

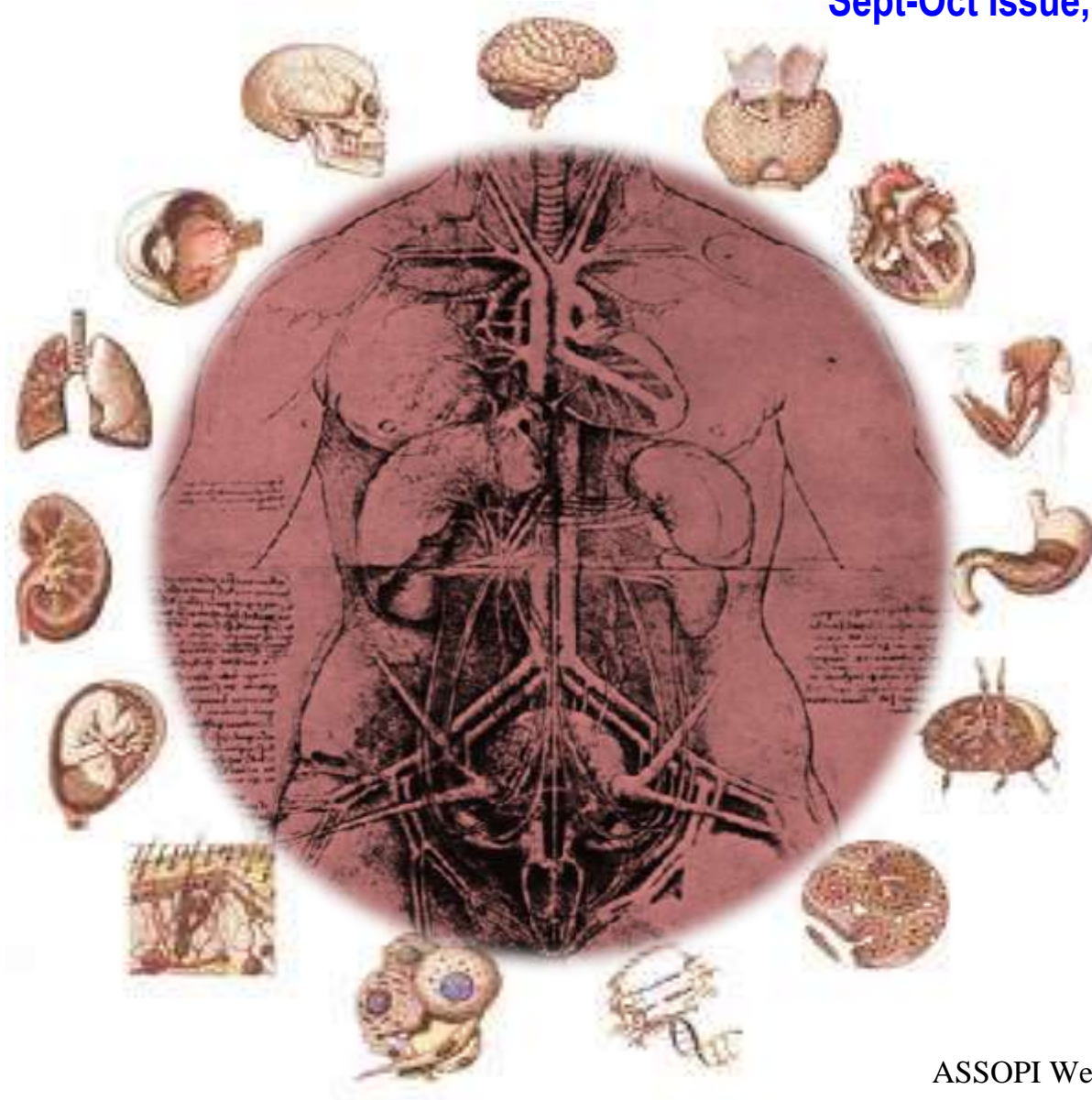
ASSOCIATION OF PHYSIOLOGISTS OF INDIA (ASSOPI)

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ASSOPI NEWS BULLETIN

Sept-Oct Issue, 2020



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Motto of ASSOPI:

“Preventive and Promotive Physiology”
(Physiology for prevention of diseases and promotion of health)

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Past Events:

1. ASSOPI International Webinar I – 2020

Under the auspices of ASSOPI, an International Webinar was organized by Department of Physiology, JIPMER on **Research in Experimental Physiology (with special emphasis on Animal Research)** through Zoom on 22nd May, 2020 at JIPMER Telemedicine Studio in the afternoon.

Around 310 participants registered for the Webinar. The Webinar was inaugurated at 2.00 pm by Dr. G. K. Pal, General Secretary, ASSOPI and Dr. Ravi Chittoria, Registrar, JIPMER. Dr. Pravati Pal, Joint Secretary (South Zone), ASSOPI; Dr. S. Velkumary, Finance Secretary, ASSOPI; Dr. Y. Dhanalakshmi, Head Quarter Office Secretary, ASSOPI; Ms. Allampalli Sirisha and Ms. M. Renugasundari were present on the occasion and other ASSOPI members were connected through zoom.

Inauguration programme started by lamp lightning. Dr. Narsingh Verma, President of ASSOPI and Professor of Physiology, King George's Medical University, Lucknow gave an inaugural message. Dr. Y. Dhanalakshmi, Head Quarter Office Secretary & Additional Professor of Physiology, JIPMER greeted everyone and introduced the speakers of the Webinar.

Dr. G. K. Pal welcomed everyone and presented a brief introduction to the Webinar and also spoke about the importance of Experimental Research in Clinical Medicine. Followed by Dr. S. B. Deshpande, Immediate Past President, ASSOPI addressed the present scenario of animal research in India and talked about its future scope.

Dr. Meenakshi Sinha, Executive Body Member of ASSOPI & Additional Professor of Physiology, AIIMS, Raipur spoke about prerequisites of setting an animal laboratory and the various committees involved in it. She also narrated how a central animal house be structured and about the experimental animals used in laboratory. She concluded with the training to be given regarding animal experiments to the students.

Dr. Kalpana Barhwal, Executive Body Member of ASSOPI & Assistant Professor of Physiology, AIIMS, Bhubaneswar described about the usage of animals in research and preparation of animal research protocol. The various aspects of the protocol such as choice of animal, sample size, study design, objectives of the study, appropriate controls and variables to be studied were dealt in detail.

Dr. Prasunpriya Nayak Executive Body Member of ASSOPI & Associate Professor of Physiology, AIIMS, Jodhpur gave a lecture on the experimental researches on animals. He discussed about the housing of experimental animals, initiating, continuing, following-up and terminating the experimentation. He briefed about the data collection and analysis in the animal research.

Dr. Kusal K. Das, Executive Body Member of ASSOPI & Professor of Physiology, Shri B.M.Patil Medical College, Vijayapur expounded the ethical issues involved in animal research. He spoke about the various committees involved and its composition and functions and the guidelines for conducting animal research.

Dr. Ganaraja B, Additional Professor of Physiology, Kasturba Medical College, Mangalore explained about the various types of data to be studied in the animals and its acquisition. He also enlightened about the tabulation of data and the statistical analysis performed on the data obtained from animal research.

Dr. Naim A Khan, Professor of Physiology & Director, Institute of Nutrition and Toxicology, University of Bourgogne, France explicated the animal models in nutrition research. He educated about the animal models of obesity, non-mammalian models and rodent models and its advantages and disadvantages, large animal models and non-human primate models.

Dr. Thomas Ferrari, Assistant Professor of Physiology & Neuroscience, School of Medicine, Oakland University, Michigan, USA elucidated the common exotic animal models used in Physiology and its drawbacks and challenges.

The last talk was by Dr. Pravati Pal, Joint Secretary (South Zone), ASSOPI and Professor & Head of Physiology, JIPMER, Puducherry. She narrated the experiences of JIPMER in animal research and also explained the various techniques of animal research performed in JIPMER such as stereotaxy, metabometer, animal activity meter, microdialysis, HRV recording, nerve conduction recording, cryostat. She also shared few pictures captured during the experimentation and listed few publications from the work conducted in JIPMER.

After presentation of all the topics, one hour was allotted for question and answers and for discussion. Vote of thanks was proposed by Dr. S. Velkumary, Finance Secretary (ASSOPI) & Additional Professor of Physiology, JIPMER, Puducherry and the Webinar was concluded.

The detailed programme of the Webinar:

Time	Topic	Resource Faculty
1.50 – 1.55 pm (5 min)	Prayers & Concentration	With Mother's Organ Music
1.55 – 2.05 pm (5 min)	Inauguration by Lamp Lighting	With an Inaugural Message from Prof. Narsingh Verma, President, ASSOPI.
2.05 – 2.10 pm (5 min)	Introducing the Speakers	Dr. Y. Dhanalakshmi, Additional Professor of Physiology, JIPMER, Puducherry.

2.10 – 2.20 pm (10 min)	Introduction to the Webinar and Importance of Experimental Research in Clinical medicine	G. K. Pal, Professor (Senior Scale), JIPMER, and, Dean, Faculty of Medicine, Pondicherry University.
2.20 – 2.35 pm (15 min)	Present scenario of Animal Research in our country and the future scope	Dr. S. B. Deshpande, Professor of Physiology, AIMS, Chittoor, Andhra Pradesh.
2.35 – 2.50 pm (15 min)	How to establish an Animal Physiology Laboratory	Dr. Meenakshi Sinha, Additional Professor of Physiology, AIIMS, Raipur.
2.50 – 3.05 pm (15 min)	Preparing a protocol for Animal Research	Dr. Kalpana. K. Barhwal, Associate Professor of Physiology, AIIMS, Bhubaneswar.
3.05 – 3.25 pm (20 min)	How to conduct the experiments of Animal Research	Dr. Prasunpriya Nayak, Associate Professor of Physiology, AIIMS, Jodhpur.
3.25 – 3.40 pm (15 min)	Ethical issues in Animal Research (including animal handling and disposal).	Dr. Kusal K. Das, Professor of Physiology, Shri B. M. Patil Medical, Hospital & Research Center, BLDE (Deemed to be University), Vijayapur, Karnataka.
3.40 – 3.50 pm (10 min)	Data Collection & Analysis in Animal Research	Dr. Ganaraja B., Additional Professor of Physiology, Kasturba Medical College, Mangalore (a constituent of Manipal Academy of Higher Education, Manipal).
3.50 – 4.05 pm (15 min)	Animal Models in Nutrition Research with special emphasis on obesity & metabolic syndrome	Dr. Naim A. Khan, Professor of Physiology, and Director, Institute of Nutrition and Toxicology, University of Bourgogne, Dijon, France.

4.05 – 4.25 pm (20 min)	Exotic Animal Models in Experimental Physiology Research	Dr. Thomas M. Ferrari, Assistant Professor of Physiology and Neuroscience, School of Medicine, Oakland University, Rochester, Michigan, USA.
4.25 – 4.35 pm (10 min)	JIPMER Experience in Animal Research and Concluding Remarks	Dr. Pravati Pal, Professor and Head, Dept. of Physiology, JIPMER, Puducherry.
4.35 – 5.35 pm (1 hour)	Question-Answer & Discussion	All participants & Resource faculties
5.35 pm	Vote of Thanks	Dr. S. Velkumary, Additional Professor Physiology, JIPMER, Puducherry.

2. National Webinar on “Setting of Andrology Laboratory in Indian Scenario”:

During the COVID-19 pandemic, on 19/08/2020 the Physiology Departments of AIIMS Nagpur, and AIIMS Patna together organized an online national webinar as an academic feast for Indian Physiologists and other health professionals. This webinar was organized under the roof of the ASSOPI, Academy of Physiology, and under the guidance of Patron, Major General (Dr) Vibha Dutta, SM, Director AIIMS Nagpur.

Professor & Head of Physiology, AIIMS Nagpur, (Dr) Mrunal Pathak was the chairperson of the organizing team and speaker of the webinar. Dr. Jyotsna Gumashta Additional Professor of Physiology Department AIIMS Nagpur was the moderator of the webinar. Dr. Satish Dipankar Associate Professor of Physiology Department AIIMS Patna was the organising team member and speaker and Dr. Bindu Chimote, a consultant embryologist from Nagpur was a team member and speaker of the webinar.

After the lamp lightning Dr. Jyotsna Gumashta, introduced Dr. Mrunal Pathak and all speakers. Dr. Mrunal Pathak talked about the physiological anatomy of the male reproductive system along with its endocrinal regulation. Dr. Mrunal Pathak further discussed the causes of day by day increasing male infertility. She also enlightened about the andrology and the need for an andrology laboratory in the physiology department to begin the clinical work and patient services

from the physiology department, she also explained the role of physiologists as in the andrology laboratory services and its importance in clinical research.

The second speaker, Dr. Satish Dipankar discussed the basic andrological techniques beginning with the ideal way of a collection of semen, to test physical characteristics of semen, microscopic examination of semen (sperm concentration, motility, vitality, morphology, leukocytes, agglutination), and the biochemical analysis of semen fructose, etc. To motivate physiologists towards the more clinical work, he briefly explained how he developed and established an andrology laboratory and started patient services at the physiology department AIIMS Patna in March 2019.

The third speaker, Dr. Bindu Chimote explained further the clinical importance of andrology laboratory services from an embryologist's point of view. She also explained the challenges of the andrology laboratory practices and the future of sperm banking.

More than three hundred physiologists and health professionals participated in this webinar. Dr. Sanjay Bedi and his team provided technical support of the Gotowebinar platform to conduct the webinar nationwide. Dr. Alshesh Patil Assistant Professor of Physiology AIIMS Nagpur collected feedback from all the participants through the online google form platform and provided a soft copy of e-certificates and webinar recording link to all the organizing team members and participants.

Minutes of Special GB meeting of ASSOPI held on 17.10.2020

PREAMBLE

In view of the National Medical Commission (NMC) Public Notice dated 13.10.2020, inviting comments to its notification on “Minimum Requirements for Annual MBBS Admission Regulation 2020, and Amendment to Establishment of Medical College Regulations”, to reach the office of Secretary, NMC, on or before 5 PM of 19th October, a special emergency meeting of General Body (GB) of Association of Physiologists of India (ASSOPI) was conducted on 17th October 2020, at 11.00 AM through Zoom (online meeting), organized by Head-quarters office, ASSOPI, JIPMER, Puducherry. A total of Ninety-two members of ASSOPI participated in the meeting.

The notification for the special General Body Meeting (GBM) along with the proposed Agenda of the meeting, was communicated to all the ASSOPI members through group message displayed in ASSOPI Life Members WhatsApp, ASSOPI Official Forum Telegram, and e-mails sent to all the members, two days before the conduct of the meeting.

AGENDA

The special GBM commenced at 11 AM as per schedule and the following items were discussed as per Agenda notified earlier.

On behalf of ASSOPI Headquarters, Dr. G. K. Pal, General Secretary, ASSOPI welcomed all the members and thanked all the members for attending the meeting in a short notice. He specially thanked Prof. N. S. Verma, President, ASSOPI and Professor S. B. Deshpande, Immediate Past President, ASSOPI for taking active interest and initiative for the meeting.

1. Obituary/Homage to the members who lost their life (if any) during the period:

There was no known report of loss of life from among the ASSOPI members in last one year.

2. Welcome address by Prof. Narsingh Verma, President, ASSOPI

Prof. Narsingh Verma welcomed all the members to the special GB meeting of the association. Prof. Verma mentioned the achievements of ASSOPI and thanked Prof. G. K. Pal, General Secretary for making all sincere efforts for a steady progress of ASSOPI. He asked all the members to discuss about NMC notification with due respect to each other. President requested General Secretary to discuss the items of GBM as listed in the Agenda.

3. Greetings by General Secretary (Prof. G. K. Pal) and Immediate Past President (Prof. S. B. Deshpande)

General Secretary Prof. G. K. Pal once again greeted all the members and informed all the members about the NMC notification dated 13.10.2020 and the purpose of special emergency GBM. He requested Prof. Deshpande, Immediate Past President to welcome the members.

Prof. Deshpande welcomed all the members and appreciated Dr. G. K. Pal's prompt response in arranging the GBM in a short time. Prof. Deshpande briefed the members about the NMC notification and, he highlighted the main objectives of this special GB meeting. He mentioned that three important points, viz, infrastructure, equipment and number of staff required for Physiology Department, should be the major points of discussion in this special GBM of ASSOPI.

4. Discussion on NMC notification dated 13.10.2020 on minimum requirements for faculty and facilities, for MBBS admissions in the medical colleges of India

a. A brief presentation of salient features of NMC notification by Dr. G. K. Pal, General Secretary

General Secretary informed that in addition to the representation from the Association, all the members of ASSOPI should give individual representation to NMC. He made a brief presentation of important points given in NMC Undergraduate Medical Education notification for Minimum requirements for annual MBBS admission regulations, 2020 and amendment to establishment of medical college regulations, and gave a list of proposed suggestions from ASSOPI (details given below).

b. Progress/ follow-up of ASSOPI representation to MCI by General Secretary

General Secretary informed that the comprehensive representation of ASSOPI to MCI was submitted on 26th June 2019. As a follow-up of the ASSOPI representation, he had a meeting with Dr. V. K. Paul, Chairman, BOG, MCI at his NITI Aayog office at New Delhi on 30th January 2020, to discuss the details of ASSOPI representation to MCI. He said that Dr. VK Paul was very positive on the major issues listed in the representation from ASSOPI and had assured that he will arrange for a meeting Dr. Sharma, .

List of suggestions proposed for the ASSOPI representation to NMC:

To Increase the Number of Faculties and Residents:

1. To implement Small Group Discussion as suggested by NMC (n=15, in each group), number of faculty and residents should be more.
2. Post of Senior Residents should not be equated with Tutors for following reasons:
 - SRs are tenure posts for 3 years, whereas Tutors are regular post, not tenure posts
 - SRs are resident doctors, different from tutors
 - SRs can be posted to handle Early Clinical Exposures, which can't be done by Tutors (without MD Physiology or equivalent degree).
 - The degree MSc in Physiology, which is the eligibility criteria for Tutors, is not equivalent to and can't be equated with the postgraduate degree of MD in Physiology.
3. Hence, "**Senior Residents**" should be a separate category under the different headings of medical teachers, such as Faculty, SRs and Tutors; and for Senior Resident, the eligibility

should be only MD (or DNB) in Physiology, not any other PG degree, such as M. Sc./PhD in Medical Physiology.

- This will create immediate more job opportunity after MD Physiology, which will not be shared by nonmedical group.

Placement of Non-medical Teachers as Faculty:

4. The appointment of nonmedical teachers as faculty should continue, for the following reasons.

- The eligibility of nonmedical teachers in Physiology is not only for Physiology, it is for many other pre and paraclinical departments.
- It is policy decision of the Ministry of health, the Government, which we should not demand to abolish, otherwise we divert ourselves from main agenda items for creating more posts and infrastructure.
- We have M. Sc. And Ph.D. courses in Medical Colleges, so they should get opportunity to get job in the medical colleges.
- Otherwise, these courses should be totally abolished. But till these courses are there, they should have job opportunity.
- Though they will not be directly involved in Clinical Physiology teaching, they will be part of teaching in human physiology, hematology and research.
- They will assist in other works, such as looking after the laboratory maintenance, research, student counselling, etc.
- But the eligibility criteria for them should be modified:
 - PG Degree should be in Medical Physiology (of a medical college, taught and trained in medical physiology), not MSc in Physiology obtained from Arts and Science College or from a nonmedical institution or university.
 - PhD should be in Medical Physiology, not from any other stream.
- It should be clearly stated that it is not one-third faculty should be from nonmedical category. It should be a kind of reservation. In the NMC notification, it should be clearly stated that maximum to the extent of 30% of the total number of (but, should not be treated as reservation of 30% of the posts).

Laboratories in Physiology Department:

5. There should following labs for Physiology Departments.

- a. Hematology laboratory, exclusively for Physiology department.
 - Hematology is an integral part of 1st MBBS curriculum.

- Skill development in Hematology and OSPE in hematology is an important aspect of 1st MBBS examinations.
 - It should be meant exclusively for Physiology department and preferably not to be shared with any other department like pathology.
 - Currently, there is no Hematology practical laboratory for Physiology department in the NMC notification.
- b. Human Physiology/ Clinical investigations Laboratory.
- There are many human practicals that are missing in the NMC list of practicals.
 - Assessment of cardiovascular functions, respiratory functions, neurophysiology, autonomic function testing, exercise physiology and many other human physiology are missing from the list.
 - The Physiology department should have Clinical investigation laboratory which will be part of teaching and training of MBBS students.
 - Such investigational laboratories should be utilised for investigations on hospital patients referred to Physiology department.
 - Examples of few such laboratories are
 - Neurodiagnostic Electrophysiology laboratory
 - Autonomic function testing laboratory
 - Cardiovascular function testing laboratory
 - Respiratory investigation laboratory
 - GI investigation laboratory
 - Endocrinology investigation laboratory
 - The Physiology department should give the report of investigations to the hospital patients and should be part of the patient management.
- c. Clinical Physiology Laboratory
- This clinical physiology lab should be meant only for clinical examinations of various systems such as CVS, RS, CNS (sensory, motor, cranial nerve), GI system, etc.
- d. Animal Physiology Laboratory.
- As MCI has recommended for inclusion of animal experiments in postgraduate curriculum, the experimental laboratory for animal practicals should be available in the department. The Post graduate students/Teachers should be able demonstrate basic animal experiments in Physiology to the MBBS students so that the training of MD students will be achieved.

- Though it should not be utilised for undergraduate practicals, i.e. the undergraduates should not have animal experiments, they should be given demonstration of some of the common animal experiments.
- e. Simulation laboratory for animal practicals
- There should be provision for demonstration of animal experiments through simulation models.
 - Currently, there is no simulation lab for physiology department in NMC list.
- f. Lifestyle modification laboratory (for exercise and yoga)
- g. Research laboratory for students
- The central research laboratory cannot be used by students for their ICMR or any other kind of student's research project.
 - A student research lab with basic facilities should be available

Laboratory Staff and Laboratory Equipment:

6. Laboratory Staff

- There should be enough technical staff to take care of laboratories. Without technical staff it will be very difficult to manage laboratories and to maintain standard of laboratories.
- NMC has mentioned adequate technical staffs should be posted for laboratory management, but it should be specified how many technical staff we need for Physiology.
 - i) Laboratory technician/ assistant: 5
 - ii) Laboratory attender: 5
 - iii) Technical supervisor: 2

7. Laboratory Equipment

- There are many laboratory equipments missing in the list of NMC.
- There are few redundant equipments present in the list, they should be deleted.
- The following equipments should be added to the list.
 - i) HRV machine
 - ii) Computerised Tilt Table
 - iii) BPV machine with provision for BRS estimation
 - iv) Echocardiography (ECHO) machine and Color Doppler
 - v) Blood Flow Velocimetry and arterial wall thickness measurement
 - vi) Body Plethysmography

- vii) Blood Gas Analyzer
- viii) ELISA
- ix) EEG machine
- x) Computerized Treadmill system
- xi) GI motility and intraluminal pressure measurement system
- xii) Nerve conduction testing machine
- xiii) EP/ EMG machine
- xiv) Evoked Potential testing machine
- xv) Other equipments for clinical investigations

Space in Physiology department:

8. Space

Currently the space allotted to Physiology department is very less

- Space for 4 laboratories.
- Room for tutorials/ small group discussion. Number of rooms should be maximum intake/15 as 15 students comprise the small group as mentioned by NMC.
- Room for conference/ seminar/ microteaching for undergraduate presentations.
- Individual room for all faculty members with computer system, printing facility, photocopy facility and Wi-Fi connectivity.
- A department library room

Competency Mapping in Physiology, CBME:

9. For undergraduate teaching, the competency map in Physiology as part of Competency-based training (CBME) is grossly inadequate and to some extent superfluous. The competency mapping should be thoroughly revised with proper definition and objectives of the competencies of each topic/chapter. This should be officially redone by a committee consisting of senior and experienced physiologists appointed by NMC and should be re-notified. Competency and skill cannot be assessed by stating “describe the process of apoptosis, discuss neuromuscular dysfunctions” etc, as listed in CBME. Competency map in Physiology as currently prescribed by MCI is ambiguous and has no competency/skill assessment.

c. Comments and Suggestions from Immediate Past President, ASSOPI

Prof. S.B. Deshpande, Immediate Past President appreciated General Secretary for his compilation and presentation of NMC Notification. He said that on principle he agrees with the suggestions proposed by General Secretary. However, he highlighted some of the important

suggestions and suggested few modifications to be made in the ASSOPI representation to NMC.

- Research lab should be the Elective lab as part of the MBBS medical education.
- As per NMC, 7 stations are needed for small group teaching ($n=15$) for 100 MBBS students. For greater intake it should be maximal intake/15. For example college with 250 intake should have $250/15= 16.7$ or 17 rooms or spaces.
- Hematology lab should be there specifically for physiology. It should not be shared with pathology.
- Human labs for clinical investigations should be there in physiology.
- Many redundant equipments were mentioned in NMC notification which cannot be used in present MBBS practicals. They should be deleted from the list.
- Updated instruments/equipment are needed for physiology department.
- Currently, in NMC Notification, 'Museum' is mentioned for Anatomy, Pathology and Forensic medicine. The 'Museum' should be available in Physiology to display the old instruments/equipment used in physiology, which will create interest in the mind of younger generations.
- Staff strength should be increased as per the small group teaching suggested by NMC. The total of teachers (all having required MD degree or equivalent excluding the not qualified tutors without MD or equivalent) should equal to maximum student intake /15. For example, a college with 150 admission should have 10 ($150/10$) qualified teachers in the department. As other additional courses like BPT, Nursing and other paramedical courses are routinely operating in many medical colleges, there should be at least one extra Faculty for each such course to be taught in physiology.

d. Inputs and Comments from Office Bearers of ASSOPI

Dr. Lathika Mohan, Vice President, North Zone

Dr. Latika Mohan said she is in complete agreement with Dr G K Pal suggestions. She particularly mentioned to provide adequate justification for any increase in faculty position, as without proper justification NMC is unlikely to agree to hike in faculty posts. Regarding the MSc nonmedical teachers as faculty in Physiology, she said it is an international norm and they can be part of faculty in Physiology as per NMC notification; but as suggested by Dr. Pal they should have MSc and PhD degree in Medical Physiology. She also mentioned that Hematology Practicals should be updated for MBBS students or the present practical should be justified in order to get separate Hematology lab for physiology. As many equipments mentioned in NMC

notification were redundant, representations should be given asking for updated list of equipments.

Dr. B. S. S. Rao, Vice President, South Zone

He mentioned that only in the Institutes of National Importance there are central animal facility. As it will be difficult to maintain central lab facility by state and private colleges, Physiology department should have separate animal research lab. He also mentioned that research component is not considered by NMC. As research is an integral part of Physiology, it should be represented to be included in the list of labs in Physiology department. He highlighted that increase in faculty strength, well designed infrastructure, development of experimental and research lab should be given importance in the ASSOPI representation. He also mentioned that general guidelines to be revised and they should be followed uniformly across the country. He expressed his agreement with the suggestion made by Dr. Pal.

Dr. Raj Kumar Yadav, Editor-in-Chief, JPHM, ASSOPI

He told that ASSOPI should represent to NMC about the importance of Physiology through its contribution and activities in academics, research and patient care. NMC should be made to appreciate the significance of Physiology in all these three domains in UG Medical education Programme.

Dr. Rajeev Sharma, Joint Secretary, North Zone

He told that the equipment of Physiology Department should be segregated for undergraduate and postgraduate teaching. Increase in Faculty strength and technical staff should be justified. He also mentioned that designated faculty should be there to teach Physiology for additional Paramedical courses.

Dr. Hasmukh Shah, Joint Secretary, West Zone

He told that Clinical investigations and lifestyle modification lab should be given as elective labs of Physiology Department. Animal lab should be there for teaching postgraduates and for research activities.

Dr. Rituparna Barooah, Joint Secretary, East Zone

She told that many of the private colleges have very less faculty and technical staff in Physiology. It should be mentioned by NMC that all the college managements should follow the guidelines uniformly. She also mentioned that many of the equipments given by NMC were redundant.

Dr. Pravati Pal, Joint Secretary, South Zone

She explained that we can justify the manpower calculation following NMC guidelines for small group teaching. We should emphasize that at any given time about 20% faculty will be on leave for attending CME, conferences, workshops, training, etc. and also, they will be utilized for teaching additional paramedical courses. She mentioned that postgraduates should be taught animal practicals.

Dr. S. Velkumary, Finance Secretary said that there should be provision for disease prevention, early screening of disease from undergraduate levels and students should be taught and trained in exercise and yoga for orientation in preventive aspects in physiology.

Dr. Y Dhanalakshmi, Head Quarters Office Secretary agreed with suggestions given by other members and pointed out that importance should be given to translational research in Physiology.

Dr. Mrunal Phatak, Prof & Head, Physiology, AIIMS, Nagpur mentioned that Tutor post should be sanctioned in all central and state colleges. Technical staff should be justified as per undergraduate and post graduate labs. Animal experiment should be taught to postgraduates. There should be a designated place for vivarium. Intraoperative Neuro monitoring can be included in simulation lab. Equipment for diffusion studies, polysomnograph for sleep studies should also be included.

Dr. K.C. Thirupathi, Director and Professor, Institute of Physiology, Madras Medical College, proposed that Physiology should be converted to Clinical Physiology. Lifestyle modification lab should be included as elective lab. He mentioned that importance should be given equally to both academic and research activities in Physiology Department.

e. Inputs and comments from other members of ASSOPI

Some of the other life members of ASSOPI, Dr. Sabita Yograj, Dr. Mukesh Dinkar, Dr. Arvind Kanchan, Dr. Prasunpriya Nayak, Dr. Jasmin Diwan, Dr. Satish Dipankar, Dr. Sunita Mittal, Dr. Jyoti Kumar, Dr. Kaviraj Uduppa, Dr. Milind Nasirgandha, Dr. Swati Tikare, Dr. Manish Parihar, Dr. Sundareswaran, Dr. Prashant Patil actively participated in the discussion. They all agreed with the suggestions given by Dr. G. K. Pal, Dr. Deshpande, and other senior members of ASSOPI. They also thanked Dr. G. K. Pal, General Secretary for his efforts in providing better future to the upcoming physiologists.

5. Compilation of inputs and finalization of representation to NMC and direction for the content of the individual representation

After a thorough discussion, it was concluded that the ASSOPI representation should be focussed on six points: i) increasing faculty strength with justification for the same; ii) creating more number of posts of 'Senior Resident' as a separate category meant only for medical candidates having MD or equivalent degrees (nonmedical candidates will not be eligible for SR posts); iii) making a new list of equipments for physiology laboratories, removing the redundant equipment and adding the new equipment to the list; iv) Hematology Lab should be separate for Physiology department, to have a Human Physiology Lab that will include facilities for all human practicals including Lifestyle and Yoga, Research Lab for UG students, more number of technical staff for labs; v) to have only M.Sc. and PhD in Medical Physiology (not physiology degrees obtained from general colleges and universities) as the eligibility criteria of nonmedical teachers for faculty post; vi) Competency mapping in Physiology as part of CBME to be thoroughly redone.

6. Conduct of Next ASSOPICON at NIMHANS, Bengaluru

Prof. B. S. Shankaranarayana Rao, Professor, Neurophysiology, NIMHANS, Bengaluru and Organizing Secretary, & 7th ASSOPICON informed that next conference will be organized physically (not virtual) at NIMHANS, Bengaluru as and when the COVID pandemic situation improves and the atmosphere becomes conducive to conduct National Conference. Notification for the conference will be made in due course of time.

7. A brief report on progress of publication of the first issue of ASSOPI Journal

Dr. Raj Kumar Yadav, Professor, Physiology, AIIMS, New Delhi and Editor-in-Chief, Journal of Physiology and Healthcare Medicine, ASSOPI informed members that the Journal Website is almost getting ready to be launched soon, the first issue of journal will be released (Online & Print) in the month of December. He also requested the members to submit their manuscripts to the journal.

8. Vote of Thanks:

After a marathon meeting and very fruitful discussion for 3 hours and 15 minutes, the special GB meeting ended 2.15 PM, with vote of thanks proposed by Dr. Velkumary, Finance Secretary, ASSOPI.

ASSOPI Representation to National Medical Commission:

President

Dr. Narsingh Verma, Lucknow

Immediate Past President

Dr. S. B. Deshpande, Andhra Pradesh

Vice Presidents *(in alphabetical order)*

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Dr. Hemant B. Mehta, Gujarat

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General Secretary

Dr. G. K. Pal, Puducherry

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Dr. Rajeev Shrama, Punjab

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Editor-In-Chief

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Finance Secretary

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Dr. Satish Dipankar, Bihar

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Letter No: ASSOPI/NMC/01/2020

Date: 19.10.2020

To:

Dr. Rakesh Kumar Vats,
The Secretary,
National Medical Commission (NMC)
New Delhi.

Subject: Comments submitted by Association of Physiologists of India (ASSOPI) in the subject of Physiology, in response to the NMC notification dated 13.10.2020 – Reg.

Reference: 'Public Notice' of National Medical Commission, dated 13th October, 2020, regarding Minimum Requirements for Annual MBBS admissions regulations, 2020, and Amendment to establishment of Medical College Regulation by National Medical Commission.

Respected Sir,

Greetings from the Association of Physiologists of India (ASSOPI).

The Association of Physiologists of India (ASSOPI) is the exclusive association of Physiologists of the country committed to the integrated welfare of Physiologists all over India.

ASSOPI appreciates the commitment and sincere efforts taken by the National Medical Commission (NMC) for the enhancement of quality in Medical education in our country. In response to the notification published by NMC, ASSOPI had organized the General Body meeting of all the members of ASSOPI held on 17th October, 2020 to discuss the details of requirements and to make a comprehensive proposal from ASSOPI to NMC for changes needed for effective implementation of Minimum Requirements for Annual MBBS admissions regulations, 2020, and Amendment to establishment of Medical College Regulation by National Medical Commission.

Following are the opinions and suggestions with justifications on behalf of ASSOPI:

1. To Increase the Number of posts of Faculties and Residents

Justification

Teaching Load in Physiology is more:

- i) Number of teaching hours for pre-clinical departments as per earlier MCI notification is: Anatomy – 675; Physiology – 495 & Biochemistry – 250.
Thus, the teaching load in Physiology is double the teaching load in Biochemistry. However, in the present NMC Notification, the faculty and resident requirements for Physiology and Biochemistry are depicted as same.
- ii) In Physiology, the classes on Early Clinical Exposure, Problem Based Learning, Student Seminars, Tutorials and Group Discussions are taken for the whole batch of students at a time divided into many small batches that requires more number of qualified teachers to handle the academic load at a time.
- iii) For AETCOM exposure, Competency Assessment and Constructive meaningful feedback as the CBME curriculum requires involvement of more experienced teachers.
- iv) Faculty members of Physiology in addition to looking after MBBS teaching, are also involved in the academic activities of other courses like B. Sc. (Medical Laboratory Technology), B. Sc. (Allied Medical Sciences of all technological courses such as Cardiac Lab Technology, Dialysis Technology, Cardiac Profusion Technology, Anaesthesia Technology, and so on), B.Sc. (Nursing), BPT and other Paramedical courses and other Diploma courses that are usually run in almost all medical colleges.
- v) As the demonstrations for skill development of students in Practical Classes should not be more than 10 students in a group, the Teachers requirement should be the ideal ratio of 1:10, which is normally followed by the all INI (Institute of National Importance) such as JIPMER and AIIMS, to maintain the quality. Hence, we should have 1:10 teacher-student ratio in Physiology.
- vi) To implement Small Group Discussion as suggested by NMC (n=15, in each group), number of faculty and residents should be more. For this small group discussion, also we request to have 1:10 teacher-student ratio in Physiology.
- vii) As the minimum eligibility for Tutors is M.Sc. Physiology or MBBS, the classes on Early Clinical Exposure, PBL, Skill Development and important group discussions can't be taken by tutors, which constitute about 30% of faculty at present in NMC notification.

Thus more number of post-MD experienced teachers is required for the effective Physiology teaching and training.

- viii) At any given time, few faculties from the department will be on academic leave for attending higher education training, conferences, CME, Workshops, etc, and on personal leaves. Thus, there should be a buffer of at least 20% more faculty in the department to manage the routine academic load.

That means, we should have the following numbers of qualified and experienced teachers (excluding Tutors) for different categories of Intakes:

- 12 Teachers for 100 students
- 16 Teachers for 150 students
- 24 Teachers for 200 students
- 30 Teachers for 250 students

2. Senior Resident Posts to be Categorized Separately

Post of Senior Residents should not be equated and classified along with Tutors.

Justification

- SRs are tenure posts for 3 years, whereas Tutors are regular post.
- SRs are resident doctors, who have already completed their MDs and posted as residents, which is entirely different from tutors
- SRs can be posted to handle Early Clinical Exposures, which can't be done by Tutors. SRs are also often posted for clinical duties of other departments such as management of emergency duties in case of strikes, mass casualties and emergency situations.
- The degree MSc in Physiology or MBBS, which is the eligibility criteria for Tutors, is not equivalent to and can't be equated with the postgraduate degree of MD in Physiology.
- SRs in Physiology can effectively manage practical and clinical skill development programmes for MBBS students.
- SRs should have a higher pay structure than Tutors.

Hence, "**Senior Residents**" should be a separate category under the different headings of medical teachers and residents, such as Faculty, SRs and Tutors; and for Senior Resident,

the eligibility should be only MD (or DNB) in Physiology, not any other PG degree, such as M. Sc. / PhD in Medical Physiology.

- This will also create immediate more job opportunity for medical teachers immediately after completion of their MD Physiology, which will not be shared by nonmedical group.

The post and designation of “Demonstrators” may be totally abolished from the present scheme.

Summary of ASSOPI Proposal for Faculty and Resident Posts

Thus, on behalf of Association of Physiologists of India (ASSOPI), we request to increase the Faculty/Resident/Tutor strengths as depicted in the Table given below.

	100 MBBS seats		150 MBBS seats		200 MBBS seats		250 MBBS seats	
	NMC Recommendation	ASSOPI Proposal	NMC Recommendation	ASSOPI Proposal	NMC Recommendation	ASSOPI Proposal	NMC Recommendation	ASSOPI Proposal
Professor	1	1	1	1	1	2	1	3
Associate Professor	1	2	1	3	2	4	2	5
Assistant Professor	2	4	3	5	4	8	5	10
Senior Resident	0	5	0	7	0	10	0	12
Total Faculties and Residents		12		16		24		30
Tutor	3	3	3	4	4	4	4	5
Grand Total	7	15	8	20	11	28	12	35

2. Change in Eligibility Criteria for Non-medical Teachers as Faculty

- For appointment of nonmedical teachers as faculty, the eligibility criteria should be modified, as Physiology curriculum in 1st MBBS is more oriented for application of Physiology in medicine.

- Minimum academic qualification should be PG and PhD Degree in **Medical Physiology**.
- The M.Sc. degree obtained should be a three years PG course from a medical college, taught and trained in medical physiology, not in MSc in Physiology obtained from Arts and Science College or from a nonmedical institution or university.
- Ph.D. should be in Medical Physiology, not from any other stream.
- Other eligibility criteria as applicable.
- It is often interpreted by some authority (especially if the Chairman of the Selection Committee is a nonmedical man) that the appointment of nonmedical teachers in medical colleges has the reservation of 30% of the available posts, which is incorrect. Therefore, it should be clearly stated that it is not the one-third faculty should be from nonmedical category. In the NMC notification, it should be mentioned that nonmedical teachers can be maximum to the extent of 30% of the total number of posts (it can NOT be treated as reservation of 30% of the posts).

3. Students' Laboratories for Physiology Department.

Following labs should be available in Physiology department for MBBS teaching and training.

- **Hematology Lab** should be separate for Physiology department.
- There should be a **Human Physiology Lab** that will include facilities for many clinical investigations to be carried out in Physiology Department.
- **Research Lab** for UG students.
- More number of **technical staff** for managing labs.

a. Hematology Laboratory, exclusively for Physiology Department.

Justification

- Hematology is an integral part of 1st MBBS curriculum.
- Skill development in Hematology and OSPE in hematology is an important aspect of 1st MBBS training and examinations.
- Hematology lab should be meant exclusively for Physiology department and preferably not to be shared with any other department like pathology, because many other paramedical courses and PG programmes (M.Sc. course) have hematology as the practical in their curriculum that are conducted in the same hematology laboratory of Physiology department meant for MBBS students.

- Currently, there is no separate Hematology practical laboratory for Physiology department in the NMC notification.

b. Human Physiology / Clinical Investigations Laboratory.

Justification

- There are many human practicals that are missing in the current NMC list of practicals in Physiology.
- Assessment of cardiovascular functions, front-line respiratory functions, neurophysiology, autonomic function testing, exercise physiology and many other human physiology practicals are missing from the list.
- The Physiology department should have Clinical investigation laboratory which will be part of teaching and training of MBBS students.
- Such investigational laboratories should be utilised for investigations on hospital patients referred to Physiology department.
- Examples of few such laboratories are:
 - Neurodiagnostic Electrophysiology laboratory
 - Autonomic function testing laboratory
 - Cardiovascular function testing laboratory
 - Respiratory investigation laboratory
 - GI investigation laboratory
 - Endocrinology investigation laboratory
- The Physiology department should give the report of investigations on hospital patients and should be part of the patient management programme of the institute, which will increase the quality of medical undergraduate training in terms of academics and application.

c. Clinical Physiology Laboratory.

Justification

- This clinical physiology lab as already mentioned in NMC recommendation should be meant only for clinical examinations of various systems such as CVS, RS, CNS (sensory, motor, cranial nerve), GI system, etc.

d. Animal Physiology Laboratory.

Justification

- As MCI has recommended for inclusion of animal experiments in postgraduate curriculum, the experimental laboratory for animal practicals should be available in the department.
- Though it should not be utilised for conduct of undergraduate practicals, i.e. the undergraduates should not have animal experiments in their curriculum, they should be given demonstration of some of the common animal experiments.
- This should be under the desirable category, which is not a must for the MBBS course.

e. Simulation Laboratory for Animal Practicals.

Justification

- There should be provision for demonstration of animal experiments through simulation models.
- Currently, there is no simulation lab for physiology department in NMC list.

f. Lifestyle Modification Laboratory (for Exercise and Yoga).

Justification

To emphasize the importance of preventive aspects of diseases and the role of Physiology in preventive medicine, there should be Lifestyle modification laboratory (for exercise and yoga) in all medical colleges, which will be utilized for health screening, yoga and exercise therapy for lifestyles diseases on hospital patients.

g. Research Laboratory for Students.

Justification

- The central research laboratory of the institute cannot be used by the MBBS students for their ICMR or any other kind of student's research project, as these facilities are often utilised for faculty, PhD and PG research works.
- A student research lab with basic facilities of research should be available in Physiology department.

h. Laboratory Staff.

- There should be enough technical staff to take care of laboratories. Without technical staff it will be very difficult to manage laboratories and to maintain the standard of laboratories.
- NMC has mentioned adequate technical staffs should be posted for laboratory management, but the number of technical staff should be specified for Physiology department as given below.
 - i) Laboratory Technician / Assistant : 5
 - ii) Laboratory Attender : 5
 - iii) Technical Supervisor : 2

4. Making a new list of Equipments for Physiology Laboratories, removing the redundant equipment and adding the new equipment to the list.

Justification

- There are many laboratory equipments missing in the list of NMC.
- There are few redundant equipments present in the list, they should be deleted.
- The following equipments should be added to the list and number of few items to be increased as given in the table below.

A. List for Addition of Laboratory Equipment to the existing list.

S.No.	NAME OF THE ITEMS	NO. OF ITEMS
1.	HRV machine	2
2.	Computerized Tilt Table	1
3.	BPV machine with provision for BRS estimation	1
4.	Echocardiography (ECHO) machine and Color Doppler	1
5.	Blood Flow Velocimetry and arterial wall thickness measurement	1
6.	Body Plethysmography	1
7.	Computerized Blood Gas Analyzer	1
8.	ELISA Equipment	1
9.	EEG machine	1

10.	Computerized Treadmill system	1
11.	GI motility and intraluminal pressure measurement system	1
12.	Nerve conduction testing machine	1
13.	EP-EMG machine (for evoked potential & EMG)	1

B. List for increasing the number of items for some Laboratory Equipment.

S.No.	NAME OF THE ITEMS	NO. OF ITEMS
1.	Microscopes, oil immersion	60 (Increase to 90)
2.	Westergren's pipette for E.S.R. on stand(with space pipette)	20 (Increase to 40)
3.	Wintrobe's pipette for ESR and PCV with stand	20 (Increase to 40)
4.	Electrodes for nerve conduction	2 (Increase to 5)
5.	Dynamometer (Handgrip)	1 (Increase to 5)
6.	Multichannel Physiograph, 3 channels, complete with accessories and transducers	2 (Increase to 5)
7.	Student physiograph, (single channel) with accessories and transducers	6 (Increase to 10)
8.	ECG machine	2 (Increase to 5)

C. List for Deletion of Laboratory Equipment from the list

S.No.	NAME OF THE ITEMS
1.	Stage incubator
2.	Spirit lamps
3.	Venous pressure apparatus
4.	Gas analysis apparatus, Halden's student type
5.	Van Slyke's apparatus manometric
6.	Douglas bag, complete
7.	Basal metabolism apparatus
8.	Ophthalmoscope
9.	Phakoscope

10.	Maddox rod
11.	Newtons color wheel
12.	Otorhinolaryngoscope
13.	Colorimeter, photoelectric
14.	pH meter electric

5. Competency Mapping in Physiology as part of CBME to be thoroughly revised and redone

Justification

For undergraduate teaching, the competency map in Physiology prescribed by MCI as part of Competency-based training (CBME) is grossly inadequate. The competency mapping should be thoroughly revised with proper definition and objectives of the competencies of each topic/chapter. This should be officially redone by a committee consisting of senior and experienced physiologists appointed by NMC and should be re-notified. Competency and skill cannot be assessed by just stating “describe the process of apoptosis, discuss the neuromuscular dysfunctions, etc.”, as currently listed in CBME. The present existing Competency map is ambiguous and lacks the assessment of competency/skill of the students.

We on behalf of our Association of Physiologists of India (ASSOPI) humbly request NMC to look into the above genuine concerns of the Physiologists of India and kindly do the needful to implement the suggestions of ASSOPI to the fullest possible, in order to increase the quality of teaching and training in Physiology of the MBBS students.

Thanking you, yours faithfully,

Date: 19.10.2020

ASSOPI Office Headquarters,
JIPMER, Puducherry.



Dr. G. K. Pal,

General Secretary, ASSOPI,
Professor (Senior Scale),
Department of Physiology, JIPMER,
Puducherry.
Dean, Faculty of Medicine, P.U.

Upcoming Events:

ASSOPICON – 2020

As the virtual conferences for other Physiological societies (APPICON, PSICON, ICONBAP) have been announced, many members of ASSOPI are enquiring about the feasibility of a virtual ASSOPICON to be conducted this year. There is a general perception that a physical conference cannot be organized in this unprecedented situation when the COVID-19 pandemic is getting worst every day in India. It has been decided that the 7th Annual Conference of Association of Physiologists of India will be organized physically (not virtual) by Dept. of Neurophysiology, NIMHANS, Bangalore, Karnataka as and when the situation improves and the atmosphere becomes conducive to conduct a physical National Conference.

ASSOPI Webinar II

The second International Webinar of ASSOPI will be conducted in December 2020. The details of the date and the schedule will be intimated in due course of time.

Official Journal of ASSOPI:

The Journal of Physiology & Healthcare Medicine

The ASSOPI members are requested to send their articles (original research articles/ review articles/case reports/short communications/ letters to editor/ guest editorials) for our proposed journal, 'The Journal of Physiology & Health Care Medicine'.

Please send your articles at **assopijournal@gmail.com**

About the Journal

Journal of Physiology & Healthcare Medicine (JPHM), an official Journal of Association of Physiologists of India (ASSOPI), is a peer-reviewed online journal with three issues per year (January-April, May-August, September-December), and print on request only. The journal allows free access (Open Access) to its contents and permits authors to self-archive final accepted version of the articles. The journal does not charge for submission, processing or publication of manuscripts and even for colour reproduction of photographs. JPHM follows double-blind peer review process.

Scope of the Journal

The Journal of Physiology & Healthcare Medicine (JPHM) publishes quality research papers in Physiology & Healthcare that may have clinical applications in medicine with better understanding of human physiology. The journal is also open to new and innovative research methodologies that would benefit Healthcare.

Subjects covered in the Journal

Primarily Physiology & Healthcare Medicine-related topics including Endocrinology, Neurophysiology, Cardiovascular Physiology, Gastrointestinal Physiology, Respiratory Physiology, Molecular and Genomic Physiology, Exercise Physiology, Nutrition, Sports Physiology, Space Physiology, Behavioural Medicine, Reproductive Physiology, Ophthalmic Physiology, Bone & Muscle Physiology, Lifestyle and Stress, and Yoga.

Issues of the Journal

The website of the journal will be launched in November and first issue of ASSOPI journal will be published online and print in December, 2020.

All members of ASSOPI are requested to please contribute the best manuscript from their laboratories to be published in JPHM.

Metformin as a potent therapeutic option in new-onset diabetes during the COVID Era:

New-onset hyperglycemia with or without diabetes and acute metabolic decompensation of pre-existing diabetes was associated with Covid-19. New-onset hyperglycemia is frequently seen in COVID-19 patients, who had no history of dysglycemia in the past and were currently not on corticosteroids. Clinical observations provide support for the hypothesis of a potential diabetogenic effect of Covid-19.

The underlying mechanism remains unclear. Previous research shows that angiotensin-converting enzyme 2, the protein that binds to severe acute respiratory syndrome coronavirus 2 allowing the virus to enter human cells, is not only present in the lungs but also in organs and tissues involved in glucose metabolism such as the pancreas, the small intestine, the fat tissue, the liver and the kidney. It has been hypothesized that by entering these tissues, this virus may cause multiple and complex dysfunctions of glucose metabolism.

With regard to this, favourable effects of metformin in patients with Covid-19 can reduce inflammation, act as an antioxidant, and alter the composition of gut microbiota. These properties may help in combating the cytokine storm seen in patients with diabetes and Covid-19. Most notably, metformin use has been shown to cause a fourfold reduction in risk of in-hospital mortality. Moreover, optimal management of glucose levels and immune-modulating properties of this drug may help in improving patients' outcomes.

Gargling: Breaking the chain of infection:

The main route of transmission of corona virus is human to human through direct inhalation of respiratory droplets released when an infected person coughs or sneezes. The virus also enters the body through the mouth, which functions as a reservoir for the virus.

A study published in *Nature* confirmed active viral replication in the throat with very high pharyngeal (throat) shedding of the virus when the infection is mild. The peak levels were reached before the fifth day and were more than 1,000 times higher than with SARS, making COVID-19 a much more contagious disease.

Povidone-iodine (PVP-I) has been shown to rapidly inactivate the SARS and has also demonstrated virucidal activity against SARS-CoV-2 virus. PVP-I gargle and mouthwash exhibited virucidal activity against SARS-CoV-2 in just 15 seconds. The universal spectrum of antimicrobial activity, faster onset of action, more persistent effect and lack of selection of bacterial resistance are features which give PVP-I an edge over other available antiseptics.

The chain of infection involves infectious agent, reservoir, portal of exit, mode of transmission, portal of entry and a susceptible host. Breaking the chain at any one point or more can prevent the spread of infection.

Gargling with an antiseptic such as PVP-I may help to break the chain of infection by reducing the viral load in the throat and decreasing the amount of virus released in droplets which is why it should also be recommended as a preventive measure alongside hand hygiene, masking and physical distancing. Gargling helps by removing the oral/pharyngeal protease, which helps the virus to replicate.

Join ASSOPI

Membership Form

Any person having a bachelor or postgraduate degree in Physiology or allied sciences can become a member of ASSOPI. Students pursuing PG course in Physiology or allied subjects are also eligible to become ASSOPI members.

Membership Fee: Annual Membership – Rs. 500/- and Life Membership – Rs. 3000/-

Name:

Date of Birth:

Educational Qualification:

Present Designation and Institute:

Field of Interest:

Address for communication:

Pincode:

E-mail:

Mobile:

DD Number:

DD Date:

Name of the Bank & Branch:

Upload scanned DD copy:

Address to send DD:

Application can be filled and submitted online in ASSOPI website: www.assopi.co.in. However, DD of membership has to be sent by speed-post to the address given below.

Pay by demand draft drawn in Favour of 'ASSOCIATION OF PHYSIOLOGISTS OF INDIA' Payable at 'Puducherry' and send it to:

Dr. G.K. Pal,
General Secretary, ASSOPI,
Senior Professor, Dept. of Physiology,
1st floor, JIPMER Academic Center,
JIPMER, Puducherry- 605 006

OR, for new membership registration by online transfer of money to ASSOPI Account directly, General Secretary or Office Secretary to General Secretary may be contacted through his/her e-mail ID.

Note: Kindly mention your individual name(s), college/institute name with contact number on the backside of Original Demand Draft while despatching the DD to above address.