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Priority of Career Path Preferences among Veterinary Interns in Tamil Nadu, India

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Authors' contributions

This work was carried out in collaboration among all authors. Author BRM designed the study, performed the statistical analysis, wrote the protocol, and wrote the first draft of the manuscript. Authors KG, PM, MC and JK managed the analyses of the study. Author PM managed the literature searches. All authors read and approved the final manuscript.

Article Information

DOI: <https://doi.org/10.9734/ajaees/2024/v42i72517>

Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/120612>

Original Research Article

Received: 20/05/2024

Accepted: 22/07/2024

Published: 25/07/2024

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ABSTRACT

Aims: This study aims to identify the career preferences of veterinary interns at Tamil Nadu Veterinary and Animal Sciences University (TANUVAS)

Study Design: The study uses a survey-based exploratory and descriptive research design.

Place and Duration of Study: The research was conducted among final-year (Veterinary Interns) Bachelor of Veterinary Sciences and Animal Husbandry (B.V.Sc. & A.H.) students from four constituent colleges of TANUVAS: Madras Veterinary College at Chennai, Veterinary College and Research Institute (VCRI) at Namakkal, VCRI at Tirunelveli, and VCRI at Orathanadu, between the year 2022 and 2023.

Methodology: A sample of 275 final-year veterinary interns was selected using simple random sampling. Data were collected using structured and pre-tested questionnaires. The Garrett Ranking Method was used to identify career preferences of veterinary interns. Respondents ranked various career options, which were converted into scores and then ranked based on the mean scores obtained.

Results: The most preferred career path among veterinary graduates was Government Veterinary Services, followed by Faculty positions in Indian universities and Research Scientist roles within ICAR and other government sectors. Private practice, positions in private laboratories, and roles in the livestock industry and careers in civil services were moderately preferred, while, entrepreneurial ventures, and international opportunities were preferred by comparatively few numbers of veterinary interns.

Conclusion: The study shows a strong preference for roles in the government and academic and research fields among veterinary interns. Understanding these preferences is important for improving educational awareness programs and career guidance, helping to better prepare graduates for their careers and ensuring effective use of veterinary manpower in Tamil Nadu.

Keywords: Veterinary interns career preferences; Garrett ranking method.

1. INTRODUCTION

The veterinary profession in India offered a wide range of career opportunities, including government services, academic roles in government and private institutions, private practice, research positions, livestock industrial sectors like poultry, pharmaceuticals, animal feed industries and entrepreneurship. Knowing the career preferences of veterinary graduates is important for educational institutions, policymakers and employers. This knowledge will be useful to improve programs and policies to match the career goals of future veterinarians. It is especially important in regions like Tamil Nadu, where there is a high demand for veterinary services due to a significant livestock sector. As per the 20th Quinquennial Livestock Census, Tamil Nadu ranked first in poultry, fourth in sheep, seventh in goats, thirteenth in cattle and fourteenth in buffalo population in India. The livestock sector contributed about 5.63 per cent to Tamil Nadu's Gross State Value Added (GSVA) and 43.70 per cent to agriculture and allied activities (Animal Husbandry 2023 Policy Note, Government of Tamil Nadu). These statistics emphasized the vital role of the livestock sector in the state's economy and

highlighting the need for a well-prepared veterinary workforce.

Tamil Nadu Veterinary and Animal Sciences University (TANUVAS), is the Asia's first veterinary university which was founded in 1989. TANUVAS has been a frontrunner in veterinary clinical sciences and has remained a national leader in veterinary education [1]. With a long history of producing skilled veterinary professionals, TANUVAS is ideally positioned to study the career aspirations of veterinary graduates. Tamil Nadu, known for its diverse and advanced livestock production systems, had a significant number of veterinary institutions, making it an ideal place to conduct this study.

Understanding the career preferences of outgoing veterinary interns was vital for several reasons. The findings would be beneficial for educational institutions in designing their curricula and organize seminars, workshops, training programs to better meet the needs and expectations of students thereby that graduates would be well-prepared for their chosen career paths [2,3]. The findings of the study would support policymakers and industry stakeholders in forecasting the supply of veterinary manpower

and planning for future workforce needs. Moreover, the results would provide valuable insights into the factors that attracted veterinary graduates to certain career paths, informing the development of targeted career counseling and support services.

Despite the diverse career opportunities available, there was limited research on the career preferences of veterinary graduates in Tamil Nadu. Hence, this study aimed to fill this gap by analyzing the career preferences of veterinary interns at TANUVAS, to gain deeper insights that could help to improve educational programs and career counseling services to match the professional goals of veterinary graduates. Keeping all the factors in mind, this research was conducted with following objectives:

1.1. Objective

To study the preferences of career path choices among veterinary interns in Tamil Nadu, a southern state of India.

The results of this study were expected to contribute to the development of a well-informed and motivated veterinary workforce that could effectively meet the needs of Tamil Nadu's livestock sector.

2. MATERIALS AND METHODS

2.1 Study Design

This study employs a survey-based exploratory and descriptive research design. The purpose was to identify the career preferences of final-year veterinary interns at Tamil Nadu Veterinary and Animal Sciences University (TANUVAS).

2.2 Place and Duration of Study

The study was conducted among final-year B.V.Sc. & A.H. students from four constituent colleges of TANUVAS: Madras Veterinary College at Chennai, Veterinary College and Research Institute (VCRI) at Namakkal, VCRI at Tirunelveli, and VCRI at Orathanadu, between the year 2022 and 2023.

2.3 Population and Sampling Frame

The target population for this study included final-year B.V.Sc. & A.H. students from TANUVAS. The sampling frame consisted of students from the four constituent colleges of TANUVAS.

2.4 Sample Size Determination

A sample size of 275 final-year veterinary students was determined using Yamane's formula (1967).

2.5 Sampling Method

Simple random sampling was used to select the sample of B.V.Sc. & A.H. veterinary interns. This method involved randomly selecting individuals from the sampling frame, ensuring that every student had an equal chance of being selected.

2.6 Data Collection

Relevant data were collected using structured and pre-tested questionnaires. The questionnaires were designed to gather comprehensive information on personal details and career preferences section explored the priority of job preferences (government services, private practice, research, teaching, entrepreneurial activities, and others) using a ranking system.

2.7 Garrett Ranking Method

To identify the career preferences of veterinary graduates, the study employed the Garrett Ranking Method, as described by Garrett and Woodworth [4]. Veterinary graduates were asked to rank various career options in the veterinary field according to their personal preferences, reflecting their priority and interest in each career path. The ranks assigned by the respondents were converted into scores using the Garrett ranking formula:

$$\text{Per cent position} = \frac{100 (R_{ij} - 0.5)}{N_j}$$

Where,

R_{ij} - Rank given for i^{th} choice by j^{th} individual

N_j - Number of choices ranked by the j^{th} individual

Using this percent position, Garrett scores were obtained from Garrett's table, representing the relative importance of each rank. The scores for each career option were summed up across all respondents to obtain a total score for each career choice. This total score was then divided by the number of respondents to obtain the mean score for each career option, representing the

average rank assigned to each career option, adjusted for the number of respondents. Finally, the career options were ranked based on the mean scores, with higher mean scores indicating higher preference among the respondents. The career choice with the highest mean score was identified as the most preferred, while the one with the lowest mean score was identified as the least preferred [4].

3. RESULTS AND DISCUSSION

Totally, a sample of 275 veterinary interns were participated in the study and their gender distribution were summarized in Table 1. Based on the responses of the sample respondents, the job preferences of TANUVAS veterinary interns were determined by Garrett scores and revealed a well-defined hierarchy of career aspirations which is illustrated in Table 2.

From the Table 2 it is evident that the first and foremost most highly preferred career path among the sample veterinary interns of TANUVAS was Government Veterinary Services, which includes positions such as Veterinary Assistant Surgeons and Permanent TCMPF Ltd (Aavin) employees. This option received the highest average Garrett score of 75.40,

indicating a strong preference among the students for stable and prestigious government roles.

The second most preferred career choice among the sample respondents was faculty positions within Indian universities, which obtained an average score of 64.99. This reflects the graduates' inclination towards academic careers, where they can engage in teaching and potentially contribute to research and extension activities.

Research Scientist within the Indian Council of Agricultural Research (ICAR) or other government sectors holds the third rank in career preferences with a Garrett score of 61.73. The result suggested a significant interest in research-oriented careers, where graduates can pursue scientific investigations and contribute to advancements in veterinary science.

The fourth preferred career choice among the sample veterinary interns was establishing their own private clinic/practice, which received a Garrett score of 56.36. This option demonstrates the graduates' entrepreneurial spirit and desire for professional autonomy, allowing them to manage their own veterinary clinics.

Table 1. Gender distribution of veterinary interns at TANUVAS

Sl. No	Gender	Number of veterinary interns	n = 275
			Percentage
1	Male	165	60.00
2	Female	110	40.00
Total		275	100.00

Note: Percentages are calculated to the column total

Table 2. Career preference rankings by veterinary interns of TANUVAS based on Garrett scores

S. No	Job Preference	Average score	Rank
1	Govt. Veterinary Services (Veterinary Assistant Surgeons / Permanent TCMPF Ltd (Aavin))	75.40	1
2	Faculty (Teaching in Indian Universities)	64.99	2
3	Research Scientist (ICAR, ICMR and other Govt. sector)	61.73	3
4	Private Practice and Clinic	56.36	4
5	Research Scientist (Renowned Private Laboratories)	51.27	5
6	Livestock Industry (Private Dairy, Poultry and Feed Industry)	49.92	6
7	Civil Services (IAS, IPS, IFS, etc.)	49.67	7
8	Entrepreneur	48.42	8
9	Veterinary Practice in Foreign Countries	47.52	9
10	Teaching/ Research in Foreign Universities	46.21	10
11	Marketing Jobs in Private Sector	40.73	11
12	NABARD/ Banking Sector/Insurance Companies	36.50	12
13	Defence Sector	35.75	13
14	Others	27.05	14

The fifth preferred job was Research Scientists in renowned private laboratories, which scored 53.95, indicating a considerable interest in private sector research opportunities. The sixth preferred career option among the sample veterinary interns was positions in the private sector such as dairy industry, poultry industry and feed industries with a score of 49.92, reflecting a diverse interest in various veterinary-related industries.

The seventh preferred career interest among sample veterinary interns was Civil Services aspiration which included the roles such as IAS, IPS, and IFS officers, with an average Garrett score of 49.67 which shows that some veterinary interns are inclined towards prestigious administrative roles within the government and outside the traditional veterinary field.

The career option to become entrepreneur was at eighth position that is starting their own enterprises such as farms, feed mills, breeding centres etc., and scored 48.42 which highlighted a preference for entrepreneurial ventures. Similarly, veterinary practice in foreign countries (ninth position) scored 47.52, indicating an interest in international career opportunities. Teaching or research opportunities in foreign universities received a tenth choice among various career options with a score of 46.21, which further showcasing the graduates' aspirations for global academic and research roles.

The eleventh preferred job among sample veterinary interns was marketing job roles in the private sector with the average Garrett score of 40.73 and positions in NABARD, banking, and insurance companies was the twelfth preferred job by veterinary interns with the score of 36.50 which shows that few veterinary interns among the total sample was showing their preference for this job option.

Only very few veterinary interns had their top preference for defence sector as a career choice which received an average score of 35.75. Finally, the category 'Others' scored the lowest at 19.23, encompassing a variety of unspecified roles which were not given in the above list as mentioned in the Table 2.

Overall, the job preference rankings highlighted a clear prioritization of government and academic roles, with a significant interest in research and private practice. The diversity in career

aspirations highlights the varied interests and professional goals of the veterinary interns at TANUVAS.

The job preference rankings of sample veterinary interns of TANUVAS highlighted a strong inclination towards stable and prestigious roles within the government sector, which is consistent with the findings of Bharadwaja Krishna *et al.* [5]. Their study of veterinary students in Andhra Pradesh similarly indicated a preference for government veterinary doctor positions and roles in research centres attached to veterinary colleges. The preference for government positions can be attributed to perceived job security and long-term career benefits, aligning with the findings of Ramesh *et al.* [6] who noted that employment security and salary prospects are major factors influencing career preferences among undergraduates in Telangana state.

The high ranking of faculty positions in Indian universities and research scientist roles in ICAR or other government sectors also reflects a preference for academically oriented and research-intensive careers. This is consistent with the findings of Heath *et al.* [7] who reported that many veterinary students are drawn to careers that allow them to continue their academic and research pursuits.

The moderate preference for private practice and positions in the private sector such as dairy, poultry and feed industries indicates that while these roles are considered viable career options, they are less preferred compared to government and academic positions. This finding are similar with the study by Jelinski *et al.* [8] where they found that rural upbringing and specific educational backgrounds significantly influence career choices towards more conventional and secure roles.

Interestingly, the preference for civil services and roles in private laboratories suggests that some graduates are seeking diverse career opportunities outside the traditional veterinary field. This trend is supported by Serpell [9], who noted significant gender differences and diverse career motivations among veterinary students.

The findings from Thilakar *et al.* [10] have similar findings with this study, indicating a strong preference among veterinary students for government jobs due to job satisfaction, family influence and job security. Their study emphasized the need for veterinary curricula to

be tailored to meet these career preferences and ensure that graduates are well-prepared for their chosen career paths.

Overall, the findings in this study indirectly indicating the importance of job security, academic and research opportunities and personal interests in shaping the career preferences of veterinary interns. The preference for government and academic roles emphasized the need for educational programs and career counselling to align with these aspirations by ensuring that students are well-prepared for their chosen career paths.

4. CONCLUSION

The study revealed that the most preferred career option among veterinary interns of TANUVAS was Government veterinary services, faculty position in Indian universities, research scientist post in ICAR and alike institutions which shows that most of the student's consideration during career choices would be job security, assured remuneration and passion. Moderately preferred options included private practice and roles in the livestock industry, while civil services, entrepreneurial ventures, and international opportunities were preferred by comparatively few numbers of Veterinary interns. The results of the research could be beneficial for educational institutions to prepare students for their chosen career paths by organizing workshops, seminars, career counselling sessions, awareness programs, and providing career guidance. Understanding the career preferences of veterinary graduates is important but it is equally important to evaluate these preferences against the actual job market demand and sectoral needs. Further, by conducting comprehensive workforce analysis actual veterinary manpower demand and supply can be identified, which in turn, would help the educational institutions to guide and equip the students according to the market demands. Additionally, the results would be useful to the policy makers in formulating appropriate policies to optimize veterinary manpower in the state.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declared 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.

CONSENT AND ETHICAL APPROVAL

The study was conducted in accordance with ethical standards. Informed consent was obtained from all participants. Confidentiality and anonymity of the respondents were maintained throughout the study.

ACKNOWLEDGEMENTS

The submitted Research work has been carried out as a part of PhD work at department of Animal Husbandry Economics, Madras Veterinary College, TANUVAS, Chennai – 07.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:

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