

Performance Services for COVID-19 with Private Medical College Hospitals

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Abstract

Corona is a pandemic disease to spread in the human body as a wide-reaching in the history of unwanted world. Yet Medical higher authorities are facing the undesirable spreading causes of this disease as a vital global issue to the present and rationalized generations. Everyone worries of its augmentation around the world and someone suffers from this disease but none can invent effective measures till date as per recovery system. The study aims to assess the management performance services of COVID-19 at North East Medical College and Hospital (NEMCH), as a private medical institution in Sylhet, Bangladesh. Quantitative and qualitative patients' data were obtained from hospital health information centre and secondary data were collected from diverse sources. Key health information instruments of COVID-19 patients and their sustained living status challenges in risks with health rights are highlighted. The research focuses the 41-60 aged group is 42.2%, which is the highest admitted patients and the ratio of male and female is 2:1.13. The study represents the 69.26% of suspected, 30.74% positive and 16.79% death, out of 911 admitted patients from June to August 2020. These findings reflect the health security that the physicians provide. Scientific healthcare knowledge is essential for corona treatment with clinical supports and modern technology but such knowledge is below par. The research suggests future research trajectories of a new alternative treatment options to stimulate the management performance on the priority of National Health Policy and Sustainable Development Goals 2030.

Keywords: Coronavirus disease, suspected, positive, death, health security

1. Introduction

Corona virus is a name that will be tarnished in the history of the world (Miah et al., 2021b). The virus infected several people in China's Wuhan province in December 2019 (Miah et al., 2020). Then the number of people infected with the virus increased day by day and spread all over the world and many died (Miah et al., 2021a). In

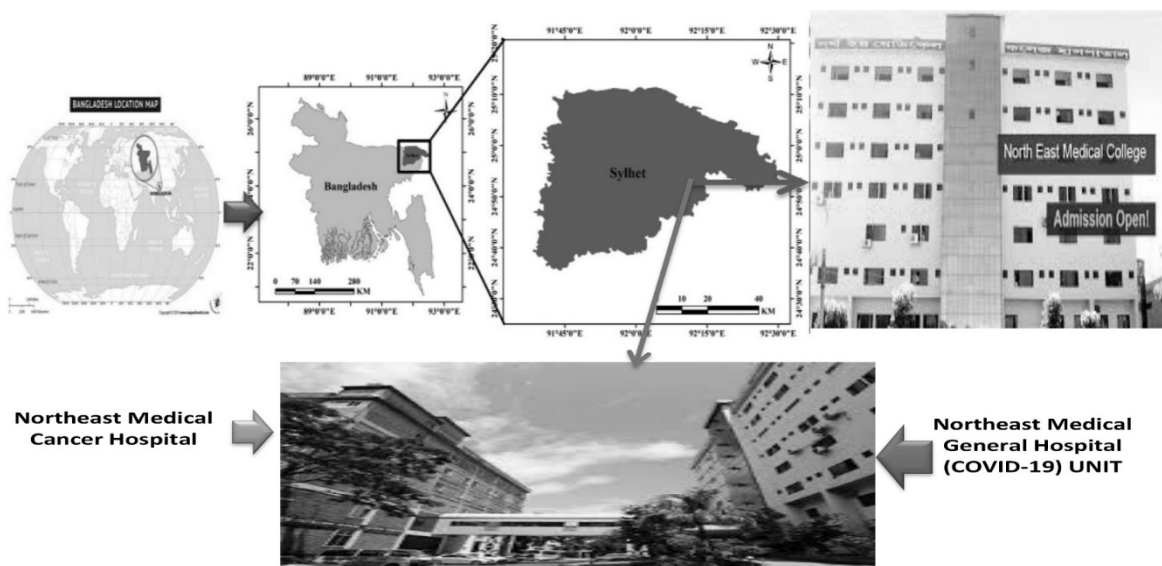
this pandemic, all the countries and the whole world are worried, anxious and scared (Miah et al., 2021e). There is stagnation in all spheres including social, economic and communication with multimorbidity diseases (Miah et al., 2021c; 2020b; 2021d). The World Health Organization provides information and guidance online on the spread of the virus, as well as regular virtual conferences, meetings, press briefings and exchange of information (World Health Organization [WHO], 2020c). Corona virus is known as COVID-19 or Corona virus disease 2019 (WHO, 2020d). Many people have different opinions about management performance of this virus but no one is able to give effective information on the priority of recovery services (Miah et al., 2021a; 2021g).

Moreover, sensor technology has a great advantage on non-communicable diseases to identify the classical symptoms like corona (Miah et al., 2021e). It is a sensory technical virus and disseminate with clouding system (Miah et al., 2022). This virus is not biological; it is spread by technological programming within the distance of global positioning systems (Miah et al., 2022b). That's why after the introduction of corona in Wuhan, China, it spreads directly to Italy and later to other countries without spreading to neighboring countries (WHO, 2021). Moreover, the symptoms of corona disease are almost the same with SARS, MERS and Ebola, only the names are different (United Nations Geoscheme, 2023). The person soon develops the following symptoms and becomes ill (UNCTAD, 2020), such as: (i) sudden yawning, (ii) sneezing, (iii) cold, (iv) Fatigue, (v) Cough, (vi) Fever, (vii) Hiccups, (viii) Discoloration, (ix) Sore throat, (x) Increases asthma, (xi) Anorexia, and (xii) sudden difficulty in breathing. This new virus and disease were unknown before the outbreak began in Wuhan, China in December 2019 but till to date total confirmed cases 681090777 and total deaths 6808373 (UNG, 2023). Wireless sensor networks are a huge endeavor of digital health technology, including technology dependence, which has led to frustration due to lack of proper security. Smartphones can do a lot of lucrative things at least 12 functions with digital health sensor system (Miah et al., 2022b).

The aim of the study is to find out the new innovations with interdisciplinary approaches to solve the core challenges in health sector enhancing the corona disease spreading at national, regional and global perspectives in order to providing the justifiable policy options by the management performance services at private medical institution.

2. Materials and Methods

Northeast Medical Pvt. Limited is a Pioneer integrated Private Medical Institutions including Medical College, Cancer and General Hospital, Nursing College, Nursing Institute, Medical College Dental Unit, Health Technology Institute and Fulsaid Health Development Centre. COVID-19 treatment has been started at Northeast Medical College and Hospital (NEMCH), Bangladesh on May 30, 2020 and it till to continue medical services as per policy.



A prospective, descriptive cross-sectional study was conducted at the General Hospital (Corona Unit), Northeast Medical College and Hospital, Sylhet in Bangladesh during a 3 months period from June 2020 to August 2020. Patients of different age group and both sexes will be selected for this study according to inclusion and exclusion

criteria.

A total of 911 cases who met the enrolment criteria were included in this study. COVID-19 blood sampled or removed with biopsy instrument. All obtained specimens immersed in 10% buffer formalin. These samples were fixed for 6 hours to 24 hours which were required for proper H&E. Routine tissue processing and routine H&E staining will be done on all 911 cases at the Corona Unit Lab in NEMCH, Sylhet.

Statistical analysis of the results was obtained by the statistical software of SPSS, version 26. The results were presented in tables, figures, charts and diagrams. Every ethical issue was discussed with the patients; regarding the study and informed written consent were obtained.

3. Results

3.1 Patients' Age and Sex Status

From the study on COVID-19 patients' age group were different ranges, such as 0-20, 21-40, 41-60, 61-80 and 81-100 years. Out of them, the year of 41-60 of patients' age group was 42.2%, which is the highest admitted patient at Northeast Medical College and Hospital in Sylhet, Bangladesh as shown in Table 1.

Table 1. Highest admitted patient at Northeast Medical College and Hospital in Sylhet, Bangladesh

Patient's Age Group (years)	Percentage (%)
0-20	1.1
21-40	18.9
41-60	42.2
61-80	35.6
81-100	2.2

The admitted patients were male and female with different ages. From the study, the ratio of male and female is 2:1.3. The study reflects the management performance of COVID-19 on age and sex status on the admitted patients at Corona Unit of NEMCH.

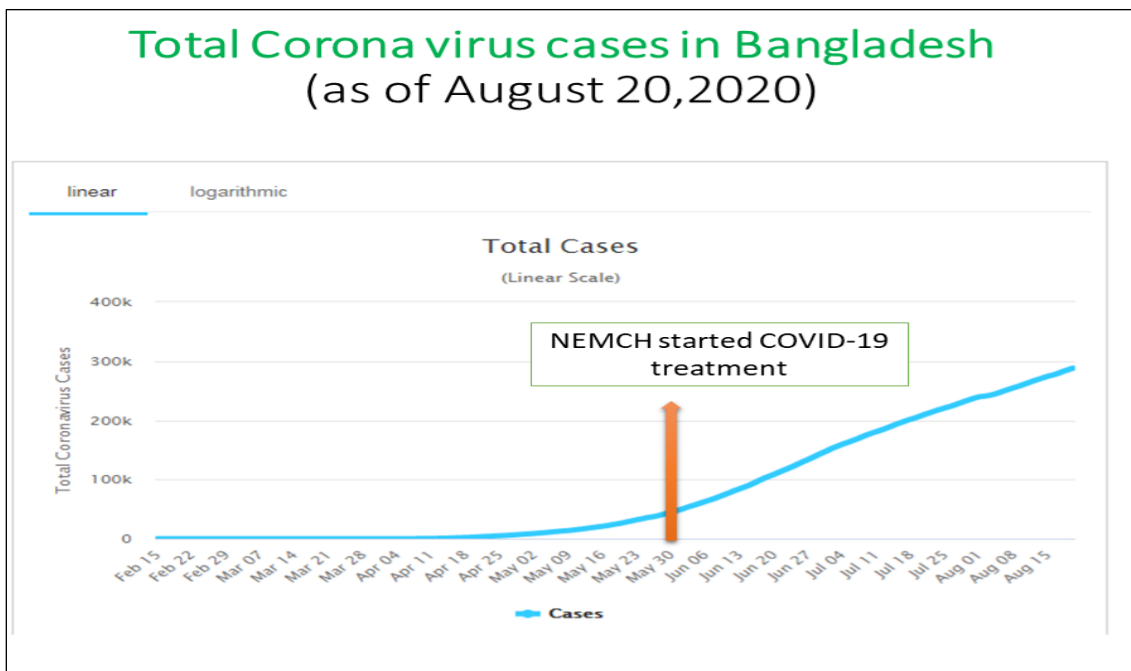
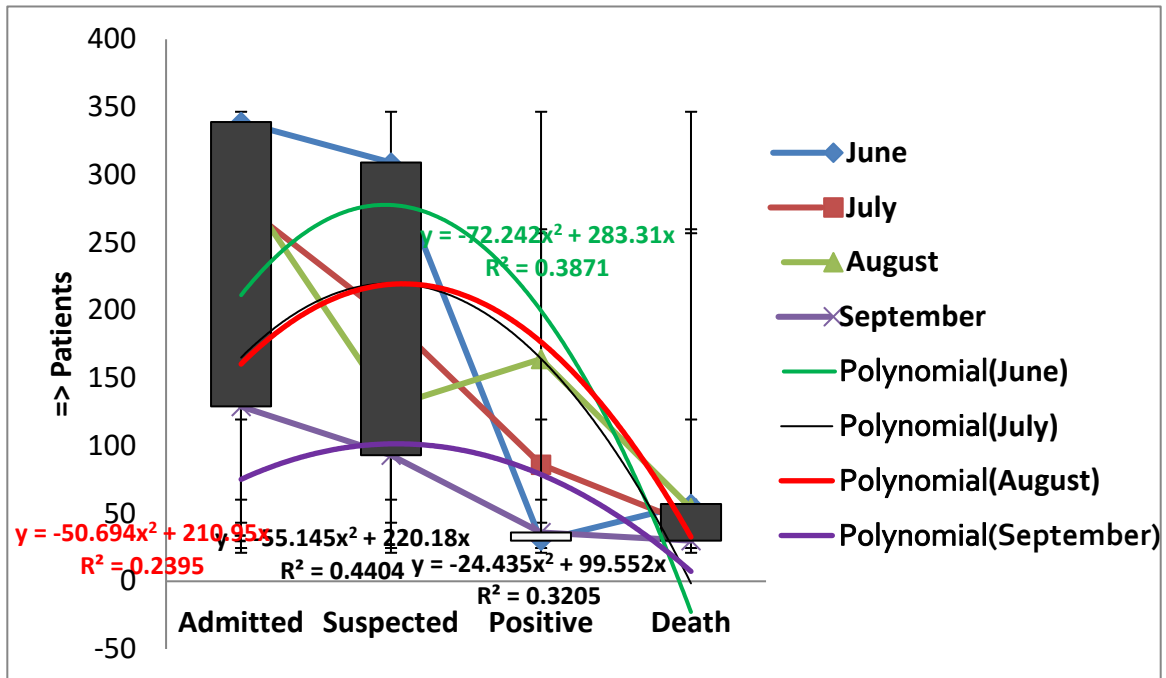
3.2 COVID-19 Performance Status

The NEMCH started the Corona virus identification from May 30, 2020 and effectively worked on June 1, 2020 and continue still date. The study was represented COVID patients' data from June 2020, July 2020 and August 2020. From the study, the highest admitted patients were 339 in June 2020 and the lowest was 279 in July, out of 911 patients, which as shown in Figure 1. The findings also compared with the patients' status in polynomial curves between June 2020 to August 2020, which indicate downward graphical representation among admitted, suspected, positive case and death report. From the graph, three polynomial equations stated as below:

$$(i) \quad y = -72.242x^2 + 283.31x \\ R^2 = 0.3395$$

$$(ii) \quad y = -72.242x^2 + 283.31x \\ R^2 = 0.3395$$

$$(iii) \quad y = -55.145x^2 + 220.18x \\ R^2 = 0.3656$$



4. Discussion

Two hospital buildings are located to the north and south of North East Medical College Hospital. Corona is operating as a 200-bed hospital for dedicated patients in the southern hospital building. We have two gates to enter the hospital. Corona patients are admitted through the south gate. The hospital has a total of 5 lifts. An elevator is used only for corona patients. Two rooms are being used in the hospital emergency department. One is for patients with corona symptoms (flu corner) and the other is for normal patients. The emergency department has a triage room with 4 beds. Patients are admitted to the Green Zone or Corona Isolation Unit of the hospital or sent home with necessary prescriptions after assessment and baseline investigation (first aid is provided if necessary) in the

Triage Room.

Corona-positive patients or patients with symptoms are referred to the corona isolation unit via separate hospital roads and lifts. Separate floors of the hospital are used for corona patients admitted to the hospital. The yellow zone is used on one floor for corona suspected patients, the red zone for corona positive patients on another floor and another separate floor with ICU and HDU for critical patients. Patients are treated in accordance with the WHO and National Guidelines. In some patients we use clinical discrimination. We have a clinical management group for treatment. This group includes local and national expert groups. Every night (anytime if needed) with experts on individual cases via video conferencing is advised.

So far, we have given plasma therapy to 26 patients in a multicenter trial project with the Department of Hematology, Dhaka Medical College and the results are very promising. From 01.08.2020, we have treated a total of 480 patients (suspicious 411, corona 59). A total of 404 (45 corona positive) patients returned home healthy and 75 patients with various serious illnesses died. 6 of them were corona positive patients.

At present 61 patients admitted to the hospital is undergoing treatment. Of these, 18 patients are corona positive. There are 52 doctors, 60 nurses, 120 health workers and 20 other staff directly involved in the medical management of corona patients. The health workers go to isolation every 10 days after duty and provide other group treatment. In the same way, 3 groups are gradually providing medical services. Separate arrangements have been made for each health worker to stay, eat and travel. We are providing quality health care products approved by the World Health Organization to all. By the grace of God, so far, no doctor, nurse or other health worker engaged in the treatment of corona patients has been infected with corona.

Despite significant positive impact towards reduction of mortality, we are facing some challenges, such as:

- ✓ Lack of awareness
- ✓ Affordability of Patients
- ✓ Resource constraints
- ✓ Lack of Researches

5. Conclusion

As service to COVID-19 patients in the new pandemic from NEMCH is a new challenge in the near future, it is important to consider how healthcare providers want to help move forward. In this situation, healthcare professionals may need to be evaluated more frequently, which allows them to provide real feedback and coordinate and rank healthcare professionals. This performance shows how this pandemic crisis could be a catalyst for a change in NEMCH's performance culture. In the long run, this time presents an opportunity to pivot towards a more patient-centered management system built around resilience and agility rather than efficiency and competition.

Data Availability

The data being used to support the findings of this research work are available from the corresponding author upon request.

Competing Interests

The authors declare no potential conflict of interests in this research work.

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Informed Consent

Obtained.

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Appendix

Research questionnaire

1. Name of the Respondent:
2. Age status:
3. Gender: (1) Male, (2) Female
4. Educational background: (a) Primary, (b) Secondary, (c) Graduation, (d) post-graduation
5. Profession: (i) Housewife, (ii) Service, (iii) Business, (iv) Agriculture, (v) Others.....
6. Which district you come from for admitted in COVID-Unit ?
7. COVID-19 self-attack as: (1) Mild, (2) Moderate, (3) Severe, (4) No idea.
8. Perception on Lockdown: (a) In favor, (b) Against lockdown, (c) No comment.
9. Travel during COVID-19: (1) Travel risk, (2) No risk, (3) No comment.
10. Taking vaccine: (a) Vaccinated, (b) Not yet vaccinated, (c) No interest.
11. Coronavirus disease type: (1) Infectious, (2) Non-infectious, (3) No idea.
12. Root cause of COVID-19 spreading: (a) Nature, (b) Wireless Sensor, (c) No comment.
13. Novel Pandemic disease Phobia: (i) Frustrated, (ii) More frustrated, (iii) Not frustrated.
14. Do you think the advanced wireless sensor technology spreads Coronavirus: (a) Yes, (b) No.
15. What symptoms you feel, when you affect in Coronavirus disease?.....
16. How to develop security system of advanced wireless sensor networks?.....
17. Integrated Idea on the Sources of Coronavirus disease: (a) Natural, (b) Man-made, (c) No comment.
18. Do you think the existing healthcare policy is: (a) Adequate, (b) in-adequate, (c) No idea

- 19. Which is the serious socioeconomic factor in COVID-19?.....
- 20. Are you frustrated? Why frustration of self-economic condition?.....
- 21. Do you have any idea on PDRAST (Pandemic Disease Recovery through Advanced Sensor Technology)?
- 22. Any remarks.....

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