



NARAYANA COLLEGE OF NURSING

Chinthareddypalem, Nellore - 524003. A.P.

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4.2.3 AVERAGE NUMBER OF STUDENTS PER YEAR EXPOSED TO LEARNING RESOURCES SUCH AS LABORATORIES, ANIMAL HOUSE & HERBAL GARDEN.

CENTRAL LABORATORY

INTRODUCTION:

The Central Clinical Laboratory (built area; 40,000 Sq.ft) – is operational since 2006 in the seventh floor of Narayana Super Specialty Hospital, It has three major divisions viz., Biochemistry, Microbiology and Pathology, offering diagnostic services (24/7(365 days)') to patients and research services to students and faculties of Narayana Medical and allied colleges, as well to other institutions. Nearly 100 Laboratory professionals including – Consultants (Physicians), Scientists, Lab Technicians, Data entry operators and Sample Transport Messengers are involved in day to day services. The Central Lab has the following dedicated patient service areas such as – patient registration, blood collection room (accommodates 6 patients in a given time), urine and stool collection rooms.

In addition to its diagnostic services; lab supports academic activities such as teaching the principles and standard operating procedures (SOP) of a clinical lab to the medical and para-medical under-graduates. They were also given hands on experience on instrument operation, data-collection and –interpretation.

OBJECTIVES:

- ✓ To improve knowledge on laboratory equipment's, procedures and normal values.
- ✓ Providing students functional opportunity in laboratory.
- ✓ To provide students an insight of the practical applications of what they are learning in theory.
- ✓ To develop state of art facility, in terms of quality infrastructure & trained manpower which enables the students of various UG courses to appreciate the basic etiology, Immuno-pathogenesis & diagnosis of common infectious diseases.
- ✓ To impart teaching programs for undergraduates and post graduates.
- ✓ To deliver quality, timely, accurate diagnostic services to all the patients.
- ✓ To create an environment for "Need Based Quality Research" among Students"
- ✓ To provide students with an opportunity to learn practically through interaction and working methods.

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Principal

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Divisions of Central Clinical Laboratory

1. Front office/Reception
2. Sample Collection/Phlebotomy section
3. Clinical Biochemistry
4. Clinical Pathology
5. Clinical Microbiology
6. Data entry section

Front office/Reception: the sample registration, collecting the samples, distributing to all departments and reports of each department will be distributed to the needy.

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Sample Collection/Phlebotomy section: the area sample will be collected by performing the phlebotomy.

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Department of Clinical Biochemistry: The Department of Clinical Biochemistry functions round the clock from its time of inception (1999) to offer quality diagnostic services to our patients and also supports student and faculty research activities. It's skilled lab technicians works tirelessly to cover more than 60% load of the entire clinical lab. Nearly 200 different types of investigations were carried out on daily basis in different division of Clinical Biochemistry – namely –

- 1) Emergency Investigation Division – Diagnostic tests for critical patients were done 24 x 7
- 2) Routine Chemistry Division – Routine biochemical tests were done for both In- & Out- patients; the division serves 24 h, 7 days in a week throughout the year.
- 3) Immunoassay Division – This division operates 12 h day time each day in a year to estimate endocrine and metabolic hormones in patient's samples. As well qualitatively and quantitatively measures tumor markers, vitamins and other markers (IL-6, CK-MB etc).

The chemicals and reagents required for the diagnosis were stored in the walk-in-cold room, deep freezers and refrigerators.

Microbiology Department

Department of Microbiology of is a multidisciplinary unit consisting of various branches which includes Bacteriology, Virology, Mycology, Immunology, Serology, Parasitology Mycobacteriology and is working throughout the clock. The department is equipped with good diagnostic facilities to provide services for both in –patients & outpatients of both general & super specialty hospitals. Diagnostics are the main stay of the department & all the

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sections are equipped with necessary basic & sophisticated instruments. All the serological tests will be done by using CLIA and ELISA methods. Every day we perform nearly 40-50 culture and sensitivity tests from various clinical specimens. Around 250 serological tests, 15-20 staining, 5-7 Parasitology and 2-3 mycology samples will be processed. The laboratory reports are dispatched to the respective wards, OP clinics of both broad & super specialties every day in time. **Well-equipped BSL2 lab with NABL accreditation and ICMR approval for COVID19 testing is functioning 9.00 AM -5.00 PM.** Rapid Antigen tests for COVID19 are being done with TAT around one hour. RT PCR tests are being done with TAT around 24-30 hours. Well trained technical staff is available to give quality and reliable reports. Other vital activities of the department are 1. Environmental surveillance of hospital 2. OT surveillance 3. Sterility check for blood bags from blood bank and sterility controls 4. Training programmes in hospital Infection Control Practices 5. Research mentoring for UG s, STS projects for ICMR. 6. 24×7 emergency laboratory services.



PATHOLOGY DEPARTMENT

Department of pathology has been rendering diagnostic services since then. Department of Pathology in central lab has spacious histopathology, hematology and clinical pathology laboratories. Cytology unit for performing fine needle aspirations, examining fluid cytology and exfoliative cytology is present in OP block.

Everyday we perform 250 – 300 hematology tests, 150 – 200 clinical pathology tests and 50 – 60 coagulation assays in our lab.

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We are equipped with automated analyzers to provide quick and accurate reports (turnaround time – 4 hours) to the patients attending general and super specialty hospitals. Lab services are rendered throughout the clock.

Other activities

Departmental staff also participate in camps conducted for screening of cervical cancer and breast cancer in and around Nellore area.



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ANIMAL HOUSE

Animal House Facility is registered with Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA), Govt. of India, Ministry of Environment, Forest & Climate Change, Animal Welfare Division, New Delhi, vide Registration No.: **1859/PO/Re/16/CPCSEA**

Two storied Animal facility established in 1999 and utilized for experimental research in accordance with the CPCSEA guidelines of the Government of India. It is a full air – conditioner and houses lab animals such as rats, mice, rabbits, and guinea pigs.

The Animal House is a conventional type of animal house with each species housed in individual rooms, in which the temperature, humidity, dark and light cycles are monitored.

The animal house facility is available to boost the teaching, training, and research facilities and to meet the growing demand for high-quality laboratory animals in the emergent field of Experimental Pharmacology. Qualified veterinarians and technical personnel are always at hand to help carry out research.

Animal care

The laboratory houses rats, mice, and rabbits. Each species of animals is housed in barrier-maintained individual rooms to avoid disease transmission and inter-species conflicts. All efforts are made to maintain the animals under controlled environmental conditions [Temperature (22-26°C), Relative Humidity (60 ± 10 %), 12 hr alternate light and dark cycle] with 100 % fresh air exchange in animal rooms and uninterrupted power and water supply. The support staff ensures that every part of animal care including feeding, watering, restraining, cage cleaning, record keeping, and ordering of animals, feeds, bedding materials, and equipment from outside sources are monitored. The animals themselves are isolated from human habitation and guarded against dust, smoke, noise, wild rodents, insects, and birds-in fact anything that would disturb their habitat. A high degree of hygienic conditions (macro- and micro-environment) around the animals are maintained as per the guidelines.

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Veterinary care

Periodic health monitoring of the animals is carried out to ascertain the health status of the animals. Veterinary care is crucial to keep the animal's content and healthy. The veterinarian keeps them under daily observation and monitors any behavioral changes or signs of illness. He supervises their diet and sanitation and contributes to the formulation of appropriate policies and procedures for ancillary aspects of veterinary care.

Animal ethics

The Animal House is registered with CPCSEA and has an established Institutional Animal Ethics Committee (IAEC) that advises the students, teachers/researchers on facilities, policies, and practices concerning the care and use of animals.

Working Hours The Animal House Facility operates all the days around the year including Sundays and closed holidays.



The timings are – **Monday – Saturday (Weekdays): 09:00 AM to 05:00 PM**
– **Sunday and Holidays: 09:00 AM to 12:00 PM Closed**

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MEDICINAL PLANTS ARE HERBAL GARDEN

Introduction:

The herbal garden is often a separate space in the garden, devoted to growing a specific group of plants known as herbs. Herbal gardens may be purely functional or they may include a blend of functional and ornamental plants. The herbs are usually used to flavour food in cooking, though they may also be used in other ways, such as discouraging pests, providing pleasant scents, or serving medicinal purposes (such as a physic garden) among others.

In Narayana College of Nursing medicinal garden was started at the year of 2006.

OBJECTIVES:

- To encourage and promote college to introduce the home herbal garden concept to students
- To inculcate a sense of familiarity from childhood with surrounding biodiversity and its conservation, especially herbal plants
- To educate student in identifying different types of herbs and their uses including growing them in a garden
- To encourage students to use herbs in food the competition has three major components
- Herbal Poster with recipe Use of herbs is increasing in cookery practices and forms an important dietary supplement.

LIST OF IMPORTANT MEDICINAL PLANTS AND THEIR USES:

Not only is gardening relaxing but it also improves hand-eye coordination, motor skills and self-esteem. Herbs have many values but a few of the most common uses include aromatherapy, medicinal, as seasonings and flavourings in foods and beverages, and in salads.

An herb is a plant or plant part used for its scent, flavour, or therapeutic properties. Herbal medicines are one type of dietary supplement. They are sold as tablets, capsules, powders, teas, extracts, and fresh or dried plants. People use herbal medicines to try to maintain or improve their health.

List of herbs and its uses present in Narayana college of nursing medicinal plantation:

1. ALOE VERA is *Aloe barbadensis* miller. It belongs to Asphodelaceae (Liliaceae) family, and is a shrubby or arborescent, perennial, xerophytic, succulent, pea- green color plant.

- Soothes Burns and Heals Wounds
- Eases Intestinal Problems
- Heals Psoriasis
- Rashes and allergic reactions on the skin
- Lowering blood sugar levels in the blood

2. LEMON, (*Citrus × limon*), small tree or spreading bush of the rue family ([Rutaceae](#)) and its edible fruit.

- a. Support Heart Health
- b. Help Control Weight

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- c. Prevent Kidney Stones
- d. Protect Against Anaemia
- e. Reduce Cancer Risk
- f. Improve Digestive Health.

3. CURRY LEAVES; The curry tree (*Murraya koenigii*), also known as karivepallai, karivembu, karivepaku or kadipatta, is a kind of tree.

- Have antioxidants
- Help sharpen your memory
- Helps relieve morning sickness and nausea
- Good for the eyesight
- Curry Leaves for Beauty and Hair.

4.AMLA: *Emblica officinalis* Gaertn. or *Phyllanthusemblica* Linn, commonly known as Indian gooseberry or amla, is arguably the most important medicinal plant in the Indian traditional system of medicine.

1. Promotes immune function
2. Enhances liver health
3. Supports healthy digestion
4. Promotes heart health
5. May increase hair growth

5.TULASI : *Ocimum tenuiflorum*, commonly known as holy basil, tulsi or tulasi, is an aromatic perennial plant in the family Lamiaceae. It is native to the Indian subcontinent and widespread as a cultivated plant throughout the Southeast Asian tropics.

- a. Natural Immunity Booster
- b. Reduces Fever (antipyretic) & Pain (analgesic)
- c. Reduces Cold, Cough & Other Respiratory Disorders
- d. Reduces Stress & Blood Pressure
- e. Anti-cancer properties
- f. Good for Heart Health
- g. Useful in Gastrointestinal Disorders
- h. Acts as an Insect Repellent
- i. Insect Bites & Blood Purification
- j. Oral and Dental Health
- k. Treatment of Eczema
- l. Reduces Stress & Fatigue
- m. Oral and Dental Health

6. Neem (*Azadirachta indica*)

Neem is renowned for its wide array of medicinal benefits:

- ❖ **Antimicrobial Properties:** Neem has antibacterial, antifungal, and antiviral properties, making it effective in treating infections.
- ❖ **Anti-inflammatory:** It helps reduce inflammation, which can be beneficial for conditions like arthritis.

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- ❖ **Blood Purification:** Neem is believed to purify the blood and support overall detoxification.
- ❖ **Skin Health:** It's used to treat various skin conditions, including acne, eczema, and psoriasis.
- ❖ **Digestive Health:** Neem can aid digestion and help in managing issues like constipation and ulcers.

7. Drumstick Leaves (*Moringa oleifera*)

Drumstick leaves are highly nutritious and offer several health benefits:

- ✓ **Rich in Nutrients:** They are packed with vitamins (A, C, and E), minerals (calcium, potassium, iron), and protein.
- ✓ **Antioxidant Properties:** Moringa leaves contain antioxidants that help combat oxidative stress.
- ✓ **Anti-inflammatory:** They help reduce inflammation and can be beneficial for conditions like arthritis.
- ✓ **Blood Sugar Control:** Some studies suggest that drumstick leaves can help regulate blood sugar levels.
- ✓ **Cholesterol Reduction:** They may aid in lowering cholesterol levels, contributing to heart health.

8. Sesame Plant (*Sesamum indicum*)

Sesame seeds and oil have been used for their health benefits for centuries:

- **Rich in Nutrients:** Sesame seeds are high in healthy fats, protein, fiber, and essential minerals like calcium, magnesium, and iron.
- **Antioxidant Properties:** They contain antioxidants like sesamolins and sesamin that help protect cells from damage.
- **Bone Health:** The high calcium content supports bone health and can aid in preventing osteoporosis.
- **Cardiovascular Health:** Sesame seeds may help lower blood pressure and improve heart health due to their content of healthy fats and antioxidants.
- **Skin Health:** Sesame oil is often used in skincare for its moisturizing and anti-inflammatory properties.

9. Herbal Benefits of Tippa Teega (*Vernonia cinerea*):

- **Anti-inflammatory:** Tippa Teega is known for its ability to reduce inflammation, which can be beneficial for conditions like arthritis or other inflammatory diseases.
- **Antioxidant:** The plant contains antioxidants that help combat oxidative stress and protect cells from damage caused by free radicals.
- **Antimicrobial:** It has antimicrobial properties, which means it can help fight infections caused by bacteria, fungi, and viruses.
- **Digestive Health:** Tippa Teega is used traditionally to aid digestion and alleviate gastrointestinal issues such as constipation and bloating.
- **Fever Reduction:** In some traditional practices, Tippa Teega is used to help reduce fever and manage symptoms associated with it.
- **Liver Health:** The plant is sometimes used to support liver health and detoxification processes.
- **Anti-diabetic:** Some studies suggest that Tippa Teega may help manage blood sugar levels, making it potentially useful for people with diabetes.

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- **Skin Health:** Its anti-inflammatory and antimicrobial properties make it useful for treating skin conditions like eczema or acne.
- **Gardening:** People spade the gardens, root out grasses, prepare beds, sow seeds, plant trees and water the plants. They keep the garden neat and clean. They also manure the gardens. They also follow the process of grafting. They also follow the process of germinating and transplanting. They work, generally in morning and evening.
- **Usefulness:** People get fresh herbs from their gardens. These are very healthy for them. So, their health remains well.

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