



NAMSCON 2013



53rd Annual Conference
of
National Academy of Medical Sciences (India)

25th - 27th October 2013



All India Institute of Medical Sciences
Jodhpur



National Academy of Medical Sciences
New Delhi



All India Institute of Medical Sciences, Jodhpur
Rajasthan, India

SOUVENIR

NAMSCON 2013

**Emeritus President, NAMS
Patron, NAMSCON 2013**

Prof. J.S. Bajaj, FAMS

NAMS Office Bearers

President	Dr. C S Bhaskaran, FAMS
Vice President	Dr. Manorama Berry, FAMS
Treasurer	Dr. Kusum Verma, FAMS
Honorary Secretary	Dr. Sanjay Wadhwa, FAMS

Organizing Committee

Chairman	Dr. Sanjeev Misra, FAMS
Secretary	Dr. Kuldeep Singh
Treasurer	Dr. Puneet Pareek

Invitations, Certificates, Backdrops, Signages	Dr. Bharati Mehta Dr. Om Lata Bhagat Dr. P.K. Bhatia Dr. Navita Purohit Dr. Mahendra Lodha Dr. Nikhil Kothari
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Lecture Theatres & Floral (Including Inauguration, Scientific Programs & Convocation)	Dr. Shilajit Bhattacharya Dr. Poonam Elhence Dr. Pankaj Bhardwaj Dr. Om Lata Bhagat Dr. Purnima Sharma Dr. Ashish Kumar Nayyar
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Registration	Dr. Neeti Rustagi Dr. Navita Purohit Dr. Ankita Chugh Dr. Daisy Khera
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Accommodation	Dr. Rajesh Kumar Sharma Dr. Brijender Singh Dr. Dushyant Agarwal Dr. Pushpinder Khera
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Food	Dr. Abhay Elhence Dr. Purvi Rajpurohit Dr. Mahendra Lodha Dr. Mahaveer S Rodha Dr. Surjit Singh
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Furniture & Tent House	Dr. Puneet Setia Dr. Abhinav Dixit Dr. Divesh Jalan
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Mementoes & Plaques	Dr. Om Lata Bhagat
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Scientific Team	Dr. Praveen Sharma Dr. Ranabir Pal Dr. Vanita Lal Dr. Abhinav Dixit Dr. Naresh Nebhinani Dr. Nishant Kumar Chauhan Dr. Saptarshi Mandal
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Electrical	Dr. Mahaveer S Rodha
Audio-Video & Photography	Dr. Pankaj Bhardwaj Dr. Nikhil Kothari Dr. Shilpa Goyal

Fire fighting	Mr. Sunil Mathur Mr. Yogesh Mathur
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Security	Mr. Manish Srivastava Dr. Rajesh Kumar Sharma Mr. Yogesh Mathur
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Transport	Dr. Neeraj Gupta Dr. Shashank Shekhar Dr. Ram Karan Chaudhary
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Gowns Convocation Rehearsals	Dr. Ram Karan Chaudhary Dr. Anuradha Sharma Dr. Ravi Shekhar Gadipalli Dr. Archana Bajpayee
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Cultural Program	Dr. Surajit Ghatak Dr. Sabyasachi Sircar Dr. Abhay Elhence
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Accompanying Persons Program	Dr. Pankaja Ravi Raghav Dr. Sneha Ambwani Dr. Pratibha Singh
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Souvenir Committee	Dr. Vijay Lakshmi Nag Dr. Arvind Sinha Dr. Poonam Elhence Dr. Amit Goyal
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IT Committee	Dr. Rajesh Kumar Sharma Dr. Koushik Sinha Deb Dr. Puneet Pareek
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Medical Emergency	Dr. P.K.Bhatia Dr. Nikhil Kothari Dr. Nishant Chauhan Dr. Vikram Singh
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वेणु राजामणि
राष्ट्रपति के प्रेस सचिव

Venu Rajamony
Press Secretary to the President



राष्ट्रपति सचिवालय,
राष्ट्रपति भवन,
नई दिल्ली - 110004
President's Secretariat,
Rashtrapati Bhavan,
New Delhi - 110004

MESSAGE

The President of India, Shri Pranab Mukherjee, is happy to know that the All India Institute of Medical Sciences, Jodhpur is hosting the 53rd Annual Conference of the National Academy of Medical Sciences (India) – NAMSCON 2013 from October 25-27, 2013.

The President extends his warm greetings and felicitations to the organisers and the participants and sends his best wishes for the success of the Conference.

Press Secretary to the President

Smt. Margaret Alva
Governor, Rajasthan



RAJ BHAWAN
Jaipur-302 006

Message

I am pleased to learn that the National Academy of Medical Sciences is organizing its 53rd Annual Conference, 'NAMSCON 2013' at the All India Institute of Medical Sciences, Jodhpur.

The three-day Conference, beginning October 25, 2013, which is set to deliberate on recent advances in 'Sleep Medicine' and "Regenerative Medicine", will, I hope, provide a new dimension to these important fields of treatment.

I extend my best wishes for the success of the Conference.


(Margaret Alva)

Pankaj Pachauri
Communications Adviser
Tel : 2301 6920



प्रधान मंत्री कार्यालय
नई दिल्ली - 110011

PRIME MINISTER'S OFFICE
New Delhi - 110011



MESSAGE

The Prime Minister is happy to learn that the National Academy of Medical Sciences (India) is organizing its 53rd Annual Conference "NAMSCON 2013" from 25th to 27th October, 2013 at All India Institute of Medical Sciences, Jodhpur.

The Prime Minister hopes that the deliberations from the Conference of the National Academy of Medical Sciences will assist and inspire medical sciences students in the country. On this occasion, I am happy to convey the greetings and good wishes of the Prime Minister for the success of the 53rd Annual Conference.

October 4, 2013


(Pankaj Pachauri)

Prof. J. S. Bajaj

M.D., F.R.C.P. (Lond); F.R.C.P. (Ed.); F.A.M.S
D.Sc.(h.c. MGR Med. Univ.); D.Sc. (h.c. GND Univ.)
Hon. D.Sc. (Madras); D.M. (h.c. Karolinska)
Hon. D.Sc. (B.H.U.); Hon. D.Sc. (Punjabi Univ.)
D.Sc. (h.c. Univ. Health Sc : Andhra)

Emeritus Professor
Chairman, NAMS Golden Jubilee Committee



राष्ट्रीय आयुर्विज्ञान अकादमी (भारत)

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MESSAGE

I am indeed honoured at having been invited to associate myself with the 53rd Annual Conference of the National Academy of Medical Sciences (NAMS) being held at the All India Institute of Medical Sciences, Jodhpur.

The Academy is a unique institution which combines academic excellence as its resource and social relevance as its goal. Since its inauguration by Sh. Jawaharlal Nehru in 1961 and its first Convocation address delivered by Dr. S. Radhakrishnan in 1963, the Academy has demonstrated its tremendous potential for growth and development, thus considerably enlarging the scope and dimensions of its activities.

Consistent with its objective of securing cooperation between the Academy and other scientific and medical institutions, NAMS-AIIMS Collegium had been established early this year. This was an outcome of the deliberations of a meeting with the Directors of six newly established All India Institutes of Medical Sciences at Bhopal, Bhubaneswar, Jodhpur, Patna, Raipur and Rishikesh. The Collegium is committed to achieve the common goal of promotion of knowledge of Medical Sciences in India and its practical application to attain national health goals.

With the tremendous academic potential of its intellectual community of Fellows consisting of basic scientists, public health professionals, clinical scientists, medical educationists, health planners and hospital administrators, amongst others, the Academy will lend academic strength to the newly developing institutions. Emeritus professors of the Academy will visit these institutions and share their vast experience in developing educational programmes in addition to providing technical and professional skills to enhance the quality of medical education, bio-medical research and professional services at these institutions.

In a short span of eight months since the establishment of the NAMS - AIIMS Collegium, CME Programmes and Symposia on "A multidisciplinary approach to Spina Bifida" at AIIMS, Rishikesh, 'Ethics in Clinical Research' at AIIMS, Bhubaneswar, and 'Regional Symposium on Sleep Medicine' at AIIMS, Jodhpur have been organized. The feedback obtained as a result of well structured evaluation of the programmes reflects high index of satisfaction. The Scientific Programme of the NAMSCON 2013 which includes outstanding Orations and brilliant research presentations in the area of Regenerative Medicine is likely to inspire young scientists.

May I join you in conveying personal regards to the Chief Guest and sincere greetings to the President,

Date : Oct. 08, 2013

PROF. J.S. BAJAJ

M.D. F.R.C.P.(Lond.), F.R.C.P. (Ed.), FAMS, D.M. (h.c. Karolinska)
Hon. D.Sc. (B.H.U.); D.Sc. (h.c. MGR Med. Univ.); D.Sc.(h.c. GND Univ.)
Hon. D.Sc. (Madras); Hon. D.Sc. (Punjabi Univ.); D.Sc. (h.c. Univ. Health Sc: Andhra)
Emeritus President, National Academy of Medical Sciences

Dr. C.S. Bhaskaran
MD, FAMS, FRCPath (Lond)
FIMSA, FICPath, D.Sc.(h.c. NTRUHS)
PRESIDENT



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MESSAGE

The National Academy of Medical Sciences (India) has the mandate to recognize and foster talented medical and biomedical scientists in India and enhance the knowledge and skills of the Medical and Paramedical professionals in the country. In pursuance of the mandate and the objectives laid down in the Memorandum signed by the doyens of the profession, the Academy has been making consistent efforts to fulfill them by recognizing outstanding contributions made by our biomedical scientists belonging to various disciplines in medicine and allied sciences by conferring Fellowships and Memberships, orations, awards and other commendations to nurture and encourage talent and to promote scientific advancement in the field of biomedical research in the country. The Fellowship and Membership of the Academy has become a brand name for a highly cherished distinction conferred after a rigorous peer review process in recognition of outstanding achievements in various medical disciplines and it has been our endeavor to keep excellence as the primary goal.

I am very happy that the 53rd Annual conference of the NAMS is being hosted by the newly established All India Institute of Medical Sciences in Jodhpur, the historic former capital of Marwar state and presently, the second largest city of Rajasthan State from 25th to 27th October, 2013 under the stewardship of Prof. Sanjeev Misra, Director & CEO & Professor of Surgical Oncology and Dr. Kuldeep Singh, Additional Professor & Head, Department of Pediatrics, AIIMS, Jodhpur as the Chairman and the Organizing Secretary of the conference respectively. I am confident that this conference will provide you with relevant and useful professional inputs and you will enjoy the academic atmosphere with the CME - Regional Symposium on "Sleep Medicine" on 25th followed by series of NAMS Orations by eminent personalities, NAMS Symposium on "Regenerative Medicine" and Award Paper Presentations coupled with poster presentations on the following two days of the conference.

I also wish to convey my congratulations to the newly elected fellows and members who will be taking their scrolls at the 53rd Convocation. I, on behalf of the Academy and on my own behalf, would like to record our grateful thanks to Dr. Sanjeev Misra, Dr. Kuldeep Singh and their team for having worked tirelessly to make this conference a truly memorable one and a reality, in short time.

I wish the conference a grand success.

Dated : 05th October, 2013

C.S. Bhaskaran
C.S. Bhaskaran

Dr. Sanjeev Misra

MS, MCh, FRCS (Eng.), FICS, FACS (USA), FAMS
Director & CEO
Prof. of Surgical Oncology



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MESSAGE

It gives me immense pleasure in welcoming you all for the 53rd Annual Conference of National Academy of Medical Sciences, NAMSCON 2013 at All India Institute of Medical Sciences, Jodhpur from 25th - 27th October, 2013. AIIMS Jodhpur was created under the PMSSY by the Government of India to correct regional imbalances in healthcare in India and was given status of Institute of National importance and made autonomous by an Act of Parliament in August 2012. AIIMS, Jodhpur had the unique distinction of being the second AIIMS in the country to become functional after the AIIMS, New Delhi which started in 1956. National Academy of Medical Sciences (India) envisages fostering academic excellence towards promoting health of society as its goal and encouraging medical education, promoting research by recognizing talented Biomedical scientists through Fellowships as well as Memberships. Under the guidance of Prof. J.S. Bajaj, Emeritus President, NAMS, NAMS-AIIMS Collegium was created encompassing the six new AIIMS. The aim of this collegium is to achieve the common goal of promotion of knowledge of Medical Sciences in India and its practical application to problems of national welfare. We are grateful to the NAMS, India for repositing confidence in AIIMS, Jodhpur to allow us to hold this coveted Annual Conference at this budding Institute.

I am highly obliged to all Speakers, orators, awardees and presenters for taking precious time out of their busy academic schedule and sharing their scientific experience with fellows, members and delegates attending the conference. Their quality and enormous background work is quite evident by their synopsis and summaries which are being put up on our website and by abstracts of posters published in this Souvenir. I congratulate them for their contribution toward advancement in the well being of human kind and medical knowledge. I also hope that through this Conference, we live up to the hopes and expectations of the delegates and the community of Western India.

We hope that you all will also find time from scientific deliberations to enjoy the history, culture, art,

Dr. Sanjeev Misra

Organizing Chairman - NAMSCON 2013

Dr. Kuldeep Singh

MD, DM

Additional Professor and Head
Department of Pediatrics



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MESSAGE

As Organizing Secretary of NAMSCON 2013, it is my proud privilege to welcome all of you to the 53rd Annual Conference of National Academy of Medical Sciences (India) at All India Institute of Medical Sciences, Jodhpur from 25th to 27th October, 2013. The National Academy of Medical Sciences is a conglomerate of biomedical scientists as its resources and its fellows and members who strive hard towards a unique mission of achieving medical and social goals.

A very meticulous program drawn by the Academy which is both wide in its expanse and specific in nature will make us contemplate upon contemporary issues which have immediate relevance to the medical community and mankind.

I congratulate all those new Fellows and Members receiving their scrolls during the convocation on 26th October, 2013. I am also grateful to the speakers, orators and presenters for their scientific contributions to this meeting.

I wish all delegates a very memorable stay at Jodhpur and wish the conference a great success.

Dr. Kuldeep Singh
Organizing Secretary - NAMSCON 2013

NATIONAL ACADEMY OF MEDICAL SCIENCES (INDIA) - A BRIEF REPORT



Dr. Sanjay Wadhwa, FAMS
Honorary Secretary, NAMS (India)
NAMS House, Ansari Nagar, New Delhi-110029
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National Academy of Medical Sciences (India), registered on 21st April, 1961 under Societies Registration Act XXI of 1860, is a unique institution which fosters and utilizes academic excellence as its resource to meet medical and social goals. It was inaugurated at New Delhi on 19th December, 1961 by the first Prime Minister of India, Pandit Jawaharlal Nehru. The first Convocation Address was delivered by Dr. S. Radhakrishnan, the then President of India on 8th December, 1963 at Vigyan Bhawan, New Delhi.

The Academy has been recognized by the Government of India as a Nodal Agency for Continuing Education for Medical and Allied Health Professionals and is advising the Government of India in matters of National Health Policy and Planning.

The Academy encourages and sponsors nation-wide Continuing Medical Education (CME) programmes, Symposia, Workshops etc. The NAMS has also made significant efforts to improve the reach of CME programmes by establishing tele-linkages between some Medical Colleges.

Over the years, the Academy has recognized the outstanding achievements made by Indian scientists in the field of medicine and allied sciences and conferred Fellowships as well as Memberships to selected persons through a peer reviewed process and finally, voting by all the Fellows. The Academy has 3 Honorary Fellows, 822 Fellows (FAMS) and 5316 Members (1,685 MAMS and 3,707 MNAMS) on its rolls, as on 31.3.2013.

The Academy has been fortunate enough to have had very eminent medical men and women, namely Drs. VR Khanolkar (the first President), CG Pandit, KL Wig, RV Rajam, AK Basu, Ms S Padmavati, PN Chhuttani, BK Anand, B Ramamurthi, BN Sinha, HD Tandon, RK Gandhi, P Siva Reddy, JS Bajaj, Mrs. SS Deshmukh, BK Sharma, Ms Mathangi Ramakrishnan, NK Ganguly, Hari Gautam, PK Dave, Ms Prema Ramachandran, KK Talwar, CS Bhaskaran (at present), as its Presidents.

A number of prestigious Orations (Achanta Lakshmi pathi Oration, Col. Sangham Lal Memorial Oration, Dr BK Anand Oration, Dr Baldev Singh Oration, Dr KL Wig Oration, Dr Pran Nath Chhuttani Oration, Dr RV Rajam Oration, Dr VR Khanolkar Oration, Gen. Amir Chand Oration and Academy Oration) and Awards (Dr SS Misra Memorial Award, Dr RM Kasliwal Award, Dr Vimla Virmani Award, Shyam Lal Saksena Memorial Award, Dental Public Health Award) have been instituted by the Academy and are bestowed every year upon eminent bio-medical scientists in recognition of their outstanding contributions. This year, an Oration in memory of late Dr S Janaki, FAMS and 2 Awards - Dr SS Sidhu Award and Dr Vinod Kumar Bhargava Award have been instituted at the Academy.

Every year, during the NAMS Annual Conference, a Scientific Symposium is organized on a topic of great relevance to the health care needs of the Country. The Theme of the NAMS Scientific Symposium during the 53rd Annual Conference at AIIMS, Jodhpur on 26th October, 2013 is 'Regenerative Medicine'.

ABOUT THE HOST INSTITUTION

ALL INDIA INSTITUTE OF MEDICAL SCIENCES (AIIMS), JODHPUR

Dr. Arvind Sinha
Additional Professor and Head
Department of Pediatric Surgery
All India Institute of Medical Sciences, Jodhpur.



Recap.....

AIIMS at Jodhpur was envisaged as part of the Pradhan Mantri Swasthya Suraksha Yojna (PMSSY) and has been established along with five other AIIMS (at Bhopal, Bhubaneswar, Patna, Raipur and Rishikesh). These institutes have been granted the status of Institutes of National Importance. The new AIIMS have been set up by an Act of Parliament (passed on 30th August, 2012) along the lines of AIIMS, New Delhi, to impart both undergraduate and postgraduate medical education in all branches and related fields along with Nursing and Paramedical training and to bring together at one place, educational facilities of the highest order for training of personnel and to provide state of the art patient care.

The Mission of AIIMS, Jodhpur is to establish a centre of excellence in medical education, training, health care and research imbued with scientific culture, compassion for the sick and commitment to serve the underserved. AIIMS, Jodhpur has been set up on 100 acres of land with 74 acres being demarcated for the college and the hospital complex and 26 acres has been kept aside for Residential complex, housing faculty, residents, students, nurses, paramedical and administrative staff.

Dr. Sanjeev Misra, noted Oncosurgeon, took charge of the institute as the first Director and CEO on 7th Aug, 2012. Shortly afterwards, on 17th September, 2012, the first Academic Session was started with classes in the subjects of Anatomy, Physiology, Biochemistry and Community and Family Medicine. With this, AIIMS, Jodhpur became the first of the six new AIIMS and the second AIIMS after AIIMS, New Delhi (which was started nearly sixty years ago) to become functional. The first batch of fifty students for AIIMS, Jodhpur were selected by a common All India Entrance Test where the brightest students from across the country chose AIIMS, Jodhpur. The student strength was increased to 100 in the year 2013 with AIIMS, Jodhpur

clearly demonstrating an edge as a preferred destination for students. The First Professional examination of the first batch of students was held in the month of July 2013 and the students performed well in the examination and passed with flying colors. To impart quality training to the Nursing students, a College of Nursing was established and its first session of BSc Hons. (Nursing) was started on 2nd September, 2013. The College admitted a total of sixty Nursing students in the first batch.

The teaching program at AIIMS Jodhpur is based on traditional lectures and modern e-learning resources, multiple choice questions, OSPEs and one to one interaction between students and faculty. The clinical training of second year students and their interaction with patients has already started in the clinics.

Students and faculty at AIIMS, Jodhpur have access to a fully functional Library (started on 23rd February, 2013) with nearly 2,100 medical books and a few computer terminals with Internet facilities. All the students are housed in the fully furnished Boys and Girls Hostels. A large resident hostel is also available for the senior and the junior residents. Various sports facilities for outdoor and indoor games are available for the students including Cricket, Football, Lawn Tennis, Basketball, Badminton, and indoor games like Chess, Carrom and Table tennis. The students have actively participated in Inter College sports, Literary and cultural meets at various institutes like IIT, Jodhpur, MBM Engineering College etc and have won many prizes in these competitions. The Institute has also been awarded Seven Indian Council of Medical Research (ICMR) Short Term Studentship (STS) projects in the year 2013.

The institute celebrated its first Annual Day on 17th September, 2013 and apart from the official function and prize distribution, it also included literary events and a cultural evening. The Institute also brought out a regular newsletter (Rohida – the communiqué) to promote literary activities among the students to allow for all round development of its students. An active mentorship program is in place in the campus to guide the students and to take care of both their emotional and academic needs. This has been a huge success, with both the students and their mentors fostering close bonds with each other in the true Indian tradition of a “Gurukul”.

A trial OPD at AIIMS, Jodhpur was started on 27th July, 2013 so as to facilitate the clinical teaching required for the MBBS students. The trial OPD was started with only a few departments and there were only sketchy diagnostic facilities available. A major milestone in the history of the institution was the inauguration of its Outpatient Department by the Hon'ble minister for Health and Family Welfare, Shri Ghulam Nabi Azad, on 24th September, 2013 and the formal OPD was started. He also inaugurated the Medical College Block and was accompanied by Hon'ble Chief Minister of Rajasthan, Shri Ashok Gehlot and Hon'ble Union Minister for Culture, Smt. Chandresh Kumari Katoch. The OPD at AIIMS, Jodhpur now has various functioning departments like Medicine, Pulmonary Medicine, General Surgery, Pediatrics, Obstetrics and Gynaecology, Orthopedics, Ophthalmology, ENT, Dentistry, Physical Medicine and Rehabilitation, Radiotherapy, Psychiatry, Pain Clinic (Anaesthesia) and super-specialities like Surgical Oncology and Pediatric Surgery.

Diagnostic facilities are now available in Radiodiagnosis, Pathology, Microbiology and Biochemistry. State of the art equipments like Fully Automated Cell Counters, facilities for microbial culture and Chemiluminescence are now available for patient care. Many advanced equipments are in the process of

being installed at the Institute so as to provide cutting edge patient care. The OPD has provided compact and organized services under one roof. Till date, the OPD services have had 22,000 new registrations and 9,000 new patients have been seen from 27th July, 2013. Proper Bio-medical waste management system has also been commissioned in all the OPD's and laboratories to ensure safety of the patients and health care providers.

The Institute has an established Research Cell that reviews the research projects and an Ethics Committee with Standard Operating Procedures to safeguard the rights of patients and volunteers. Various eminent personalities from across the country and abroad including Harvard School of Public Health and University of Oxford have visited the campus.

AIIMS, Jodhpur has hosted Ten Scientific meetings and conferences in the first year of its existence and is fast establishing its reputation and academic credentials. The prestigious 53rd Annual Conference of National Academy of Medical Sciences is also being hosted by AIIMS, Jodhpur. Many other conferences have also been planned in the near future including the National Conference on “Ethics in Medical Research” in December, 2013 and the first Pelvi-acetabular cadaveric workshop in January 2014. The Institute will also play host to the 4th National Conference on “Consortium against Rabies” in February, 2014.

AIIMS, Jodhpur also has ongoing collaborative projects with Indian Institute of Technology (IIT), Jodhpur and Desert Medicine Research Centre (DMRC), Jodhpur. To establish AIIMS, Jodhpur as a centre for advanced medical research, it has signed many Memorandum of Understanding (MOU) with other Institutes in the region. An MOU was signed between National Law University (NLU), Jodhpur, Indian Institute of Technology (IIT), Jodhpur and AIIMS, Jodhpur on 18th June, 2013. This was done with a view to enable sharing of common concerns for education and for advancement of research. Another MOU was signed with Bhagwan Mahaveer Viklang Sahayta Samiti (BMVSS), Jaipur to provide help to physically challenged persons in India and abroad and to promote further research in this area.

At present, there are twenty five departments in the Institute with a faculty strength of 62. Senior and junior residents have been recruited in various Departments. The faculty members have been closely involved with research and have published more than 100 research papers in journals of National and International repute. The faculty members are also actively participating in various national conferences and are being invited as speakers and faculty to many scientific meetings.

The Institute aims to start its IPD Services and Operation Theatres by early next year and it also plans to start various centres of excellence and Super speciality centres in the field of Oncology, Neurosciences, Cardiac Sciences, Ophthalmology, Organ Transplantation and Translational Research and is looking to expand its campus. AIIMS, Jodhpur also plans to start a School of Public Health which would be instrumental in bringing out Public Health Professionals needed to manage the public health initiative of India. Postgraduate courses in preclinical branches are planned from 2014.

With hard work and determination imbued with “out of the box” thinking, the Institute hopes to become the preferred medical destination for patients, students and faculty alike.

JHAROKHA

Dr. Pradeep Bhatia
Professor & Head
Department of Anaesthesiology
All India Institute of Medical Sciences, Jodhpur

Dr. Nikhil Kothari
Assistant Professor
Department of Anaesthesiology
All India Institute of Medical Sciences, Jodhpur

The Rulers of the Indian Princely State of Jodhpur belonged to an ancient dynasty established in the 8th century. However, the dynasty's fortunes were made by Rao Jodha, first of the rulers of the Rathore dynasty, after whom Jodhpur was eponymously named in 1459.

The state was incorporated into the Mughal Empire during the reign of the Emperor Akbar. During the late 17th century, the ruling house of Rathore was allowed to remain semi-autonomous in their territory. In the 1830's, Raja Man Singh entered into a subsidiary alliance with the Britishers, after which the Rajas of Marwar



(or Jodhpur) continued as rulers of the state. Their reign continued until Maharaja Sir Hanwant Singh acceded to the new dominion of India following Indian independence in 1947. He is succeeded by Maharaja Gaj Singh Ji.

Jodhpur is known as the "Sun City" for its bright, sunny weather throughout the year and is also referred to as the "Blue City" due to the vivid blue-painted houses in close proximity to the Mehrangarh fort.

The places to visit in Jodhpur are:

Umaid Bhawan Palace: Also called Chittar Palace due to its location on Chittar Hill which was the highest point in Jodhpur. The romantic looking Umaid Bhawan Palace was actually built with the purpose of giving employment to the people of Jodhpur during a long drawn famine. Ground for the foundations of the building was broken on 18th November, 1929 by Maharaja Umaid Singh and the construction work was completed in 1943.

A part of the palace has now been converted into Umaid Bhawan Palace Hotel, managed by the Taj group of Hotels. Another part of the palace houses a well-maintained museum, displaying an amazing array of items belonging to the royal family - weapons, antiques & fascinating clocks, costumes, dolls and doll houses, crockery and trophies. The royal family of Jodhpur still lives in a part of the palace.

Mehrangarh Fort: Situated on a steep hill, it is one of the largest forts in India. The beauty and the grandeur of the many palaces in the fort narrate a saga of hard sandstones yielding to the chisels of the skilled sculptors. The Fort, spread over an area of 5 kms on a perpendicular hill and looks down 125 meters, presents a majestic view on the city horizon.

The Fort enraptures all with its exquisitely latticed windows, carved



panels and the elaborately adorned walls of Moti Mahal, Phool Mahal and Sheesh Mahal. A collection of musical instruments, palanquins, royal costumes, furniture and the cannons on the fort's ramparts are well preserved.

Jaswant Thada: Close to the fort complex is this 19th century royal cenotaph built in white marble in commemoration of Maharaja Jaswant Singh II. The cenotaph of Maharaja Jaswant Singh holds the rare portraits of the rulers of Jodhpur. A visit inside the cenotaph brings forward the reverence the villagers still hold for their brave kings.

Osiyan: is an ancient town located 69 kms (43 miles) by road north of Jodhpur, on a diversion off the main Jodhpur – Bikaner Highway. It is an oasis in the Thar Desert and has been long known as the "Khajuraho of Rajasthan" for its cluster of ruined Brahmanical and Jain temples dating from the 8th to the 11th century. The city was a major religious centre of the kingdom of Marwar during the Gurjara Pratihara dynasty. Of the 18 shrines in the group, the Surya or Sun Temple, the Kali temple, Sachiya Mata Temple and the main Jain temple dedicated to Lord Mahavira stand out due to their grace and architecture.



Mandor Garden: Mandor is an ancient regional capital just 9 kms north of Jodhpur. Rao Jodha moved the capital from Mandor to Jodhpur in the 15th century and by 17th century, Mandor had become a royal park which was dedicated to cenotaphs of the Jodhpur rulers.

Umed Garden: Developed by Maharaja Umed Singh, the Umed garden covers an area of 82 acres. It has towering Ashoka trees, beautiful seasonal flowers, artistically designed fountains, a library, museum and a zoo. In 1978, a 'Walk-in Aviary' was constructed where one could see different types of birds, ducks and rabbits etc. in their natural habitat.

Shopping : Shopping in Jodhpur is an exciting and rewarding experience for the visitors. It is the homeplace of many talented and skilled craftsmen including textile dyers, metal engravers and die-makers. While in Jodhpur, don't forget to buy the famous Jodhpuri Suit which gives a royal identity to your dressing.

The popular traditional markets in Jodhpur are Sojati gate Market & Station Road Market.

Antiques: Jodhpur is an antique lover's paradise. Jodhpur antiques include textiles, silver jewellery, pottery, carved ducks, metalwork, marble figures, paintings, wall hangings, ivory antiques, bed covers, puppets, clothes, old furniture, chests, cabinets, doors, windows, memorabilia and rare first-edition books. Some of the main centres for antique shopping in Jodhpur are:

- 1) Rajasthan Arts and Crafts House, Near Circuit House, Umaid Bhawan Road.
- 2) Rajasthan Art Emporium, Marudhar Industrial Area (MIA), Basni, Near AIIMS.
- 3) Sun City Art Exporters, Umaid Bhawan Road.

Most of the shops selling antiques are located at the foothills of the Umaid Bhawan Palace.

Bandhini: Bandhini, also known as Tie and dye, is a resist-dyeing technique widely used in the state of Rajasthan. It is used to design decorative patterns created by skilled artists. The fabric is tied in intricate patterns with the help of nails, beads or grain which acts as an impediment against the seepage of color into the tied areas during dyeing. The Jodhpuri craftsmen have perfected the technique of Bandhini and can make the most intricate patterns with vibrant backgrounds. Jodhpur is also famous for Rajasthani dresses, Jodhpuri coats, salwar-kameez and turbans. Some of the good markets in the city for Bandhini are:

- 1) National Handloom, Near Circuit House.
- 2) Sojati Gate Market.
- 3) Nai Sarak Market and
- 4) Sardar Market, Near Clock Tower (Ghanta Ghar).

Footwear: Jodhpur footwear is famous throughout India. The catalogue of Indian footwear is incomplete without the mention of Mojris or Jodhpuri Jutis. This footwear can help give a royal touch to one's attire. It is usually worn with traditional Indian dresses like Sherwanis, Achkans, Kurta-Pyjama, Jodhpuri suits, etc. They are available in different colors and designs and are usually hand crafted. Some of the good markets for buying Jutis are:

- 1) National Handloom, Near Circuit House.
- 2) Mochi Bazaar in the walled city.
- 3) Jutti Corner on Station Road.

Jodhpuri Delicacies : A visit to the royal city is not complete without sampling the Rajasthani delicacies at Nirali Dhani, Chopasni road. A few of the delicacies are:

Dal Bati Churma, Bajre ki roti, Gatte ka saag, Kabuli (a rice speciality), Mirchi Bada / Samosa/ Pyaz Ki Kachori, Gulab Jamun ki sabji made of raw gulab jamun containing no sugar, Mawa Kachori, Panchkuta and Makhaniya Lassi: (yoghurt drink) spiced up with cardamom and butter.

Other eateries: Gypsy Dining Hall, Havmor Restaurant, Apex Hotel, Fun & Food, all located at Sardarpura, C-Road.

Some of the shops where you can find quality as well as variety in sweets & namkeens (mirchi bada) are:

- 1) Jodhpur Sweet Home, C-Road, Sardarpura.
- 2) Janta Sweet Home, Nai Sadak, Jodhpur.
- 3) Pokhar Sweets, Nai Sadak, Jodhpur.

MEDICAL EDUCATION IN RAJASTHAN

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1. Introduction:

The sole purpose of education is to bring about the desired behavioural attitude and skills among the learner. Medical education is a systematic process to bring about those changes for the learner, to practice medicine efficiently and provide need-based health care to the society. In contrast to other professional fields, medical profession is mostly experiential, learnt by trial and error and it becomes difficult to unlearn incorrect skills and attitude in real life. The medical education process is highly dependent on the need of the society. As these needs are changing with technology, so also our educational technology for the medical students. Statistical data says that goal of providing health care to the population can readily be met by increasing the number of doctors. This may be true but poses a great challenge as the Government is trying its best to ensure that qualified health professionals are available even in the remotest of areas. Regulations alone may not be sufficient to pressurize medicos to work in rural area. We need alternative strategies to make rural posting more attractive. Medical education has 3 distinct components. One, to efficiently educate medical professionals to provide compassionate holistic care with competency (number), Second to adopt a process (Technology) to do so and Third, which is very important, is to train the faculty in the medical education technology (faculty development). This can only happen through educational reforms. Over the last two decades, the medical educationists felt a strong need for a change in the curriculum, which was need-based, developed competency and performed upto the expectations of the society. India still needs more generalists than specialists, which, however, was contrary to the expectations of society. The present urban centric society is creating a demand for more specialists which in turn fuels graduates towards super specialization. The current system of pursuing a Post Graduate (PG) course is through highly competitive PG entrance examinations, which though started in a good faith in 1990s, has ended up producing below-par health professionals due to skewed pedagogical approach. It is now believed that appropriately trained health professionals can provide health services efficiently to larger section of society in a more efficient manner than specialists. Therefore, we need to concentrate more on quality and not on quantity of health professionals. Educational reforms, by themselves, will be driving our society towards a health seeking community which takes care of itself in preventing diseases and promoting health through desired life style changes.

Rajasthan has a rich and diverse culture with major region being occupied by desert area. Adverse climatic conditions, peculiar cultural practices and educational backwardness have all contributed to high mortality and morbidity. Besides this, poor health seeking behaviour and lack of women empowerment causes high infant and maternal mortality. The needs of society in this part of the country are quite different from the rest of the country and therefore, need a re-look into while implementing the medical educational reforms.

2. History of Medical Education in Rajasthan:

Attempts to start a Medical Institute in Jaipur were made in 1845 which, however, had a limited success. In 1855, a maternity hospital, a dispensary with a medical school were opened in Jaipur. It was inaugurated on the 7th of September, 1861 with first batch of 24 students. Dr. Kingford Burr was appointed as director of this college who was later joined by Dr. Najeed Khan and Dr. Hussain Baksh as demonstrator in Anatomy and assistant surgeon Parvati Charan Gosh as a lecturer. Due to certain differences and unfortunate developments, led by public opposition for dissection of dead human bodies, the medical

school was closed in 1864. In 1945, late Sir Mirza Ismail, prime minister of Jaipur state, during his visit to Sikar, was invited for tea by Late Rao Raja Kalian Singh of Sikar at his guest house. Incidentally, the Chief Medical Officer, Dr. S. C. Mehta was also one of the invitees. During discussions, Dr. Mehta pointed out the shortage of doctors due to relocation of appointed doctors to their parent states due to better incentives offered at their home place. Recommendations were made for establishing a medical college in Rajasthan state. Under the leadership of Sir Mirza, the foundation stone for Sawai Man Singh College (SMS) was laid on March 13th, 1946 by Lord Wavell in a very impressive function presided over by H.H.Sawai Man Singh, the Maharaja of Jaipur.

The year 1947 marked the beginning of a new era in medical education in Rajasthan with the inception of the 15th centre for medical education in India, and the first one in Rajasthan- the prestigious SMS Medical College. Dr. G.N.Sen was its first principal who had a short tenure and was succeeded by Dr. S.C.Mehta, famous for his great zeal, drive and sense of discipline. His team included Dr. H.C.Choudhary, first professor of Physiology, and Dr.B.M.Lal, first professor of Anatomy, along with Professor Ram Bihari Arora and Dr R.K.Goel heading the departments of Pharmacology and Pathology respectively. In 1952, the college got recognition from Medical Council of India. The year also marked the beginning of PG Courses and the first batch of M.D. and M.S. students qualified in 1955. The college has shown tremendous progress in Medical Education producing competent professionals since then.

The 2nd Medical College of Rajasthan, Sardar Patel Medical College, Bikaner was established on 5th February, 1959 by the hands of Shri Mohan Lal Sukhadia, the then Chief Minister of Rajasthan. Later on, Pt. Jawaharlal Nehru laid its corner stone on 1st April, 1959. Dr. S.C. Mehta took over the charge of Officer on Special Duty in December 1958 and became the first Principal, with first batch of 45 students being admitted in 1959. Initially named as Bikaner Medical College, the college was rechristened after Sardar Vallabh Bhai Patel, the architect of Modern India. Housed earlier in the building of War Hospital, the college gave personal attention towards inculcating good traditions with the Principal dining with students once a month to encourage such a change. A Cobalt plant was installed with help of contributions in 1962 and the new college building was made in 1964. Shramdan by students and faculty led to the construction of a road which is now the main communication channel. Same year, the college got recognized by MCI. Soon, the college got recognized for PG education in most of the specialities. The college also boasted of first Coronary Care Unit in 1976, first Blood Gas Analyzer in 1978 and many more facilities during 1980s under leadership of Dr S.N.Mishra. Faculty development program is being carried out as per MCI mandate.

The year 1962 saw the establishment of Rabindra Nath Tagore (RNT) Medical College Udaipur as the 3rd Institute in Rajasthan and it got MCI recognition in 1966. The college also provides super-specialization services in Nephrology, Neurology, Urology and Pediatric Surgery. The special clinical wards of Endocrinology and Plastic Surgery are also working. The newly constructed building of Cardiology unit has a Cath lab installed and patients are provided with the facility of angiography.

Sampurnanand (SN) Medical College, Jodhpur is the 4th Medical Institute in the state, being established in 1965 with intake of 75 students and the first batch graduated in 1969. The college was named after the renowned educationist and freedom fighter, Dr Sampurnanand. PG courses were introduced in 1975 which now train about 58 students. The college has various amenities required for holistic development of medical students and provides patient care through hospitals spread out in the city such as Mahatma Gandhi Hospital, the Umaid Hospital, the Mathuradas Mathur Hospital, the Kamala Nehru TB & Chest Hospital and the Psychiatric Hospital.

Jawahar Lal Medical College, Ajmer also started functioning in 1965 with the concerted efforts of Honorable Sh. Mohan Lal Sukhadia, the then Chief Minister of Rajasthan, Sh. Barkatullah Khan, the Health Minister of that time, the Finance Minister Sh. B.K. Kaul along with Dr. S.P. Wanchoo who became the first Principal and Controller. Housed in the old building of T.B. & Chest Diseases Hospital with an admission facility of 50 students. The College shifted to new building in 1967-68. Dr. B. B. Maitraiye and Dr. M.K. Patni

were the forerunner as the first heads of the Departments of Physiology & Anatomy respectively.

The sixth college, Government Medical College, Kota came into existence in March 1992 with Dr. R.L. Ajmera, Professor of Physiology, as the first principal. The first batch of 50 students was admitted in 1992-93 session and regular classes of this batch were started in ESI Hospital building at Jhalawar road, Kota. This Medical College was recognized by MCI in 1998. With launch of its own campus having a new three storied building in 1997, the Medical College was shifted to a campus with ample space at Rang Bari road in the year 1997. PG courses were introduced in the year 2002-2003 in most of the specialities. Services are provided through Maharao Bhim Singh Hospital, Jay Kay Lon Mother and Child Hospital, New Medical College Hospital along with Urban and Rural Training Centers.

Jhalawar Medical College, Jhalawar was established recently as the 7th College by formation of a society by the Government of Rajasthan on 8th August, 2007. The new Hospital and College started functioning from 27th March, 2008. The first batch of 100 students was admitted in 2008.

Keeping in view the emerging challenges in medical education and vistas to include other health care professionals, the State Government of Rajasthan enacted an Act "The Rajasthan University of Health Sciences Act, 2005" (Act No. 1 of 2005) in February 2005. Rajasthan University of Health Sciences (RUHS), Jaipur started functioning from the 1st of April, 2006 by taking over six government and two private Medical Colleges in its fold with Dr. P.P.S. Mathur, Ex. Senior Professor of Neurosurgery and Medical Superintendent, SMS Hospital, Jaipur joining as the first Vice-Chancellor of the University. The university aims to disseminate and advance knowledge in medical and health sciences. The University provides academic and research facilities in various streams to the students studying in its affiliated Institutions and endeavours to make itself a leader in world medical education by focusing on the systematic instructions, teaching, training and research activities. Presently, Dr Raja Babu Panwar is the Vice Chancellor and Smt Anuprerna Kuntal is the Registrar of the University. Apart from 7 Government colleges, Private Medical Colleges in Rajasthan which includes Geetanjali Medical College & Hospital, Udaipur; Mahatma Gandhi Medical College & Hospital, Jaipur and National Institute of Medical Science & Research, Jaipur are also affiliated under RUHS.

3. Establishment of Medical Education Units:

A teacher, in general, and a Medical Teacher, in particular, needs to be a lifelong learner. Doctor literally means "teacher" and a medical doctor has the dual responsibility of teaching students and teaching/treating society. All teachers need to keep updating themselves with new and contemporary technology. There are many pedagogical principles and techniques which a medical teacher is required to know in order to facilitate his/her students' learning. Teachers in primary and secondary schools are taught these principles through Bachelors and Masters Program (BEd, MEd program). Senior teachers are conversant with these technology and have learnt through their experience. However, there is no such program for a Medical Teacher embarking on an academic career. Hence, it was felt by MCI that there is a need for medical faculty to be trained in these technologies through faculty development program. The Medical Education Units (MEUs) were established in most of the colleges but were found to be functioning sub-optimally. The Medical Council of India, by the MCI Regulations on Graduate Medical Education 1997, made it mandatory for all medical colleges to establish MEUs or departments in order to enable faculty members to avail modern education technology for teaching. In order to boost this activity, MCI has been conducting Faculty Development Programmes through selected Regional Centres since July 2009. MCI established Regional Training Centers (RTCs) in various parts of the country to train faculty. The faculty from Jodhpur, Jaipur and Ajmer were allocated to PMCH, Karamsad whereas faculty from Udaipur, Kota, Bikaner and Jhalawar were allocated to Smt NHL Municipal Medical College, Ahmedabad. The modus operandi is based on cascade way of transferring technology. The faculty first get trained at RTC under the leadership of a Convenor well trained in Medical Education Technologies (MET) and once 8-10 faculty along

with their co-ordinator from a college are trained at such RTC, they conduct their own workshop under observership and mentorship of RTC. Fruitfulness of such process is visible in Rajasthan as medical colleges are conducting their own educational activities in the form of CMEs, workshops and other educational activities towards faculty development and inculcating the same among their students. Some of colleges have also started Telemedicine program with apex Institutes globally. With the “Vision 2015” document, MCI has also embarked on a new initiative “Curriculum Implementation Support Program” which aims for a competent and compassionate “Indian Medical Graduate” skilled enough to practice medicine at par with his/her counterpart globally. At the root of this program are modules targeted for a sound foundation of medicine with a sufficiently early clinical exposure for contextual learning in an integrated fashion along with structured skill development to become a compassionate and competent doctor who can provide need-based medical care with humanity and ethical integrity using available contemporary technology effectively and based on human economics.

4. Real need of society:

India is a vast country with massive resources in both material and manpower. However, there is skewing of funds and manpower movement towards already rich and resourceful areas. A dream scenario would be to have equitable distribution of health to each area of our country. Further, it is not possible to formulate “one size fits all” policy for each state because of the diversity of our country. Leaders in medical education have thought of this disparity and have made medical education both flexible enough to be adopted as per local need and structured sufficiently to encompass broad vision of Indian Medical Graduate.

5. Important Health Professional Activities:

As a Medical institution, our responsibilities are not restricted to health services only but also to train the health manpower resources. We are now well aware of the flaws in our Medical Education System and can definitely find solutions to some of them. Apart from teaching technologies, we should also concentrate on assessment mechanism in our medical schools. It is a well known fact that there are two things which stimulate a medical student to read - one is the examinations and the other is patient. As an adult learner, he is not presently worried about the patients whom he is going to see once in practice after completing his course (MBBS/PG). His main emphasis currently is on examinations. We also know that assessment drives learning. Our assessment systems are not sturdy and neither is the faculty adequately trained in assessment technology. Even now, older methods of evaluation are used inspite of the fact that students (Generation Y, born after 1980) are well versed with newer technology. We need to seriously think and address this in faculty development and this should be aligned with our educational objectives. Newer concept, like Workplace Based Assessment (WBA), where students are assessed on site and in society, is more authentic in predicting students' performance in real life.

6. What needs to be done presently:

A relook into the current health scenario in Rajasthan is required ideally through qualitative research and descriptive studies to find extent of the problems. This may be done through in-depth surveys, verbal autopsy, focussed group discussions, social interviews and case studies.

7. Future:

The dream situation will be dissolution of departmental boundaries with wide integration of specialities, where teaching and training is contextual and is imparted to enhance learners' skills and performance with an overall goal for a healthy society. This may appear to be an uphill utopian task but is possible by positive attitude.

HEALTH SCENARIO IN RAJASTHAN

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Rajasthan is the largest state in India located in the north-western part of the subcontinent. It is bound to the north and north-east by the states of Punjab and Haryana, to the east and south-east by the states of Uttar Pradesh and Madhya Pradesh, to the south-west by the state of Gujarat, and to the west and north-west by Pakistan. Located in India's west-central interior, the state is home to over about 68 million people, almost 50% of whom are under the age of 18 years (Census 2011). This state has 33 administrative districts, covering a total area of 3,42,239 sq.km. Thar desert constitutes 70% of its total land mass with a forest cover of 9.54%. It has 249 Development Blocks. Out of 33 districts, 7 are tribal, 6 deserts and 20 are plain district.

The Population density in Rajasthan has increased from 165 per sq.km during Census 2001 to 201 in the recent Census 2011. It varies from 598 in Jaipur to 17 in Jaisalmer. The state has a growth rate of about 21% which is the 11th highest growth rate in the country. Looking at the demographic indicators, Rajasthan has succeeded in reducing its Total Fertility Rate (TFR) - the average number of children expected to be born per woman during her reproductive years - by 0.2% from the year 2009 to 2010, but it is still far above the national average. Rajasthan has a TFR of 2.7 in comparison to 2.1 for India. Sex ratio in Rajasthan is 928 females per 1000 males, which is below the national average of 940 as per Census 2011. The latest census reflects the dismal child sex ratio (for ages 0-6) in the state, with only 9 districts reporting the ratio above 900, compared to the 2001 Census which had 23 districts above this mark. Amongst the Empowered Action Group (EAG) states, Rajasthan is at the bottom of the list with a child sex ratio of 883 and is preceded by Uttarakhand and Uttar Pradesh.

Indicators of human development show a literacy rate of 67.06% which is below the average for India. The major health Millennium Development Goal (MDG) outcome indicators of goal 4 and goal 5 like: Infant Mortality Rate (IMR) and Maternal Mortality Ratio (MMR) are quite high in Rajasthan. IMR is the most sensitive indicator of human development. It is at a high level in Rajasthan. Both IMR (52) and MMR (318 during 2004-06) are far higher than the average for India (44 and 212 respectively) reflecting the poor state of healthcare of the citizens in the state. Most other indicators of various amenities are, similarly, below the national average. Crude Birth Rate (CBR) of Rajasthan is 26.2 compared to 21.8 for India where as Crude Death Rate (CDR) of Rajasthan is 6.7 compared to 7.1 for India.

The per capita income of Rajasthan is Rs. 26,436/- at constant prices during 2010-11 and the Gross Domestic Product (GDP) growth rate is 10.97% for 2010-11 over the previous year. The percentage share of Gross State Domestic Product (GSDP) at current prices and at constant prices of Rajasthan is 4.5 and 4.2% respectively as per 2010-11 quick estimates.

According to the National Health Accounts Cell of the Ministry of Health & Family Welfare, Government of India (GOI), 2004-05, the public expenditure on health as a percentage share of GSDP is low in Rajasthan (0.98%).

According to the recently released India's Human Development Index Report 2011, the Human Development Index (HDI) rank of Rajasthan has declined from a rank of 14 (0.387) in the year 1999-2000 to 17 in the year 2007-08 (0.434) among 29 states.

Considering performance indicators, Rajasthan performs low in comparison to available figures at National level. Couple Protection Rate of Rajasthan is 54 in comparison to 57 for India. Proportion of fully immunized children is 53.8% in comparison to 61% for India. Similarly, proportion of pregnant women receiving full ANC constitutes 14.6% which is far below the national average of 26.5%.

If we take a look at the health care services of Rajasthan, there is a considerable shortfall in facilities, both in terms of infrastructure as well as manpower. Out of the total 2326 Primary Health centers (PHCs), 798 are vacant. Out of total specialists' post of 1528 at Community Health Centers (CHCs), 1380 posts are lying vacant.

Amongst various communicable diseases, Malaria and Dengue are two principal vector borne diseases in Rajasthan. The tribal and desert area contributes to 70% of the malaria cases. Dengue is endemic

in majority of districts of Rajasthan. There is a high prevalence of occupational silicosis and silico-tuberculosis in Jodhpur. There was a sudden spurt in swine flu (H1N1) cases in Rajasthan claiming lives of more than 100 people during 2013, showing a shift of disease epicenter from Maharashtra to Rajasthan.

Different studies have shown that amongst various cancers reported in males, lung cancer contributes about 8.45%, followed by prostate (7.12%), brain (6.04%), urinary bladder (5.31%), esophagus (4.67%) and tongue (4.60%). In females, carcinoma Breast (20.44%) tops the list followed by cervix (14.99%), ovary (4.35%), brain (3.80%), esophagus (3.67%), uterus (3.01%) and rectum (2.80%). The overall addiction rate for opium is estimated to be 8.4 % in Barmer, 7.9% in Jaisalmer, 6.9% in Bikaner and 7.3% in Jodhpur districts of Rajasthan. A study reported prevalence of dental fluorosis in Jodhpur, 11.44% in the age group of 5-6 years and 25.47% in 12-13 year old children. In Jodhpur, total goiter rate in school going children was reported to be 11.4%. In Rajasthan, the reported proportion of households consuming adequately iodized salt was 40 per cent, which is lesser than the national average.

Few studies reported prevalence of type 2 diabetes as 5.2% among tribal population and 0.7% in non-tribal subjects. Prevalence of pre-hypertension and hypertension was found to be 36.4% and 19.7% among tribal and 23.5% and 17.5% in non-tribal population.

In a study conducted by Population Research Centre for finding the incidence of various diseases in EAG states, Rajasthan reported the highest incidence of Asthma (1739/100,000) in men which exceeds that of the national average (1696/100,000).

To conclude, the health scenario in Rajasthan is not very encouraging, as shown by its health care indicators, performance indicators, morbidity indicators and indicators of human development.

Health system of Rajasthan is grappling with the effects of existing communicable and non-communicable diseases and also with the increasing burden of emerging and re-emerging diseases (drug-resistant TB, malaria, asthma, silicosis and the current H1N1 pandemic). More so, inadequate financial resources for the health sector and inefficient utilization results in disparities in health. Causes of health inequalities lie in the social, economic and political mechanisms that lead to social stratification according to income, education, occupation, gender and ethnicity.

To address this problem, there is an utmost need to deal with various issues pertaining to nutrition, environment, health care delivery and performance of various health programmes which influence the morbidity status as a whole.

With these challenges that threaten the health and well-being of the population of Rajasthan, it is imperative that the Government and community collectively rise to the occasion and face these challenges simultaneously, inclusively and sustainably.

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ETHICAL ISSUES INVOLVED IN LABORATORY PRACTICE

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There are several procedures in laboratory medicine where ethical issues are involved. Laboratory professionals are required to identify such ethical issues in the day to day functioning of the laboratory while carrying out investigations of patients' samples. The laboratory medicine personnel are also bound by the ethical codes of their respective professions as other medical professionals and should not be involved in practices not acceptable under law and should uphold the professional dignity and integrity.

The basic principle of health care ethics is to ensure patient's welfare. The laboratory should treat all patients honestly without any discrimination whatsoever. It is the responsibility of the laboratory to collect and maintain all the adequate and relevant information for proper identification of the patient which enables it to carry out procedures for required tests and examination. The laboratory should refrain from procuring unnecessary information not warranted for laboratory procedures. The patient should be made acquainted with the purpose for which the information is collected. In the event of communicable diseases, proper information should also be collected as safety of patients and staff are concerns.

Investigation procedures carried out for the examination of patients' samples require informed consent of the patients. However, most of the laboratory procedures assume consent to have been obtained when the patient presents himself/herself at the laboratory with a request form and is willing to get laboratory investigations for diagnosis of the disease and is hence, prepared to undergo the usual blood collection procedures like venipuncture etc. The patients should not be forced to undergo any medical testing without their consent as forcing a patient is tantamount to invasion of privacy and a violation of human rights.

Further, while carrying out certain special procedures involving invasive techniques which require a more detailed and comprehensive information and in some special cases, written consent becomes mandatory. This is all the more important when there is likelihood of complications associated with procedures. Laboratories performing Human Immunodeficiency Virus (HIV) testing should follow National AIDS Control Organization (NACO) guidelines, which include pre-test and post-test counseling. The laboratory should not perform HIV test unless the individual has undergone pre-test counseling and consented for post-test counseling. Informed consent of the patient should be taken prior to the blood collection and result of HIV positive test should be kept strictly confidential.

In emergency situations, where it may not be possible to obtain consent of the patients, the laboratory should carry out the investigations in the best interest of the patients. However, the laboratory should not communicate the results with serious implications directly to the patients without an opportunity for adequate counseling.

Adequate privacy during reception and sampling should be available and appropriate to the type of primary sample being collected and information being requested. If the primary sample arrives at the laboratory in a condition that is unsuitable for the requested examination, it should ideally be discarded and the referring physician should be notified.

The laboratory should use standard and established examination procedures, including pre-analytical examinations to meet the needs of the users of laboratory services and be appropriate for the required examinations. Preferred procedures adopted should be well established by authoritative

textbooks, peer-reviewed texts or journals or as per the international, national or regional guidelines. If in-house procedures are used, they shall be appropriately validated for intended use and fully documented. Any fabrication of result is completely unacceptable and thus, unethical to follow.

The results of laboratory investigations are confidential unless disclosure is authorized. The results will normally be reported to the requesting physician and may be reported to other parties with the consent of patients or as admissible by law. The results of laboratory investigation that have been separated from all patient identification (de-linked, anonymous) may be used for such purposes as epidemiology, demography or other statistical analyses. In addition to the accurate reporting of laboratory results, the laboratory has an extra responsibility to ensure that, as far as possible, the investigations are correctly interpreted and applied in the patient's best interest.

The laboratory should establish and implement procedures for identification, for collection, indexing, access, storage, maintenance of quality and technical records and safe disposal. All records should be legible and stored so that they can be readily retrieved. Records may be stored on any appropriate medium subject to national, regional or local legal requirements. The laboratory should ensure a suitable environment to prevent damage, worsening, loss of records and also unauthorized access to them. The laboratory should decide the retention time of records as per the national, regional or local regulations. As per National Accreditation Board for Testing and Calibration Laboratories (NABL) guidelines, the minimum period for retention of test reports issued shall be five years for Histopathology and Cytopathology and one year for other disciplines.

Medical laboratories should not get involved into financial interest with referring practitioners which comes under the definition of inducement for the referral of patients. Space used for primary sample collection should be completely independent and separate from referring practitioners' rooms. Laboratories should try to avoid situations that give rise to a conflict of interest.

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MATERNAL HEALTH IN RAJASTHAN – “A BATTLE STILL TO BE WON”

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Each year in India, roughly 28 million women experience pregnancy and 26 million have a live birth. Of these, an estimated 67,000 maternal deaths and one million newborn deaths occur each year. In addition, million more women suffer from pregnancy related ill-health. Thus, pregnancy-related mortality and morbidity continue to have a huge impact on the lives of Indian women and their newborn. With a Maternal Mortality Ratio (MMR) of approximately 318 per 100,000 live births, the state of Rajasthan contributes significantly to India's burden of maternal deaths. This figure is much higher than the national average of 212 MMR per 100,000 live births. This is enormous in comparison to international standards [Sweden 8, UK 10, Greece 0] and even neighboring Asian countries [Sri Lanka 60, China 60 and Thailand 54]. MMR is not only an indicator of the maternal health situation in any given country, it also reflects the status of the ongoing intervention program.

MMR varies greatly among different regions of India due to varied availability and accessibility to health care, varied availability of emergency obstetric care, prevalence of anemia and poverty and lack of education etc. Almost two thirds of maternal deaths occur in Assam, Bihar, Jharkhand, Chhattisgarh, Orissa, Rajasthan, Madhya Pradesh, Uttar Pradesh & Uttarakhand. These have become high focus states under National Rural Health Mission (NRHM). The major causes of these deaths have been identified as hemorrhage (both ante and post partum), toxemia (Hypertension during pregnancy), anemia, obstructed labor, puerperal sepsis and unsafe abortions. Medical records typically highlight the immediate biological cause of death but the personal, familial, socio-cultural and environmental factors contributing to these causes are not dwelled upon.

The terrain and the socio-cultural environment in Rajasthan set the stage for high maternal mortality. Rajasthan is the largest state of the country with a land area of approximately 10%. It is 8th in number with respect to population with majority of the people living in rural areas. More than 60% of the area of the state is desert which is characterized by extremes of temperature, dry and arid environment with low rainfall and sparse vegetation. Majority of the people follow Hindu faith. Agriculture and animal husbandry are the two major means of living, though in urban areas of the state, the situation is changing rapidly. Agriculture has become the major means of livelihood in the areas which are better irrigated. Southern part of the state is dominated by tribals and migration is very common from these areas. Rajasthan has faced regular droughts (partial or total) and breakdown of livelihood support base. So, all these factors contribute to high poverty in the state [14% of the population below poverty line]. Tribal areas in southern part of Rajasthan have highest poverty levels in the state, whereas the western part has lowest. Gender ratio was 929 females to 1,000 males (Annual Health Survey [AHS] 2011-2012).

Literacy levels are low, approximately 39% for married females [National Family Health Survey (NFHS) 3; 2005-2006]. Early and teenage marriages are common. According to NFHS 3 Survey, 76% of women

between 20-49 yrs get married before the age of 18 years. The low family status, early marriage, low literacy levels, poverty, un-met needs for contraception and inadequate control over finances set the stage for high maternal mortality. This is further aggravated by preference for a male heir and women bearing more children; high fertility increasing the lifetime risk of maternal death. Women's autonomy which has a direct relation to health seeking behavior is very poor & the worst in rural areas [NFHS 3 Survey; 2005-2006]. Girls were poorly nourished and underfed as compared to boys. This custom was supposed to delay menarche and sexual maturation. This practice continues from pre-pubertal period to adulthood, leading to under-nutrition, anemia, low body mass etc. This is especially common in rural areas and scheduled tribes. This state of poor pre-pregnancy maternal health is further worsened with early & repeated childbearing. In India, even the poorest spend months planning for a wedding. But, for childbirth, in stark contrast, no preparation or planning is done. Most deliveries (upto 85% in rural Rajasthan) are conducted at home by relatives, family members, dais or untrained personnel. This leads to delay in seeking medical care and also delay in reaching to an appropriate health facility in case of an unforeseen event.

Health care in desert and rocky areas is far flung and inaccessible. After independence, as health facilities have gradually increased, it has slowly led to an increase in health seeking behaviour of women. According to NFHS 2005-2006, 75% of women received some Ante-Natal Care (ANC) during their pregnancy, though less than half had three visits. Here, difference in rural and urban women remained. Urban women had better access to health facility and hence, better antenatal care. This was a significant improvement as compared to the previous survey. Proportion of women receiving Iron and Folic Acid (IFA) increased to 53%. But, only 13% received IFA for the recommended 90 days. Coverage for tetanus toxoid increased from 29% to 65% [NFHS 1 and 3 Surveys]. Government hospitals/facilities were the major source for ANC care. Utilization of private sector facility was far less. As urban women had better access to health care, private sector health facility was also used more frequently by them.

The proportion of women having institutional deliveries changed rapidly following the introduction of a National maternity benefit scheme called Janani Suraksha Yojana (JSY), which was adopted in April 2005 wherein monetary benefits were offered to a parturient lady delivering in a government hospital as well as to the health worker who brought the parturient lady to the health facility. The number of institutional deliveries increased steadily since then. This was seen more prominently in urban areas than in rural areas (NFHS Surveys). Increased institutional delivery was a step towards delivery being attended by trained personnel, thereby decreasing the intrapartum complications. But on the other side, it has led to further crowding of already overcrowded government hospitals leading to compromise in the quality of care. In terms of Postpartum care, only 7.5% of women delivering at home had postnatal checkup, whereas 71% of women delivering in a public health facility and 80% women delivering in private facility had postnatal care. The government of Rajasthan has issued guidelines to discharge women only after 48hrs of delivery to get benefits of JSY which aims to decrease postnatal complications especially PPH and if it occurs, it can be managed in the hospital/ health facility itself.

Addressing the issue of family planning services, contraceptives were used more often by urban women [66%] than rural [41%]. In NFHS 3 Survey 2005-2006, 47% of Rajasthani women were using

contraception. Of the total contraceptives used, 76% opted for female sterilization. Among the reversible methods of contraception, barrier method (condom) was used (5.8%). Contraceptive services (tubal ligation) were mostly provided by the government sector while pills and IUCDs were more frequently prescribed by private health facility. This indicates that government health facility emphasizes more on terminal methods. So, the needs of young adolescents and those having incomplete families are not being adequately addressed.

MTP has been legalized in India for almost three decades now. But, the availability of abortion services in Rajasthan is poor. Most Community Health Centres (CHCs) and Primary Health Centres (PHCs) do not offer abortion services in Rajasthan due to lack of trained personnel. Availability of abortion services in private sector is also skewed with majority being available in a few districts and in urban areas. The big gap between demand and provider has led to mushrooming of informal care providers in villages and towns. The cost of abortion is high and becomes higher with social vulnerability of women and duration of pregnancy. This has led to abortions being carried out in unsafe hands with its attendant morbidity and mortality.

After independence, expansion of health care facilities, provision of family planning services for population stabilization and child care were the main focus areas but the planned social and economic development which began after independence was jeopardized by caste system, social hierarchy and highly unequal societal values which have remained unchallenged. Maternal health was included much later in India after the introduction of National Reproductive and Child Health Program. Many programmes were launched -CSSM, RCH and RCH 2 under NRHM which promote institutional deliveries and monetary benefits to the parturient for first two live births (in Rajasthan, it also includes third delivery if the women chooses to undergo family planning operation immediately after delivery), skilled birth attendant at delivery, policy decision of use of certain specific emergency drugs, operationalizing emergency obstetric care [Basic Emergency Obstetric Care Centre and Comprehensive Emergency Obstetric Care Centre (BEmoc and CEmoc)] and strengthening First Referral Units (FRUs).

Rajasthan has 33 districts, 237 blocks, 9,188 Gram Panchayats (village councils) and 41,353 villages. There are 33 district hospitals, 144 sub-divisional hospitals, 327 CHCs, 1,499 PHCs and 10,612 Sub Centres (SCs) in the government sector. But, these average values hide the shortage of PHCs and CHCs in the tribal areas. Similarly, the number of ANMs and doctors are nearly adequate but their distribution is skewed with gross shortage in tribal areas. There is shortage of female doctors. The availability of basic obstetric services is dependent on the availability of ANMs at SCs in the village. Non-availability of basic amenities, lack of security and supporting infrastructure were responsible for the ANMs staying away from the SCs. Adequate equipment was available in 54% of the PHCs, supplies in 69% but an adequate staff was present in just 26% of the PHCs. MAPDIR (Maternal and Perinatal death enquiry and response) from UNICEF, a verbal autopsy tool, which was piloted in Purulia (West Bengal), is currently being implemented in 15 districts in 5 states, including Rajasthan (Dholpur, Tonk, Udaipur) to look into the deeper causes.

The enhanced role of Panchayats and men in the family are now well understood to contribute to safe motherhood. Training of ANMs, midwives, traditional birth attendants and doctors in imparting obstetric and newborn care has been widely taken up at 7 government medical colleges, ANM training centers and

district training centers to improve the quality of care. Public private partnership program also started with The Federation of Obstetric and Gynaecological Societies of India (FOGSI). NGOs and other nonprofit organizations are also helping to bring down MMR.

Recent Annual Health Survey has shown improvements in MMR from 331 in 2010-2011 to 264 in 2011-2012. But, all these by themselves may not bring about the desired change unless supported by intensive training programmes for health care providers, bringing obstetric services to the grass root level, strengthening referral systems, widespread availability of safe abortion services and introduction of family planning needs for different women. The training should be based on need of the particular region and designed keeping in mind the background and educational level of health workers. Initiatives taken by GOI in partnership with Liverpool School of Tropical Medicine to establish skill centers to train health workforce in antenatal care, safe delivery and neonatal care are going to be implemented countrywide. The program is ready to be launched in India, targeting in-services ANM, nurses and doctors. Determinants of women's health like poverty, nutritional status, gender equality (in work, control over resources), gender norms and values (violence against women, reproductive rights) need to be addressed as well. Empowerment of women and communities for enhancing health service utilization to achieve reproductive and health goals are the need of the hour. Adolescent health may be targeted as this age group is most receptive about educational programmes. Descriptive studies and verbal autopsy need to be strengthened to find the root cause in our society. Working together with a multipronged approach will help in achieving the Millennium Development Goals (MDGs) of bringing MMR to 109 by 2015, reducing the gender ratio and also achieving women empowerment, as only a healthy mother can give birth to a healthy child and a healthier society.

Further Reading:

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TACKLING CHILDHOOD DISEASES: GIVING BEST START TO LIFE

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There can be multiple approaches to treat the many conditions prevalent in our society but one may still lament about the lack of facilities and crib about not being able to get timely treatment. But, if we think differently, there can be solutions nearby if we recognise the value of resources available to us.

William Wordsworth, a famous poet, said that “Child is the Father of Man”. We, as health professionals, are now deciphering its meaning. Broadly, it means, that by the law of nature it is evident that every man grows out of being a child and in a sense, child is actually the father of man. Whatever a child learns in his early childhood, his attitude and temperament, stay with him throughout his life. He learns whatever he is taught at home, school or in society. By his very nature, a child has the ability to learn new things and is also more inclined to search for adventures. William Wordsworth also said, “Never let the child in you die”. This quote speaks volumes about the fact that a child helps man to learn, to be socialized according to the norms and values of the society. Therefore, one can rightly say that child is the father of man.

To prove this further, David J P Barker, a Physician and Professor of Clinical Epidemiology at the University of Southampton, UK and Professor in the Department of Cardiovascular Medicine at the Oregon Health and Science University, US showed that people who had low birth weight are at greater risk of developing coronary heart disease. In 1995, the British Medical Journal named this the “Barker Hypothesis” which is now widely accepted. In 2010, Time Magazine called it the “New Science.” This is also termed as thrifty phenotype theory in the way that abnormal maternal biochemical environment gets imprinted on the metabolism of the fetus in such a way that it continues to behave abnormally even after the insult is removed.

Dr. Barker’s work is relevant to both the Western world and the Developing countries. In the Western world, many babies remain poorly nourished because of the mother’s unbalanced diet in macronutrients and deficient in micronutrients or because their mothers are excessively thin or overweight. In the Developing World, many girls and young women are chronically malnourished.

While listening to a talk on disability, one psychologist shared her own experience of learning to care for her newborn from her Pediatrician. She said, but for her Pediatrician, she was helpless. Though, a matter of pride for a child specialist, but that made me think why did this awareness come so late to the mother? Why is this information not provided by parents and teacher while the child is growing into an adolescent and adult? I will try to enlighten on this issue about how changing perception and behaviour is different from knowledge dissemination to the community.

Technological advances, availability of basic amenities and improvement of the living standard of an average citizen has led to decline in infectious diseases. However, there is a surge in non-communicable disorders in our country.

India, as part of Millennium Development Goals (MDG-4), was slotted to reduce its child mortality by

two-thirds since 2000 when the goals were adopted. Accordingly, India should have cut its Infant Mortality Rate (IMR) to 28 per 1,000 live births. It, however, stands at a dismal 44 as per the latest data of the Sample Registration System, 2011. Fourteen States/UTs including Kerala, Tamil Nadu, Goa, Andaman & Nicobar Islands, Chandigarh, Daman & Diu, Delhi, Lakshadweep, Puducherry, Manipur, Maharashtra, Nagaland, Sikkim and Tripura have already achieved their target. Rajasthan is still lagging behind. Even this figure hides many discrepancies in health care since it only takes into account the mortality rates and not quality of life of those who survive.

IMR reflects the level of health care provided to the society. Among the major causes of mortality among under-five children, respiratory and GI infections are the most common and malnutrition is always an associated condition.

One of the reasons for still high IMR is our failure to reduce perinatal deaths despite better equipped Neonatal Intensive Care Units (NICUs) and provision of Essential Newborn Care (ENC). We are still not able to reduce prematurity and Low birth weight even in the higher strata of our society.

Time has come to focus on the health of society through innovative methods using life cycle approach. This means that a healthy mother will have a healthy newborn. A child cared well during childhood and adolescence will lead to a healthy adult. This information can be incorporated in the school education.

Greater effort and focus must be directed to enrolling all children in the development process through improved management and provision of quality basic social services, promoting child-related behaviour change within households and mobilizing the community to become more involved in the management of services for children.

Knowledge dissemination alone is not sufficient to bring about desired change in perception and thinking of our society. Even provision of better healthcare and free care will not have an impact unless the community becomes aware of the impact of poor health.

This is possible through "Health Belief Model" (HBM) which was developed in the 1950s by Hochbaum (1958 and 1992), and Rosenstock (1974 and 1991) as a model for health educators. Use of these models have resulted in effective programs in which individuals experienced changes in beliefs that led to an increase in healthy behaviour. HBM is based on the premise that people are most likely to take health-related action (e.g., eat a healthy diet, vaccination etc) if they feel that by doing so they can avoid a negative health condition. The model asserts that to plan a successful educational intervention, the individual or group's perceived susceptibility (e.g., to cancer, HIV), perceived severity of the condition and its consequences, perceived benefits in taking certain actions to reduce risk, perceived barriers (e.g., costs of the advised action), and cues to action (strategies for activating the "readiness" to undertake health actions) are required. HBM is based on the domains of perceived susceptibility (to disease), perceived severity, perceived threat, perceived barriers, perceived benefits, cues to action, and health action. Familiarity to all of these factors is believed to be vital to the planning process for successful educational interventions. In order to implement this model, we need to adopt innovative educational technology to deliver this in form of small group sessions using real scenarios as cases.

The other approaches to improve health in society:

- 1. Using disruptive innovations which make our life simpler like mobiles and information technology.**
- 2. Designing methods and procedures to predict a condition (like prematurity, early malnutrition, anemia, hypothyroidism etc) which are potentially preventable.**
- 3. Educational methods for class 10- 12 students and adolescents, especially girls, who are more receptive at this stage for healthy behaviour and life style changes.**
- 4. Empowering women by supporting their business, making girls smarter and encouraging education of girls along with their mothers, using methods within the framework and respect for the society. It has been seen that if extra money comes to a family, the father and son will use it for their immediate benefit like buying a toy or gadget whereas women will think of their children and family first. Therefore, the incentive given as part of various schemes in India should be handed to the women.**
- 5. More stress on Information, Education and Communication (IEC) and Behaviour Change Communication (BCC) using existing health programs and facilities.**
- 6. Protecting the population from health threats by appropriate information. Media should have balanced approach and should avoid creating panic.**
- 7. Empower local leadership and encourage wide responsibility across society to improve everyone's health and well being and tackle the wider factors that influence it. Elders in the family may be taken into confidence.**
- 8. Focus on key outcomes, doing what works and to deliver that, with transparency of outcomes to enable accountability through proposed new approaches.**
- 9. Reflecting the core values of society towards freedom, fairness and responsibility by strengthening self-esteem, confidence and personal responsibility; positively promoting healthy behaviours and lifestyles and adapting the environment to make healthy choices easier.**
- 10. Balance the freedom available to us by avoiding harm to others, using a 'ladder' of interventions to determine the least intrusive approach necessary to achieve the desired effect and aim to make voluntary approaches.**

RHEUMATOLOGICAL MANIFESTATIONS IN TYPE 2 DIABETES MELLITUS

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The aim of this study was to determine the prevalence of rheumatological manifestations in type 2 diabetes mellitus patients compared to non-diabetic individuals. A total of 100 patients with type 2 diabetes mellitus and 100 age and gender matched controls were included in the study. Detailed musculoskeletal examination was carried out which included examination of shoulder joint, hands, knee joint and foot. Relevant investigations were done. Out of 100 cases, 48 had manifestations. Diabetic cheiroarthropathy was found to be the most common manifestation (32%) followed by osteoarthritis (18%), carpal tunnel syndrome (15%), frozen shoulder (12%), flexor tenosynovitis (12%), Dupuytren's contracture (5%), diffuse idiopathic skeletal hyperostosis (3%) and neuropathic joint (3%). Diabetic cheiroarthropathy (32vs17% respectively), carpal tunnel syndrome (15vs3%), flexor tenosynovitis (8vs2% respectively), Dupuytren's contracture (6vs5% respectively), neuropathic joint (3vs0% respectively) were significantly higher in type 2 diabetes mellitus whereas diffuse idiopathic skeletal hyperostosis was found to have equal prevalence (3vs3% respectively) and osteoarthritis (18vs26% respectively) was found to be higher in controls.

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THE MINIMUM DOSE OF DEXAMETHASONE WITH MIDAZOLAM IN PATIENTS UNDERGOING LAPROSCOPIC CHOLECYSTECTOMY FOR PREVENTION OF POST OPERATIVE NAUSEA AND VOMITING

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Postoperative nausea and vomiting (PONV), occurring within 24 hours after surgery, affects 70% to 80% of patients at high risk. The aim of the present study is to determine the minimal effective dose of dexamethasone (D) that combined with midazolam (M), would provide prophylaxis of PONV after laparoscopic cholecystectomy in patients at high risk. A randomized, placebo-controlled, double blind study of 155 females 18 to 60 years old, ASA class I and II, nonsmokers, underwent general anesthesia for elective laparoscopic cholecystectomy of more than one hour duration along with the use of systemic opioids was conducted after institute ethical approval. The study groups were divided in five groups, C (placebo), MD1, MD2, MD4 and MD8. Midazolam was added 0.04 mg/kg in all the groups. Drugs were given at induction of anesthesia. After surgery all the episodes of nausea and vomiting were recorded 6 hourly upto 24 hours and the severity of nausea and pain was recorded using the VAS scale and data were compared in the five groups. According to our study, the minimum effective dose for prevention of post operative nausea and vomiting in high risk patients undergoing laparoscopic cholecystectomy is 4 mg of dexamethasone in combination with midazolam.

TOBACCO USE AND ITS CORRELATES AND ASSOCIATION WITH LIFESTYLE DISEASES AMONG RETIRED GOVERNMENT EMPLOYEES AND THEIR DEPENDENTS IN TRIBAL DISTRICT OF JHARKHAND

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Background: The socio-demographic predictors of tobacco smoking and chewing are poorly understood especially in tribal areas and that too among retired Govt employees. Estimation of prevalence as well as their associations with specific risk factors is essential for the predicting the future burden of lifestyle diseases including Cancers, cardiovascular, cerebrovascular diseases etc as well as to undertake preventive measures particularly in tribal regions of Jharkhand where there is hardly any data.

Objectives: To estimate the prevalence and the socioeconomic and demographic correlates of tobacco consumption and to assess the prevalence of obesity, diabetes, hypertension and Cardio-vascular diseases and to co-relate risk factors associated if any, among retired government employees and their dependents

Methods: A cross-sectional study was carried out in the month of April 2013 where in data was collected by using pre-tested questionnaire during a screening camp which was organized in a tribal district of Jharkhand. A total of 291 people participated in the study.

Results: The mean age of the study participants was 54.24 + 5.43. 58.4 % were from rural areas while 41.6 % were from urban. 77.7 % were non-tobacco user while Khaini, gutka and cigarette were used by 15.5 %, 3.4 % and 2.7 % respectively. 14.4% were past users, 7.9 % were current tobacco users while 77.7% were non-tobacco user. 20 % were using tobacco daily and 10 % were using for more than 10 years. 67 % were non-alcoholic while others had rum (21.6%), local made like Mava/Hadia (3.2%) and whisky (1%). 13.7 % were current user and 19.2 % were past user. The prevalence of hypertension was 13% (39). 9% had frank Diabetes mellitus (DM) and 25% had Pre-DM condition. 7.2 % were obese and 26.1% were pre-obese. Pre-DM, DM and hypertension were increased in people who were obese and pre-obese than compared to normal and underweight persons. 32.3% and 10.8% of pre-obese and obese persons were tobacco users while 20 % of Hypertensive were tobacco users. 32.3% and 12.3% of pre-diabetic and diabetic were tobacco users.

Conclusion: Although the prevalence of tobacco use and lifestyle diseases was high but lower in comparison to other parts of the country in spite of increased risk factors. Various factors like availability, Cost, individual preference, peer group influence, lifestyle pattern and local environmental factors may play an important role which needs to be studied in detail. There is a need for periodical surveys using more consistent definitions of tobacco use and eliciting information on different types of tobacco consumed carried out at multiple areas among representative samples.

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STUDY OF THE HEALTH PROFILE WITH RESPECT TO AGE FOR CORONARY RISK FACTORS

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Coronary heart disease (CHD) continues to be a leading cause of morbidity and mortality among adults. The health and economic burden of cardiovascular disease exceeds that of any other disease. Risk factors include blood pressure, cigarette smoking, cholesterol (TC), LDL-C, HDL-C, and diabetes. Factors such as obesity and family history of premature CHD have also been considered in defining CHD risk. Together with elevated blood pressure, obesity, and diabetes mellitus, dyslipidemia is a component of the metabolic syndrome and associated with increased coronary heart disease risk. The risk for coronary heart disease increases with age. The aim of this study was thus to assess the prevalence of risk factors for cardiovascular diseases such as hypertension, obesity, diabetes mellitus, hypercholesterolemia and other cholesterol related risk factors with age. The participants belonged to a random sample of individuals 21-60 years of age, free of coronary heart disease. The prevalence of hypertension, cigarette smoking, diabetes mellitus, dyslipidemia, obesity, family history of CAD and physical inactivity was analyzed in 195 subjects. An association was observed between the number of risk factors and age. Hypercholesterolaemia (total cholesterol ≥ 200 mg/dl) was highest in the age group of 40-50 years. It was observed in 49% of individuals in this age group as compared to 39% of individuals in the age group <40 years. Hypertension was recorded in 39% of population in the age group <40 years, 51% of population in the age group of 40-50 years and 62% in the age group of 50-60 years. The present study analyzed the extent to which major cardiovascular risk factors can explain

PHENOTYPIC AND MOLECULAR CHARACTERIZATION OF CLINICAL ISOLATES OF COAGULASE- NEGATIVE STAPHYLOCOCCI (CoNS) FROM A TERTIARY CARE HOSPITAL IN NORTH INDIA

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The clinical significance of coagulase-negative Staphylococci (CoNS) continues to rise with changing strategies in medical practice and changes in underlying host population. Limited data are available regarding the molecular epidemiology and diversity of CoNS in India. The aim of the study was to characterize the species, antibiotic resistance, define the SCCmec (Staphylococcal Chromosomal Cassette mec) type, and genetic relatedness of clinical isolates of CoNS. One-hundred and twenty eight CoNS isolates obtained from different samples were subjected to biochemical characterization and antimicrobial screening. Methicillin resistance was confirmed by *mecA* gene PCR. Genetic relatedness was determined by SCCmec typing by multiplex PCR. Clonal analysis by PFGE was performed on *Staphylococcus epidermidis* isolates. *S. hemolyticus* (35.9%), *S. epidermidis* (17.9%) and *S. schleiferi* subspecies *coagulans* (14.85%) were the predominant CoNS species. Furthermore, 34.4% (44/128) of the isolates were *mecA* gene carriers.

MRCoNS isolates exhibited the highest multiresistance when compared to MSCoNS strains. Typing classified 61.4% of the isolates as SCCmec I, 6.8% as SCCmec type II, 15.9% as SCCmec type III, and 11.4% as SCCmec type IV. PFGE typing of the *S. epidermidis* isolates identified 15 clones disseminated in different wards. The CoNS isolates analyzed had a high prevalence of methicillin resistance and resistance to other antibiotics, and high genetic diversity. The importance of nosocomial infection control and rational use of antibiotic

PREDICTIVE ROLE OF SERUM LEVELS OF VASCULAR ENDOTHELIAL GROWTH FACTOR AND ITS RECEPTOR IN RETINOPATHY OF PREMATURITY

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Retinopathy of prematurity (ROP) is a disorder of developing retina of low birth weight preterm infants potentially leading to blindness in a small but significant percentage of these infants. One theory attributes the fibrosis to unregulated vascularization in the retina. VEGF is one of the important mediators involved in vascularization. This study was carried out to assess the role of VEGF and its receptor in retinopathy of prematurity. Around 200 preterm infants born in SSK hospital were screened at 33-34 weeks. Thirty infants who developed ROP at 38-40 weeks were enrolled in group A while 30 infants who did not develop ROP were included in group B. Venous sampling was carried out twice at 33-34 weeks and then again at 38-40 weeks. VEGF and VEGF-R2 were estimated by ELISA. There was no statistically significant difference between the levels of VEGF and VEGF-R2 in both the groups at first visit as well as the follow up visit. However, the difference was significantly different between the first and the final visit in VEGF and VEGF-R2 levels in the cases with ROP. We may conclude that local instead of systemic VEGF concentrations may have a role in initiating the pathogenic changes in ROP.

CORRELATION OF SPIROMETRIC LUNG FUNCTION TESTS AND HRCT FINDINGS IN PATIENTS OF RHEUMATOID ARTHRITIS

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The present study has been carried out on 50 patients of rheumatoid arthritis at Sri Guru Ram Das Institute of Medical Sciences, Amritsar. Both spirometric tests and high resolution computed tomography were carried out on the patients and were correlated to duration of disease. Reticulonodular pattern, mosaic interstitial thickening, ground glass opacification, pulmonary nodules were taken as restrictive pattern and pleural thickening, bronchiectasis and honey combing as obstructive

pattern. It was found that most of the patients showed restrictive pattern on both spirometry and HRCT in this study. About 60% patients with duration of disease of 5-10 years were having maximum restrictive defect compared to patients with duration of <5 years and >10 years. The results of both spirometric tests and HRCT were correlated and were found statistically significant.

PENILE TOURNIQUET SYNDROME (PTS) IN CHILDREN WITH URINARY INCONTINENCE: A RARE EMERGENCY

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Background: Penile constriction by a thread or hair also called penile Acquired Constriction Ring Syndrome (ACRS), is a rare emergency situation that can lead to a wide range of vascular and soft tissue injuries. We report two cases of Penile Tourniquet Syndrome (PTS) in children troubled with urinary incontinence.

Case Report: We are presenting two cases of PTS troubled with urinary incontinence. First 8 years boy presented with pain and swelling of penis and difficulty in micturition. Interrogation revealed that the child was bothered with nocturnal enuresis and hence he tied a thread around the penis which caused partial circumferential amputation of distal penis. Constricting ring was cut and primary repair of wound done. Second 6 years circumcised boy who had posterior urethral valve and planned for valve fulguration. During cystoscopy obstruction noticed in urethra at the level of coronal sulcus and on examination a tight constricting ring of hair noticed causing ventral ulceration. Later child revealed that he tied hair around penis because he was troubled due to urinary incontinence.

After removal of constricting ring posterior urethral valve fulguration was done.

Conclusion: Penile strangulation is a urologic emergency with potentially severe clinical consequences. High suspicion index is needed for early diagnosis. With timely intervention and removal of constriction, most patients do well and need no further intervention.

RESPONSE TO EXPERIMENTAL PAIN IN YOUNG AND OLD INDIAN MALES

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The amount of pain perceived by an individual in response to a painful stimulus depends on the nature of the stimulus as well as on the race, culture and gender of the person. This study was conducted to investigate age-influenced variation in response to experimental pain.

Cold Pressor Task (CPT) was performed on North Indian males: Young Adults (YA) (18-25y) and Old Adults (OA) (> 55y). Cardiovascular reactivity was monitored in terms of pulse, systolic and diastolic blood pressure, while pain sensitivity in

terms of pain threshold, pain tolerance, and pain rating. Significantly lower resting pulse and significantly higher resting BP was observed in OA. Mean increases in pulse and systolic blood pressure after CPT were significantly higher in OA adults. However, mean increase in diastolic blood pressure was significantly higher in YA. Mean values of pain threshold and tolerance were significantly higher in the OA. No significant differences were observed in pain ratings on visual analogue scale.

Since old adults tolerated the pain for a longer duration, the increase in pulse and diastolic blood pressure were higher in this group. Higher pain tolerance has been previously shown in subjects with high blood pressure. Elevated resting blood pressure in old adults may be responsible for the increased pain tolerance in this age group.

A COMPARATIVE STUDY OF VARIOUS BEDSIDE METHODS IN DETECTION OF DIABETIC POLYNEUROPATHY IN TYPE 2 DIABETES PATIENTS

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The present study has been carried out on 100 patients of type 2 diabetes mellitus aged between 40-70 years at Sri Guru Ram Das Institute of Medical Sciences and Research, Amritsar. Patients with type 1 diabetes, acutely ill critical patients, history of stroke or myocardial infarction, chronic renal failure and patients with neuropathy due to any other cause were excluded from the study. All subjects had a detailed clinical assessment for peripheral neuropathy including vibration perception threshold(VPT) with biothesiometer, diabetic neuropathy examination(DNE) score, diabetic neuropathy symptom(DNS) score, ankle reflex and 10g semmes-weinstein monofilament examination. The prevalence of peripheral neuropathy was 52 per cent with VPT. Significant correlations were observed between the VPT score and the DNE and DNS scores, ankle reflex and monofilament sensation. The present findings show that simple bedside tests are useful for assessing diabetic peripheral neuropathy and a simple neurological examination score is as good as VPT in evaluation of polyneuropathy in a diabetic clinic. It may be a better screening tool for diagnosis of diabetic polyneuropathy in view of the cost effectiveness and ease of applicability.

TO STUDY THE PREVALENCE OF IMPAIRED FASTING GLUCOSE AND ITS CORRELATION WITH VARIOUS ANTHROPOMETRIC VARIABLES

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The present study has been carried out on 600 punjabi patients attending the OPD and indoor of

Sri Guru Ram Das Institute of Medical Sciences and Research, Sri Amritsar having age more than 20 years. A diagnosis of impaired fasting glucose (IFG) was made as per the American Diabetes Association (ADA) guidelines. Data was analysed using unpaired 't' test and Pearson's Chi-square test. The prevalence of impaired

fasting glucose in the studied population was found to be 22% (male 21.3% and female 22.50%). It was observed that impaired fasting glycemia was significantly correlated with advancing age, family history of diabetes and various anthropometric variables. This study shows that the prevalence of impaired fasting glucose is very high in Punjabi population. The traditional risk factors like high total body weight, high body mass index along with high waist-hip ratio, and family history of diabetes are having correlation with IFG and play a significant role in the prediction of impaired glycemia and diabetes in Punjabi population.

EVALUATION OF CARDIOVASCULAR RISK BY CAROTID INTIMA MEDIA THICKNESS IN NON ALCOHOLIC FATTY LIVER DISEASE

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Intima media thickness of common carotid artery is considered to be an excellent non-invasive measure of atherosclerosis. The study was done to evaluate the cardiovascular risk in non-alcoholic fatty liver disease (NAFLD) patients by measuring carotid intima media thickness. Total of 50 participants, 18 males and 32 females in the age group 21-50 years with incidental finding of nonalcoholic fatty liver disease (NAFLD) on ultrasound abdomen grade I to III, attending the outpatient department of Sri Guru Ram Das Institute of Medical Sciences and Research, Amritsar were taken & their mean CIMT was calculated. The study concluded that serum cholesterol levels > 200mg/dl, serum triglyceride levels >150mg/dl, serum LDL levels >130mg/dl and increasing grades of fatty liver were associated with significant increase in CIMT in NAFLD patients. Age, gender, BMI, WHR, HDL-C showed no significant relationship with CIMT. Fatty changes in liver had direct correlation with CIMT in NAFLD subjects. NAFLD is an important risk factor and a major determinant of atherosclerosis

ESR1 GENE AMPLIFICATION – AN UNLIKELY MECHANISM UNDERLYING ESTROGEN RECEPTOR EXPRESSION IN BREAST CANCER

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Estrogen receptor (ER) status is a well established predictive marker of response to anti-estrogen therapy in breast cancer patients. Increased copy number of ESR1 gene (6q25.1) which encodes ER has been proposed to be a determinant of ER protein expression. Dual colour fluorescent *in situ* hybridization for ESR1 gene and centromere 6 was performed in 30 ER positive breast cancers to assess gene copy number alterations (CNAs). CNAs were detected in 4 cases. Three cases (10%) demonstrated gain (ESR1 gene / centromere 6 ratio > 1.0 but < 2.0). A single case showed ESR1 gene deletion. No case showed ESR1 gene amplification i.e. ratio > 2.0. All cases of ESR1 gene CNAs had

grade 1 morphology, negative lymph node status, tumour size < 5 cms. None of these cases had low Allred score. Incidentally, we found two cases with polysomy of chromosome 6, with ESR1 gene / centromere 6 ratios in normal range. Both cases had advanced tumor stage and lymph node metastases. Increase in ESR1 gene copy number is not the sole reason for up-regulated ER protein expression in breast cancer. The prognostic significance of ESR1 gene CNAs and polysomy of chromosome 6 in breast cancer remain unclear.

POST TRAUMATIC FISTULIZATION OF HEPATIC ARTERY WITH PORTAL VEIN

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A 27 years old male came to surgical emergency with features of hemoperitoneum after receiving blunt trauma abdomen due to fall of tree over him. Intraoperatively, a large liver laceration of 8.2 cms was found in right lobe which was repaired. Contrast enhanced tomographic scan carried out on 8th post-operative day due to significant amount of blood ooze from the stitch line, revealed pseudoaneurysms in hepatic artery and fistula formation between hepatic artery and portal vein. Selective angiography along with coil embolization was carried out successfully. Arterioportal fistulas are arteriovenous communications between portal vein and splanchnic arteries. They may be intra or extra hepatic and acquired or congenital. Hepatic trauma, including liver biopsies, represents the most common etiology of acquired ones. Other etiologies are cirrhosis and liver neoplasms. If left untreated, arterialization of the portal vein causes early onset of portal hypertension. These fistulas are first treated by transcatheter embolization. Surgical approaches are reserved for complex cases.

A NOVEL CANCER TESTIS ANTIGEN, A-KINASE ANCHOR PROTEIN 4 (AKAP4) IS A POTENTIAL BIOMARKER FOR BREAST CANCER

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Cancer-testis (CT) antigens represent a unique class of tumor antigens that have been shown to be associated with various solid tumors. In the present study, we have reported a novel cancer-testis (CT) antigen A-Kinase anchor protein 4 (AKAP4) and its association with breast carcinoma. AKAP4 expression was evaluated in breast cancer cells (MCF-7, MDA-MB-231, SK-BR-3 and BT-474) and in normal human mammary epithelial cells (control) which has revealed AKAP4 expression in all breast cancer cells but not in control. *In situ* RNA hybridization and immunohistochemistry in 91 clinical specimens of breast cancer

patients of various histotypes (DCIS, IDC and ILC) and 83 available matched adjacent non-cancerous tissues revealed AKAP4 expression in 85% (77/91) tissue specimens of breast cancer irrespective of histotypes, stages and grades. However, matched adjacent non-cancerous tissues failed to display any AKAP4 expression. Furthermore, humoral response was observed in 79% (72/91) of total breast cancer patients. Interestingly, we observed that 94% (72/77) of breast cancer patients found positive for AKAP4 protein expression generated humoral response against AKAP4 protein by ELISA. Collectively, our data suggests that AKAP4 may be used as serum based diagnostic marker for an early detection and diagnosis of breast cancer and might be a potential target for immunotherapeutic use.

Acknowledgement: We thank Cancer Research Program, Centre for Molecular Medicine, Department of Biotechnology and National Institute of Immunology for research funding.

ACUTE TOXICITY ASSESSMENT OF RISUGadv AS A NEW MOLECULE FOR THE PREVENTION AND MANAGEMENT OF PROSTATE CANCER

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Central Drug Research Institute, Lucknow

Abstract

The aim of this study was to assess the toxic effect of the newly developed contraceptive RISUGadv in male Charles Foster rats. Young and healthy male rats of Charles Foster strain were employed in the study. They were randomly assigned to two groups, control and treated, each consisting of fifteen animals. The contraceptive DMSO and RISUGadv was injected surgically in the vas deferens of the anesthetized control and treated group rats, respectively and observed for a period of 14 days. Initial and final body weights and food/water consumption of the animals were recorded. The haematological and biochemical parameters were analyzed. At the end of the study all the animals were sacrificed and necropsied, the organ weight was taken and their histopathological slides were prepared for microscopic examination.

Body weight, food and water consumption, haematology, biochemistry, absolute and relative organ weights did not show any significant change and were well within the limit of normalcy. General health check-up, mortality, gross and microscopic examination of organs and tissues also did not reveal any sign of toxicity. From the toxicity point of view this newly developed injectable contraceptive RISUGadv does not have any adverse effect and is safe to use

Acknowledgements

The authors are thankful to Prof. Sujoy K. Guha for kindly providing the RISUGadv for the above study and for the research grant in the form of collaborative research project to our institute.

RADIATION STERILIZED BONE GRAFTS PROCESSED FROM FEMORAL HEADS FOR ALLOGENEIC TRANSPLANTATION

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The use of bone grafts is one of the most common treatment options for reconstructing segmental skeletal defects incurred from tumour, trauma, or total joint arthroplasties. The preferred

graft material most commonly consists of autologous cancellous bone harvested from the iliac crest. However, there is a substantial incidence of morbidity associated with the harvest procedure. Allografts have therefore gained increasing popularity as treatment methods for musculoskeletal injuries. Bone allografts eliminate additional incision necessary for acquiring an autograft and consequently reduce operating time, blood loss as well as hospital and medical costs. However, a major concern associated with allografts is the potential for disease transmission. Sterilization of the allografts can prevent life-threatening allograft associated infections. Radiation process is the preferred method for sterilization of biological tissues and has appreciated technological advantages. The present study was carried out with the aim of microbiological and clinical evaluation of radiation sterilized bone allografts processed from femoral heads obtained from living donors. Femoral heads were obtained during surgery at Department of Orthopaedic Surgery, SN Medical College, Jodhpur and processed as freeze-dried bone allografts. Gamma radiation dose of 25 kGy was validated for sterilization of bone allografts processed with bioburden level of 10² to 10³ CFU/g. Processed radiation sterilized bone grafts were used in clinical cases of lytic lesion and trauma surgery. Radiological data of allogeneic recipients for studying graft incorporation was recorded. Clinical studies have demonstrated the functional and clinical efficacy of radiation sterilized bone grafts for allogeneic transplantation in

ZERO DOSE OF POLIO VACCINE - A NEGLECTED WEAPON IN POLIO ERADICATION WAR AND FACTORS INFLUENCING COVERAGE OF ZERO POLIO DOSE IN INDIA

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Completing two years without the detection of any wild poliovirus in India brings the South-East Asia Region of WHO closer to being certified as polio-free upon completion of three years of not reporting any wild poliovirus – in early 2014. Administration and acceptance of zero polio dose is a neglected In India ,as per WHO and Ministry of Health& Family Welfare Government of India (MHFW) immunization schedule for polio is zero dose at birth and next does at 6, 10 and 14 weeks are given .In India zero dose can be counted up to 15 days from birth,still its coverage is questionable. To assess the zero polio vaccination status of children and factors influencing it, a cross-sectional study was undertaken in the ten Rural Block Community Health Centers CHC's of Pali District in Rajasthan, India among children (n = 23715) born in hospitals and got discharged from hospitals form in April 2012 to March 2013 . Children were categorized as 'Vaccinated 'and 'non-Vaccinated' according to working definitions.Religion and zero polio dose administration are appears to be significantly importance .In India zero polio dose vaccination is not given so much importance and it is usually given after 3rd day after birth as children's were not vaccinated in hospital before discharge .There is significant association of religion and beliefs of parents regarding vaccination of children with oral polio vaccination. Proper guidelines for vaccination of children's before discharging patient from hospital should be made by government for improving coverage of zero polio dose considering benefits of its administration in first week of life. Vaccination guideline for zero polio dose maximum giving time should be minimized to one week from fifteen days to strengthen zero polio dose administration by hospitals. Counseling of

parents before discharging for vaccination of child should be done and documented. As there is significant association of refusal of Oral polio vaccine in first 3 days of birth 'birth dose' can be given as IPV. Studies which categorize the types of barriers or determinants which lie between children's and Zero polio dose in terms of geographical, social, economic, cultural and organizational factors should be carried out to bridge the

TO ASSESS THE HEALTH SEEKING BEHAVIOR OF MOTHERS OF CHILDREN AFFECTED BY PYODERMA AT URBAN HEALTH CENTRE

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Skin diseases are one of the leading causes of morbidity in children. Lack of personal hygiene, unhygienic conditions, overcrowding, inadequate treatment, sharing of towels/combs result in various forms of infective dermatoses like scabies, pediculosis, pyoderma, fungal, viral infection and leprosy etc. Among that most common skin diseases are pyoderma & scabies. Studies have shown prevalence of Pyoderma in Indian Children ranging from 2.1% to 17.1%. If treatment is delayed, pyoderma is likely to worsen, develop complications or transmit to others. Delay in seeking treatment depends on mother's perception towards pyoderma. However, knowledge about how and when mothers seek treatment for pyoderma remains acutely incomplete in our country. In our Study population: Mothers & their children up to 14 years of age attending UHC fulfilling inclusion/ exclusion criterion taken. Based on study result it is observed that, Among the infective dermatoses the commonest were secondarily infected scabies and pyoderma. Daily bath, insect bite, sharing cloths, frequent hair washing, total number of lesion when compared with duration of contact to hospital was found to be statistically significant. Duration of contact to hospital, playing in unhygienic condition, sharing towels, comb, daily bath when compared with course of disease found to be statistically significant. Unhygienic practices can lead to complication. Delay in health seeking behavior should be changed to health care seeking behavior. Proper understanding of health seeking behavior could reduce delay to diagnosis, improve treatment compliance and improve health promotion strategies in a variety of contexts. Visits to more traditional healers, folk medicine or providers, should be prevented, with the emphasis on encouraging people to opt first for the official channels. Create ways to build bridges to enable individual preferences to be incorporated into a more responsive health care system through formal training programs. Thus there is growing acknowledgement that health care seeking behaviors and local knowledge need to be taken seriously in programs and interventions to promote health in a variety of contexts, the need to improve integration of private sector providers with public care. Studies which categorize the types of barriers or determinants which lie between patients and services in terms of geographical, social, economic, cultural and organizational factors should be carried out to bridge the gap between patient and health system.

PRE-ANALYTICAL ERRORS IN CLINICAL CHEMISTRY LABORATORY OF A TERTIARY CARE HOSPITAL IN WESTERN UTTAR PRADESH, INDIA

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Diagnosis of various diseases in the present medical scenario is largely dependent on the tests performed in Clinical Chemistry laboratory. TQM (Total Quality Management) in a laboratory ensures that the results obtained be free from errors. It has been found from the existing literature that over 90% of the errors are accounted for by the faulty preanalysis process. So, an attempt has been made on our part to identify the nature and frequency of these preanalytical causes of sample rejection in our laboratory at TMMC & RC, Moradabad (tertiary care 550 bedded hospital). This study was conducted over a period of one year on 13,500 samples which included both OPD & IPD collection. Preanalytical variables considered were hemolysis, lipemia, clotted blood, wrong preservative, improper blood collection tubes, wrong volume and mislabelled samples. Since, these types of errors may result in faulty reporting amounting even to life-threatening medical errors so, our aim was to identify the nature and percentage occurrence of these errors in our laboratory and to make our laboratory personnel aware of these pitfalls and incorporate measures to prevent these errors in order not only to maintain credibility of laboratory results but also to decrease the overall financial burden on the laboratory on account of unnecessary sample rejections due to preanalytical errors.

ROLE OF AUTOLOGOUS STEM CELLS WITH OR WITHOUT OMENTUM IN SPINAL CORD INJURY: PATIENTS WITH PARAPLEGIA

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Almost 30-35 youth per million populations every year sustain spinal cord injury (SCI), leading to paraplegia due to fracture of thoraco-lumbar vertebrae in 85% of them with poor recovery and devastating psycho socio economic burden on family & nation. The gold standard of treatment is decompression, fixation & rehabilitation. Functional recovery remains a dream. Animal spinal cord injury research models have shown bone marrow haemopoietic stem cells (BMHSC)/ neuronal stem cells / and omentum are helpful in regeneration of spinal cord. We carried out a prospective pilot study including 32 patients of Acute SCI (ASIA impairment scale A) at KGMU Lucknow using autologous BMHSC with or without omentum & 11 cases of Chronic SCI (3-12 Years old injury with Hauser index 9) at IKDRC Ahmedabad using autologous cultured BMHSC and adipose mesenchymal neuronal stem cells (AMNSC) to see safety and effectiveness of these procedures in enhancing functional recovery in SCI. The result was encouraging showing recovery from ASIA-A to ASIA-D/E in 25% of cases of acute SCI managed at KGMU and Hauser index 9-6 in 70 % patients of chronic SCI managed at IKDRC. This pilot study indicated safe and positive role of use of stem cells & omentum in enhancing regeneration in the injured spinal cord.

LEPR A223G GENE POLYMORPHISM AND ITS ASSOCIATION WITH OSA IN OVERWEIGHT AND OBESE NORTH INDIAN SUBJECTS

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Obesity is risk factor for Obstructive Sleep Apnea (OSA). Leptin regulates energy homeostasis and body weight. Leptin receptor (LEPR) A223G Gene polymorphism has been found to be associated with altered leptin levels, obesity as well as OSA in different populations.

The aim of the study was to examine the LEPR A223G Gene polymorphism and its association with leptin levels, diseases severity (based on AHI per hour), metabolic phenotype (Blood Pressure, Lipid profile) and obesity related risk factors (Neck circumference (NC), Body Mass Index (BMI), and Waist Hip Ratio (WHR) in OSA.

Study was carried out in 190 overweight subjects (BMI>25kg/m²) in polysomnography unit of King George's Medical University. Biochemical estimations were done with fasting blood samples. Genomic DNA was isolated and LEPR 223 position polymorphism was analyzed by PCR-RFLP (*Msp1*) method.

Obesity related risk factors were found to be associated with OSA occurrence and severity (P= 000). LEPR A223G Gene polymorphism was not associated with occurrence of OSA, leptin level, BMI, NC, WHR and severity of disease.

Hence, LEPR A223G plays no role in increasing the severity of OSA and there is a positive correlation of serum leptin level with severity of the disease.

EMPATHY SCORES IN MEDICAL COLLEGES STUDENTS DECREASES AFTER INTERNSHIP TRAINING-A CROSS - SECTIONAL STUDY.

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Background

Empathy is important in the physician–patient relationship. Prior studies have suggested that physician empathy may decline with clinical training.

Objective

To measure and examine student empathy across medical college years.

Design and Participants

A cross-sectional study of students at Rajendra Institute of Medical Sciences of Incoming students plus each class near the end of the academic year were surveyed.

Measurements

The Jefferson Scale of Physician Empathy–Student Version (JSPE-S), a validated 20-item self-administered questionnaire with a total score ranging from 20 to 140. JSPE-S scores were controlled for potential confounders such as gender, age, and future career interest.

Results

500 students participated in the study (75% of the medical college population). The first-year medical student class had the highest empathy scores (118.5), whereas the fourth-year class had the lowest empathy scores (106.6). Measured empathy differed between second- and third-year classes (118.2 vs. 112.7, P)

A WARFARIN DOSING ALGORITHM USING CLINICAL AND PHARMACOGENETIC DATA IN SOUTH INDIAN PATIENTS UNDERGOING HEART VALVE REPLACEMENT

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Greater inter-individual variability and narrow therapeutic index is a major challenge for treating clinicians in prescribing warfarin for patients with thrombotic events. Inappropriate dose is often associated with adverse event. We have developed a population-specific pharmacogenomic algorithm using multiple linear regression model with vitamin K intake, thyroid status, and cytochrome P450 IIC polypeptide9 (CYP2C9*2 and *3), vitamin K epoxide reductase complex 1 (VKORC1*3, *4, D36Y and -1639 G4A)CYP2C9*8 (c.449G>A), CYP2C9*13 (c.269T>C), CYP4F2 (V433M) and GGCX (G8016A) polymorphisms. New algorithm explained 61% of the variability in warfarin dose requirements. This algorithm was more accurate, sensitive and specific as compared with clinical data with a prediction accuracy of ± 11 mg/week and can differentiate warfarin sensitive and warfarin resistant groups efficiently (ROC curve: 0.93 and 0.998, respectively; p < 0.0001). Higher percentage of INR in therapeutic range and prolonged time in therapeutic range were observed in subjects with a prediction accuracy of <1 mg/day compared with subjects with prediction accuracy >1 mg/day. In the warfarin-resistant group, primary hypothyroidism was found to induce more resistance while in the warfarin-sensitive group, hyperthyroidism was found to increase sensitivity. This genetic model explains greater variability in warfarin dose requirements and it prolongs time in therapeutic range and minimizes out-of-range INRs. Thyroid status also influences warfarin dose adjustments.

“EFFECT OF STRESS AND SLEEP ON RESPONSE TIME IN MEDICAL ENTRANTS”

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The effect of stress and sleep on response time in first year medical students has been studied in a sample of 100 healthy normal medical entrants in age range (18-21 years). They were subjected in two different conditions: non stress period with eight hours of sleep and period of full of stress when they were expected to appeared in the examination with few hours of sleep. These “new entry” of medical students were subjected to Visual and Auditory Reaction Time, Pulse Rate, Rate of Respiration and Blood Pressure in these two conditions with different level of stress. The stress level was determined by employing State and Trait Anxiety Inventory (STAI). Results disclosed that sleep is essential for restoring the energy level of different organs specially the control unit i.e. Central Nervous System of human body. Stress within a limit, gives a positive feedback to CNS information processing resulting in a decrease RT. If stress level exceeds the capacity of the coping mechanism of an individual, it adversely affects the CNS information processing resulting in worsening of psychomotor performance.

ॐ भूर्भुवः स्वः
तत्सवितुर्वरेण्यं
भर्गो देवस्य धीमहि ।
धियो यो नः प्रचोदयात् ॥

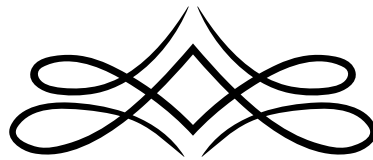
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our hearts are filled with darkness.
Please make this darkness distant from us
and promote illumination within us."**

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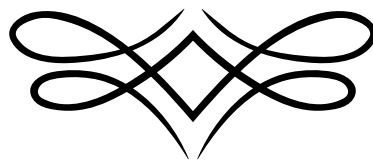


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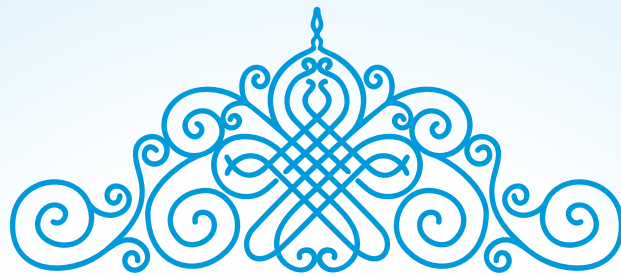
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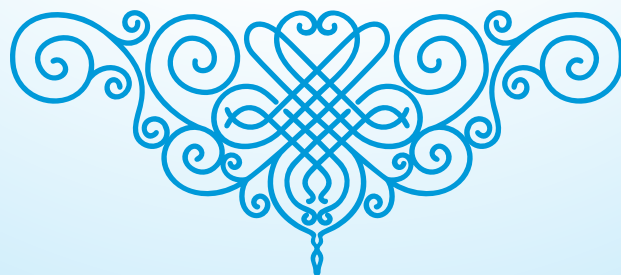
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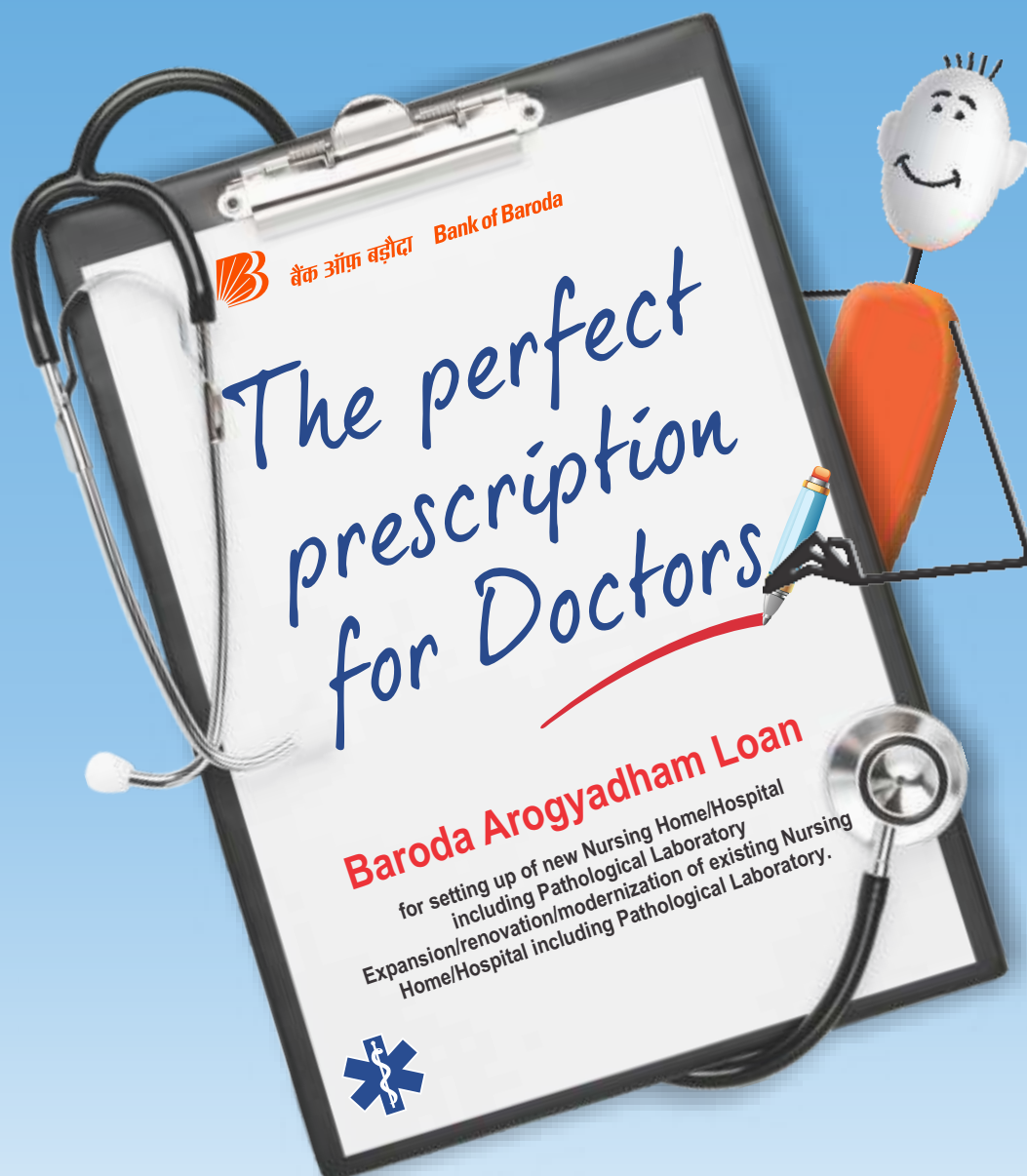
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