

Role of Fellows of Bangladesh College of Physicians and Surgeons in the Management of COVID-19 Crisis

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Abstract:

The first case of COVID-19 in Bangladesh was declared in March 08, 2020 and since then we are fighting against this deadly pandemic under the prudent and dynamic leadership of Hon'ble Prime Minister Sheikh Hasina as Chief Advisor. The active, sincere and dedicated efforts of Prime Minister's Office, Cabinet Division, Ministry of Health and Family Welfare and other different ministries have proved this COVID battle to be a winning game for our country. All the doctors, nurses and health workers played the pivotal role along with administration, police and all others. Among the frontline doctors, the fellows and members of all specialties of Bangladesh College of Physicians and Surgeons (BCPS) had a significant participation. They remain to be appraised.

This review article probes to reveal the enormous contributions of all fellows and members of BCPS in various sectors of the COVID-19 battle in Bangladesh.

This paper analyzed all activities of BCPS fellows and members by collecting data from the COVID-19 dedicated hospitals, Directorate General of Health Services, Bangladesh and directly from fellows of BCPS. A systematic search in the net was also performed using specific search words to extract relevant data and articles published on COVID-19 from Bangladesh. A non-probability sampling technique was used without any structured questionnaire. Data were directly included in MS excel spread sheet. Simple description analysis was performed and results were expressed in tables and charts.

We found that fellows and members of BCPS took a significant leadership and provided supreme dedicated

services in almost all fields of COVID-19 crisis; e.g. frontline patientcare, education and training, national policy making, research and publication and nationwide guidance and awareness build-up. Among the doctors of government COVID-19 dedicated hospitals in Dhaka, about 650 fellows participated in treating about 1.5 lacs admitted patients. First interim guideline on COVID-19 management in Bangladesh was published by fellows in executive committee of Bangladesh Society of Medicine. It was later transformed into national guideline by DGHS. Fellows were the leaders at national level. The National Technical Advisor Committee and Directorate General of Health Services of Bangladesh are the two main bodies who lead the war in the frontline and both are headed by fellows of BCPS. Journal of BCPS was the first in Bangladesh to publish COVID-19 supplement issue on July 31, 2020 with 12 original articles. So far 128 COVID related articles from BCPS fellows have been published in national and international journals.

Fellows fought in the frontline in every sector, shoulder to shoulder with all doctors and health workers of Bangladesh. They have triumphed their beloved college, Bangladesh College of Physicians and Surgeons, to be one of the greatest centers of excellence for the medical education and patient care in Bangladesh.

Key words: COVID-19, Fellows of BCPS, Crisis

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Introduction:

The declaration of first case of COVID-19 in Bangladesh on March 08, 2020¹ has made the pandemic threat from Wuhan, China², a real-life nightmare for all the people. WHO declared COVID-19 pandemic on 11th March, 2020³. Bangladesh started its war against the novel corona virus pandemic. Hon'ble Prime Minister Sheikh Hasina acted as Chief Advisor of Covid-19 Management. Under her prudent and dynamic leadership Prime Minister's Office, Cabinet Division, different Ministries/ Divisions, Public Representatives helped Ministry of Health and Family Welfare in managing the Pandemic. In response to Hon'ble Prime Minister Sheikh Hasina's call to the nation to come forward from every corner to combat the situation, Bangladesh College of Physicians and Surgeons (BCPS), the pioneer organization for postgraduate medical education in Bangladesh, flung into action without any delay by publishing two circulars in the daily newspapers and electronic media in March, 2020, urging its fellows and members to render all out support to the healthcare system in all sectors available to combat the situation in collaboration with all other stake holders. Fellows of Internal Medicine under their professional body named "Bangladesh Society of Medicine" had already acted spontaneously in collaboration with Directorate General of Health Services (DGHS) even earlier in late January, 2020 by publishing the "Interim Guideline on the Management of COVID-19 Infection" and disseminate it in a grand CME at Dhaka Medical College Hospital, Dhaka with more than 1000 participant doctors in presence of Minister of Health and Family Welfare of the Government Republic of Bangladesh as the chair.

The following days are history. The world witnessed the most grievous health crisis in last 100 years: about 512 million people affected in 226 countries and territories with a death toll of about 6 million and still counting⁴. As of May 22, 2022, Bangladesh data are as follows⁵:

Case detection rate:

Total test 1,40, 82,676	Total positive 19,53,233	Total death 29,128	Case detection rate: overall 14.24% Current: 1.54%
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In the last two years, there has been unconventional disruption across all spheres of life; patient care and medical education especially. The College has managed these rapidly changing circumstances both responsively and proactively. All aspects of college work have been affected and each department has adapted and evolved. In healthcare the fellows have been at the forefront of tackling this pandemic through leadership and active participation in all levels from policy making to direct bed side patient care. Fellows of all disciplines responded both responsively and proactively taking enormous risk on their life as well as on the livelihood of their families along with all the health workers of Bangladesh. The college acted with resilience and versatility in a body to face the challenges, notably in education, training, examinations, policy making and public affairs.

Methodology and analysis:

A committee was formed to find out the role of BCPS fellows in the covid-19 pandemic and to prepare an article on it. The committee comprised of 14 BCPS fellows who took leadership in COVID-19 management in various capacities including national technical advisory committee, directorate general of health services, executive committee of different professional societies and scholars of different disciplines who guided direct patient care in different COVID dedicated hospitals. The committee started working on 24th April 2022. One bodily meeting followed by four virtual meeting was arranged. We collected patient care related data from the director's office of covid-19 dedicated specialized hospitals and the core committee on COVID-19 management of respective hospitals using non probability sampling. BCPS related information were collected from the office and the College Year Books published in 2021 and 2022. National data on COVID-19 were obtained from the office of the Additional Director General (administration) and office of Director Disease Control, Directorate General of Health Services. We requested all respected fellow working in both government and non-government sectors through SMS to provide us data of COVID-19 patients treated at their hospitals and also their publication details on COVID-19. We did not use any questionnaire rather we directly included the data on MS excel spread sheet. Simple described analysis was performed and results were expressed in tables and charts.

A systematic search in the net was performed using specific search words to extract articles published on COVID-19 from Bangladesh. One of the authors searched the articles and downloaded them. The retrieved articles were then verified by two of the authors either personally identifying the author's name or directly making phone calls to the author's institutions. The article with at least one fellow of BCPS among the authors as authors was included.

Results:

Role in COVID-19 education:

We found that fellows engaged themselves immediately from the outset of the pandemic to analyze all the evidence based information about the novel SARS-2 Corona virus and took the leadership to formulate various national guidelines and training modules and actively participated in numerous training programs to guide the doctors and all other health workers for optimum patient care and infection prevention and control.

Formulation of a national guideline and other guidelines on COVID-19 management:

At the very onset of the pandemic at Wuhan, China in late December, 2019, long before case detection in Bangladesh, the fellows in the executive committee of the Bangladesh Society of Medicine sat together and formulated an Interim Guideline for the management of COVID-19. The interim guideline was disseminated at a grand CME at Dhaka Medical College, Dhaka on January 30, 2020 organized by Bangladesh Society of Medicine in presence of Honorable Minister of Health and Family Welfare as the chief guest with other dignitaries including government officials, political, social and professional leaders. Around 1000 doctors, many nurses and supporting staffs were briefed regarding the management of COVID-19. Later, on the basis of this

interim guideline, Directorate General of Health Services published the first national guideline on COVID-19 management on 30th March, 2020 and we found that most of the authors are fellows of BCPS. At present there are about 16 national clinical guidelines⁷ published by DGHS and we found that a significant number of fellows are among the authors of each guideline. These guidelines have helped the doctors of this country to fight against this novel virus.

Training programs:

At the initial stage, training for the trainers (TOT) was arranged in 13 medical college hospitals throughout the country by DGHS in collaboration with BSM where 2500 doctors were trained by fellows of medicine faculty. We have obtained data from the office of the Director, Disease Control, DGHS⁶ that shows that 5100 doctors and 1700 nurses have been trained on COVID-19 so far. Numerous trainings have also been arranged by various professional societies and respective departments of the COVID dedicated hospitals throughout the pandemic. On international level, online COVID-19 competency training of the trainer program was organized by HAEFA (www.haefa.org) in collaboration with the world-famous trainers from the project HOPE and Brown University and many were fellows residing abroad. USAID and Save the Children, two international NGOs, is running an e-mentoring program in collaboration with Bangladesh Society of Medicine, where doctors from peripheral COVID units presents their difficult cases virtually and expert fellows of Medicine guide them for appropriate care. Likewise, fellows of all disciplines have actively participated in all these training programs either as planners or trainers with other colleagues.

Building awareness and community preparedness:

The fellows all over the country were very much active in electronic and print media to create public awareness

Table-I

Number of participants in a few of the numerous training programs on COVID-19

Sl. no.	Name of the program	Number of the program	Participants	Doctors	Nurses and HCW	Organizer
1	Training at medical colleges	13	2500	2500	0	DGHS, BSM
2	Government training		6800	5100	1700	DGHS
2	E-mentoring program	168	2336	2000	336	Save the children, DGHS, BSM
3	Weekly online refreshers training at DMCH	50	2500	1500	1000	DMCH

regarding treatment and infection prevention and control. They played a pivotal role to guide the people in the proper tract in times of great superstitions, false information and misunderstandings.

Role of BCPS (Fellows) in Research & Publication during COVID:

COVID-19 have had a tremendous effect on all accounts of scholarly articles. A sharp increase in publication volume has been witnessed⁸. Journal of BCPS was the first in Bangladesh to publish COVID-19 supplement issue on July 31, 2020 with 12 original articles. We ran a search in the internet to track down the COVID related articles published between 2020-2022, containing fellow/member as author and also sent a SMS to all fellows to send us their COVID-19 related publication details. The approximate results are as follows:

Table-II

Number of articles published by BCPS Fellows on COVID-19 according to types.

Type of Study	Number of Study
Original Article	75
Review Article	29
Case reports	20
Case series	4
Total	128

Table-III

Distribution of original article according to various disciplines (approx.):

Subject	Number of Original Article by Fellows in National Journals
Medicine	39
Surgery	5
Gynecology	4
Vaccination	4
Radiology & Imaging	4
Psychiatry	5
Paediatrics	7
Physical Medicine	1
Eye	1
Endocrine	1
Neurology	4
Pathology	23
Total	98

Table-IV

Number of Article published in international journals (approx.)

International Journal	Number of Article by Fellows
PUBMED	3
European Journal of Medicine	5
Journals EKB	1
APICARE	2
SSRN	4
KARGER	1
SAGE Journal	4
NCBI	3
BMC	2
American Society of Microbiology	1
JECP	2
Total	31

Role of BCPS (fellows) as national policy makers:

National Technical Advisory Committee (NTAC):

National Technical Advisory Committee (NTAC), the highest-level advisory body for COVID pandemic in Bangladesh, had been constituted in 2nd week of April, 2020⁹. It is headed Prof. Dr. Mohammad Shahidullah, Pro-VC and Chairman Neonatology, BSMMU, who is a renowned fellow pediatrician, one of the Councilor, BCPS, and President, Bangladesh Medical and Dental Council. His team consists of 20 members and 10 of them are renowned fellows who are living legends in their respective fields. The terms of references on broad head lines were giving suggestions to the government time to time in crisis situations and right directives for better containment. The committee has been the lighthouse in the darkest hour of COVID-19 pandemic, guiding the government to take important decisions regarding surveillance and laboratory support, tracing and screening, infection prevention control, community engagement and logistics and procurement. They have undertaken 56 meetings till date to carry out this huge responsibility and member Fellows have put enormous effort on their part to make the committee a success.

Directorate General of Health Services (DGHS):

DGHS is one of the most important organizations among all other executive and regulatory organizing bodies of

Ministry of Health & Family welfare. It has been the focal executive organization for the nationwide management of COVID-19 pandemic. Many of the leading bodies here are also fellows of BCPS including the Director-General himself along with Additional Director-General, Line Director Non-Communicable Diseases, etc. Together they have contributed enormously in formulating and executing different plans of action for containment of the pandemic, appropriate patient care and a very successful vaccination campaign. Under their leadership, there has been huge advancement in the health care system; 2000 bedded Bashundhara Covid-19 temporary hospital and DNCC hospital having more than 1100 isolation beds and 212 ICU beds were established within a month. MOHFW has appointed 10,792 Medical officers, 409 anesthesiologist, 25 lab consultants, and 13,198 nurses during this period. ICU beds have been increased from 578 to 1226 and many more. More than 128 million people have been vaccinated¹⁰. The role of the Department of Health in controlling and planning different aspects of the Covid-19 epidemic is immense and praiseworthy.

Others:

Fellows of different disciplines have attended numerous policy and advocacy meetings, participated in developing various action plans at ministry of health and DGHS.

BCPS Fellows put enormous effort on electronic and print media for the awareness and management of COVID-19 by their thoughts and advice. The nation largely depended upon them as experts and followed their advocacy throughout the pandemic.

Role of BCPS (Fellows) in COVID-19 Patient Care:

Government of Bangladesh allocated 13,134 beds and 1,173 ICU beds for in COVID dedicated hospitals nationwide and there were many in the private sector as well. Daily about 1, 50,000 patients visited OPD and 26000 patients remained admitted at pick periods. There were 1000 major and 6000 minor surgeries have been performed¹⁰. Doctors, nurses, and all other health workers have worked relentlessly. Fellows played their role whole heartedly with their team mates. We tried to collect data from the major COVID dedicated hospitals of Dhaka and other divisions through direct contact with the director's office and the core committee for COVID-19 management of the respective hospitals and also from fellows working there. The following could be extracted in limited time.

Dhaka Medical College and Hospital and Bangabandhu Sheikh Mujib Medical University, Dhaka and a few more COVID-19 dedicated hospitals are also running Post-COVID-19 clinics. Physical Medicine and Rehabilitation departments have also run pulmonary rehabilitation

Table-V

Bed and Patient distribution in five COVID dedicated hospitals in Dhaka city and number of BCPS Fellows involved in the COVID dedicated team with other members.

Sl. No.	Name of Hospitals	Number of Bed dedicated for COVID-19	Number of patients get treatment	Fellows involve as front liner
1.	Dhaka Medical College Hospital, Dhaka	875	35136	247
2.	Mugda Medical College Hospital, Dhaka	500	46333	114
3.	Kurmitola General Hospital, Dhaka	350	19878	42
4.	DNCC Hospital, Dhaka	1045	7000	35
5.	Kuwait-Bangladesh Friendship Hospital, Dhaka	200	6905	22
6.	Bangabandhu Sheikh Mujib Medical University, Dhaka	300	13692	55
7.	Combined Military Hospital (CMH), Dhaka.	485	16,213	149
8.	Total	3,755	1,45,157	664

Table-VI*Data from a few regional hospitals are as follows*

Sl. No.	Name of Hospitals	Number of Bed dedicated for COVID-19	Number of patients get treatment	Fellows involve as front liner
1.	Chottogram Medical College, Chottogram	300	5353	262
2.	Rajshahi Medical college, Rajshahi	300	11500	15
3.	Sylhet MAG Osmani Medical College, Sylhet	100	12184	50
4.	Border Guard Hospital, Thakurgaon	20	39	01
5.	Upazilla Health Complex, Charghat, Rajshahi	20	822	01

Table-VII*Data from Some randomly selected Private Covid-19 Hospital in Bangladesh*

Sl. No.	Name of Hospitals	Number of patients get treatment (Admitted+OPD)	Fellows involve as front liner
1.	Bangladesh Specialized Hospital, Dhaka	15613	43
2.	Popular Medical College Hospital, Dhaka	3678	19
3.	Gonoshastho Samajvittik Nogor Hospital, Dhaka	2721	13
4.	Health & Hope Hospital, Dhaka	752	04
5.	Bangladesh Medical College, Dhaka	3405	03
6.	Monowara Hospital Pvt. Ltd	300	02
7.	AMZ Hospital, Dhaka	40030	04
8.	Medinova Specialized Hospital, Feni	5136	01

As COVID-19 is an infectious disease, fellows of Internal Medicine with allied specialties took the lead and fellows from all other disciplines, especially Surgery, Paediatrics, Gynae and Obstetrics, Critical care, Anaesthesia,

Pathology, Virology and all others provided direct patients care in perfect harmony. Dhaka Medical College & Hospital reflects a good sample:

Discipline	Medicine and Allied	Pediatrics	Gynae and obstetrics	Surgery and allied
Number of beds	437 Male-320 Female-120 ICU- 15 HDU-24 CCU-10 Dialysis-30 Cabin-18	28 (General-18 HDU-10)	122	122
Number of patients treated	28370 (Male-16543 Female-11827)	1816	2835	1651
Fellows involved as Frontliner	65	25	73	59

program and post-COVID-19 complications rehabilitation program to manage post COVID-19 complications.

Apart from direct patient care, telemedicine was the new normal. Government and all respective societies opened this frontier where fellows participated in large numbers to provide home based care to the people. For instance, phone number of 200 obstetrics and gynaecology fellows were distributed to the common people so that they may get services during lockdown. Day and night, our fellows received calls and helped women especially pregnant women from across the country. Same was done by Bangladesh Society of Medicine, Society of Surgeons, and other many societies.

Role of Fellows to continue regular activity of BCPS during the pandemic

The year 2020 - 2021 has been a worldwide challenge; the same holds true for BCPS. Our College has been resilient in such times, it has adapted to the new & changed world and online College activities were incorporated as a part of every Fellow's & Member's lives. The medical education department, research-training-monitoring department, examination department, continued professional development committee, journal committee and other departments continued their activities through online "ZOOM" and virtual classroom app of A2i.

Since the inception of the College, not a single exam had been postponed till July 2020. All members of BCPS took great responsibility and hard work to complete all other examinations in time with timely publication of results despite all the challenges to handle such a large number of examinees with maintenance of IPC.

Discussion:

The war Bangladesh fought last was the independence war of 1971 that brought her very own existence into the world map. The war shattered nation was thriving merely through poverty and was on the brink of an outright healthcare crisis. There was great scarcity of specialist doctors that formed an inadequate healthcare system unable to provide quality service to the mass population. Prior to 1972, doctors had to rely on personal or government funding or support from the Commonwealth to go to the United Kingdom for further specialist training. In this crucial period, it was none other than our Father of the Nation, Bangabandhu

Sheikh Mujibur Rahman who realized the situation and established the Bangladesh College of Physicians & Surgeons (BCPS) on 6th June, 1972 by the power of a Presidential Ordinance and fulfilled the dream of thousands of aspiring doctors to pursue higher education and to become specialist in their very own country in a timely and affordable manner. BCPS has paved its way in the past 50 years little by little, now stands on the precipice of national and international fame and glory and have successfully highlighted the great wisdom and farsightedness of Bangabandhu. The college has been the lighthouse of postgraduate medical education in Bangladesh by conferring fellowship in 59 specialty subjects and membership in 16 specialties through international standard examination system and through various trainings, workshops and skill lab activities to promote continued medical education.

Yet another war shattered Bangladesh in March, 2020 as the deadly SARS CoV-2 virus breached all our preventive measures and the pandemic hit Bangladesh. Daughter of Bangabandhu, Honorable Prime Minister Sheikh Hasina took the leadership this time and the whole nation have fought unitedly and successfully. While developed nations have struggled and failed to curtail death rate, we have shown promising results with an average death rate of 1.49% and case detection rate at present is about 0.38% only. Doctors, nurses and all health workers were the frontline warriors who sacrificed immensely along with other supports from administration, police, etc. All the healthcare workers were under immense strain of treating large numbers of extremely sick patients in limited facilities with great health risks on their own. Approximate data from Bangladesh Medical Association website¹¹ shows 3182 doctors got infected and 189 doctors died of COVID-19. Like all the doctors of Bangladesh, fellows of BCPS were amazing in these desperate hours. They identified opportunities and delivered new ways of working. BCPS, with all its fellows, members and all staffs, stood up boldly against all the challenges that came in to the way of regular activities especially the examinations, medical education, training, continued professional development, research and others. Our College adapted by incorporating online activities, took all the opportunities to connect, continued to provide new learning and resources, and acted as a voice for the profession to influence the nationwide actions against

COVID-19. We have lost about 29 of our beloved fellows due to COVID-19, who were pivotal to the success of the institution. As BCPS president remarks, “Even an entire book will not suffice to recognize and laud their immense contributions to BCPS. Our loss is tremendous and we cannot replace them”. We struggled to remain at the forefront of medical education during this rapid change in both medical care and the scientific evidence that supports it. Several of the resulting changes will provide a strong foundation for the future development of the College. These innovations, especially in the nature and delivery of education, will both enrich the College in years to come, and enhance its relevance. Electronic communication though has proved effective over the last two years; however, it cannot replace the social coherence and innate teamwork of BCPS. Now that the pandemic is much within grip in this region, this is the perfect time to re-engaging colleagues in the revitalized College.

Conclusion:

We have pulled together. We were able to uphold peer support, compassion and kindness across our communities and in our hospitals. All of us have worked together to win this battle. We mourn for those whom we have lost, we rebuild for the future. We have identified newer strength of unity and capacity to do better for our patients and ourselves. Bangladesh College of Physicians and Surgeons is overwhelmed for the incredible dedicated service that our fellows and members have rendered to the nation in this unprecedented crisis. They have triumphed their beloved college to be one of the greatest centers of excellence for the medical education and patient care in Bangladesh.

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20. Mohammed Shahinuzzaman. Assistant Director, BCPS, Mohakhali, Dhaka.

References

1. Reuters. (2020). Bangladesh confirms its first three cases of coronavirus. <https://www.reuters.com/article/us-health-coronavirus-bangladesh-idUSKBN20V0FS> [Accessed May 22, 2022].
2. Zhou P, Yang XL, Wang XG, Hu B, Zhang L, Zhang W, et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature*. 2020;579:270-3.
3. Cucinotta, D., & Vanelli, M. WHO Declares COVID-19 a Pandemic. *Acta bio-medica : Atenei Parmensis*, 2020;91(1): 157–160. <https://doi.org/10.23750/abm.v91i1.9397>
4. Worldometer Corona Virus update. <https://www.worldometers.info/coronavirus/country/bangladesh/> . Accessed May 22, 2022.
5. COVID-19 Dynamic Dashboard for Bangladesh. <https://dghs-dashboard.com/pages/covid19.php>. Accessed May 16, 2022.
6. Office of the Director, Disease Control, Directorate General of Health Services, Dhaka. Accessed May 08, 2022.
7. Official website of DGHS. <https://old.dghs.gov.bd/index.php/bd/publication/guideline> . Accessed on May 17, 2022
8. Aviv-Reuven S, Rosenfeld A. Publication patterns' changes due to the COVID-19 pandemic: a longitudinal and short-term scientometric analysis. *Scientometrics* 2021;126, 6761–6784. <https://doi.org/10.1007/s11192-021-04059-x>
9. The Daily Star. May 17, 2020. <https://www.thedailystar.net/coronavirus-outbreak-tackle-govt-forms-17-member-natl-technical-advisory-committee-1894579>
10. Office of the Additional Director General (administration), Directorate General of Health Services, Dhaka. Accessed May 20, 2022.
11. Official website of Bangladesh Medical Association. <https://bma.org.bd/> . Accessed on May 22, 2022.