GOVERNMENT OF INDIA MINISTRY OF AYUSH

RAJYA SABHA UNSTARRED QUESTION NO. 3367 TO BE ANSWERED ON 1 APRIL, 2025

"ADVANCED RESEARCH FOR NON-COMMUNICABLE DISEASES"

3367 Shri Anil Kumar Yadav Mandadi:

Will the Minister of Ayush be pleased to state:

- (a) whether Government had undertaken advanced research for treatment of noncommunicable diseases by Ayush system of medicine;
- (b) if so, the details thereof; and
- (c) whether Government has achieved any significant achievements in these researches for treating non-communicable diseases; and
- (d) if so, the details thereof, if not the reasons therefor?

ANSWER THE MINISTER OF STATE (IC) OF THE MINISTRY OF AYUSH (SHRI PRATAPRAO JADHAV)

- (a) & (b) Ministry of Ayush, Government of India has undertaken advanced research for treatment of non-communicable diseases by Ayush system of medicine through its Research Councils and National Institutes as detailed below:
- 1. Central Council for Research in Ayurvedic Sciences (CCRAS) has undertaken safety and efficacy studies for various classical Ayurvedic Preparations through Intramural Research (IMR) and Collaborative mode. Details of disease-wise formulations validated under clinical research projects is placed at **Annexure-I.** CCRAS has also developed drugs for prevalent Non-Communicable Diseases (NCDs) through a systematic process of Drug Development, viz. standardization, quality control, safety/ toxicity studies and clinical studies adopting prevalent guidelines in vogue as per requirement. Details of drugs developed by CCRAS for Non-Communicable Disease is placed at **Annexure-II.**
- 2. Central Council for Research in Homoeopathy (CCRH) has undertaken advanced preclinical research studies in homoeopathy on various non-communicable diseases such as Cancer, Diabetes, Urolithiasis, Insomnia, Rheumatoid Arthritis in collaboration with institutes of excellence. The detailed information on pre-clinical research is placed at **Annexure-III.**

- 3. Central Council for Research in Unani Medicine (CCRUM) has undertaken research in several non-communicable diseases, e.g. Diabetes mellitus, Hypertension, Cancer, Dementia, Anemia, Bronchial asthma, Vitiligo etc through Intra-mural and Collaborative modes.
- 4. Central Council for Research in Siddha (CCRS) is doing advance research on treatment aspects for non-communicable diseases. The details of advance research on non-communicable diseases undertaken by CCRS are placed at **Annexure-IV**.
- 5. Central Council for Research in Yoga & Naturopathy (CCRYN) has undertaken research for treatment of non-communicable diseases by Yoga and Naturopathy. The details of completed projects are placed at **Annexure-V.**
- 6. Institute of Teaching and Research in Ayurveda (ITRA) had undertaken Clinical researches on Obesity, PCOD, Diabetes, Hypertension, Depression, Anxiety etc.
- 7. All India Institute of Ayurveda (AIIA) manages a number of non-communicable diseases, following Ayurvedic therapeutic approaches including Diet & Life Styles. IMR projects and researches as part of PG, Ph. D thesis are being conducted.
- 8. North Eastern Institute of Ayurveda & Homoeopathy (NEIAH) has undertaken a Public Health Initiave (PHI) project titled "Promoting the Ayurveda interventions for Iron Deficiency Anemia (IDA) among tribal females (18 to 45 year of age) in Mawpat and Mylliem Block of East Khasi Hills district of Meghalaya under Ayurswasthya Yojana.
- (c) & (d) Significant achievements in the researches on non-communicable diseases are as detailed below:
- 1. The outcomes of the research conducted by CCRAS have been published in reputed journals for wider dissemination and three of the coded drugs developed by CCRAS for non-communicable diseases have been commercialized. Details of drugs developed by CCRAS for Non-Communicable Diseases is placed at **Annexure-II**.
- 2. CCRH have been undertaking research on non-communicable diseases including cancer at its research institutes/units across the Country on various diseases like Diabetes Mellitus, Rheumatoid Arthritis, Osteoarthritis, Bronchial Asthma, Uterine fibroid, Prediabetes, Hypertension, Dyslipidaemia, Psoriasis, Vitiligo, Polycystic Ovarian Syndrome, Breast Fibroadenoma, Sub-clinical Hypothyrodism etc.

CCRH has implemented the project on Integration of Homoeopathy and Yoga in National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke (NPCDCS) in collaboration with Ministry of Health and Family Welfare under NPCDCS programme. It was taken up at District Hospital/Rural hospital / Sub district hospital / Area Hospital Community Health Centre levels / Block PHCs, at-Krishna district, Andhra Pradesh and Darjeeling district, West Bengal, Sambalpur,

Odisha and Nashik, Maharashtra. The objectives of project were Health promotion of masses through behaviour change, Disease prevention through early diagnosis of NCDs, Reduction in NCD burden and their risk factors, early management of NCDs through homoeopathic treatment alone or as add on to standard care. The detailed list of studies on non-communicable diseases under clinical research conducted by CCRH is placed at **Annexure-VI.**

- 3. Besides the publication of findings in peer reviewed indexed Journals, the CCRUM has received two patents; one each on Vitiligo and Bronchial Asthma from Indian Patent Office (IPO).
- 4. The details of completed IMR projects for non-communicable disease, conditions undertaken by Central Council for Research in Siddha (CCRS) is placed at **Annexure-VII.**
- 5. The outcome of the researches conducted in the field of Yoga and Naturopathy by Central Council for Research in Yoga & Naturopathy (CCRYN) for treating non-communicable diseases showed significant improvement in disease conditions and faster recovery of the patients.

ANNEXURE I

$\underline{\underline{Details\ of\ disease-wise\ formulations\ validated\ under\ clinical\ research\ projects\ by}} \\ \underline{\underline{CCRAS}}$

S. No.	Name of the disease condition	Name of the Ayurveda formulation	
1.		Pushyanuga Churna	
	Abnormal uterine Bleeding	2. Ushirasava	
		3. Shatavari Guda	
		4. Ashokarishta	
2.	Amajirna	5. Lavanabhaskar Churna,	
4.	Amajima	 Pushyanuga Churna Ushirasava Shatavari Guda Ashokarishta 	
3.	Agnimandya		
4.		1. Pushyanuga Churna 2. Ushirasava 3. Shatavari Guda 4. Ashokarishta 5. Lavanabhaskar Churna, 6. Vajra Kshara 7. Lashunadi Vati 8. Pippaladyasava 7. Mahatriphaladya Ghrita 8. Triphala Kwath 9. Haridrakhand 10. Vyaghri Haritaki 11. Kanakasava 12. Trivrita Churna 13. Kantakaryavaleha 14. Eladi gutika 15. Agastya Haritaki Rasayana 16. Apamarga Kshara 17. Panchamrita Lauha Guggulu 18. Panchaguna Taila 19. Brahmi Ghrita 20. Jyotishmati Taila 21. Sarasvata Ghrita 22. Kalyanaka Ghrita 23. Mahatriphaladya Ghrita 24. Anu Taila 25. Vyaghri Haritaki 26. Vasavaleha 27. Kushmandaka Rasayana 28. Sitopaladi Churna 29. Eladi churna 30. Lavangadi Vati 31. Talishadi Churna	
	Allergic Conjunctivitis	8. Triphala Kwath	
5.			
	Bronchial Asthma (Shwas)	12. Trivrita Churna	
	Bronchial Asthma (Shwas)	13. Kantakaryavaleha	
		14. Eladi gutika	
		15. Agastya Haritaki Rasayana	
		16. Apamarga Kshara	
6.	Cervical spondylosis	17. Panchamrita Lauha Guggulu	
U.	(Greevagraha)		
7.		1. Pushyanuga Churna 2. Ushirasava 3. Shatavari Guda 4. Ashokarishta 5. Lavanabhaskar Churna, 6. Vajra Kshara 7. Lashunadi Vati 8. Pippaladyasava 7. Mahatriphaladya Ghrita 8. Triphala Kwath 9. Haridrakhand 10. Vyaghri Haritaki 11. Kanakasava 12. Trivrita Churna 13. Kantakaryavaleha 14. Eladi gutika 15. Agastya Haritaki Rasayana 16. Apamarga Kshara 17. Panchamrita Lauha Guggulu 18. Panchaguna Taila 19. Brahmi Ghrita 20. Jyotishmati Taila 21. Sarasvata Ghrita 22. Kalyanaka Ghrita 23. Mahatriphaladya Ghrita 24. Anu Taila 25. Vyaghri Haritaki 26. Vasavaleha 27. Kushmandaka Rasayana 28. Sitopaladi Churna 29. Eladi churna 30. Lavangadi Vati	
	Cognitive Deficit		
		21. Sarasvata Ghrita	
		•	
8.	Computer vision syndrome	* *	
	r		
9.			
	Change Described (V.)	-	
	Chronic Bronchitis (<i>Kasa</i>)	_	
		30. Lavangadi Vati	
		31. Talishadi Churna	
		32. Draksharishta	
İ		33. Chitraka Haritaki	

10	Chronic Rhinosinusitis	33. Shadbindu taila
10.	(Pinasa)	34. Chitraka Haritaki
11.		35. Saptavimshatika Guggulu
	Type II Diabetes Mellitus	36. Haridra Churna,
		37. Nisa Amalaki Churna tablet
		38. Chandraprabha vati
		39. Nishakatakadi Kashaya,
		40. Yashada Bhasma,
		41. Gokshuradi Guggulu,
		42. Guduchi Churna,
12.	Dry Eye Syndrome	43. Mahatriphaladya Ghrita
12.	(Shushkakshi Paka)	
13.	Dyslipidemia	44. Vyoshadi Guggulu,
13.	Dyshpidenna	45. Haritaki Churna
14.	Dysmenorrhea (Kastartava)	46. Rajahpravartani Vati
	2 9 3.1.01.01.1.00 (12.00.00.00.00)	47. Sapthasara Kashaya Churna
15.		48. Panchatikta Ghrita,
	Eczema (Vicharchika)	49. Gandhakadya Malhara,
		50. Panchatikta Ghrita,
		51. Nalpamaradi Taila
		52. Khadirarishta
		53. Kaishor guggulu
16.		52. Ashvagandhadyarishta,
		53. Jatamamsi Arka,
	Essential Hypertension	54. Sarpagandha Vati,
		55. Rudraksha Churna,
		56. Parthadyarishta (Arjunarishta),
17.		57. Jatyadi Ghrita
	Fissure-in-ano	58. Jatyadi Taila
	(Parikartika)	59. Haritaki Churna,
18.		60. Ksheerbala taila
	Generalized Anxiety	61. Mandukaparni Churna tablet
	disorder	62. Ashvagandha Churna tablet
19.		63. Pranada gutika,
. •	Hemorrhoids (<i>Arsha</i>)	64. Abhayarishta,
	, ,	65. Triphala Guggulu,
		66. Kasisadi Taila
		OU. IMDIDUGI I UIIU

20.		67. Pinda Taila,
		68. Amrita Guggulu,
	Hyperuricemia in Gout	69. Kaishora Guggulu,
	patients (<i>Vatarakta</i>)	70. Madhusnuhi Rasayana,
		71. Kaishor Guggulu
		72. Balaguduchyadi Taila
		73. Gokshuradi Guggulu
		74. Nimbadi Churna
		73. Dhatri Lauha
		74. Punarnavadi Mandura
21.		75. Dadimadi Ghrita,
	Iron Deficiency Anemia	76. Navayasa Churna
		77. Mandura vataka
		78. Drakshasava
		79. Drakshavaleha,
		80. Lohasava
		81. Amalaki Churna
22.		82. Bilvadi Leha,
		83. Kutajarishta,
		84. Brihat Gangadhar Churna,
	Irritable Bowel Syndrome(IBS)	85. Kutajavaleha,
	(Grahani Roga)	86. Jatiphaladya Churna
		87. Chitrakadi Gutika,
		88. Jirakadyarishta,
23.	Leucorrheoa with Bacterial	89. Mustakarishta 90. Pushyanuga Churna
23.	vaginosis (Shweta Pradara)	91. Pugakhanda
24.	Mental Retardation	92. Brahma Rasayana
25.		93. Ashokarishta,
	10.1	94. Ashvagandha Churna,
	Menopausal Syndrome	95. Pravala Pishti,
		96. Sukumara Ghrita 97. Brahmi churna,
26	Mississ (A. di11 11)	,
26.	Migraine (Ardhavabhedaka)	98. Pathyadi Kvatha Churna 99. Anu taila,
27.	Non-Alcoholic Fatty Liver	100. Arogyavardhini vati
	Disease (NAFLD)	101. Pippalyasava

28.		102.	Vyoshadi Guggulu,
201		103.	Haritaki Churna,
	Obesity (Sthaulya)	104.	Navaka Guggulu,
	3 \ 3 \ 7	105.	Tryushanadi Guggulu,
		106.	Brihad Manjisthadi Kwatha Churna
		107.	Vidanga churna
		108.	Lekhaniya Gana Kashaya
		109.	Arogyavardhini Gutika
29.		110.	Punarnava Guggulu,
		111.	Dashmoola Ghrita,
		112.	Kottamchukkadi Taila,
		113.	Vatari Guggulu,
		114.	Narayana Taila,
		115.	Maharasnadi Kashaya,
	Osteoarthritis	116.	Ksheerbala taila,
		117.	Yogaraj Guggulu,
		118.	Gandharvahasta Taila,
		119.	Dhanvantara Taila,
		120.	Rasnadi Gutika,
		121.	Chandrakala Lepa,
		122.	Trayodashanga guggulu
		123.	Maharasanadi kwatha Churna
		124.	Brihatsaindhavadya Taila
30.		125.	Laksha Guggulu
	Osteopenia / Osteoporosis	126.	Mukta Shukti Pishti
		127.	Ashwagandha Churna
		128. 129.	Pravala Pishti Abhadya churna
		130.	Muktasukti Bhasma
31.	Polycystic OvarianSyndrome	131.	Kanchanara Guggulu
	(PCOS)	132.	Rajahpravartini vati
		133.	Varunadi Kashaya
32.	Post natal care (Sutika	134.	Saubhagya Shunthi Paka
	Paricharya)	135.	Dashmularishta
33.		136.	Vajraka ghrita,
		137.	Arogyavardhini vati
		138.	Dineshvalyadi taila
		139.	Yashada Bhasma
	Psoriasis (<i>Kitibha</i>)	140.	Triphala Churna
		141.	Panchtiktaguggulu Ghrita
		142.	Brihanmarichadya Taila
		143.	Panchatikta Ghrita

		144.	Nalpamaradi Taila
34.		145.	Ashwagandhadi Lehya
	Rasayana	146.	Brahma Rasayana
		147.	Chyavanaprasha
35.		148.	Simhanaada Guggulu,
		149.	Brihata Saindhavadya Taila
		146. Brahma Rasayana 147. Chyavanaprasha 148. Simhanaada Guggulu, 149. Brihata Saindhavadya T 150. Vatari Guggulu, 151. Hingvashtaka Churna, 152. Vyoshadi Guggulu, 153. Panchasama Churna, 154. Punarnava Guggulu 155. Rasnasaptaka Kvatha Cl 156. Sunthi Churna 157. Indukanta ghrita 158. Trayodashanga Guggulu 159. Trayodashanga Guggulu 160. Maharasanadi kwatha Cl 161. Prasarini Taila 162. Goksura churna 163. Sveta parpati, 164. Shvadamshtradi Kvatha 165. Hajarulayahuda Bhasma 166. Apamarga Kshara 167. Varunadi Kwatha Churn 168. Chandraprabha vati 169. Kanchanara guggulu,	Vatari Guggulu,
		151.	Hingvashtaka Churna,
		152.	Vyoshadi Guggulu,
	Rheumatoid Arthritis	153.	Panchasama Churna,
		154.	Punarnava Guggulu
		155.	Rasnasaptaka Kvatha Churna
		156.	Sunthi Churna
		157.	Indukanta ghrita
		158.	Trayodashanga Guggulu
36.		159.	• 6 6 66
	Sciatica (<i>Gridhrasi</i>)	145. Ashwagandhadi Lehya 146. Brahma Rasayana 147. Chyavanaprasha 148. Simhanaada Guggulu, 149. Brihata Saindhavadya Taila 150. Vatari Guggulu, 151. Hingvashtaka Churna, 152. Vyoshadi Guggulu, 153. Panchasama Churna, 154. Punarnava Guggulu 155. Rasnasaptaka Kvatha Churna 156. Sunthi Churna 157. Indukanta ghrita 158. Trayodashanga Guggulu 159. Trayodashanga Guggulu 160. Maharasanadi kwatha Churna 161. Prasarini Taila 162. Goksura churna 163. Sveta parpati, 164. Shvadamshtradi Kvatha Churna 165. Hajarulayahuda Bhasma, 166. Apamarga Kshara 167. Varunadi Kwatha Churna 168. Chandraprabha vati	Maharasanadi kwatha Churna
		161.	145. Ashwagandhadi Lehya 146. Brahma Rasayana 147. Chyavanaprasha 148. Simhanaada Guggulu, 149. Brihata Saindhavadya Taila 150. Vatari Guggulu, 151. Hingvashtaka Churna, 152. Vyoshadi Guggulu, 153. Panchasama Churna, 154. Punarnava Guggulu 155. Rasnasaptaka Kvatha Churna 156. Sunthi Churna 157. Indukanta ghrita 158. Trayodashanga Guggulu 159. Trayodashanga Guggulu 160. Maharasanadi kwatha Churna 161. Prasarini Taila 162. Goksura churna 163. Sveta parpati, 164. Shvadamshtradi Kvatha Churna 165. Hajarulayahuda Bhasma, 166. Apamarga Kshara 167. Varunadi Kwatha Churna 168. Chandraprabha vati 169. Kanchanara guggulu, 170. Khadirarishta
37.		162.	Goksura churna
		163.	Sveta parpati,
	Urolithiasis	164.	Shvadamshtradi Kvatha Churna
		165.	Hajarulayahuda Bhasma,
		166.	Apamarga Kshara
		167.	Varunadi Kwatha Churna
		168.	Chandraprabha vati
38.	Uterine Fibroids		

^{*}Some formulations repeated in different disease conditions or in different combinations

Annexure -II

<u>Details of drugs developed by Central Council for Research in Ayurvedic Sciences</u> (CCRAS) for Non-Communicable Disease

S. No.	Name of the Drug	Indication
1.	Ayush-82 *	Type 2 Diabetes Mellitus
2.	Ayush SG*	Rheumatoid Arthritis
3.	Ayush 56*	Epilepsy
4.	AYUSH QOL 2C	To improve Quality of Life of Cancer patients
5.	AYUSH D	Type 2 Diabetes Mellitus
6.	Carctol S	Cancer
7.	AYUSH-HR	Prehypertension
8.	Ayush M3	Migraine and hypertension

^{*}Technologies Transferred by CCRAS

Annexure-III

<u>Pre-Clinical Basic Research conducted by Central Council for Research in Homoeopathy (CCRH)</u>

S. No.	Condition	Title of the study	Publication	
1.	Cancer	Calcarea carbonica induces apoptosis in cancer cells in p53-dependent manner via an immunomodulatory circuit.	BMC Complementary and Alternative Medicine 2013, 13:230	
2.	Diabetes	Effect of homeopathic preparations of Syzygium jambolanum and Cephalandra indica on gastrocnemius muscle of high fat and high fructose-induced type-2 diabetic rats	Homeopathy (2013) 102, 160-171	
3.	Behavioural activities	A preliminary study to evaluate analgesics and behavioural activities of the homoeopathic drug	Indian J Res in Homoeopathy. 2010; 4(2):41-48.	
4.	Behavioural activities	Preliminary studies on analgesic and behavioural activities of the homoeopathic formulations of Chenopodium ambrosioides in experimental animal models.	Indian J Res in Homoeopathy. 4(3):44-50.	
5.	Behavioural activities	Indigo feratinctoria: an experimental study evaluating its analgesic and behavioural activities	Indian J Res Homoeopathy 2012;6(2):1-7.	
6.	Diabetes	Effects of homeopathic preparations of Syzygium jambolanum and Cephalandra indica on liver of high fat and high fructose-induced type-2 diabetic rats.	Homeopathy 2013;102:160-171	
7.	Behavioural activities	Preliminary study to evaluate analgesic and behavioural effects of Lycopodium clavatum in experimental animals.	Indian J Res Homoeopathy 2013; 7(4):168-175	
8.	Renal calculi	Preliminary investigation on ultra- diluted B. vulgaris in experimental urolithiasis.	Homeopathy 2013;102:172-178	
9.	Cerebral ischaemia	Protective role of homoeopathic medicines on cerebral ischaemia in animals.	Indian J Res Homoeopathy 2014;8(4):209-217.	
10.	Cancer	Contribution of ROS-p53 feed-back loop in Thuja-induced apoptosis of mammary epithelial carcinoma cells.	Oncol Rep. 2014;31(4):1589 -1598. doi: 10.3892/or.2014.2993.	

S. No.	Condition	Title of the study	Publication
	Renal calculi	Beneficial Antioxidative Effect of the Homeopathic Preparation of Berberis vulgaris in Alleviating Oxidative Stress in Experimental Urolithiasis.	Forsch Komplementmed 2014;21:7-12
12.	Renal calculi	Homoeopathic preparation of Berberis vulgaris as an inhibitor of Calcium oxalate crystallization: An in vitro evidence.	Indian J Res Homoeopathy. 2015;9(3):152-157
13.	Cancer	Sulphur alters NFkB-p300 cross-talk in favour of p53-p300 to induce apoptosis in non-small cell lung carcinoma.	International Journal of Oncology 2015;47:573-582.
14.	Rheuatoid arthritis	Role of homeopathic mother tinctures in rheumatoid arthritis: An experimental study.	Indian J Res Homoeopathy. 2015;9: 42-48.
15.	central nervous system depressant activities	An investigation to evaluate the analgesic and central nervous system depressant activities of Solanum nigrum (Linn.) as homoeopathic potencies in experimental animal models.	Indian J Res Homoeopathy. 2015; 9: 12-19.
16.	Memory impairment	Effect of homeopathic Lycopodium clavatum on memory functions and cerebral blood flow in memory-impaired rats.	Homeopathy. 2015;104(1):24-28
17.	Dementia	Homoeopathic medicine Mercurius solubilis treatment improves cerebral blood flow and memory in experimentally induced Dementia in rats.	Indian J Res Homoeopathy 2017;11:58-63.
18.	Arthritis	Attenuation of Complete Freund's Adjuvant-induced arthritis by different dilutions of Eupatorium perfoliatum and Crotalus horridus and their safety evaluation.	Indian J Res Homoeopathy 2019;13:107-17.
19.	Renal calculi	Understanding the role of homoeopathic preparation of Berberis vulgaris in mitigation of sodium oxalate- induced hyperoxaluria: An experimental approach.	Indian J Res Homoeopathy 2020;14:251-9.
20.	Cancer	In Vitro Assessment of Homeopathic Potencies of Hydrastis canadensis on Hormone- Dependent and Independent Breast Cancer.	Homeopathy 2020; 109(04): 198-206

S.	Condition	Title of the study	Publication
No.			
21.		Amelioration of experimental	Indian Journal of Traditional
	arthritis	rheumatoid arthritis by selected	Knowledge Vol 20(4),
		ultra-diluted preparations by down	October 2021, pp 956-964
		regulating increased expression of	
		TNF-α & IL	
22.		Wound Healing Activity of a Novel	
	healing	Formulation SKRIN via Induction	364.
		of Cell Cycle Progression and	
		Inhibition of PCNA–p21 Complex	
		Interaction Leading to Cell	
		Survival and Proliferation. ACS	
		Pharmacology & Translational	
		Science. ACS Pharmacol.	
23.	Cancer	Evaluation of Therapeutic Potential	Homeopathy 2023; 112(04):
		of Selected Plant-Derived	262-274
		Homeopathic Medicines for their	
		Action against Cervical Cancer.	
24.	Atherogenesis	Homeopathic preparation of	, ,
		Allium sativum abrogates OxLDL	Jan-Feb;15(1):100850. Doi:
		mediated atherogenic events in	10.1016/j.jaim.2023.100850.
		macrophages: An invitro and in	Epub 2024 Jan 13. PMID:
		silico approach.	38219436; PMCID:
			PMC10826319.
25.	Dyslipidemia	Evaluation of hypolipidemic	Phytomedicine Plus 2 (2022)
		activity of homeopathic drug	100354
		Allium sativum 6C potency on	
		different grades of dyslipidemia in	
		Wistar albino rat models	

<u>Details of Advance Research undertaken for non-communicable diseases conditions</u> <u>conducted by Central Council for Research in Siddha (CCRS)</u>

Central Council for Research in Siddha (CCRS) has undertaken research in non-communicable disease conditions including Cancer through the IMR projects mode. The details of the IMR project are as follows:

- 1. Clinical trial to evaluate the safety and efficacy of Siddha medicine Nandhi mezhugu in stage 1 and 2 Breast Cancer patients.
- 2. A Single-centric, single arm pilot study to evaluate the efficacy and safety of Swasa Kudori Chooranam (SKC) in the management of Swasa Kaasam (Bronchial Asthma).
- 3. Development of health flakes (SIDKAD), a Siddha Kayakarpam diet for Diabetes and evaluating its antioxidant and anti-inflammatory activity.
- 4. In-process standardization of Velvanga Parpam (VP) a classical Siddha drug and a pilot study to evaluate its safety and therapeutic efficacy in Madhumegam (type II Diabetes Mellitus).
- In-vitro and in-vivo studies to explore the beneficial effect of D5 chooranam on mice model of Obesity.
- 6. Safety and Cardioprotective effect of Swasa Kudori in rats.
- 7. Safety and Anti-hypertensive effect of VAAS-21 tablet in rats.
- 8. Evaluation of anticancer and Apoptosis-Inducing effect of Gowri Chinthamani Chenthuram (GCC) on Human Cancer Cell Lines.
- 9. Observational study to scientifically validate Siddha diagnostic methods Neerkuri, Neikuri with the prediction of disease prognosis using machine learning procedures and early diagnosis of Diabetes Mellitus complications using the diagnostic standards in Modern Medicine.
- 10. Alternative therapy for Diabetic Retinopathy / cataract of *Fluggea virosa* in rats.
- 11. Hepatoprotective activity of *Fluggea virosa* against chemical induced liver damage in Rats.
- 12. Evaluation of Anti-diabetic activity of *Argyreia sericea* Dal zell against streptozotocin induced diabetes in Rats.

- 13. A pilot open single arm clinical trial to evaluate the efficacy of Sirupeelai Kudineer in Diabetic Nephropathy.
- 14. A Single-centric, single arm pilot study to evaluate the efficacy and safety of Swasa Kudori Chooranam (SKC) in the management of Swasa Kaasam (Bronchial Asthma).

The details of Projects undertaken by CCRYN for non-communicable diseases

A. Collaborative Research

The Council had established Collaborative Research Centre's (CRC) to undertake Collaborative Research at National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore, and Kaivalyadham Yoga Institute of Research Centre, Lonavala. The Council had also established Collaborative Centre for Mind Body Interventions through Yoga at All India Institute of Medical Sciences (AIIMS) Raipur, Chhattisgarh, All India Institute of Medical Sciences (AIIMS) Rishikesh, Uttarakhand and Post Graduate Institute of Medical Education & Research (PGIMER), Chandigarh. by signing a Memorandum of Understanding (MoU).

i. Research Projects undertaken by NIMHANS, Bangalore:

- 1. Implicit cognition and mirror neuron activity following yoga in healthy individuals.
- 2. Understanding neuro-hemodynamic correlates of Om chanting: A functional magnetic resonance imaging study.
- 3. Validation of Ayusoft Prakriti Diagnostic Tool in Psychiatric Patients.
- 4. Clinical Correlates of Vedic Personality Traits in Psychiatric Patients.
- 5. Effect of Yoga on ECT Induced Cognitive Deficits- A Randomized Controlled Trial
- 6. Differential Therapeutic Effects of Add on Group V/S Individual Yoga Therapy in Unipolar Depression: A Single Blinded Randomized Controlled Study.
- 7. Development, validation and feasibility of Mother-baby Yoga in mothers with severe mental illness admitted to mother baby ward.
- 8. Development and validation of Integrated Yoga module for patients suffering from Migraine.
- 9. Development and feasibility of integrated therapy module for patients suffering from Multiple sclerosis.
- 10. Psycho-neuro-endocrinological markers of stress and the response to a yoga-based intervention in first degree relatives of schizophrenia patients (FDRS).
- 11. Effect of Yoga on mirror neuron activity among patients with depression: A transcranial magnetic stimulation study" revised for originally proposed study with

title "Role of yoga in correcting GABA neurotransmitter deficit in moderate to severe depressive patients, a single blind and randomized controlled study.

ii. Research projects undertaken with Kaivalyadham, Lonavala:

- 1. Neti Kriya as a therapeutic intervention for Chronic Allergic Rhinitis.
- 2. Immediate Effect of Simple Bhramari Pranayama on Blood Pressure and Pulse Rate of Hypertensive and Normotensive Individuals.
- 3. Effect of Tratak Kriya on Stress, Anxiety and Mental Well Being in School Teachers.
- 4. Immediate and long-term Comparative effect of Sheetali as single practice, and Sheetali preceded by Anulom Vilom Pranayama, without Kumbhak on Blood Pressure, HRV and select psychological parameters, in case of normotensives.
- 5. Effect of selected yoga practices on patients of migraine: a randomized controlled trial.
- 6. Effect of Tratak Kriya on Stress, Anxiety and Mental Well Being in the parents of 9th standard students.
- 7. Effect of classical Kapalbhati Kriya on the total antioxidant status and pulmonary functions of healthy individuals: A self as Control Pilot Study.
- 8. Effect of Agnisar Kriya on insulin resistance and Insulin sensitivity in pre-diabetic population.

iii. Research projects undertaken with AIIMS, Raipur (C.G.):

- 1. Immediate Hemodynamic changes on performing slow uni-nostril and alternate nostril breathing pranayamas in normotensive adults.
- 2. An Assessment of Knowledge, Attitude and Practice (Kap) towards yoga among health care professionals of AIIMS, Raipur.

iv. Research projects undertaken with Post Graduate Institute of Medical Education & Research, Chandigarh:

1. To evaluate efficacy of integrated Yoga Therapy versus Physiotherapy for Chronic low back pain in elderly adults- A Randomized controlled trail

B. Intra Mural Research (IMR)

The following research projects have been undertaken under Intra Mural Research:

S. No.	Title of the Research Project	Status
1.	Sedentary behavior and physical activity limitations during home confinement and its effects on	Completed
	cardiovascular health: a Cross sectional survey with	
	PHFI, AIIMS [Yoga care Trial affiliated Cardiology	
	Hospitals, Naturopathy Centres]	
2.	To Evaluate the effects of Yoga on cognitive function, activities of daily living, self-reported depression and HRV in subjects with Vascular Dementia	Completed
3.	To study the effect of Yoga therapy in reducing the pain,	Completed
3.	improving walking time and quality of life in the management of Osteoarthritis of Knee – A two arm randomized prospective control study.	Completed
4.	Yoga as an Eco-therapy for achieving United Nations (UN) Sustainable Development Goals (SDG's) – an explorative study	Completed
5.	Understanding effect of yoga on immune cells by functional and metabolomic characterization of innate immune cells.	Completed
6.	The efficacy of AYUSH common yoga protocol in the	Completed
	new training recruits of Police Department:	
	Occupational stress, neurophysiological,	
	neuropsychological, and molecular signatures analysis	

<u>Detailed list of studies on Non-Communicable Diseases under clinical research conducted by Central Council for Research in Homoeopathy (CCRH)</u>

S.No	Disease condition	Title	Name of the Journal	Year
1	Different clinical conditions	The Patient Population at Homeopathic Outpatient Clinics across India: A Clinical Data Collection Study	Homeopathy	2024
2	Chronic Cough	Homoeopathic treatment for chronic cough – a multicentric, prospective, exploratory trial	Journal of	2024
3	Adenotonsilla r Hypertrophy	Individualized Homeopathic Medicines in the Management of Symptomatic Adenotonsillar Hypertrophy in Children: A Prospective Observational Study	Homeopathy	2024
4	Vitiligo	A pragmatic, open-label study to evaluate the response of homoeopathic treatment in vitiligo.		2024
5	Fibroadenoma breast	A Multi-Centric Single-Blind Randomized Placebo-Controlled Trial to Evaluate the Efficacy of the Individualized Homeopathic Intervention in Breast Fibroadenoma	OBM Integrative and Complementar y Medicine	2023
6	Chronic rhinosinusitis	A randomised, double- blind, placebo-controlled and parallel-arm trial to assess the effect of homoeopathic medicines on chronic rhinosinusitis	of Research in Homoeopathy	2023
7	Psoriasis	Open-Label Study to Evaluate the Response to Homeopathic Treatment of Psoriasis		2022
8	Burns	An analytical study to establish the role of Calendula Q as a topical		2022

S.No	Disease condition	Title	Name of the Journal	Year
		wound dressing in partial- thickness burn wound		
9	Dyspeptic disorders	The effectiveness of the Ferula Asafoetida in the treatment of dyspeptic disorders	International Journal of Homoeopathic Sciences	2021
10	Infantile spasms	Homoeopathy for infantile spasms: An open label, single arm, clinical trial.		2021
11	PCOS	Homoeopathic treatment of women with polycystic ovarian syndrome: A prospective observational study	of Research in	2021
12	Migraine	Role of homoeopathic medicines in the treatment of migraine	International Journal of Homoeopathic Sciences	2021
13	Rhinosinusitis	Efficiency Of Homoeapathic Potentized Medicine in Treating Chronic Rhinosinusitis	International Journal of Homoeopathic Sciences	2021
14	Diabetic neuropathy	Efficacy of homoeopathic treatment for diabetic distal symmetric polyneuropathy: A multicentric randomised double- blind placebocontrolled clinical trial.	EXPLORE	2021
15	Cervical spondylosis	Homoeopathic therapy in cervical spondylosis pain management: A randomised, double-blind, placebo-controlled trial	Indian Journal of Research in Homoeopathy	2020
16	Diabetic Foot Ulcer	Calendula mother tincture vs normal saline for ulcer dressing as an add-on to Individualized Homoeopathic Intervention in the management of Diabetic Foot Ulcer: A Randomized Controlled Pilot Study	Indian Journal of Research in Homoeopathy	2020

S.No	Disease condition	Title	Name of the Journal	Year
17	Acute Alcohol withdrawal	Homoeopathic Management of Acute Alcohol Withdrawal Syndrome: A Retrospective Cohort Study		2020
18	Chronic Cough	Optimising the use of polar symptoms in Homoeopathy: Introduction to a pilot study of prognostic factor research in chronic cough	Homeopathic Links	2020
19	Obesity	Randomized trial on weight and lipid profile of obese by formulation from garcinia gambogia	International Journal of medicine	2020
20	Hypertension	Effects of individualised homoeopathic intervention in Stage I essential hypertension: A single-blind, randomised, placebocontrolled trial		2020
21	Chronic bronchitis	Management of early years of simple and mucopurulent chronic bronchitis with predefined homeopathic medicines – a Prospective Observational Study with 2-Years Follow-Up	International Journal of High Dilution Research	2019
22	Menopause	An Analysis of the Efficacy of Sepia officinalis in the Management of Distress during Climacteric Years (DDCY).		2019
24	Renal calculi	Lycopodium clavatum for the management of urolithiasis: A randomised double blind placebo controlled trial		2019
25	Menopause	Homoeopathic medicine— Sepia for the management of menopausal symptoms: A multicentric, randomised, double-blind placebo- controlled clinical trial	Indian Journal of Research in Homoeopathy	2019

S.No	Disease condition	Title	Name of the Journal	Year
26	PCOS	Evaluation of homoeopathic treatment in polycystic ovary syndrome: A single-blind, randomised, placebocontrolled pilot study	Indian Journal of Research in Homoeopathy	2018
27	Cerebral stroke	An open-label pilot study to identify the usefulness of adjuvant homoeopathic medicines in the treatment of cerebral stroke patients	Indian Journal of Research in Homoeopathy	2018
28	ВРН	Homoeopathic treatment for lower urinary tract symptoms in men with benign prostatic hyperplasia: An open label randomised multicentric placebo-controlled clinical trial	Indian Journal of Research in Homoeopathy	2018
29	Calcaneal Spur	A retrospective study of homoeopathic treatment in patients with heel pain with or without Calcaneal Spur	Indian Journal of Research in Homoeopathy	2017
30	Nonerosive gastroesophag eal reflux disease	An open label pilot study to explore usefulness of Homoeopathic treatment in nonerosive gastroesophageal reflux disease	of Research in	2016
31	Uterine Fibroids	A multicentric randomized clinical trial of homoeopathic medicines in fifty millesimal potencies vis-à –vis centesimal potencies on symptomatic uterine fibroids		2016
32	Schizophrenia	Homoeopathic management of Schizophrenia: A prospective, non-comparative, open-label observational study.	Indian Journal of Research in Homoeopathy	2016
33	Alcohol Dependence	A randomized comparative trial in the management of Alcohol Dependence: Individualized Homoeopathy versus standard Allopathic Treatment	Indian Journal of Research in Homoeopathy	2016

S.No	Disease condition	Title	Name of the Journal	Year
34	Dyslipidemia	Protocol for an open-label randomized controlled exploratory trial of Homoeopathy on Dyslipidemia	Indian Journal of Research in	2015
35	Vitiligo	A multicentric observational study to evaluate the role of homoeopathic therapy in Vitiligo.	of Research in	2015
36	Subclinical hypothyroidis m with or without autoimmune thyroiditis	Efficacy of homeopathic intervention in subclinical hypothyroidism with or without autoimmune thyroiditis in children: an exploratory randomized control study.	Homeopathy	2014
37	Haemorrhoids	Effect of homoeopathic LM potencies in acute attacks of haemorrhoidal disease: A multicentric randomized single-blind placebocontrolled trial.	of Research in	2013
38	ADHD	Homoeopathic management of attention deficit hyperactivity disorder: A randomised placebo-controlled pilot trial.		2013
39	Depressive episode	Homoeopathic Management in Depressive Episodes: A prospective, unicentric, non- comparative, open label observational study.	Indian Journal of Research in Homoeopathy	2013
40	Diabetic neuropathy	Prospective multi-centric open clinical trial to evaluate the usefulness of homoeopathic medicines in the management of Diabetic Distal Symmetric Polyneuropathy.	Homeopathy	2013

S.No	Disease condition	Title	Name of the Journal	Year
41	Cervical spondylosis	Homoeopathic individualized LM-potencies versus Centesimal potencies for pain management of cervical spondylosis: A multicenter prospective randomized exploratory clinical study	Indian Journal of Research in Homoeopathy	2012
42	ВРН	Homeopathic medicines in the management of Benign prostatic hyperplasia: A multi centric prospective observational study		2012
43	ВРН	Evidence based clinical study to assess the usefulness of homoeopathic medicines in patients of Benign Prostatic Hyperplasia	Indian Journal of Research in Homoeopathy	2010
44	Chronic Sinusitis	Homeopathy in Chronic Sinusitis: A Prospective Multi-centric Observational Study	Homeopathy	2012
45	Diabetic neuropathy	An Open Clinical Observational Study on the Usefulness of Pre-Defined Homoeopathic Medicines in the Management of Diabetic Distal Symmetrical Polyneuropathy	Homoeopathy Ezine	2012
46	Urolithiasis	A multicentric observational study to ascertain the role of homoeopathic therapy in Urolithiasis	Indian Journal of Research in Homoeopathy	2011
47	Diabetic Foot Ulcer	A Prospective Observational Study to Ascertain the Role of Homeopathic Therapy in the Management of Diabetic Foot Ulcer	American Journal of Homoeopathic Medicine	2011
48	Menopausal syndrome	Management of Distress during Climacteric Years by Homoeopathic therapy.	The Journal of Alternative & Complementar y Medicine	2011
49	Gastroentritis	A Prospective Multicentre Observational Study- To Evaluate The Role Of	International Journal of Bio Research	2010

S.No	Disease condition	Title	Name of the Journal	Year
		Homeopathic Therapy With A group of predefined homoeopathic medicines in the management of Gastroenteritis		
50	Insomnia	Effect of homoeopathic drugs used in insomnia on serum melatonin and cortisol levels inhealthy volunteers	Indian Journal of Research in Homoeopathy	2010
51	Irritble Bowel Syndrome	Irritable Bowel Syndrome	CR Studies series III	2010
52	Rheumatoid Arthritis	Rheumatoid Arthritis	CR Studies series III	2010
53	Menopausal syndrome	Management of Distress during Climacteric Years by Homoeopathic Therapy	Asian Journal of Homoeopathy	2010
54	Urinary calculi	To explore the utility of homoeopathic medicine lycopodium clavatum in urinary calculi	Indian Journal	2010
55	Cancer	Clinical evaluation of homeopathic medicines along with Iscador therapy in managing malignant diseases	CR Studies series III	2010
56	Bronchitis	A prospective multicentric study to evolve the usefulness of group of homoeopathic medicines in the management of acute trachea-bronchitis.	Journal of Bio	2010
57	Bronchitis	An open clinical trial to find the usefulness of a group of pre-identified homoeopathic medicines in the management of simple and mucopurulent Chronic bronchitis	Asian Journal of Homoeopathy	2010
58	Furunculosis	A prospective multicentre observational study to evolve the usefulness of the nine predefined homoeopathic medicines in Furunculosis.	Homeopathic Links	2010
59	Periodontitis	Periodontitis	CR Studies series III	2010

S.No	Disease	Title	Name of the	Year
•	condition		Journal	
60	Cholelithiasis	Fel Tauri in the Management of Cholelithiasis	series II	2009
61	Osteoarthritis	Clinical evaluation of predefined homeopathic medicines in the management of Osteoarthritis.	CR Studies series II	2009
62	Menopausal syndrome	Management of Distress during Climacteric Years by Homoeopathic Therapy -An Interim Report of the Ongoing Open Clinical Trial.	Homoeopathy for All	2009
63	Menorrhagia	Menorrhagia	CR Studies series II	2009
64	Diabetes mellitus	Rhus Aromaticus in the management of Diabetes mellitus.	CR Studies series II	2009
65	Hypertension	Essential Hypertension	CR Studies series II	2009
66	Hypertension	Essential Hypertension (Drug related study).	CR Studies series II	2009
67	Sinusitis	An open clinical observational study on the usefulness of pre-defined homeopathic medicines in the management of Sinusitis	Indian Journal of Research in Homoeopathy	2009
68	Bronchitis	Open clinical trial to evaluate a group of useful homoeopathic medicines in simple and mucopurulent Chronic bronchitis	Homoeopathy for All	2009
69	Sinusitis	An Open Clinical Observational Study on the Usefulness of pre-defined Homoeopathic Medicines in the Treatment of Chronic Sinusitis	The Homoeopathic Heritage	2009
70	Vitiligo	Clinical evaluation of predefined homœopathic medicine in Vitiligo	CR Studies series II	2009
71	Cervicitis/Cer vical erosion	Chronic cervisitis/Cervical erosion	CR Studies series II	2009

S.No	Disease condition	Title	Name of the Journal	Year
72	Diabetes mellitus	Role of Cephalandra indica Q in the management of Diabetes Mellitus as an add- on medicine along with conventional anti diabetics.	CR Studies series II	2009
73	Hyperlipoprot ienaemia	Hyperlipoprotienaemia	CR Studies series II	2009
74	Sickel cell Anaemia	Sickle Cell Anaemia	CR Studies series I	2008
75	Osteoarthritis	Osteoarthritis	CR Studies series I	2008
76	Epilepsy	Epilepsy	CR Studies series I	2008
77	Mental Disease	Behavioral Disorders	CR Studies series I	2008
78	Iron Deficiency Anaemia	Iron Deficiency Anaemia	CR Studies series I	2008
79	Diabetes mellitus	Role of Cephalandra indica Q in the management of Diabetes Mellitus as an add- on medicine along with conventional anti diabetics.	Indian Journal of Research in Homoeopathy	2008
80	Hyerlipoprotei naemia	Clinical evaluation of homoeopathic therapy in the management of hyperlipoproteinaemia	Indian Journal of Research in Homoeopathy	2008
81	Filariasis	Filariasis	CR Studies series I	2008
82	Mental Disease	Behavioral Problems of Mentally Challenged Children.	CR Studies series I	2008
83	Sinusitis	Clinical evaluation of homeopathic medicines in sinusitis		2008
84	Bronchial Asthma	Bronchial Asthma	CR Studies series I	2008
85	Withdrawal symptoms of drug abuse	Withdrawal Symptoms of Drug Abuse	series I	2008
86	Sinusitis	Sinusitis	CR Studies series I	2008
87	Cervicitis/ Cervical erosion	Clinical evaluation of the homeopathic medicines in Chronic Cervicitis and Cervical erosion: A clinical study; a multicentric open	Indian Journal of Research in Homoeopathy	2007

S.No	Disease condition	Title	Name of the Journal	Year
		clinical trial conducted by CCRH		
88	Osteoarthritis	Evaluation of homoeopathic therapy in osteoarthritis: a study conducted by CCRH.	CCRHQB	2006
89	Mental Disease	A clinical study to find out the efficacy of homoeopathic medicines in behavioral disorders.	CCRHQB	2006
90	Migraine	Role of homoeopathy in migraine in adolescence	CCRHQB	2006
91	Sickel cell Anaemia	Evaluation of efficacy of homoeopathic medicines in sickle cell anaemia	CCRHQB	2005
92	Diabetes mellitus	Drug oriented clinical research on diabetes mellitus	CCRHQB	2005
93	Lipoproteinaa mia	Lipoproteinaemia	CCRHQB	2005
94	Iron Deficiency Anaemia	Iron Deficiency Anaemia	CCRHQB	2004
95	Mental Disease	Effect of similimum in acute mania.	CCRHQB	2004
96	Rheumatoid Arthritis	Rheumatoid arthritis: an analytical study of 25 cases	CCRHQB	2001
97	Schizophrenia	The role of homoeopathic medicine in the treatment of schizophrenia: an analytic report.	CCRHQB	2000
98	Respiratory illnesses	Wheezing syndrome: a synopsis	CCRHQB	1999
99	Diabetes mellitus	Diabetes mellitus and homoeopathy	CCRHQB	1998
100	Hypertension	Rauwolfia serpentina (AQUA): a new approach in the treatment of hypertension in Homoeopathy	CCRHQB	1996
101	Schizophrenia	Homoeopathic management of schizophrenia: an analytical report.	CCRHQB	1996

S.No	Disease condition	Title	Name of the Journal	Year
102	Diabetes mellitus	Management and homoeopathic treatment of peripheral vascular disease in relation to diabetes mellitus.	CCRHQB	1995
103	Mental disease	Evaluation of homoeopathic therapy in Behavioral disorders.	CCRHQB	1995
104	Filariasis	Effect of homoeopathic treatment on filariasis: A single blind 69-months follow-up study in a pandemic village in Orissa.	British Homoeopathic Journal	1994
105	Mental disease	Study of Behavioral problems in school children.	CCRHQB	1994
106	Mental disease	Therapeutic evaluation of efficacy of homoeopathic drugs on Behavioral disorders.	CCRHQB	1994
107	Mental disease	Management of behavioral problems with homoeopathic medicines in mental retardation.	CCRHQB	1994
108	Mental disease	Homoeopathy in psychophysiological disorders.	CCRHQB	1994
109	Mental disease	role of homeopathy in psychiatry	CCRHQB	1994
110	DrugAbuse	Treatment of drug dependent's with homoeopathy: an attempt	CCRHQB	1994
111	Alcohol Dependence	A pilot study on the effect of arsenicum album in alcohol dependents	CCRHQB	1994
112	sickel cell Haemoglobin opathy	Sickle cell Haemoglobinopathy and Homoeopathic research	CCRHQB	1993
113	Psoriasis	Psoriasis and homoeopathic management	CCRHQB	1993
114	Bronchial Asthma	Study of 413 cases of bronchial asthma treated with homoeopathic system of medicine	CCRHQB	1992
115	Psoriasis	Evaluation of Homoeopathic drugs in psoriasis	CCRHQB	1990

S.No	Disease condition	Title	Name of the Journal	Year
116	Bronchial Asthma	Comparative study of the indications of Arsenic alb., Iod., Kali carb., Natrum sulph and their usefulness in bronchial asthma	CCRHQB	1988
117	Bronchial Asthma	Bronchial Asthma	CCRHQB	1988
118	Bronchial Asthma	Treatment of cases of bronchial asthma by a new approach	CCRHQB	1988
119	Bronchial Asthma	clinical cases of bronchial asthma	CCRHQB	1988
120	Asthma	Role of Arsenicum iodatum during acute attack of asthma	CCRHQB	1982
121	Dysmenorrho ea	Statistical evaluation of the effect of xanthoxylum americanum and viburnum opulus on the symptom-complex of dysmenorrhoea	CCRHQB	1981

Annexure VII

<u>Details of completed IMR projects undertaken by CCRS for non-communicable</u> <u>disease conditions</u>

IMR Projects (Completed projects)

- Development of Siddha Treatment Guidelines for Selected Non Communicable
 Diseases.
- 2. **Anti-hyperlipidemic** activity of D5 choornam.
- 3. Evaluation of **Anti-cancerous** activity of sengathari ennai in Invitro method.
- 4. Nephroprotective effect of *Sphreanthusamarathoides* Burm.f. against Gentamycin induced **Nephrotoxicity** in Rats.

In addition to this, scientific research articles have also been published based on the outcomes of Non-communicable disease conditions.
