International Medical Physics Week (IMPW)-2020: Celebrated by Bangladesh Medical Physics Society (BMPS)

Md. Jobairul Islam,
Joint Secretary, Bangladesh Medical Physics Society (BMPS)

The Bangladesh Medical Physics Society (BMPS) was founded in 2009 to serve the purposes of medical physicists in Bangladesh. The purpose of this society is to foster and coordinate the activities of country medical physicists, promote scientific activities and to build a relationship with the national and international organizations. Currently, BMPS has about 360 national and international members who are working actively to improve the standard of medical physicists.

International Organization for Medical Physics (IOMP) launched the International Medical Physics Week (IMPW) during 11 – 15 May 2020 with the objective to motivate organizational activities in this week that result in the promotion of medical physics globally. The Bangladesh Medical Physics Society (BMPS) was also part of this celebration.

Bangladesh Medical Physics Society (BMPS) organized an online Webinar to celebrate IMPW from 13 May to 15 May, 2020 because of the global emergency situation due to the COVID-19 pandemic.

The BMPS completed four Webinars between 13 and 15 May. Each webinar was scheduled for 45 minutes followed by questions and answers for 15 minutes. The BMPS_IMPW webinar flyer (Fig-1) was sent to BMPS members, foreign members and uploaded in different social media as well as websites.

In every Webinar Program, a gentle reminder email was sent to the all medical physics and oncology professionals and BMPS members around half an hour prior to the scheduled time of Webinar programs. First Webinar program was conducted on 13 May 2020.

Fig-1: BMPS_IMPW-2020 Flyer

At the beginning of each Webinar, Mr. Jobairul Islam, Joint Secretary of BMPS and Moderator of IMPW (Fig-2), welcomed the participants and highlighted the importance of celebrating IMPW. The webinar was started with the inaugural address by Mr. Md. Anwarul Islam, President of BMPS. He emphasized the importance Medical Physics (MP) education and Medical Physicists in patient care.

The first webinar entitled 'Physical and Biological Approaches of Treatment Plan Evaluation'. was presented by Mr. Md. Anwarul Islam, Coordinator Medical Physicist & RCO, Square Oncology & Radiotherapy Centre, Square Hospitals Ltd, Dhaka, Bangladesh (Fig-2).

He is also first IMPCB Certified QMP in Bangladesh. Radiation treatment planning plays an important role in modern radiation therapy; it could simulate to plan the geometric, radiobiological, and dosimetric aspects of the therapy using radiation transport simulations and optimization. He discussed several quantitative methods used for evaluating radiation treatment plans and discussed some important considering points. He also reviewed dosimetric indexes like PITV, CI, TCI, HI, MHI, CN, COSI, and QF for quantitative plan evaluation. trial

Fig-2: Webinar Speaker and Moderator Panel

He also mentioned, radiobiological indexes like Niemierko's EUD-based TCP and NTCP were included for the purpose of radiobiological outcome modeling. He discussed dose tolerance for critical organs including RTOG clinical results, QUENTEC data, Emami data, and Milano clinical trial results. Finally, He also showed the practical- MATLAB calculation for EUD-based NTCP and TCP in external beam radiotherapy.
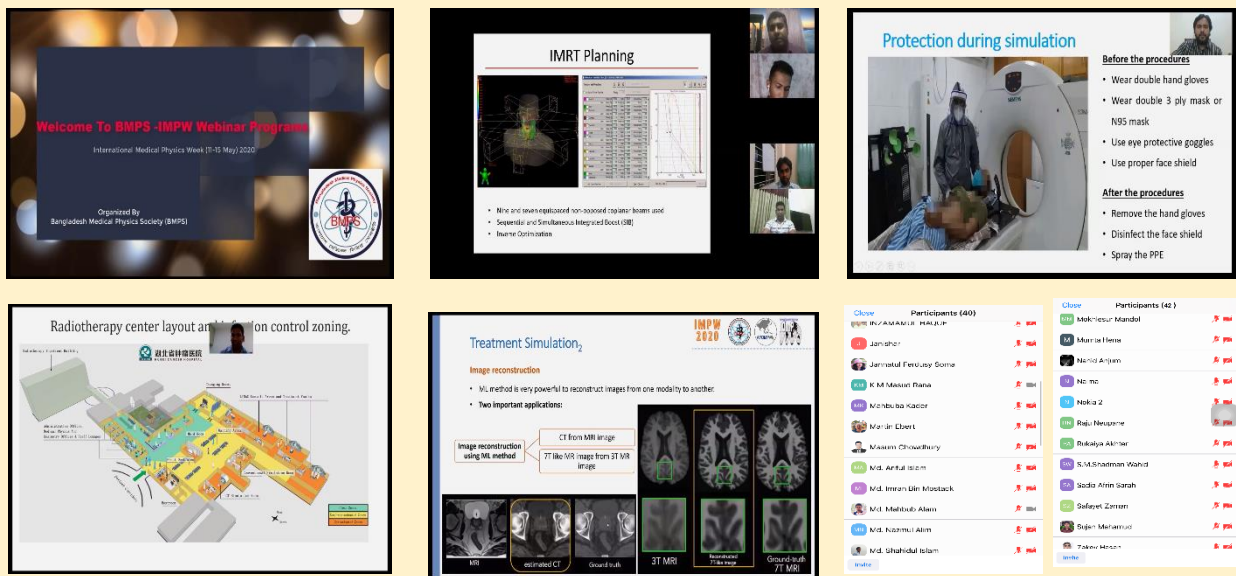

Fig-3: BMPS-IMPW Webinar Live Program: Speakers and participants

Finally, He also showed the practical-MATLAB calculation for EUD-based NTCP and TCP in external beam radiotherapy. 42 participants attended in this webinar (Fig-3).

The second webinar started on 14 May 2020 at 9.00 PM (Bangladesh Standard Time). The Speaker was Md. Mostafizur Rahman, Senior Medical Physicist, Dept. of Radiotherapy, Delta Hospital Limited, Dhaka, Bangladesh and Vice-President of BMPS (Fig-2). He was spelched on 'Experience of Radiotherapy Practice during Corona Period'. He focused on his clinical experiences during this COVID-19 and how to take precaution for MP and patient in the radiotherapy department.

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During this COVID-19 epidemic condition, it may totally impossible to celebrate the International Medical Physics Week widely. But Bangladesh Medical Physics Society celebrated this week through arranging a virtual seminar for 3 days. There were some important and effective different presentations from different expert Medical Physicist in these 3 days. They also provided some guidelines recommended by various

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First of all, I extend my heartfelt congratulation to Bangladesh Medical Physics Society (BMPS) for successfully organizing the webinar series (11-15 May, 2020) to mark International Medical Physics Week. The organizer adeptly used Zoom software to held discussion on various topics on Medical Physics, artificial intelligence and machine learning and also on the influence of ongoing corona virus crisis on radiotherapy treatment. The topics were very relevant for medical physics and radiation oncology community. Members of BMPS and me learnt many things from the speakers with great enthusiasm. I thank the speakers Mr. Md Anwarul Islam, Mr. Md Mostafizur Rahman, Mr. K M Masud Rana and Dr. Md. Akhtaruzzaman for making the discussion interesting. I appreciate the effort of the host Mr. Jobairul Islam, joint secretary to BMPS for utilizing the internet technology to keep the BMPS members and other enthusiastic audience engaged in academic discussion in such a difficult time of global pandemic crisis. I acknowledge the guidance of Prof. Dr. Golam Abu Zakaria and Prof. Dr. Hasin Anupama Azhari on encouraging BMPS for utilizing modern technology for knowledge sharing to medical physicists of Bangladesh and in South Asia. I as an audience of the webinar series got a chance to learn many things.

renowned health group or organizations and precautions and directions for the Physicists when they will work, through their wonderful presentations. As a Medical Physicist some topics I learned and enhanced my knowledge.

However, it was such a great and helpful meeting. I would like thank Bangladesh Medical Physics Society (BMPS) to arrange a wonderful seminar. Hope that this kind of activities will be continued

The third webinar program was conducted the same day at 9.45 PM (Bangladesh Standard Time). The speaker was K M Masud Rana, Medical Physicist cum RSO, Department of Radiation Oncology, Evercare Hospital Dhaka (Fig-2). The topics was 'Radiotherapy Workflow and Protection Procedures During the Coronavirus Diseases 2019 (COVID 19 Outbreak Experience of the Hubei Cancer Hospital in Wuhan, China'. He described the details of the infection control experience at the radiotherapy center of the Hubei Cancer Hospital, the only oncology specific hospital in Wuhan, the earliest epicenter of the COVID-19 pandemic.

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Medical Physicist cum RSO
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First of all, I would like to express my heartfelt gratitude to the organizer for inviting me as speaker such an interesting and useful webinar to celebrate international medical physics week, 2020. I feel honored and have enjoyed the entire program with absolute pleasure.

I believe, there are some significant educational output has come by conducting this webinar. The interactive participation of medical physics professionals and urge to know new updates in medical physics education is really inspiring for any organizer to conduct such initiatives in a routine manner.

My special thanks to Bangladesh Medical Physics Society (BMPS) for their valuable initiative.

He also focused on new radiotherapy workflow during the outbreak. He also showed how can take an idea for other radiation oncology departments for COVID-19 protection and prevention during this challenging time period from these topics.

The last webinar Program was held on 15 May 2020. Dr. Md. Akhtaruzzaman, (General Secretary of BMPS and Head of Medical Physics, Labaid Cancer Hospital, Dhaka Bangladesh) was the speaker this day (Fig-2). He discussed on the 'Artificial Intelligence and Machine Learning in Radiation Oncology: Prospects and Challenges'. He talked about that Artificial intelligence (AI) is about to touch every aspect of radiotherapy from consultation, treatment planning, quality assurance, therapy delivery, to outcomes reporting. Artificial intelligence (AI)

Prof. Martin A Ebert
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I attended the webinar on "Artificial Intelligence and Machine Learning in Radiation Oncology: Prospects and Challenges" on May 15, 2020.
I have the following feedback to provide:
The presentation was very concise and insightful, highlighting the diverse and rapid ways in which machine learning are impacting clinical practice. There was an excellent section giving an overview of artificial intelligence and machine learning in general, which would have been very helpful for non-experts. The presenter had researched several applications of machine learning in some depth and provided some interesting insights. The audience was very engaged and there were many questions. Unfortunately, there was not enough time to address them. It would be excellent to see follow-on presentations, particularly regarding practical methods for medical physicists to learn the fundamentals of machine learning, and also to discuss ways of managing the introduction of AI in the clinic, and how to introduce AI in medical physics training courses.
I would like to see this presentation series becoming a more frequent event in future.

seems to be bridging the gap between the acquisition of data and its meaningful interpretation. He showed how can sensitize the practicing radiation oncologists and Medical physicist to understand where the potential role of AI lies and what further can be achieved with it. With the era of big data, the utilization of machine learning algorithms in radiation oncology research is growing fast with applications including patient diagnosis and staging of cancer, treatment simulation, treatment planning, treatment delivery, quality assurance, and treatment response and outcome predictions.

For this webinar program, participants joined webinar from all over Bangladesh including India, Nepal, Sri Lanka, Bhutan, Qatar, USA, Australia.
The recordings of these webinars have been posted on BMPS YouTube Channel and sent to everyone through email to disseminate knowledge for the participant those who could not participated in the webinars live.
We express our deepest thanks to all the participants for their active participation, including Speaker, Moderator and all individuals involved in organization of webinars.