American College of Physicians, Bangladesh Chapter
February 2021

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Message from Governor:

Greetings from ACP Bangladesh Chapter. We are in the middle of a second wave of SARS-COV 2 while we are also simultaneously waiting for the distribution of COVID-19 vaccine. Given the size of the population in developing countries, it is difficult to secure vaccines for everybody. Furthermore, it is also proving to be a challenge to bring and distribute vaccines at scale as well. This makes the whole situation difficult but hopefully with time things can return under control. We can hope good will and humanity will prevail in these pressing times. Congratulation to Oxford University and AstraZeneca as they have decided to distribute 64% of their vaccine to developing nations which will help out a large number of people.

H.A.M. Nazmul Ahasan, MBBS, FCPS, FRCP (Edin and Glasg), MACP, ACP Governor

Health Talk Program:

During the pandemic, it is difficult to arrange CME as before. Instead, we have arranged weekly health talks online. Programs were seen live on social media (Facebook and YouTube). After the main program, a question-and-answer session was also conducted. There were around 11 topics that were discussed.

Topic 1: Medical Ethics; Speaker: Prof. Quazi Tarikul Islam.

Topic 2: Brain Imaging; Speaker: Prof. Firoz Ahmed Quaraishi

Topic 3: Upper GI Endoscopy; Speaker: Prof. Ahmedul Kabir

Topic 4: Current Issues in Medicine; Speaker: Prof. Khan Abul Kalam Azad

Topic 5: Pictorial Medicine; Speaker: Prof. Md. Mujibur Rahman

Topic 6: Pictorial Medicine; Speaker: Prof. Md. Titu Miah

Topic 7: Acute Medicine; Prof. M A Jajil Chowdhury

Topic 8: COVID 19 vaccine- An Update; Speaker: Prof. Shohael Mahmud Arafat

Topic 9: Issues in Public Health Medicine; Speaker: Prof. Md. Ridwanur Rahman.

Topic 10: Current status of COVID 19 Pandemic; Virus to Vaccine; Speaker: Prof. Md. Robed Amin

Topic 11: Adult Immunization and Upcoming COVID 19 Vaccine; Speaker: Dr. Md. Azizul Haque Azad.

Doctor's Dilemma:

This year Bangladesh will participate in Doctor's Dilemma program to be held in ACPCON 2021 in India and ACP's Internal Medicine Meeting 2021. As it is a new experience for Bangladesh, we have organized a two-stage competition for postgraduate trainee doctors from which 4 final winners were selected. Three participants will compete and one participant will remain as reserve. Competitive examinations were online based.

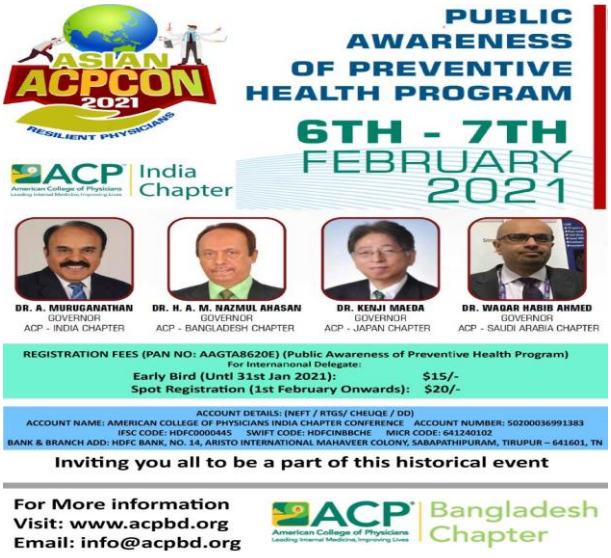
ACP American College of Physicians Leading Internal Medicine, Improving Lives | Bangladesh Chapter

Dear Residents.
Assalamualaikum and Good Evening.
Following is the result of second and Final round examination of Residents to form a team "ACP Team Bangladesh 21" who will hopefully Inshallah participate in the upcoming "ASIA ACPCON 2021" and ACP/IMM 21. The team will consist of four Residents. Fourth will be kept as reserve. Congratulations.
I congratulate every participant for the enthusiasm and cooperation. We would continue it in future as well.

Regards.
H A M Nazmul Ahasan
Governor, ACP Bangladesh Chapter.
On behalf of Examination and Selection Committee.

Asian ACPCON 2021, India:

ACP India Chapter held the first Asian ACPCON 2021 on a virtual platform. India, Bangladesh, Japan and Saudi Arab Chapter of ACP joined this program. The goal of the event is to increase communication and regional cooperation among Asian ACP chapters. Bangladesh Chapter participated in the Doctors dilemma program, E- poster presentation and multiple oral presentation. The theme of the conference was “Resilient Physicians”.



President Elect:

After all of the election process, ACP has declared Khan Abul Kalam Azad MACP as Governor Elect for Bangladesh Chapter. He will remain as Governor elect for one year and serve as Governor for next four years. His tenure will end on 2026. ACP Bangladesh Chapter congratulates Prof. Khan Abul Kalam Azad, MACP for being elected as Governor Elect.

Short Biography of Prof. Khan Abul Kalam Azad:

Present Position:
Professor of Medicine
Popular medical College.

Past Position or academic rank:
Principal, Dhaka Medical College, Dhaka, Bangladesh
Professor and Head, Department of medicine, Dhaka Medical College, Dhaka, Bangladesh.
Dean, Faculty of Post-graduate Medical Sciences & Research, University of Dhaka

International Affiliation:
Fellow of American College of Physicians (2005)

PROFESSIONAL AND SOCIETY MEMBERSHIPS

- Member, ACP, Bangladesh Chapter.
- Chairman, Communication Committee, ACP, Bangladesh Chapter
- Councilor, Bangladesh College of Physicians and Surgeons
- Member, EC, Bangladesh College of Physicians and Surgeons
- EC member and member of National Research Ethics Committee, Bangladesh Medical Research Council
- Councilor and member of the executive committee, Bangladesh Medical & Dental Council
- Member of the Syndicate, Dhaka University
- Member of the Syndicate, Bangabandhu Sheikh Mujib Medical University
- Member of Executive committee, Bangladesh Rheumatology Society
- Member, EC committee Bangladesh Society of Medicine
- Ex-President, Bangladesh Society of Medicine

EDITORIAL ACTIVITIES

- Executive Editor, Journal of Dhaka Medical College Teachers' Association
- Reviewer, Journal of Medicine (Official journal of Bangladesh Society of Medicine).
- Reviewer, Dissertation of FCPS (Part-II) Student (RTMA Department, BCPS, Mohakhali, Dhaka).

COVID-19 vaccine

Prof. Khan Abul Kalam Azad MACP

COVID-19 vaccine is a vaccine intended to provide acquired immunity against COVID-19. Prior to the COVID-19 pandemic, work to develop a vaccine against the coronavirus diseases SARS and MERS had established knowledge about the structure and function of coronaviruses, which accelerated development during early 2020 of varied technology platforms for a COVID-19 vaccine.

By mid-December 2020, 57 vaccine candidates were in clinical research, including 40 in Phase I–II trials and 17 in Phase II–III trials. In Phase III trials, several COVID-19 vaccines demonstrated efficacy as high as 95% in preventing symptomatic COVID-19 infections. National regulatory authorities have approved six vaccines for public use: two RNA vaccines (tozinameran from Pfizer–BioNTech and mRNA-1273 from Moderna), two conventional inactivated vaccines (BBIBP-CorV from Sinopharm and CoronaVac from Sinovac), and two viral vector vaccines (Gam-COVID-Vac from the Gamaleya Research Institute and AZD1222 from the University of Oxford and AstraZeneca).

Prior to COVID-19, a vaccine for an infectious disease had never before been produced in less than several years, and no vaccine existed for preventing a coronavirus infection in humans. Many vaccine technologies being developed for COVID-19 are not like vaccines already in use to prevent influenza, but rather are using "next-generation" strategies for precision on COVID-19 infection mechanisms. Vaccine platforms in development may improve flexibility for antigen manipulation and effectiveness for targeting mechanisms of COVID-19 infection in susceptible population subgroups, such as healthcare workers, the elderly, children, pregnant women, and people with existing compromised immune systems.

COVID-19 vaccine technology platforms, December 2020

- Inactivated virus
- Non-replicating viral vector
- RNA-based
- Protein subunit
- DNA-based
- Virus-like particle
- Replicating viral vector
- Live attenuated virus

Authorized and approved vaccines

Vaccines/Trade name	Developers/ Sponsors	Technology
Ad5-nCoV	CanSino Biologics, Beijing Institute of Biotechnology of the Academy of Military Medical Sciences	Recombinant adenovirus type 5 vector
AZD1222	University of Oxford, AstraZeneca, CEPI	Modified chimpanzee adenovirus vector (ChAdOx1)
BBIBP-CorV	Sinopharm: Beijing Institute of Biological Products, Wuhan Institute of Biological Products	Inactivated SARS-CoV-2 (vero cells)
BBV152 Trade name: Covaxin	Bharat Biotech, Indian Council of Medical Research	Inactivated SARS-CoV-2
CoronaVac	Sinovac	Inactivated SARS-CoV-2
Gam-COVID-Vac Trade name: Sputnik V	Gamaleya Research Institute of Epidemiology and Microbiology;	Non-replicating viral vector (adenovirus)
mRNA-1273	Moderna, NIAID, BARDA, CEPI	Lipid nanoparticle dispersion containing nucleoside-modified messenger RNA (modRNA)
Tozinameran	BioNTech, Pfizer, Fosun Pharma	nucleoside-modified messenger RNA (modRNA)
EpiVacCorona Vector	Russia	Vaccine based on peptide antigens

Trials and authorizations of approved vaccines

Vaccines	**Current Phase**	**Completed phase**	**Authorization**
Ad5-nCoV CanSino Biologics	Phase III (40,000) Global multi-center, randomized, double-blind, placebo-controlled to evaluate efficacy, safety and immunogenicity. Location(s): China, Argentina, Chile, Mexico, Pakistan, Russia, Saudi Arabia Duration: Mar. – Dec. 2020, China; Sep. 2020 – Dec. 2021, Pakistan;	Phase II Neutralizing antibody and T cell responses	**Emergency (1)** China (early) **Full (0)**

	Sep. 2020 – Nov. 2020, Russia		
AZD1222 AstraZeneca	Phase III (30,000) Interventional; randomized, placebo-controlled study for efficacy, safety, and immunogenicity. Positive results from an interim analysis of four ongoing trials were announced on 23 November 2020 and published on 8 December 2020. Overall efficacy was 70%, ranging from 62% to 90% with different dosing regimens, with a peer-reviewed safety profile. Location(s): Brazil, United Kingdom, India Duration: May 2020 – Aug 2021	Phase I–II Spike-specific antibodies at day 28; neutralizing antibodies after a booster dose at day 56.	Emergency (7) UK Argentina India El Salvador Dominican Republic Mexico Bangladesh **Full (0)**
BBIBP-CorV Sinopharm	Phase III (48,000) Randomized, double-blind, parallel placebo-controlled, to evaluate safety and protective efficacy. Sinopharm's internal analysis indicated a 79% efficacy. Location(s): United Arab Emirates, Bahrain, Jordan, Argentina, Morocco, Peru Duration: Jul 2020 – Jul 2021	Phase I–II Neutralizing antibodies at day 14 after 2 injections Location(s): China Duration: Apr 2020 – Jun 2020	**Emergency (2)** Egypt Jordan **Full (3)** UAE Bahrain China
BBV152 Bharat Biotech	Phase III (25,800) Randomised, observer-blinded, placebo-controlled Location(s): India	Phase I Dose-dependent neutralizing antibody response on two-dose schedule. Pending Phase II reports.	**Emergency (1)** India (monitored) **Full (0)**

	Duration: Nov 2020 – Mar 2021		
CoronaVac Sinovac	Phase III (33,620) Double-blind, randomized, placebo-controlled to evaluate efficacy and safety. Positive results from an interim analysis of a small sample were announced by Turkey on 24 December 2020, with an efficacy of 91%. Additional results were announced by Indonesia on 11 January, with an overall efficacy of 65.3%. The vaccine was 50.4 per cent effective at preventing symptomatic infections in a Brazilian trial. Location(s): Brazil (15,000); Chile (3,000); Indonesia (1,620); Turkey (13,000) Duration: Jul 2020 – Oct 2021 in Brazil; Aug 2020 – Jan 2021 in Indonesia	Phase II (600) Immunogenicity eliciting 92% seroconversion at lower dose and 98% at higher dose after 14 days Location(s): China Duration: May 2020 -	**Emergency (4)** China (early) Bolivia Indonesia Turkey **Full (0)**
EpiVacCorona Vector Russia	Phase III (40,000) Randomized double-blind, placebo-controlled to evaluate efficacy, immunogenicity, and safety Location(s): Russia Duration: Nov 2020 – Dec 2021	Phase I–II Simple, blind, placebo-controlled, randomized study of safety, reactogenicity and immunogenicity Location(s): Russia Duration: Jul 2020 - Sep 2020	**Emergency (1)** Russia **Full (0)**
Gam-COVID-Vac Russia	Phase III (40,000) Randomized double-blind, placebo-controlled to evaluate efficacy,	Phase I–II Neutralizing antibody and T cell responses. Location(s): Russia	**Emergency (9)** Russia Belarus Argentina Bolivia

	immunogenicity, and safety Efficacy is stated at 91.4% based on data analysis of the final control point of clinical trials. Efficacy against severe cases of coronavirus is 100%. Location(s): Russia, Belarus, India, Venezuela, UAE Duration: Aug 2020 – May 2021	Duration: Jun 2020-Sep 2020	Venezuela Serbia Guinea Algeria Palestine **Full (0)**
mRNA-1273 Moderna	Phase III (30,000) Interventional; randomized, placebo-controlled study for efficacy, safety, and immunogenicity. Positive results from an interim analysis were announced on 15 November 2020 and published on 30 December 2020 reporting an overall efficacy of 94.1%. Location(s): United States Duration: Jul 2020 – Oct 2022	Phase I–II Dose-dependent neutralizing antibody response on two-dose schedule; undetermined durability. Location(s): United States Duration: Mar 2020 – Nov 2021	**Emergency (4)** US Canada Israel UK **Full (6)** EU Norway Iceland Faroe Islands Greenland Switzerland
Tozinameran BioNTech, Pfizer	Phase III (43,448) Randomized, placebo-controlled. Positive results from an interim analysis were announced on 18 November 2020 and published on 10 December 2020 reporting an overall efficacy of 95%. Location(s): Germany, United States Duration: Jul 2020 – Nov 2020	Phase I–II Strong RBD-binding IgG and neutralizing antibody response peaked 7 days after a booster dose, robust CD4+ and CD8+ T cell responses, undetermined durability. Duration: May. 2020 –	**Emergency (21)** UK Bahrain Canada US Mexico Kuwait Singapore Jordan Oman Costa Rica Ecuador Israel Panama Chile Qatar

			UAE Argentina Iraq WHO Colombia Philippines **Full (9)** Saudi Arabia Switzerland EU Norway Iceland Faroe Islands Greenland Serbia Malaysia

Doses, efficacy and storage of some vaccines

Vaccines	**Doses**	**Claimed efficacy in P-III trials**	**Storage**
AZD1222 AstraZeneca	2 28 days	62-90%	Regular fridge temperature
mRNA-1273 Moderna	2 28 days apart	95%	-20 upto 6 months
Tozinameran BioNTech, Pfizer	2 21 days apart	95%	-70C
Sputnik V Gamaleya (Russia)	2 21 days apart	92%	Regular fridge temperature (in dry form)

Challenges

- Vaccine efficacy: Efficacy of the vaccine is debatable.
- Vaccine side effects: During clinical trials, the only side effects deemed very common were (in order of frequency): pain and swelling at the injection site, tiredness, headache, muscle aches, chills, joint pain, and fever. UK's Medicines and Healthcare products Regulatory Agency (MHRA) advised that people who have a history of "significant" allergic reaction should not receive the Pfizer-BioNTech COVID-19 vaccine.
- Storage: Meticulous cold chain is needed for some available vaccine for distribution. Pfizer vaccines need to be preserved in -70C. After a vaccine vial is punctured to administer a dose, it is viable for only six hours, then must be discarded, requiring attention to local management of cold storage and vaccination processes.
- Cost: Third world countries find it hard to avail vaccine for their people. Vaccines could be well out of reach of many people in many parts of the world. Many national authorities declared subsidies in this purpose and promised their citizen for free vaccination.
- Manufacturing capacity and availability: The gap between demand and supply for COVID-19 vaccine is huge. It may take months or even years to vaccinate the majority of the world's population.
- Security and corruption: Interpol called the COVID-19 vaccine "liquid gold" and warned of an "onslaught of all types of criminal activity". It stated that organized crime could infiltrate the vaccine supply chain, steal product through physical means, and data theft, or even offer counterfeit vaccine kits
- Misinformation: Distorted, fraudulent information about vaccine manufacturing, effects of vaccine, spread especially by social media may mar the global vaccination strategy.
- Vaccine hesitancy: Some 10% of the public perceives vaccines as unsafe or unnecessary, refusing vaccination – a global health threat called vaccine hesitancy. It increases the risk of further viral spread that could lead to COVID-19 outbreaks.

Vaccination for special groups:

Pregnant and lactating mothers

Studies on vaccine effects are not stout enough, though no trial showed any significant adverse event on pregnant and lactating women. Centre for Disease Control (CDC), USA and Joint Committee on Vaccination and Immunisation (JCVI), UK advised conditional vaccination for pregnant who are at high risk of infection and complications as well as for lactating women.

Children:

There is limited data on vaccination among children (below 18).

New Fellows in last five months:

Prof Shyamal Sarker, MD FACP
Mohammad Aminul Islam, MBBS FCPS FACP

New Members in last five months:

Tahsin Salam, MBBS
Shahadat Hossain MD, MBBS
Azfar Hossain Bhuiyan, MBBS
Mohammad Moniruzzaman, MBBS MD
Md Saidur Rahman, MBBS
Atia Sharmeen, FCPS DDV
Abul Ehsan Md Muhiuddin Osmani, MBBS
Mohammad Abdul Kadir, MBBS
MD FAIZUL HAFIZ CHOWDHURY, MBBS
Md Amir Hossain, MBBS
Atiquzzaman FCPS, MBBS
SADIA SABER
Md Enamul Haque, MBBS
Md. Imran Hossain, MD
Md Rakibul Hasan Rashed, MD
MD Shamim, MBBS MD
Abdul Baten, MBBS
Kazi Shamim Al Mamun, MBBS
Md Saiful Islam, MBBS MD
Md Imam Hosen, MBBS
Fahim Khan Mukarram, MBBS
Partha Pratim Saha, MBBS

Md Mazharul Huq Tanim, MBBS
Chowdhury Tamanna Tabassum, MBBS
Mohammad Ibrahim Hossain, MBBS, MD
Mst Wahida Pervin, MBBS
Shah Md Roushan Kabir Choudhury, MBBS
FARHAD AHMED, MBBS
Syed Mahbub Hossain, MBBS
Nure Alam Siddique, MBBS

Conclusion:

Much of the work that has been done recently centers around the ongoing pandemic and the strive to deliver safe and effective vaccine for all. Unfortunately, misinformation is still a challenge that we face even as the pandemic is ongoing. We need to educate people about the hard reality of COVID-19. A safe and effective vaccine can reduce the case rate but as it is an RNA virus and mutation are common, we must take safety measures to keep population safe and economy viable. ACP Bangladesh Chapter hopes for a speedy and successful vaccine rollout and looks forward to a brighter future ahead.

Prof. HAM Nazmul Ahasan
Governor, ACP-Bangladesh Chapter.