

COVID-19 in Ethiopia- The role of the scientific community during the Pandemic: The experience of the facility readiness-clinical case management team

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Abstract

Background: The COVID - 19 pandemic was an unprecedented challenge for the health care sector. In the hopes of gaining assistance from professional organizations, the Ethiopian Medical Association made a call to various professional organizations and with the MOH created various advisory teams that could provide guidance in terms of various aspects. The facility readiness and clinical case management team was established in March 2020 and worked together until July 2020.

Objectives: To highlight the role of scientific groups in advising the ministry of health during the COVID - 19 pandemic and to share lessons learned from working as a multidisciplinary team.

Methods: The implementation of the team was from March 2020 to July 2020, with twelve members from various professional organizations within the country and from the Diaspora. Communication was done through virtual meetings, which were held once or twice a week as deemed necessary, and multiple group emails were sent out. The team undertook tasks assigned to them by the MOH and the team leader provided feedback.

Results: During the five-month period, from March 2020 to July 2020 the team generated guidelines, assisted the MOH in making scientific recommendations, revised the second national guideline on COVID - 19 management and they also revised the EMSA handbook on public health measures and COVID - 19 management.

Conclusion: This research has found that involving professionals from different professional organizations as advisors to the MOH increases the quality of recommendations that the ministry makes, and it is hoped that such collaborations will continue even after the pandemic has passed and that professional organizations will be given a voice within the MOH so that they can assist in developing policies and guidelines. [Ethiop. J. Health Dev: 2021:35 (SI-4): 00-00]

Key words: COVID-19, Ethiopia, scientific community, professional organizations, ministry of health, and Ethiopian Medical Association

Introduction

On March 13, 2020, the first COVID - 19 case was reported in Ethiopia. Ten days later, before the first death was even reported, the facility readiness and clinical management advisory council team had their first meeting. This was made possible due to the collaborative efforts of the ministry of health, various professional associations, and the Ethiopian high-level Diaspora advisory council. (5)

The purpose of organizing the team was to analyze the gaps in the national COVID - 19 epidemic prevention and control interventions and to offer evidence-based policy recommendation. It was one of the most important steps taken by the MOH, as it led the battle against the pandemic in an exemplary way. There is ample evidence indicating that professional associations may play various roles in developing countries. Studies on maternal mortality have indicated that their involvement in political lobbying, standard setting, and the provision of continuing medical education could reduce preventable death (1,4) The facility readiness, clinical case management team was focused on facility readiness and case management. It consisted of health professionals, four from the Diaspora and eight from within the country, who were practicing in the adult and pediatric health fields. The team composition enabled us to learn from the experiences abroad and also enabled realistic and

practical solutions to the problems experienced by the team.

Over five months, from March 2020 to July 2020 by conducting virtual meetings once or twice a week, the team made various contributions to help tackle the pandemic. This also created an opportunity to experiment with conducting virtual meetings as opposed to the traditional face-to-face ones that used to be the norm before the pandemic. The literature on virtual meetings suggests that virtual meetings can be as effective as physical ones, this research confirms that finding. It would have been difficult to mobilize the entire team in a single setting, therefore having a virtual meeting proved to be beneficial for the team. Furthermore, research suggests that a decline in air travel costs might have led to an increase in scientific collaboration (2,3) The fact that virtual meetings make it even cheaper for individuals to work together from different sides of the world may influence the way in which various stakeholders work together within the healthcare sector in the future.

Objectives

→ To highlight the role of scientific groups in advising the ministry of health

→ To Share the lessons learned from working as a multidisciplinary team

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Methods

Setting – The implementation of this advisory group was conducted in Addis Ababa, Ethiopia, from March to July 2020. Addis Ababa, is the capital city of Ethiopia and it is also where the ministry of health office resides. Also, the various professional organizations involved in the advisory council have their main offices in the capital city, Addis Ababa. When the COVID - 19 pandemic occurred and the first cases were detected, the ministry of health started organizing various advisory teams that could assist in dealing with the pandemic and the facility readiness and case management advisory team was among these.

Study design and period: The facility readiness and case management team worked together from March 2020 to July 2020.

Participants –The case management and facility readiness advisory team consisted of 12 members. Four members were from the Ethiopian Diaspora High-Level Advisory Council for the COVID - 19 Pandemic in Ethiopia, one was from the Ethiopian society of family physicians, and another was from the Ethiopian medical women's association, we had two members from pulmonary and critical care units and also one member from the NGOs, an internist working for the United Nations Health Care Center, the UN Economic Commission for Africa. From the pediatrics side we had one infectious disease specialist and another infectious disease fellow and finally we had a professor of pharmacology from the school of pharmacy at the Addis Ababa University.

The implementation - On the 22nd of March 2020, the Ethiopian Medical Association reached out to relevant professional associations to nominate capable and committed experts to join the advisory council, in order to accelerate and enhance the response to the national public health emergency. On the 23rd of March 2020, the Advisory Council held its first virtual meeting from 2 PM to 3:20 PM. To increase effectiveness and efficiency, it was advised by Dr. Lia, that the activities of the COVID - 19 Advisory Council should be centered on MOH priorities and should be coordinated with the ongoing task force initiatives at the MOH.

Once the individuals who were nominated reported back to the Ethiopian Medical association, they were placed in groups with team leaders assigned to each group. The case management and facility readiness team, was organized with the objective of providing scientifically sound and evidence-based advice to support health professionals in the diagnosis and treatment of patients with COVID - 19 infection, appraising evolving medical protocols and making appropriate recommendations and assisting in the development of guidelines/protocols. Meetings were held once or twice a week virtually and communication for the allocation of various tasks was done via group emails by the MOH.

Data analysis- Activity reports were collected from the minutes held during the virtual meetings and were

analyzed retrospectively for the benefits and challenges of forming these groups

Results

Over a period of five months, the facility readiness and case management team has made various contributions to the improvement of COVID -19 management within our country. These contributions will be discussed further below, in order to highlight the importance of having established these teams

Generating guidelines

One-page guidelines: The Ministry of Health had a team that drafted and published the first COVID 19 management guidelines, which was comprehensive in most aspects. The problem was that due to it being a lengthy document, frontline workers who deal with many patients during the day and who are already under a lot of pressure with the challenges that the pandemic has, may experience difficulty with reading through and memorizing the entire document.

Hence our team developed a one-page guideline, with the purpose of developing a simple and easy to use tool for health professionals, that could be placed on the walls of the hospitals/health centers and, if need be, it could be carried in their pockets for ease of use and quick reference.

The one-page guidelines were based on four major management areas concerning adult and pediatric patients with COVID -19; Triage and assessment of severity of suspected/confirmed cases, testing for SARS-CoV2 in patients with suspected COVID - 19, management of suspected/confirmed COVID -19 cases, and a clinical guide for management of hypoxemia for suspected/confirmed COVID - 19 cases. These were areas that were considered most important and needed quick decisions to be made. The one-page guidelines were by no means substitutes to the main guideline, but rather as supplements and quick references.

Developing these guides required looking into the evolving evidence on management of the disease as we were learning new things about this very new disease every day. It also required matching what we knew about the disease to what we actually have on the ground. Medications and devices that were available abroad and that might impact outcomes were not available in our country so the teams from abroad and in the country went back and forth with the documents to make it as easy and as practical as possibly.

These one-page guides were published online on the COVID-19 portal, which was prepared by the Ethiopian medical association.

End of isolation protocol: In a country like Ethiopia, where the health sector was already strained with the limited number of professionals and facilities, there were concerns that the pandemic would cause a major collapse in the health sector.

With an increasing number of daily infections, isolating the people diagnosed with COVID - 19 was a

major challenge. The MOH and its partners created many facilities that could be used to isolate the COVID - 19 patients in a short space of time; however, due to the increased progression rate of the disease these facilities were insufficient.

Self-isolation, which has been practiced in other countries, is an alternate option for those who have homes which offer the luxury of having more than one room, however, for many of the families in Ethiopia, self-isolation is not an option as they live in homes with only one room and are unable to self-isolate away from family members, thereby increasing the danger of transmitting the disease to their family members.

Therefore, a system had to be created for the existing isolation facilities in the county which could decrease the risk of increasing the infection rate in the community. This involved making decisions around when to discharge individuals at the facility, as many still obtained positive RT-PCR results for many weeks after being infected with COVID - 19 despite being asymptomatic. This resulted in them being kept at the centers for longer, until a negative result was obtained.

An end of isolation protocol was then prepared by the team, which could assist with guidelines for discharging as many people as possible from these centers without increasing the risk of disease transmission within the community.

Making scientific recommendations: This team consisted of health professionals from different aspects of the health sector including members from various sub specialties of internal medicine, family medicine, pediatrics and the school of pharmacy. Whenever controversial issues were raised with regards to COVID - 19, which were new to the team, then the team would research it further through the use of published articles and through learning from professionals who had experience with the pandemic, thereby accessing expert recommendations, both verbal and written, in the absence of scientific data.

Furthermore, recommendations were made against the use of Interferon alpha 2B for the treatment of patients with COVID - 19 infection, as well as Biomodulin T as a primary prophylaxis for healthcare providers and health care workers, because it lacked sufficient evidence in terms of its benefit. The use of other medications was approved, such as dexamethasone for severe COVID - 19 infection, which was found to have promising results.

In addition, the MOH requested for the validation of the essential medication list for COVID-19 management, so that drugs deemed to be essential in tackling the pandemic would not be overlooked and so that resources would not be used on unnecessary medications. Ethiopia has limited resources, therefore, the team had to review local and international data that was available on drug resistance and patient outcomes, in order to make informed decisions for the COVID - 19 patients with regards to the medication that should be used.

Revision of the second national guidelines for COVID - 19 management and the EMSA handbook on public health measures and COVID - 19 management

Although the team was not involved in the generation of the 1st edition of the national guideline on COVID - 19 management, the team was requested to revise and make recommendations, which were used during the preparation of the 2nd edition.

The team worked selectively on sections in the guideline, which were relevant to their area of expertise. This enabled the sharing of up-to-date knowledge and experience and resulted in the prompt dissemination and publication of the second national guideline. Various recommendations were added in the 2nd edition, including the use of dexamethasone for severe COVID - 19 symptoms.

Due to the rapid progression rate of the disease, and with new data emerging on a daily basis in relation to the disease, it is believed that there may be multiple revisions of the document during the course of the pandemic. The information contained in the document was based on data obtained at the time.

Other than MOH, the Ethiopian medical student's association (EMSA) also developed their own handbook on public health measures and clinical management of COVID - 19, which was developed to be used by medical students and this document was also reviewed by the team.

Facility preparedness: Although most of the teams' focus has been on the clinical management parts, the team also attempted to develop a tool for assessing facility readiness and evaluated a total of five hospitals through the use of this facility readiness tool. The assessment mostly centered on adequacy of the available PPE in hospitals, which were found to be insufficient. Due to there being units within the MOH that focused on facility preparedness, the team considered it to be unnecessary to duplicate their efforts and chose to focus on clinical management instead.

Discussion

Professional associations have minimal representation in the MOH and their roles have been mostly limited to conducting CPDs. The significant contribution that can be made by these professionals in developing health policies and guidelines has been overlooked in Ethiopia.

With the COVID - 19 pandemic, the formation of advisory councils led to a new approach in tackling health issues with professionals representing their professional associations assisting the MOH in several of its projects, including developing guidelines, making scientific recommendations and including professionals from the diaspora community in their advisory teams. In the team the inclusion of these diaspora members had a significant impact on the quality of recommendations that were made, especially since they resided in areas of the world where the pandemic

occurred before it reached Ethiopia, so they had more experiences in dealing with the effects of COVID - 19. The diaspora members shared practical experiences and guidelines that their hospitals had adopted, the treatments that they had discontinued due to them being ineffective, and the practices that they adopted so as not to delay treatments, which enabled the improvement of existing guidelines. For instance, the diaspora members based on their practices abroad developed the end of isolation protocol.

The virtual meetings enabled the inclusion of the diaspora members, which proved to be extremely beneficial for the development of COVID - 19 protocols in Ethiopia.

The team also had members from the school of pharmacy, so when requests were made for recommendations on the efficacy of certain new treatment options, the pharmaceutical team proved to be beneficial in providing informed opinions around the use of the various treatment options. The team members who specialized in pulmonology and critical care and who were in the frontlines of the COVID - 19 management, contributed towards making the guideline recommendations more realistic as they were aware of the resources and limitations experienced on the COVID - 19 forefront in Ethiopia.

The team faced various challenges during the course of these 5 months. Lack of integration between the advisory team within MOH and the team was a major challenge initially, leading to a duplication of efforts. Through discussions some of the issues have been resolved.

Other challenges included, the delay in publication of prepared materials possibly rendering the material irrelevant due to the rapid rate of change in guidelines as new things were learnt in this rapidly evolving

pandemic, buffering internet connections sometimes made meetings difficult to continue and the differences in time zones lead to meetings occurring during working hours on both sides.

This was the first time the MOH and professional associations worked together concurrently to generate guidelines and policies that would be implemented nationwide and the quality of the output is impeccable. The various professionals in various groups, with their accumulated expertise and day to day contact with the experiences in the hospitals have assisted in improving the quality of recommendations made by the MOH, which includes practical, up-to-date and evidence-based recommendations.

Conclusion

It has been found by the team that involving professionals from different professional organizations as advisors to the MOH increases the quality of recommendations that the organization delivers. The personal experiences of experts in various fields have helped immensely in guiding the focus of the MOH in the right direction during this pandemic. These advisory teams helped in creating content as well as editing guidelines and protocols developed by the MOH, which significantly improved the guidelines and protocols. The virtual meetings assisted the team to gain knowledge from professionals in the Diaspora community, and have helped the team to learn from their experiences and improve the guidelines accordingly. Also, despite its hurdle, virtual communication has been beneficial to both the professionals involved in the team and the MOH.

It is hoped that such collaborations will continue even after the pandemic has passed and that professional organizations will be given a voice within the MOH so that they can assist in developing policies and guidelines.

Table 1. Summary of activities conducted by the facility readiness and clinical management case team

Activity	Purpose
Review of the sections of the national COVID - 19 management handbook Protocol for end of isolation	To keep the guidelines up to date with the evolving science and to make corrections on the 1 st edition Due to there being confusion on when to discharge patients from isolation centers, this was proposed based on the current clinical knowledge of the disease and the guidelines brought forward from other organizations
A one-page guideline on triage and the assessment of severity of suspected/confirmed COVID -19 patients A one-page guideline for testing of SARS CoV2 in patients with suspected COVID -19	To create a simplified and easy to use one page guide for healthcare workers working on the frontlines.
A one-page guideline on the management of suspected/confirmed COVID -19 cases	
A one-page clinical guideline for the management of hypoxemia for suspected/confirmed COVID-19 cases	
The revision of the training material for COVID-19	To ensure that the training material advises on the rational use of antibiotics in COVID -19 patients
A review of the product list developed for COVID - 19 response in Ethiopia	To ensure that the limited resources are directed towards allocating medication that is essential to the recovery of the patients
A one-page clinical guideline for the management of hypoxemia in children for suspected/confirmed COVID-19 cases	
A one-page guideline on the management of antibiotics for Pediatric suspected/confirmed COVID-19 cases	To highlight the differences in management of pediatric patients with COVID -19 and provide a simplified and easy to use one page guideline for frontline workers
A one-page guideline on triage and assessment of severity of illness for Pediatric suspected/confirmed COVID-19 cases	
Recommendations for the use of dexamethasone for COVID-19 management	Scientific evidence was used to advise the MOH for the use of dexamethasone in COVID-19 patients
Recommendations for the use of Interferon alpha 2B for the treatment of patients with COVID-19 infection and Biomodulin T as primary prophylaxis for health care workers	To recommend for or against the use of these medications as partners from abroad were willing to supply the required quantities. The team looked at the scientific evidence for these drugs and concluded that they should not be used.
A review of the public health measures and clinical management of COVID-19 guidelines prepared by the Ethiopian medical student's association (EMSA)	To ensure that the material contained accurate information on COVID-19
Health facility preparedness assessment in Addis Ababa Ethiopia	To assess whether there was an adequate amount of PPE and readiness within the facilities
Revision of facility preparedness assessment tools	To provide proper metrics for measuring facility preparedness

Conflict of interest

The author declares no conflict of interest relating to the material presented. Its contents, including any opinions and/or conclusions expressed, are solely those of the author.

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