

Evaluative Report
Department of Physiology
University College of Medical
Sciences (UCMS)

1. Name of the Department: **DEPARTMENT OF PHYSIOLOGY, UCMS**
 2. Year of establishment: **1971 at North Campus, University of Delhi**
 3. Is the Department part of a School/Faculty of the university? **Yes**

Part of University College of Medical Sciences, affiliated to Faculty of Medical Sciences, University of Delhi. UCMS is a maintained institution of University of Delhi.
 4. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.)- **UG: M.B.B.S. Programme, PG: MD Physiology, PhD**
 5. Interdisciplinary programmes and departments involved: **Teaching Physiology to B.Sc. Radiography, MDS students of UCMS and Bachelor of Physiotherapy (BPT) students of Amar Jyoti Institute of Rehabilitation, University of Delhi.**
 6. Courses in collaboration with other universities, industries foreign institutions, etc.: **None.**
 7. Details of programmes discontinued, if any, with reasons - **Nil**
 8. Examination System: **√Annual/√Semester:**
UG (MBBS) : Annual examination at the end of 2nd semester
PG (MD) : Annual Summative examination at the end of 3 years of course
 9. Participation of the department in the courses offered by other departments- **Yes**
As explained in point 5.
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10. Number of teaching posts sanctioned, filled and actual (Professors/ Associate Professors/ Asst. Professors/others): **As on 30.03.2015**

	Sanctioned	Filled*	Actual (including CAS & MPS)
Professor	2	0	2
Associate Professors	4	2	1
Asst. Professors	4	3	3
Others(Senior Resident)	8	7	6

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance -

Name	Qualification	Designation	Specialization	Experience (years)	Research under Guidance
Dr. Nilima Shankar	MBBS, MD	Director Professor and Head	Physiology	37	1 or more MD students per year
Dr. Neelam Vaney	MBBS, MD	Director Professor	Physiology	30	1 or more MD students per year
Dr. Farah Khaliq	MBBS, MD, PhD	Professor	Physiology	18	1 or more MD students per year
Dr. Asha Yadav	MBBS, MD	Professor	Physiology	13	1 or more MD students per year
Dr. Satendra Singh	MBBS, MD, FAIMER	Associate Professor	Physiology	10	1 or more MD students per year
Dr. Manish Gupta	MBBS, MD	Assistant Professor	Physiology	12	1 or more MD students per year

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors -

Nil

13. Percentage of classes taken by temporary faculty – programme-wise information - **Nil. No temporary faculty**
14. Programme-wise Student Teacher Ratio–
UG (MBBS) : 25 students / teacher
PG (MD) : 1 student / 2 teachers
15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual – **Filled posts 10 Nos.**
16. Research thrust areas as recognized by major funding agencies – **Yoga therapy**
17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise. – **Nil**
18. Inter-institutional collaborative projects and associated grants received
 a) National collaboration- **Nil**
 b) International collaboration – **Nil**
19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received. –

Principal Investigator(s)	Title of the Project	Funded by	Grant Rs.	Duration
Dr Savita Singh (Retired as HOD in 2013) & Dr Asha Yadav	The effect of yoga therapy on coagulation profile, lipid profile, lung diffusion capacity and quality of life in patients with coronary artery disease	CCRYN, Ministry of Health and Family Welfare, Govt. of India.	17 lakhs	2010-12

20. Research facility / centre with
- state recognition – **Nil**
 - national recognition – **Nil**

- international recognition - **Nil**
21. Special research laboratories sponsored by / created by industry or corporate bodies - **Nil**
22. Publications: (**List of Publications enclosed as ANNEXURE I**)
- Information from year 2009 to 2014**
- * Number of papers published in peer reviewed journals (national / international): **88**
 - * Monographs: **Nil**
 - * Chapters in Books: **3**
 - * Edited Books: **Nil**
 - * Books with ISBN with details of publishers: **2**
 - * Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.): **__**
 - * Citation Index - range / average: **__**
 - * SNIP: **__**
 - * SJR: **__**
 - * Impact Factor - range / average: **__**
 - * h-index: **__**
23. Details of patents and income generated - **Nil**
24. Areas of consultancy and income generated - **Nil**
25. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad -
- **Dr. Nilima Shankar: Appointed as External Examiner M.B.B.S. Programme of Studies at Sir Seewosagur Ramgoolam Medical College (SSRMC), University of Mauritius, Reduit, Mauritius. - To oversee the curriculum and conduct of I Prof., II Prof. & Final Prof. M.B.B.S. (Part I & Part II) examinations for academic year 2012-14.**
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26. Faculty serving in

- a) National committees b) International committees c) Editorial Boards d) any other

Dr Nilima Shankar	Member of Board of Studies Aligarh Muslim University.	2015-16
	Joint Secretary of Association of Physiologists of India.	2014
	Member, Editorial Board, Indian Journal of Pain	2011-12
	Member of the MCI Expert group for the revision of Standard of Assessment of the PG course in Physiology	2012
	Member of the expert group of MCI for finalizing the list of equipments in Physiology for Medical colleges	2011
	External expert for the Board of studies in Physiology of Teerthankar Mahavir University, Moradabad, UP	2011
	Member of National AIDS Committee (NACO), constituted by Ministry of Health and Family Welfare, GOI	1997-99
Dr Neelam Vaney	Member of Amarjyoti IRB	2014-2019
	Member of Board of Studies Aligarh Muslim University	2014-2015
	Executive editor, Indian Journal of Medical Specialities	2010
	Member, Governing Body, Amar Jyoti Institute of Rehabilitation, Delhi	2006
Dr Satendra Singh	Elected member from UCMS & GTB Hospital for the executive member post of Delhi Medical Council	2015-2020
	Appointed Member, Institutional Committee for Stem Cell Research, Institute of Nuclear Medicine and Allied Sciences (INMAS), Defence Research & Development Organization	2015-2017

	(DRDO), Delhi	
	Invited for consultation on HIV/AIDS Bill 2014 at Delhi Secretariat	2015
	Editor of Dr Pulse vertical of TheMediTube.Com	2014
	Appointed Member, Medical Education committee of Indian Academy of Cerebral Palsy	2014
	Member, Editorial board of Indian Pediatrics	2014
	Associate Editor, Research and Humanities in Medical Education	2014
	Member, Editorial board of Journal of Education Technology in Health Sciences	2014
	Appointed Associate Editor of International Journal of User-driven Health care	2013
	Member, Editorial board of Journal of Education Evaluation for Health Professions	2010-13
	Member, Editorial board of Medical Education Development	2010-13
	Member, Editorial board of Australasian Medical Journal	2011-13
	Associate Editor, Journal of Clinical and Diagnostic Research	2011-13
	Associate Editor, International Journal of Drug Discovery	2010-15

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

- All faculty members regularly attend workshops, conferences or training programs related to Physiology
- Workshops and training programs related to Medical Education / Teaching learning methodologies conducted by the MEU of UCMS and at other centres regularly attended by the faculty

28. Student projects

- percentage of students who have done in-house projects including inter- departmental projects: **All PG students**

mandatorily require to do in-house project work in the form of their thesis. This is usually done in collaboration with other departments. Nearly 2-5% of UG students also do in-house projects with the department.

- percentage of students doing projects in collaboration with other universities/ industry / institute - Every year 25-50% of PG students do projects in collaboration with industry or other institutes. Every year 2-3% UG students also do projects under ICMR Short Term Student Fellowship (STS) or DST Kishore Vaigyanik Protsahan Yojana (KVPY).

29. Awards / recognitions received at the national and international level by

- Faculty:

NAME	AWARD	DATE RECEIVED
Dr. Nilima Shankar	Lifetime Achievement Award by UCMS Alumni Association	July 2016
Dr Nilima Shankar	Exchange of Scientist program jointly implemented by Indian National Science Academy (INSA) and The Royal Society, London to work in Department of Physiology, University of Wales College of Cardiff, UK	1993
Dr Farah Khaliq	Prof RC Shukla Oration Award for Best research work in Cardiovascular Physiology at Annual Conference of Association of Physiologists and Pharmacologists of India, APPICON 2012 Meerut	Oct 2012
Dr Satendra Singh	NCPEDP-MphasiS Universal Design Award 2013 given by MoS, MSJE	Aug 2013
Dr Satendra Singh	Awarded Foundation for Advancement in International Medical & Research (FAIMER) fellowship at CMCL	Feb 2013

- Doctoral / post doctoral fellows - Nil

- Students -
PG Student: Dr Ankur won IIIrd Prize in E-poster presentation at ASSOPICON 2015 at SRMS Institute of Medical Sciences, Bareilly on 26th -29th October 2015

UG Students: Ms. Sonal Pruthi and Mr. Shan-e-Alam won the Inter-College Physiology Quiz Competition- 2010, organized by the Department of Physiology, UP Rural Institute of Medical Sciences and Research, Safai, Etawah, UP.
30. Seminars/ Conferences/Workshops organized and the source of funding (national/International) with details of outstanding participants, if any
- **National symposium on Emerging Role of Physiology and Lifestyle Interventions in Health Sciences: An update on Nutrition (EPLI-2) on 18th Sep 2009. Participants included Dr. K.N. Sharma, Dr O.P Tandon (Former Principal and HOD, Physiology, UCMS), Dr Sridhar Dwivedi (Principal and Dean, Hamdard Medical College, Delhi) and Dr Shikha Sharma (Consultant Dietician of National Repute)**
 - **Symposium on “Holistic Approach to Stress Management “under the aegis of EPLI-3 (Emerging role of Physiology & Lifestyle Interventions in Health Sciences) on 4th May 2013. Participants included Dr K.N. Sharma, Dr. Shikha Sharma, Dr W Selvamurthy (Director, DRDO)**
31. Code of ethics for research followed by the departments - **All research projects are conducted as per national and international guidelines following approval of Institutional Ethical Committee (IEC).**
32. Student profile programme-wise: - **Students from both genders selected.**
33. Diversity of students - **Indian citizens selected from across the country through competitive entrance examination with proper representation of states and various communities (as per the GOI reservation rules)**
34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise. **Information not available with the Department**
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35. Student progression - **Information not available with the Department**

Student progression	Percentage against enrolled
UG to PG	As per University of Delhi examinations and selection boards
PG to M.Phil.	
PG to Ph.D.	
Ph.D. to Post-Doctoral	
Employed	
<ul style="list-style-type: none"> • Campus selection • Other than campus recruitment 	
Entrepreneurs	Information not available with the department

36. Diversity of staff

Percentage of faculty who are graduates	
of the same university	50 %
from other universities within the State	Nil
from universities from other States	50%
from universities outside the country	Nil

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period -

One PhD degree awarded to Dr Farah Khaliq (Associate Professor), in 2013, from University of Delhi

Thesis Title: "Effect of Terminalia arjuna bark on autonomic control and myocardial function in Streptozotocin induced diabetic rats."

38. Present details of departmental infrastructural facilities

with regard to a) Library - **Yes, 100 books available**

b) Internet facilities for staff and students -**Available**

c) Total number of class rooms - **Centralised Lecture theatres and examination hall available for lecture, examination and large group**

teaching. For small group teaching, one demonstration room and one seminar room only.

- d) Class rooms with ICT facility – **Yes**
 - e) Students' laboratories – **2 Central Laboratories (shared between Physiology and Pathology)**
 - f) Research laboratories – **Four: Electrophysiology lab, Autonomic Function testing lab, Pulmonary Function lab, and Biochemical lab.**
39. List of doctoral, post-doctoral students and Research Associates
- a) from the host institution/university--**Nil**
 - b) from other institutions/universities –**Nil**
40. Number of post graduate students getting financial assistance from the university- **Presently Seven PG students (Stipend + Book Allowance + Thesis allowance)**
41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology. – **Yes. Feedback from, and discussions with, faculty and concerned stakeholders was done to develop the new teaching programs. For example, Physiology curriculum for BPT**
42. Does the department obtain feedback from
- a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? – **Yes, during departmental weekly meetings. Utilized on a regular basis for improvement of teaching - learning methodology**
 - b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? – **Yes. Utilized for improvement of teaching - learning methodology**
 - c. alumni and employers on the programmes offered and how does the department utilize the feedback? – **No**
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43. List the distinguished alumni of the department (maximum 10)

Dr Nilima Shankar - Dir. Prof. & Head, Deptt. of Physiology, UCMS, Delhi.
UCMS- 1971 UG Batch, 1984 PG Batch

Dr S. S. Sircar - Prof & Head- Deptt. of Physiology, AIIMS, Jodhpur.
UCMS- 1986 PG batch

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

For UGs

External (both national and international) faculty lectures and talks, conferences and mentorship programs

For PGs

External faculty lectures and talks, CPC, monthly research presentations of various departments, Thesis workshops and other MEU activities of the institution as well as the workshops and scientific sessions in other institutions under supervision of external faculty

45. List the teaching methods adopted by the faculty for different programmes. -

- **Classical Lecture/Tutorials/Practical Methodology**
- **Innovative methodologies like Problem Based Learning Modules (PBL), Clinically Oriented Graphs & Charts, Quiz and OSPEs.**
- **Students Seminars: Each student participates either as a speaker or a discussant in a seminar, on a topic of applied physiology, allotted to his batch. The students are judged by the faculty and the best speaker is given a merit certificate and, at times, a sponsored award in the form of medical textbook.**

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

For Undergraduates

- **Through regular tutorial sessions in small groups**
 - **Through regular student seminars conducted under supervision**
-

of faculty

- **Through evaluation methodologies including Assessment Tutorials, Class Tests, Practical Assessments, and Terminal & Sent up examinations in both theory & practical**

For Postgraduates

- **Regular seminars and journal clubs including research presentation of the thesis work.**
- **Formative assessment of each unit of the subject followed by discussion and feedback to them on their performance**

47. **Highlight the participation of students and faculty in extension activities. - Participation of faculty, residents and technical staff of the department in community outreach activities like Pulse Polio Program.**
 48. **Give details of “beyond syllabus scholarly activities” of the department. - Active participation of faculty in organising scientific and academic events like workshops, medical debates, quiz and conferences on nutrition, stress management & lifestyle modification. Faculty, as Judges during scientific meets, also give expert opinions on UG and PG research presentations, both oral and poster presentation.**
 49. **State whether the programme/ department is accredited/ graded by other agencies? If yes, give details. - MCI recognized for UG and PG programs**
 50. **Briefly highlight the contributions of the department in generating new knowledge, basic or applied. - Through original research projects, scientific work and PhD projects, as evident from publications of the department.**
 51. **Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**
Strengths:
 - **Well equipped Lecture Theatres and Laboratories for undergraduates.**
 - **Dedicated faculty and technical staff**
 - **Faculty keen on conducting innovative teaching methodologies like PBL, Quiz and OSPE.**
 - **Robust and well validated UG and PG training programs**
 - **Freedom to pursue independent research.**
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Weakness:

- **Shortage of faculty: Student – teacher ratio to be increased**
- **Lack of space for small group teaching**
- **Lack of integration of topics taught by various departments during undergraduate teaching.**

Opportunities

- **College is under University of Delhi, a premier central university of India, and thus has a good curriculum as well as standard of education.**
- **This also helps to attract good faculty and funds for research.**

Challenges

- **Post graduate research facilities to be enhanced.**
- **To make UG teaching more integrated between the various subjects.**
- **To improve the faculty strength.**

52. Future plans of the department.-

- **To develop the Clinical laboratories for investigations of patients: Autonomic Function Testing, Pulmonary function tests, Neurophysiology tests including Nerve conduction, EMG & evoked potential studies**
- **Providing alternative therapy in the form of Yoga to a large section of patients via the Yoga centre in the department**

Signature of Head of the Department
With Official Stamp

LIST OF PUBLICATIONS FROM YEAR 2009-2014Publications in 2009

1. Dixit A, Vaney N. Otocoustic emissions and their application: A simplistic view. J Adv Res Biol Sc 2009;1(2):218-227.
2. Beena, Singh S, Sood S, Yadav M, Kumar N. Cardiopulmonary efficiency. Vital capacity as predictive indicator for maximal oxygen uptake. Journal of Advance Researchers in Biological Sciences.2009;1(2):52-56.
3. Jindal K, Khaliq F, Gupta P. Birth weight and lung functions in male adolescents. Ind J Physiol and Pharmacol 2009;53(4):347-352.
4. Khaliq F, Yumnam A, Vaney N. Visual Evoked Potential study in slow learners. Ind J Physiol and Pharmacol 2009,53(4):341-346.
5. Lakshmi V, Vaney N, Madhu SV. Effect of thyroxin therapy on autonomic status in hypothyroid patients. Ind J Physiol and Pharmacol 2009;53(3):219-226.
6. Shankar N, Thakur M, Saxena AK, Arora S, Mehta M. Assessment of quality of life in patients with chronic low back pain. Ind J Pain.2009;23:393-396.
7. Singh S. Tech body syndrome and the phenomenology of yoga: A personal silhouette. UP J Ophthalmology.2009;28:36-39.
8. Singh S, Beena. How much to stress on stress. Transition from 's' to 's'. Journal of Clinical and Diagnostic Research.2009;3:1975-76.
9. Singh S, Singh S, Gautam S. Teaching styles and approaches: Medical student's perceptions of animation-based lectures as apedagogigical innovation. Pak J Physiol.2009;5(1):17-22.
10. Singh S, Singh S, Gautam S. Shavasana Autopsychorelaxation: A self-report measure of cost-effective integrative medicine. The Internet Journal of Alternative Medicine.2009;7:(2).
11. Singh S, Singh S, Gautam S. Pedagogical effectiveness of ABL in appealing multiple intelligences of our medical students: Gardner's Theory Revisited.Ind.Med.Gaz.2009;8:313-15.
12. Singh S, Gautam S. P-VEP as Predictor of Occlusion Therapy. Korean J Ophtalmol.2009;23(2):135.

13. Singh S, Swami G, Singh KP and Gupta M. Diffusion capacity of lung and effect of pranayama in hypothyroid patients. *Journal of Advance Research in Biological Sciences*.2009;(2):34-38.
14. Singh S, Gautam S. Animation-based lectures in renal Physiology: Transcendence into metacognition. *J Educ Eval Health Prof*.2009;6:6.
15. Swami G, Singh S, Singh KP and Gupta M. Effect of yoga on pulmonary function tests of hypothyroid patients. *Ind J Physiol Pharmacol*. 2009;54(1):51-56.
16. Yadav A, Singh S & Singh KP. Role of pranayama breathing exercises in rehabilitation of coronary artery disease patients - A pilot study. *Ind J Trad Knowledge* .2009;8:455-458.
17. Yadav A, Kanojia S, Babbar R & Mala YM. Brainstem auditory evoked potentials in pregnancies complicated by pre-eclampsia. *Biomedicine*.2009;29:332-335.
18. Khaliq F and Tripathi P. Acute effects of formalin on pulmonary functions in gross anatomy laboratory. *Ind J Physiol Pharmacol*. 2009; 53(1); 93-96

Publications in 2010

1. Dixit A, Lakshmi V, Chauhan S and Vaney N. Alterations in oxidative stress markers in blood of patients with dementia. *Indian J Med Special* 2010;1(1):26-29.
2. Singh S. Near peer role modeling: the fledging scholar's education paradigm. *Anat Sci Educ.*2010;3(1)50-51.
3. Singh S. P85, P50 evoked potential sensory gating as an endophenotype for schizophrenia. *Afr J Psychiatry.*2010;13(1):42-43.
4. Singh S. Pruthi S. Undergraduate medical research: Tapping the untapped potential. *Indian J Med Res.*2010;131-459-460.
5. Singh S, Shankar N, Gautam S. Why do patients with schizophrenia smoke? *Delhi Psychiatry Journal.*2010;13(1):179-181.
6. Khaliq F, Alam KK, Vaney N and Singh TB. Sensory, Cognitive and Motor Assessment of Children with Poor Academic Performance: An Auditory Evoked Potential Study. *Ind J Physiol Pharmacol* 2010;54 (3):255-264.
7. Khaliq F, Gupta K, Singh P. Stress, autonomic reactivity and blood pressure among undergraduate medical students. *J Nepal Med Assoc* 2010;49(177):14-8.
8. Yumnam A, Khaliq F, Vaney N. Visual Evoked Potential study in attention Deficit / Hyperactivity Disorder. *Delhi Psychiatric Journal* 2010; 13 (2):294-297.
9. Yumnam A, Khaliq F, Vaney N. Event -related Potentials Study in Attention Deficit Hyperactivity Disorder. *Functional Neurology* 2010 :25 (2):87-92
10. Dixit A, Yumnam A, Lakshmi V, Vaney N. Ulnar Nerve involvement in adult Indian hypothyroid females : a preliminary study. *J Adv Res Biol Sc* 2010 ; 2 (1):73-76.
11. Acharya AS, Dixit A. World No Tobacco Day 2010. *Ind J Med Special* 2010;1(2):64-66.
12. Singh S, Gupta M, Gautam S. Adaptogenic potential of herbal immunomodulators as new therapeutic approach to combat swine influenza A/H1N1 crisis. *Journal of Clinical and Diagnostic Research.* 2010; 4:3003-05.

13. Shankar N. A comparative study of the antinociceptive effect of microinjection of morphine in the dorsal and ventral regions of the anterior pretectal nucleus of rat. *Indian J Pain*.2010; 24:32-36.
14. Singh S. Senior resident training on educational principles (STEP): a proposed innovative step from a developing nation. *J Educ Eval Health Prof*. 2010; 7:3.
15. Singh S. Recent advances in physiological priming of spermatozoa. *J Hum Reprod Sci* 2010; 3:163-4.
16. Singh S. Déjà vu: The duplicate citation database as an ethical ombudsman. *Australasian Medical Journal*.2010;3: 78-80.
17. Singh S. Teaching the teachers-where next with faculty development? *Al Ameen J Med Sci*. 2010; 3(3): 259-60.
18. Swami G, Singh S, Singh KP and Gupta M. Effect of yoga on pulmonary function tests of hypothyroid patients. *Ind J Physiol Pharmacol*.2010;54(1):51-56.
19. Vijayalakshmi I, Shankar N, Bhatia MS, Saxena AK and Gupta R. Evaluation of neurophysiological parameters: autonomic status and acute pain perception in migraneurs. *Delhi Psychiatry Journal*, 2010;13(1):79-85

Publications in 2011

1. Vaney N, Yumnam A and Khaliq F. No auditory conduction abnormality in children with attention deficit hyperactivity disorder. *Functional Neurology* 2011; 26(3):159-163.
2. Khaliq F, Singh P, Chandra P, Gupta K, Vaney N. Pulmonary functions in plastic factory workers: a preliminary study. *Ind J Physiol Pharmacol* 2011;55(1):60-66.
3. Khaliq F, Gupta K and Singh P. Autonomic reactivity to cold pressor test in prehypertensive & hypertensive medical students. *Ind J Physiol Pharmacol*. 2011; 55 (3) : 246-252.
4. Goyal A and Khaliq F. Pulmonary functions and ambient air pollution in residents of Delhi. *Ind J Medical Specialities* 2011; 2(2): 96-100.
5. Sati PC, Khaliq F, Vaney N, Ahmed T, Tripathi AK, Banerjee BD. Pulmonary function and oxidative stress in workers exposed to styrene in plastic factory: occupational hazards in styrene-exposed plastic factory workers. *Hum Exp Toxicol*. 2011; 30(11):1743-50.
6. Shankar N, Thakur M, Tandon OP, Saxena AK, Arora S and Bhattacharya N. Autonomic status and pain profile in patients of chronic low backache pain and following electro-acupuncture therapy: Randomized control trial. *Ind J Physiol Pharmacol* 2011;55(1):25-36.
7. Singh S. Infinite Ability. *J Med Ethics; Medical Humanities*.2011;37:52-53
8. Singh S. Near peer teaching in South Asia: A buzz word or ground reality? *Mymensingh Med J*. 2011; 20(1):171-172
9. Bandhu R, Shankar N, Tandon OP, Madan N. Event related potentials in anemic school going girls of age group 8-10 years. *Ind J Physiol Pharmacol* 2011; 55:234-240.
10. Gautam S, Shankar N, Tandon OP, Goyal N. Quality of life assessment in early postmenopausal women in India with & without HRT. *Australas Med J*, 2011;4(7):355-6.

11. Gautam S, Shankar N, Tandon OP, Goyal N. Comparison of autonomic functions among postmenopausal women with and without hormone replacement therapy and post menopausal women. *Ind J Physiol Pharmacol* 2011; 55:297-303.
12. Gupta S, Singh S. Confluence: Understanding Medical Humanities through Street Theatre. *Med Humanities*. 2011; 37:127-128
13. Shankar N, Guatam S, Rajkumari R, Goyal G. Do Blood groups influence our pain perception? *Ind J Physiol Pharmacol* 2011; 55:378-380.
14. Madan N, Rusia U, Sikka M, Sharma S, Shankar N. Developmental and neurophysiologic deficits in iron deficiency in children. *Ind J Pediatrics* 2011;78:58-64.
15. Singh S. Psychophysiological techniques and energy medicine. *Int J Yoga* 2011;4(1):39.
16. Gupta R, Singh S, Kotru M. Reaching people through medical humanities-an initiative. *J Educ Eval Health Prof*. 2011; 8: 5.
17. Singh S. Neurorestoratology and ethics: Honest Errors or HORRORS? *Australas Med J*. 2011;4(8):451-452

Publications in 2012

1. Singh S. Broadening horizons: Looking beyond disability. *Med Educ.* 2012; 46(5): 522
2. Singh S, Soni R Singh, KP, Tandon OP. Effect of yoga practices on pulmonary functions tests including transfer factor of lung for carbon monoxide (TLCO) in asthma patients. *Ind J Physiol Pharmacol.* 2012;56(1):63-8
3. Soni Ritu, Munish Kanika, Singh KP, Singh Savita. Study of the effect of yoga training on diffusion capacity in COPD patients: A controlled trial. *Int J Yoga.* 2012;5(2):123-7.
4. Gautam S, Shankar N, Tandon OP, Goyal N Comparison of lipid profile and fasting blood glucose in postmenopausal women with and without HRT. *J Adv Res Biol Sc* 2012; 4(3):206-9
5. Gautam S, Shankar N, Tandon OP, Goyal N Does pain perception vary across the reproductive life or with use of HRT in post menopausal women? *J Clin Diagn Res.* 2012;6(3):339-41
6. Sati PC, Kaushik R, Kumar V, Khaliq F and Vaney N. Oxidative status in workers engaged in recycling of plastic: occupational hazard. *Ind J Physiol Pharmacol* 2012; 56(3): 234-238
7. Kaushik R, Khaliq F, Subramanayaan M, Ahmed RS. Pulmonary Dysfunctions, Oxidative Stress and DNA Damage in Brick Kiln Workers. *Hum Exp Toxicol* 2012; 31 (11): 1083-91.
8. Bahuleyan B, Singh S. Olfactory memory impairment in neurodegenerative diseases. *J Clin Diagn Res.* 2012; 6(8): 1437-41.
9. Singh S, Khosla J, Sridhar S. Exploring Medical Humanities through Theatre of the Oppressed. *Indian J Psychiatry.* 2012;54(3):296-7.
10. Singh S, Khetarpal A. Phobia's in poetry: Coleridge's ancient mariner. *Indian J Psychol Med* 2012; 34:193-6.
11. Khetarpal A, Singh S. Infertility: Why can't we classify this inability as disability? *Australas Med J.*2012;5(6):316-321

12. Khetarpal A, Singh S. Disability studies in medical education. *International Journal of Use-Driven Health care*. 2012; 2(2): 44-51
13. Dixit A, Thawani R, Goyal A, Vaney N. Psychomotor performance of medical students: Effect of 24 hours of sleep deprivation. *Indian J Psychol Med* 2012; 34(2):129-32.
14. Dixit A, Goyal A, Thawani R, Vaney N. Effect of caffeine on information processing: Evidence from stroop task. *Indian J Psychol Med* 2012; 34(3): 218-22

Publications in 2013

1. Dhameja K, Singh S, Mustafa M, Singh KP, Banerjee BD, Agarwal M and Ahmed R. Therapeutic effect of yoga in patients of hypertension with reference to GST gene polymorphism. J Altern Complement Med. 2013;19(3):243-9.
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