



Department of Veterinary Public Health & Epidemiology

Profile:

- The subject of Food Hygiene was introduced along with Department of Veterinary Pathology right from 1966. The laboratory and office of the Pathology department was used for under graduate teaching. The separate Department of Veterinary Public Health was established in the year 1975, which included the laboratory as well as poultry packing plant. The post-graduate programme was initiated at this department in the year 1979. After the implementation of Veterinary Council of India (VCI) Curriculum, the course of Veterinary Public Health was started at under graduate teaching. In addition, the department is also holding the charge of newly formed Livestock Products Technology (LPT) department as per Veterinary Council of India (VCI) Curriculum and imparting teaching at under graduate level. As per the new VCI curriculum has been introduced which has brought Epidemiology under the Department of Veterinary Public Health and thereby renaming it as Department of Veterinary Public Health and Epidemiology (VPE).
- The department is also helping to the postgraduate students of other departments' viz. medicine, pharmacology, microbiology, gynaecology, surgery etc. The diagnostic services are also rendered by examining the clinical samples submitted by medical colleges / private clinics / university health centre as well as veterinary clinics of the college and other parts of the state.
- Department is actively engaged in the teaching of Veterinary Public Health to U.G. as well as P.G. students. Department has examined various samples from animals as well as humans to study the prevalence of zoonotic infections including the etiological significance of fungi and Actinomycetes in the various clinical disorders of animals and man. In addition, the Post Graduate students worked on public health aspects of various diseases like Aspergillosis, Leptospirosis, Toxocariasis, Candidiasis, Cryptococcosis, Dermatophytosis, Staphylococcosis, Pseudomoniasis etc. Continuous research on Food microbiology is going on in the department. The department is pioneer in meat species identification by immunological and molecular techniques.

Faculties:

Sr. No.	Name with Photograph	Designation	Phone (O)	Cellular No.	Inter Com	E-mail
1	Dr. J. B. Nayak 	Associate Professor & Head	02692-225957	9898585460	957	Jbn_anand@yahoo.com Jbnayak69@aau.in
2.	Dr. J. H. Chaudhary 	Assistant Professor	02692-225900	9510932575 7990543823	900	jitvph007@gmail.com jitvph007@aau.in

Major Activities:**I. Teaching****A. Under Graduate Courses**

Course No.	Course Title	Credit
VPE-311	Milk & Meat Hygiene, Food Safety & Public Health	2+1=3
LPT-311	Milk & Milk Product Technology	1+1=2
LPT-312	Abattoir Practices & Animal Product Technology	1+1=2
VPE-321	Veterinary Epidemiology & Zoonoses	2+1=3
LPT-321	Meat Science	1+1=2
VPE-511	Environment & Environmental Hygiene	2+1=3

B. Post Graduate Courses

Code	Course Title	Credits
VPE-601	Elements of Veterinary Public Health	1+1
VPE-602	Bacterial and Rickettsial Agents of Public Health Significance	2+1
VPE-603	Viral, Fungal and Parasitic Agents of Public Health Significance	2+1
VPE-604	Zoonoses and Public Health	2+1
VPE-605	Principles of Food Hygiene and Safety	2+1
VPE-606	Food-Borne Infections and Intoxications	2+1
VPE-607	Meat and Milk Hygiene	2+1
VPE-608	Environmental Pollution and Safety	3+1
VPE-609	Fish, Fish Products and Seafood Hygiene	1+1
VPE-610	Bioterrorism and Disaster Management	1+1
VPE-691	Master's Seminar	1+0
VPE-699	Master's Research	20

C. Ph.D. Courses

Code	Course Title	Credits
VPE-701	Current Topics in Veterinary Public Health	2+1
VPE-702	Emerging and Re-emerging Zoonoses	2+1
VPE-703	Quality Control of Animal Food Products	2+1
VPE-704	Occupational Health Hazards	2+1
VPE-705	Disposal and Recycling of Waste	2+1
VPE-706	Biohazards, Bio-security and Disaster Management	2+0
VPE-707	Food Plant Sanitation	2+1
VPE-708	Advances in Environmental Pollution Control	2+1
VPE-790	Special Problem	0+2
VPE-791	Doctoral Seminar I	1+0
VPE-792	Doctoral Seminar II	1+0
VPE-799	Doctoral Research	45

II. Research

A. Research Projects Completed: Nil

B. Research Projects On going:

Modernization of diagnostic facilities - Zoonotic Diseases and Campylobacteriosis. - XIITH
Five Year Plan Govt. of Gujarat (B.H.: 12972)

P.I.: Dr. J.B. Nayak

Senior Research Fellow: Dr. Sagar A. Patel & Dr. Panna D. Rabari

C. Number of M.V.Sc. & Ph.D. degrees awarded

M.V.Sc. : 42

Ph.D.: 05

D. Research Publications:

National: 117

International: 59

E. Research Recommendations: 4

1. Three isolation medium was compared for the recovery of *Aeromonas* spp. Ampicillin Dextrin Agar (ADA) was having higher recovery rate as compared to Ampicillin Starch DNA Agar and *Aeromonas* Isolation Agar, hence ADA was recommended as selective agar for the isolation of *Aeromonas* spp. from meat samples.
2. The three pair of species specific primers was designed and standardized for the differentiation of three *Aeromonas* species (*A. hydrophila*, *A. sobria* and *A. caviae*) by polymerase chain reaction.
3. Dominguez Rodriguez Isolation Agar (DRIA) medium is superior to Polymixin Acriflavin Lithium Chloride Ceftazidime Aesculin Mannitol (PALCAM) agar and Oxford media and hence recommended for the isolation of *Listeria* spp. including *L. monocytogenes* from meat.
4. “A PCR protocol has been developed to differentiate fresh, putrefied and cooked meat sample from cattle, buffalo, sheep/goat, pig and poultry. The protocol involves use of a set of primers with different locus of actin gene conserved in these species.
This protocol does not differentiate between sheep and goat meat.” It was proposed in 31st meeting of research sub-committee on animal production and subsequently passed in zonal AGRESCO

III. Extension

A. Refresher Training Courses / Summer-Winter Schools conducted

Training Courses are organized every year under Assistance to State for Control of Animal Diseases (ASCAD) by Government of India, held for the field veterinarians of Department of Animal Husbandry Gujarat State.

B. Seminar/Symposia/Conference/Workshop organized

1. Department organized and hosted a National Symposium on “Horizons of Veterinary Public Health in Augmenting Veterinary, Medical and Environmental Health” & 6th

Annual Conference of Indian Association of Veterinary Public Health Specialists (IAVPES) during November 29th - 30th, 2007.

2. One day workshop on “Biomedical waste management” was organized on 25 March, 2014.
3. Documentaries on “Adarsh Pashupalan” (Ideal Animal Husbandry) and different diseases in Gujarati language was prepared as subject matter specialist and distributed to all the villages of Gujarat during Krushi Mahotsav-2012 and 2015.

C. Diagnostic Services:

1. The department has focused on isolation and characterization of bacterial food borne pathogens like *Campylobacter* spp., *E. coli*, *Salmonella*, *Brucella*, *Mycobacterium bovis* in food and clinical samples. Presently, molecular epidemiology of *Campylobacter* from animal and human sources is undertaken by characterizing isolates by MLST, PCR-RFLP (Fla-Typing), Protein profile and 16S rRNA sequencing.
2. The PCR is being employed to detect the microorganism in food and clinical samples, confirm the bacterial strains by species specific PCR assays and to detect virulence genes in microorganisms. Multiplex PCR had been standardized to detect the *Campylobacter jejuni* and *coli* in meat samples.

D. Delivered/Exhibitions/Farmers’ meet-day/Kisan Call Center/Field Visits:

1. Participation in Krishi Mahotsav and Krishimela every year by the faculties.
2. Seven Radio-TV talks were given by the faculties.

E. Expert services to State Government/Co-op. dairies/Other agencies/NGOs:

- Dr. J. B. Nayak is working as nominated member of state level zoonotic diseases surveillance and co-ordination committee
- Dr. J. B. Nayak is working as nominated member of state level technical management committee

F. No. of Publications of Popular articles/Books/Booklets/Pamphlets/Leaflets/Souvenir / Compendium / Chapters/ Lab Manuals / Training Manuals etc.

1	Popular articles	92
2	Books	01
3	Booklets	02
4	Folders	05
5	Chapters	05
6	Laboratory Manuals	08
7	Training Manuals	02

G. Visitors:

Dr. Winthrop Harewood, School of Veterinary Medicine, Trinidad, West Indies

H. Any other items:

1. Dr. J.B. Nayak, Asso. Prof. and Head is working as a Technical Officer of Vet. College.

Achievements:

A. Awards/Honours/Recognitions/Appreciations

- Dr. M. N. Brahmhatt has been awarded as “FELLOW” of Indian Association of Veterinary Public Health Specialists (IAVPES) at the International symposium on “New strategies for prevention and control of zoonoses: An integrated veterinary and medical approach” and 5th Annual Conference of IAVPES at Palampur (H.P.) during 12-14 October 2006.
- Dr. J.B. Nayak and Dr. M.N. Brahmhatt received Best Ph.D. thesis Award from the Gujarat Association for Agricultural Sciences (GAAS) by Honourable State Agricultural Minister Shri K.M. Bhalala on November 2011.
- “Dr. S.P. Singh Best Research Paper Award” for the research paper entitled “Effect of Cooking and Purification on meat identification using cytochrome b gene variability by PCR. By Shally Jain, M.N. Brahmhatt, D.N. Rank, C.G. Joshi, J.V. Solanki and C.D. Bhong. Published in Journal of Veterinary Public Health, Vol. 5 (1): 9-12, 2007 during International Symposium on “Food Safety, Quality Assurance & Global Trade: Concerns and Strategies” organized by College of Veterinary and Animal Science, Pantnagar, India in collaboration with College of Veterinary Medicine. Michigan State University, East Lansing, USA on 7th November 2008.
- Dr. V.N. Bachhil Young Scientist Award for the paper presentation titled “Quinolone resistance in Campylobacter isolates from man and animal sources and detection of mutation in topoisomerase genes” at National Symposium & 12th Annual Conference of IAVPES 2014 at Khanapara, Guwahati .
- DR. J.B. Nayak, Associate Professor, has been awarded as the Best Teacher of year 2015 in Faculty of Veterinary Sc. & A.H., AAU, Anand.

- DR. J.B. Nayak, Associate Professor, has been awarded for Teaching Excellence of year 2015 in Faculty of Veterinary Sc. & A.H., by The Indus Foundation.
- Dr. B.C. Parmar, Associate Professor has been awarded for the best paper award in 2015 from The Society for Veterinary Sciences and Biotechnology at 3rd Annual Meeting of Society of Veterinary Sciences and Biotechnology, held at RAJUVAS, Bikaner- 334001, Rajasthan, on 7-8 October, 2015.
- Dr. J. B. Nayak has been awarded as “FELLOW” of Indian Association of Veterinary Public Health Specialists (IAVPES) at the XIV Annual Conference & National Symposium on “Innovative approaches to promote food safety and reduce the risk of zoonotic disease in context of climate changes” at Udaipur (Rajasthan) during 21 - 22 November 2016.
- Dr. R. R. Padher M. V. Sc Scholar under guidance of Dr, J. B. Nayak received Best Young Scientist in Poster presentation of scientific paper from IV Annual Convention of the Society for Veterinary Sciences and Biotechnology (SVSBT) held during 16-17 December, 2016.
- Dr. Hardik B. Begadiya, M. V. Sc Scholar under guidance of Dr, J. B. Nayak received First Prize in Poster presentation from XV Annual Conference of Indian Association of Veterinary Public Health Specialists (IAVPES) held during October 11th - 13th, 2017.

B. Assignments as Subject Expert / Member (Selection Committee/Advisory Board)

Dr. J.B. Nayak is nominated members for different selection committees as subject experts.

C. Advanced Instrumentation / Lab Facilities

As per the VCI requirement, Department of Veterinary Public Health and Epidemiology having all facilities.

Buildings:

1. Office Building for Staff
2. U.G. Laboratory with Practical Class Room
3. P.G. Laboratory
4. Zoonoses Laboratory
5. Instrument Room
6. Washing and Sterilization Room

Instruments:

- BOD Incubator
- Meat Grinder
- Refrigerating Centrifuge
- Bone & Meat Cutting Machine
- Bacteriological Incubator
- Cooling Incubator
- Hot Air Oven
- Water Purifier System
- Electronic Balance
- Double Door Refrigerator
- Single Door Refrigerator

- Autoclave
- Water Jacketed CO₂ Incubator
- Laminar Flow
- Water Bath with Cooling Attachment
- Chilled Water Circulator
- Mono Pan Balance
- PCR Assembly (Two)
- UV Gel Documentation System
- Vortex Mixture
- Nanodrop Spectrophotometer
- ELISA Reader
- Horizontal Electrophoresis Unit
- Vertical Electrophoresis Unit

D. Patents filed / Technology Developed

- DNA sequencing: A total of 82 partial gene sequences have been submitted in NCBI nucleotide database.
- PCR-RFLP has been standardized to type *Campylobacter* isolates obtained from human and animal sources by fla method using DdeI restriction enzyme which revealed different flaA profiles.
- Multilocus sequence typing: *Campylobacter* spp. isolates, isolated from animal and human sources, have being typed by multilocus sequence typing method.

E. NSS Camps/Krishi Mahotsav/ Pashupalan Shibir/Radio-TV Talks:

F. Other Recognitions (SRC/NSS/AGRESCO Convener/Hostel Rector etc.)

Dr. J. B. Nayak working as a SRC chairman of college of Veterinary Science & A. H., AAU, Anand.

Dr. J. H. Chaudhary working as a Rector of P. G. Hostel (Gandhi hostel).

Future Thrust Areas:

1. Study on Seroprevalence of Cysticercosis in Pigs
2. Study on Seroprevalence of Japanese Encephalitis in pigs by ELISA.
3. Study on various food-borne disease by multiplex PCR

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