<0.001). Agreement that animals can feel pain and emotions was consistently high across all age groups, particularly among <18 years (93.2%), 35 - 50 years (94.1%), and >50 years or older (100%) (χ^2=121.694, p <0.001).

Ethical perspectives regarding animal use for food differed markedly by age. Participants aged 18 - 25 years most frequently considered killing animals for food ethical (51.0%), whereas those aged >50 years predominantly disagreed (77.5%) (χ^2=135.917, p<0.001). Acceptance of eating animals was also highest in the 18 - 25-year group (16.7%) (χ^2=36.637, p<0.001). Support for dog meat legalization was generally low but varied significantly (χ^2=77.055, p<0.001). Perceptions that dairy production harms animals were highest among participants aged 35- 50 years (39.2%) (χ^2=115.730, p<0.001). Awareness of calf–mother separation was greatest in the 18 - 25 years (77.5%) and > 50 years (72.5%) groups (χ^2=74.497, p<0.001).

Support for stricter animal welfare laws differed significantly across age categories (χ^2=187.566, p<0.001), with unanimous support among 25-35 years and >50 years participants, whereas opposition was more frequent among 18-25 years respondents (40.2%). Agreement with the "right to kill sentient beings" was highest in the 25-35 years (47.1%) and 18 - 25 years (37.3%) groups (χ^2=93.962, p<0.001). Willingness to consider a vegan diet was greatest among those aged 35–50 years (41.2%), while those aged >50 years most commonly selected "maybe" (73.5%) (χ^2=90.686, p<0.001). Perceived social or cultural pressure toward veganism was reported more often among <18 years (35.4%) and 18 - 25 years (30.6%) (χ^2=40.503, p<0.001). Overall, age was a significant factor influencing awareness, ethical attitudes, and dietary intentions related to animals.

Discussion

This study used a structured questionnaire to investigate individual perceptions and attitudes regarding vegan diets. The results suggest that while awareness of the ethical, health, and environmental dimensions of veganism is fairly high, actual adherence to a vegan diet remains uncommon. This could be attributed to various barriers to plant-based food consumption **[15]**. A notable finding is that a significant segment of participants expressed a potential willingness to consider a vegan diet in the future, pointing to a growing openness to plant-based eating. This likely mirrors a broader societal shift in attitudes, influenced by greater access to information, social media campaigns, and global environmental advocacy.

The demographic analysis indicated that younger participants, especially those between 18 and 30 years old, were more accepting and curious about vegan diets compared to their older counterparts. Younger respondents also more frequently connected veganism with environmental sustainability and ethical consumption. This generational divide may be explained by greater exposure to diverse cultural trends through digital media, as well as heightened concern about climate change **[3]**. In other words, the variation across age groups shows that there is a shift in attitude with generations, and attitudes toward veganism are varied and dependent on other factors, such as cultural and contextual factors. In contrast, older participants tended to perceive vegan diets as more nutritionally inadequate or socially difficult, underscoring the persistent influence of cultural norms that prioritize animal products. The findings are concurrent with the findings of Pribis et al and Alkhaldy et al. **[16,17]**.

The variation across age groups shows that there is a shift in attitude with generations and attitudes toward veganism is varied and dependent on other factors such as cultural and contextual factors. Gender differences were also observed. Female participants generally demonstrated stronger empathy towards animal welfare and greater ethical concern about consuming animal-derived products. This aligns with existing evidence reported by Modlinska et al. **[14]** that women are often more receptive to plant-based diets and environmental causes. However, for both men and women, cultural expectations, family eating habits, and traditional food practices continue to pose significant barriers. In many cultures, food is deeply tied to identity, family rituals, and celebrations, making profound dietary shifts a complex social undertaking **[18-20]**.

In the present study, an interesting finding was that males demonstrated a slightly greater awareness of specific dietary practices, yet they preferred accepting traditional animal consumption norms. This sheds light on the fact that awareness and knowledge alone may not determine ethical positioning but interpretation and value prioritization may be more influential.

A very strong association with dietary preferences and ethical attitude towards animals was observed. Vegans exhibited the greatest pro-animal ethical stance across all variables, such as rejection of consuming pigs and cows, support for stricter animal welfare legislation, opposition to killing animals for food, and acknowledgment of harms associated with dairy production. Vegetarians demonstrated intermediate positions, whereas omnivores were more likely to justify animal consumption and express ambivalence on ethical issues. This graded pattern suggests that dietary behavior and moral positioning may reinforce one another. Hence, individuals who have already adopted plant-based diets are more likely to internalize stronger ethical frameworks, whereas individuals on an omnivore dietary pattern may employ moral justifications that align with existing dietary habits. These findings are consistent with previous research indicating that ethical concern is a primary driver of vegan dietary adoption **[21,22]**.

In this study, it was observed that there was a statistically significant association between pet owners and ethical attitudes and openness toward veganism. Pet owners of cats and dogs showed greater agreement that pain and emotions are experienced by animals and supported animal welfare legislation. This sheds light on the fact that personal relationships with companion animals could enhance empathy towards animals. Interestingly, most participants recognized that animals experience pain and emotions, yet this recognition did not reliably lead to changes in dietary behavior. This underscores a common moral-behavioral gap, where individuals support animal welfare in principle but continue to consume animal products. This kind of cognitive dissonance is well-known in dietary research and can stem from habit, convenience, social pressures, and the perceived difficulty of maintaining a balanced vegan diet **[23]**. Widespread misconceptions about vegan nutrition - particularly regarding protein, vitamin B12, and cost - also contribute to the reluctance to adopt veganism long-term **[6,7]**.

A noteworthy result was that a majority of participants supported stricter animal welfare laws, even if such laws required personal dietary adjustments. This points to an evolving ethical consciousness that extends beyond individual choice to broader societal and environmental values. It also suggests that consumers may be ready to back policy initiatives that foster more humane food systems. Public health campaigns and government policies that emphasize the environmental and health benefits of plant-based diets could leverage this ethical leaning to encourage wider behavior change.

From a public health perspective, promoting veganism supports several Sustainable Development Goals (SDGs), including those focused on responsible consumption, health, and environmental protection. A growing body of scientific evidence confirms that wellplanned vegan diets are nutritionally adequate for all stages of life and can help reduce the risk of chronic diseases like obesity, heart disease, and type 2 diabetes **[4,5,24]**. Therefore, understanding public

perceptions of vegan diets is critical for developing culturally appropriate strategies that promote health while also addressing climate change and animal welfare [3].

Limitations of the present study

This study has several limitations. Its cross-sectional nature prevents drawing causal conclusions. The reliance on self-reported data introduces the potential for social desirability bias, where participants might overstate their ethical commitments or underreport their consumption of animal products. Although sufficient for an exploratory analysis, the sample size is modest and may not be fully representative of the general population. Also, a deep analysis of geographic or socioeconomic factors, which could have provided further insight into barriers related to access and affordability, was not done.

Moreover, the study lacked a longitudinal component to assess whether stated willingness to adopt a vegan diet translated into actual dietary change over time. Future research would benefit from longitudinal or mixed-methods approaches that combine surveys with in-depth interviews or focus groups. Such methods could better illuminate the psychological and cultural foundations of food choices and measure real behavioral outcomes following educational interventions. Additionally, the questionnaire was designed to assess multiple independent constructs, including social perception, pet ownership, ethical beliefs, and dietary habits. Cronbach's alpha may underestimate reliability, and therefore, results should be interpreted with caution.

Despite these limitations, this study contributes to the growing body of research on attitudes toward plant-based diets, particularly in contexts where traditional cuisines are heavily reliant on meat and dairy. The results highlight that while ethical and environmental awareness is on the rise, social and cultural inertia remains a powerful force shaping food choices. Overcoming these barriers requires coordinated efforts across education, policy, and community initiatives. For example, incorporating plant-based nutrition into school curricula, increasing vegan options in institutional cafeterias, and launching accessible public information campaigns could help normalize veganism as a viable, healthy, and sustainable choice.

In the final analysis, the findings illustrate the complexity of dietary behavior, which is shaped by an interplay of ethical views, cultural traditions, social identity, and personal health motives. As public discussion around animal rights and sustainability intensifies, future efforts should focus on bridging the gap between awareness and concrete action. Equipping individuals with sound nutritional knowledge, affordable alternatives, and culturally adaptable recipes could be key to transforming empathy and curiosity into lasting dietary change.

Conclusion

This research indicates that perceptions of vegan diets are shifting in a positive direction, with rising ethical awareness and interest in plant-based nutrition among the public. Although the current adoption rate of a strict vegan diet is low, a substantial number of participants were open to trying or partially adopting it in the future. Younger individuals and women appeared more receptive to these changes, highlighting demographic influences on dietary attitudes. The disconnect between ethical beliefs and actual eating habits underscores the necessity for better education and supportive infrastructures that make vegan choices convenient, affordable, and nutritionally sound. Policy initiatives that promote plant-based options, strengthen animal welfare regulations, and incorporate vegan nutrition into public health guidance can significantly enhance acceptance and accessibility. In summary, as understanding of the environmental, ethical, and health impacts of our food choices continues to grow, veganism may increasingly be seen not just as a personal lifestyle, but as a socially responsible and sustainable practice. The insights from this study provide valuable guidance for policymakers, educators, and health professionals aiming to support compassionate and environmentally sustainable dietary transitions.

CRediT

Author Contributions: **Conceptualization**: All authors; **Data curation -** All authors; **Formal Analysis-** Harijith Raghav Senthilkumar, Murali Krishna Bharadhi; **Investigation-** All authors; **Methodology-** Saranya Varadarajan, Thodur Madapusi Balaji; **Project administration-** Saranya Varadarajan, Thodur Madapusi Balaji; **Supervision** Saranya Varadarajan, Thodur Madapusi Balaji; **Writing - original draft -** All authors; **Writing-review & editing -** All authors.

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Ethical Approval

The present study was approved by the Institutional

Ethical Committee of Bharathiraja Hospitals, reference number BHRI/4th September/2025. Informed consent was obtained from all respondents via a checkbox at the start of the questionnaire. Non-consenting responses were deleted before analysis. The study was conducted anonymously; any names present in the raw data were not used in the analysis, and optional comments were handled to prevent identification.

Informed Consent

It was applicable.

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The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Conflict of Interest

The authors declare no conflict of interest.

Similarity Check

It was applied by Ithenticate®.

Application of Artificial Intelligence (AI)

Not applicable.

Peer Review Process

It was performed.

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