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QUALITY EDUCATION AND HEALTH SCIENCE FOR PATIENT BENEFIT

SCMPCR HW-08 as a successful episode of SCMPCR hands-on training program: BPKMCH, Bharatpur, Chitwan, Nepal

Suresh Poudel¹, Md Anwarul Islam², Hasin Anupama Azhari², Ranjanbhakta Bhandari¹, Surendra Bahadur Chand¹, Shivaji Poudel¹, Golam Abu Zakaria²

¹B P Koirala Memorial Cancer Hospital, Bharatpur, Chitwan, Nepal

²South Asia Center for Medical Physics and Cancer Research, Dhaka, Bangladesh

South Asia Center for Medical Physics and Cancer Research (SCMPCR), Dhaka, Bangladesh under the leadership of Prof. Dr. Golam Abu Zakaria and management of Prof. Dr. Hasin Anupama Azhari has made its place as a successful organization for organizing various scientific activities, e-learning program, hands-on workshops conducted on a regular basis etc. It has gathered wide appreciation from different societies and organization for its causes.

As SCMPCR is taking off its activities beyond Bangladesh, and after successful organization of SCMPCR HW-07 in February 2024 at Kolkota, India, this time SCMPCR hands-on workshop (SCMPCR-HW08) was held between 13th to 16th March, 2025 at **B P Koirala Memorial Cancer Hospital (BPKMCH), Bharatpur, Chitwan, Nepal**. It was an episode of a series of hands-on workshop SCMPCR organizes each year in different countries in South Asia. The program was a wonderful example of collaborative effort of SCMPCR and BPKMCH in co-operation with Nepalese Association of Medical Physicists (NAMP), which catered the need of international and national participants and satisfied trainers with great honor and hospitality. The title of the workshop was “**Clinical Implementation of SRS, SRT and SBRT for Medical Physicists and Radiation Oncologists**”. It was an EBAMP accredited course for 38 CPD points.

BPKMCH is the largest government funded comprehensive cancer hospital in Nepal. It is equipped with three medical linear accelerators (Varian Truebeam, Clinac iX and 600 CD), a HDR brachytherapy unit and a CT simulator. There are seven radiation oncologists, six medical physicists, thirteen technicians, and two onco-nurses in the department of radiation oncology, of which the current head of department is Dr. Ranjanbhakta Bhandari and Mr. Surendra Bahadur Chand is in-charge of medical physicists. It offers a range of treatment services like 3DCRT, IMRT, VMAT and IGRT. It treats 200 patients each month, and its staff members are trained in different countries and dedicated in patient services. Also BPKMCH is known for hosting different national and international seminars, conferences, and has praiseworthy amenity and ambiances.

The four-day workshop was a well organized effort of the organizers, which had both the theoretical and practical components, delivered by eminent speakers from six different countries (Germany, Belgium, Netherlands, Switzerland, Bangladesh and India) and two medical product vendors (Siemens Healthineers and PTW). Forty-two participants (Medical Physicists, Radiation Oncologists and RTTs) from three different

countries (Bangladesh, India and Nepal) attended the program with great enthusiasm. There were participants from almost every cancer hospital in Nepal. As new machines with advanced features are being installed in Nepal, this particular training program was important to shed knowledge on SRS, SRT and SBRT to local participants, and empower with wider knowledge and skills to foreign participants. Before the formal program begun, some physicist colleagues from Kathmandu displayed their hospitality by welcoming speakers at Tribhuvan International Airport in Kathmandu and accompanying them to their hotel in Chitwan.

On 13th March, the first day of the program, the event started with a registration process at 8:30 am at Hall Room, BPKMCH, while the formal training program begun at 10:30 am with the introductory lecture on SRS, SRT and SBRT by Dr. Raju Srivastava, Belgium. This was followed by lecture by Prof. Dr. Sarbani Ghosh Laskar, India on Head and Neck delineation and associated issues, while Dr. Robert Semrau, radiation oncologist from Germany discussed on impact of contouring on quality of treatment plans. A lunch at Chitwan Garden Resort offered with traditional Nepalese cuisine to participants and speakers was a nice opportunity to everyone to get introduced to each other. It was further followed by a follow-up lecture by Dr Semrau on imaging modalities, image registration and pitfalls. Additionally, two online lectures- hypofractionation for breast cancer by Dr. Janine Simons (Netherlands) and hypofractionation for prostate cancer by Prof. Luca Incrocci (Netherlands) added a flavor to novel purpose of the event.

The second day program kicked off with an enlightening lecture by Dr. Sarbani on radiological challenges in SRS, SRT and SBRT, which was followed by a motivating lecture by Prof. Dr. Golam Abu Zakaria on Physics Quality Assurance, while after a short tea break, Ms. Tanya Bahl (Varian) shared ideas on 4D CT scanning, MR fusion and RGSC for Advanced treatment planning, and Dr. Binay Shrestha (Switzerland) through his online lecture discussed plan evaluation and clinical protocols in relation to SRS, SRT and SBRT. After the lunch at the traditional Thakali Kitchen, once again Ms. Bahl spoke on plan optimization and algorithms for SRS, SRT and SBRT dose calculation. The final lecture for the day was delivered by Dr. K. Kanakavel (PTW), who shed light on patient specific QA with various QA devices. The scientific program ended at 4:30 pm. Following that the formal inauguration session was held at Chitwan Garden Resort.

The session started at 6:30 pm, in the glorious presence of the chief guest Prof. Dr. Anjani Kumar Jha, Vice-Chairperson of Nepal Medical Council, the apex body of medical education in Nepal. Also Dr. Bijay Raj Neupane, Chairman, BPKMCH, Board of Directors, Dr. Shivaji Poudel (Executive Director, BPKMCH), former BODs, Deputy Director, HoDs (BPKMCH), other staff members, invitees, and media personnel added to the glory of the session. Dr. Jha praised the role of medical physics in healthcare settings, and emphasized on the necessity of medical physics education in Nepal. His appreciation to SCMPER, BPKMCH and NAMP to organize such events in Nepal was noteworthy. Similarly, Prof. Golam Abu Zakaria (Chairman SCMPER) during his speech emphasized his interest to extend SCMPER programs in other countries in South Asia. He also asked all the participants to contribute to SCMPER newsletter in the form of scientific articles. He added that the newsletter has grown and acts as a nice platform for the physicists in the region to express their views on various issues related to medical physics and radiation oncology, thus increasing their global visibility through their write-ups. He further assured that the SCMPER will support BPKMCH in the clinical implementation of newer techniques. Other speakers highlighted the importance of such collaborative efforts to uplift the radiation services in Nepal. Prof. Dr. Hasin Anupama Azhari shared the success of SCMPER in various arena and its effort to realize the novel dream of strengthening medical physics education for quality health services in South Asia.

On the third day, the participants gathered at the radiotherapy building of the hospital and were divided into two groups: the first group of radiation oncologists was led by Dr. Laskar and Dr. Semrau and the second group of medical physicists and RTTs was led by Dr. Raju Srivastava, Dr. K Kanakavel and Ms. Tanya Bahl. The first group polished their skills on contouring, plan evaluation, image fusion and contouring on 4DCT while the second group performed practical tutorials on patient specific QA with particular focus on isocenter

verification through Winston-Lutz test using ball bearing and PTW software and learned various data analysis techniques. There were coffee and lunch breaks in between. The day ended with a general discussion on the role of medical physicists in clinical context. It was a fruitful day with opportunities for participants to learn things practically.

On the final day, at Hall Room, two separate groups (of radiation oncologists and medical physicists & RTTs) were formed to whom two different sets of question papers were given to evaluate learning outcomes. Except few participants, almost everyone passed the exam to gather EBAMP CPD points. This reflects the success of the training program, which the implementation of SRS, SRT and SBRT at their respective hospital will truly make the event successful. SCMPCR will remain in contact with them to get the regular feedback even after the event.

Moreover, participants and speakers enjoyed the natural beauty of Chitwan, and many of them took opportunity to visit Royal Chitwan National Park and could observe Elephant Breeding center there, one-horned rhinos, alligators, deers, peacocks and other wild animals. To sum up, participants and speakers experienced the true blend of scientific activity and natural beauty of Chitwan alongside the hospitality provided by BPKMCH, particularly by the Dr. Shivaji Poudel, Dr. Ranjanbhakta Bhandari (HOD, Radiation Oncology), Mr. Surendra Bahadur Chand (RSO), radiation oncologists, medical physicists and other staffs, during the program and beyond was extraordinary.