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Response to COVID 19 Pandemic in MENA Region. Practices and Polices

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Abstract **Original Research Article**

Backgrounds: The response Covid19 pandemic by different EMR national and regional health systems reflected tangible fragility and clear weakness pandemic in management at the policy and practice level in the face of rapid epidemic spread and steadily accelerating mortality and morbidity. Many lessons can be learned from the exuberance of the existing pandemic, as pandemic control measures were not guided by strong local evidence and were not tailored to national contexts. In this review, we sought to assess the gaps and challenges of COVID-19 control measures in Eastern Mediterranean Region during the early months of the pandemic. ***Objectives:*** To study policy and practices evidenced gaps in response to Covid19 pandemic in the east Mediterranean region. ***Methodology:*** The design of scoping review was applied in the existing work; by applying Search engines strategy with highly selected keywords in the following medical data base, Google Scholar, PubMed, LitCovid, MedRx, ChemRxiv, BioRx, and, Web of Sciences, Embase. Original peer-reviewed research articles preprinted on COVID- for the period (January 2020- December 2021) were included in this review. About 200 articles were identified, and exclusion/ inclusion criteria were applied based on originality, study designs. Relevant Technical reports & official governmental releases were considered as well. ***Findings:*** The 22 countries of the eastern Mediterranean region will likely report over 17 million cases of COVID-19 and more than 314,000 deaths by the end of 2021; the current study revealed that the global health system showed remarkable fragility and obvious weakness in confronting the rapid out breaking and spreading of the epidemic and the continuous increase in the number of sicknesses and deaths resulting from it. There are many lessons to be communicated regarding the current pandemic**:** Pandemic management strategies –experienced strict containment measures during an early stage of the pandemic out breaking –have proven some results in controlling human losses and the diseases spreading in the region. The sanitary situation appears much more fragile elsewhere in the region. The crisis is an opportunity to be a critical test for the region's fragile resilience and could erode dramatically its population wellbeing, and challenge the political stability, economies, and societies alike. Countries may want to capitalize on their innovative policy efforts to improve inclusiveness, sustain welfare provisions, and promote a structural reform agenda for more open and private sector-led economies, aligned with the Sustainable Development Goals. This update includes the latest analysis on the economic and social consequences of the crisis, including new sections on the fiscal and educational challenges, as well as insights on the resilience of the healthcare system. At a policy level, although the previous policy capacity in the region witnessed good experience public health in policy development, yet it takes a relatively long time until the national systems recovered to be able to develop solid Covid 19 management policies. ***Conclusions:*** the true burden of the pandemic is likely to be underestimated due to limited testing and surveillance systems. The country might have been faced with the dilemma of balancing between minimizing the humanitarian crisis due to the pandemic and limiting the economic impact of the public health measures. The strategies taken to control the outbreak might have also suffered from a lack of local scientific evidence, cultural conflicts, and political interference. Moreover, adopting interventions designed for settings with different cultural contexts, economic situations, and pandemic risk might have resulted in low public trust.

Keywords: Policy and Practice, response gaps, EMRO, Covid19.

INTRODUCTION

The daily facts of the developments of the Covid-19 pandemic have revealed data related to the vague biological characteristic of the virus in its rapid penetration despite all the measures applied, which, at least, can be said that it disrupted the entire world from its economic, social and operational functions, or related to the repercussions of the pandemic in terms of the amount of damage it caused or its type now and in the foreseeable future Perspective. We can now say that the whole world was dramatically affected, encountering policies, strategies, and practice protocols that kept rapidly changing at an amazing speed

throughout that period, which does not loom in the near horizon features of its decline and defeat [1].

It is now imperative for the whole world to realize that the shock stage caused by the Covid-19 sufferers was not without a harsh price on humanity for many reasons, perhaps the first and foremost of which is that the international system looked as fragile to far boundaries, and perhaps it was conceited with the accumulated gains for decades, which were all overthrown by the epidemic. Today, it reveals to us the weakness of the international system and its capabilities and reveals its absolute unwillingness for a crisis of this type. Many of strong health systems worldwide witnessed functional and structural collapsing with the first serious challenge, to tell us all that the time has come for the birth of a new world with new capabilities, values, ethics, and new approaches, after burying what seemed to us All of us, we have built for a world that is approaching certainty and solidity to far limits. All these skeletons flew in an instant and put our mightiest beasts like a feather in the wind [2].

The current study is trying to identify gaps at policy, strategy, and practice level in the eastern Mediterranean region, which needs to be carefully understood for bridging and preparedness purposes and testing the hypothesis of building and preparing solid health systems would significantly contribute to declining mortalities and morbidities and increase resilience standard.

Objectives

To study some policy and practices evidenced gaps in response to Covid19 pandemic in the East Mediterranean region

METHODOLOGY

The Design of the Current Study

The scoping review design was used in previous work by using a search engine strategy with carefully chosen key phrases in the following medical databases: Google Scholar, PubMed, LitCovid, MedRx, ChemRxiv, BioRx, and Web of Sciences, Embase. This review comprised peer-reviewed and original research items that were pre-print on COVID from January 2020 to December 2021. About 200 papers were found, and exclusion/inclusion criteria based on originality and study designs were implemented. Technical reports and official government announcements were taken into account. From the East Mediterranean to COVID-19, a comprehensive literature evaluation of policy and practice gaps was conducted. The country's countermeasures, as well as the available evidence and the pattern of response to the outbreak, were evaluated. The following is a summary of our review; our findings emphasize the importance of locally generated evidence and context-specific activities in pandemic response. During the present scoping review, the following was accomplished:(ii) Covid 19 related scientific pieces of evidence from multiple peer-reviewed with different world regions were highly affected by COVID-19 and/or comparable population size; and (iii) Covid 19 related scientific evidences from multiple peer-reviewed with different world regions were highly affected by COVID-19 and/or comparable population size; and (iv) Covid 19 related scientific evidences from multiple peer-reviewed with different world regions were highly affected by COVID-19 and/or comparable population size; [3].

Revising of Relevant Literature

To conduct a scoping review, Arksey and O'Malley employed evaluation method 16: * formulating a research topic; * studies of relevance; * selection criteria; * data mapping* data collection, analysis, and management by the Scoping Reviews extension's Systematic Reviews and Meta-Analyses guide (PRISMA-SCR) [4].

-Formulation Questions of the Research

This study's recommended research questions are i. What evidence does Covid19 have in terms of policy and practice in the east Mediterranean region? (ii) Is the COVID-19 regional policy and evidence-based? (iii) What is the level of regionally generated evidence in terms of COVID-19 epidemic patterns as compared to other regions? [5].

-Sorting Out the Relevant Studies

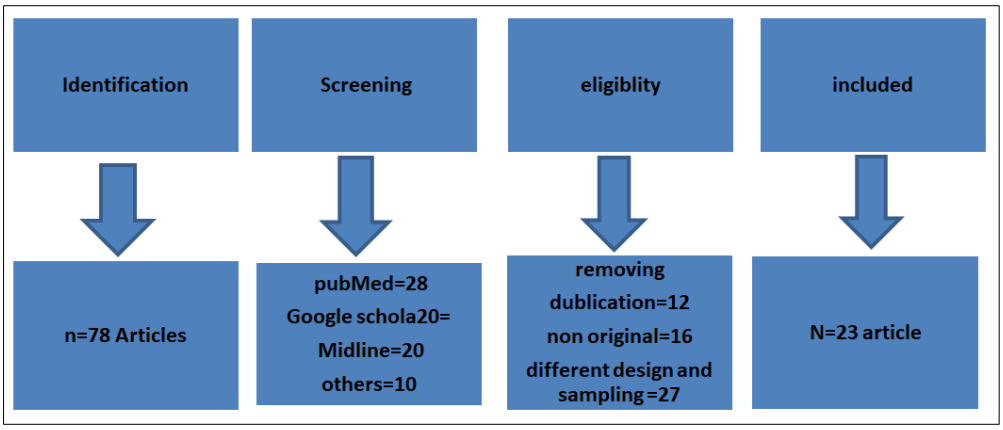
A complete literature search was conducted to find papers for the period of January 1, 2020, to December 31, 2021. Non-peer-reviewed studies were found by searching systematically via Google Scholar, PubMed, and MEDLINE databases. For article retrieval, the following search terms were used: “Gray literature, unpublished research were included through reference list, and expert inputs, all retrieved material were incorporated" [6].

-Selecting the Studies of Concerns - (Inclusion /Exclusion)

Covid included 19 pandemic policy and practice publications relevant to the EMR region in the provided period (1st to 30th December 2020). Eligibility criteria were established, and selected articles were screened for quality and relevance before being included in the current study for scoping review [7].

-Data Handling & Significant findings

Data was carefully assessed; gaps in existing data were identified, and some data categorization and classification were performed based on Covid19 regional policy responses, Covid 19 pandemic regional practice responses, the regional framework of response, and national approaches to Covid19 containment in various countries throughout the region.



-Findings

The 22 countries of the eastern Mediterranean region will likely report over 17 million cases of COVID-19 and more than 314,000 deaths by the end of 2021; Covid19 was the major health crisis experienced in the region in the 21st century at multidimensional levels. Where its consequences will keep burdening the region for decades. The current study discovered that the global health system was extremely vulnerable and poor in dealing with the epidemic's rapid onset and spread, as well as the continued growth in the number of diseases and deaths caused by it. The current pandemic has several lessons for us to learn [8].

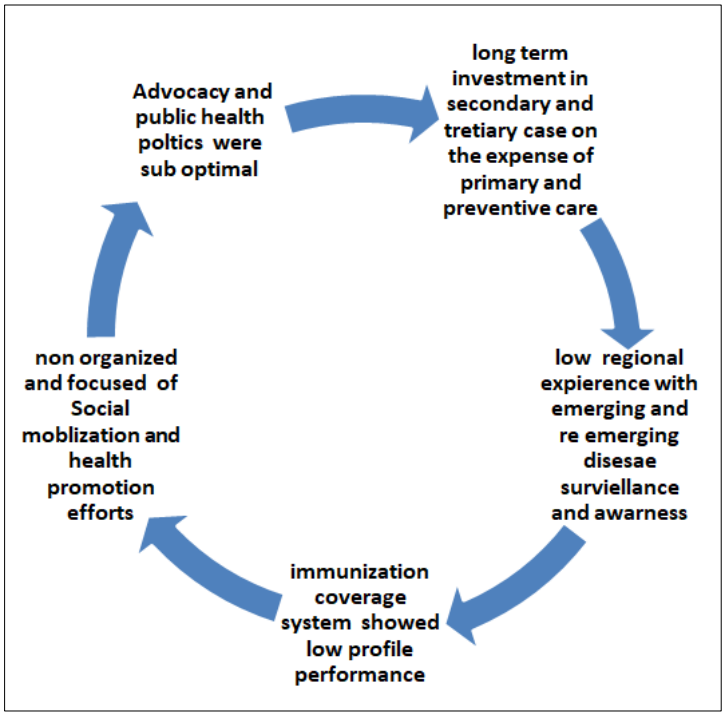


Figure 1: Areas of opportunities in Covid19 response in the Eastern Mediterranean region

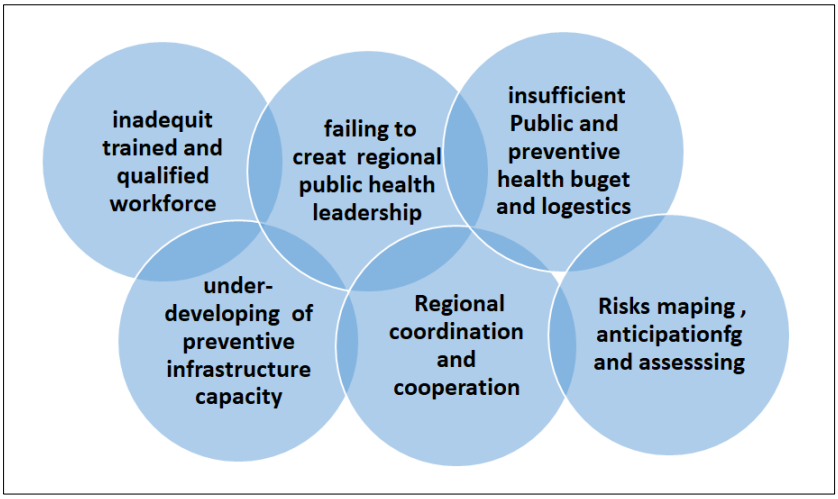
-Existing health systems at national and global levels have been preoccupied for long periods with extensive investment in secondary and tertiary health services while neglecting adequate investment in prevention and public health readiness, resulting in somewhat weakened national and global infrastructures that quickly collapsed in the face of their first challenge, as seen in the current Covid19 pandemic [9].

-The lack of understanding of the global health system and its causes for what are secular and cyclical waves of reemerging and emerging communicable diseases, as well as epidemiological and social transition studies, all of which are crucial for outbreak forecasting and prospective forecasts [10].

-The accumulation of susceptible (nonimmune) individuals at a population level is extremely dangerous, either due to a lack of previous exposure (new virus) or a lack of immunization coverage, putting the general population at risk of infection. The only effective measures in such a case scenario are vaccinations, which are the only effective measures in such a case scenario [11].

-Ineffective Exposure prevention as seen by the constant rise in cases and deaths [12].

-Weaknesses in early warning and adequate reaction, insufficient preparedness due to a loss of faith in anticipating future events, and in combining facts with hypotheses and theories that explain the occurrence of pandemics within the framework of scientific public health principles [13].



-A lack of qualified material and trained workers in public health and social medicine practice, as well as a lack of vision in implementing effective response and containment strategies, contributed considerably to the high morbidity and mortality rates later on [14].

-The spread of deadly gaps in prevention and breaking the transmission chain events actions to limit the outbreak's spread [15].

-There are no preconceptions about the magnitude of the economic damage that a virus outbreak can cause, whether direct or indirect on a global scale or at the local, national, and regional levels, whether it is directly related to the costs of dealing with the consequences or economic losses due to the cessation of economic activities [16].

-International and national efforts to mobilize societies were insufficiently coordinated and influential, resulting in significant gaps like response in each country, from which the virus infiltrated and invaded on a larger scale, implying that real health behavioral risks and the symbiotic social system were not adequately addressed [17].

-It was evident that the world's public health and social medicine systems needed to be strengthened and restructured around new concepts, such as health leadership, the health prevention and control system, the early response system, and coordinated field response [18].

-The logistical effort stumbled in its ability to absorb outbreak momentum, whether it was reflected in health facility infrastructures, devices, or a resilient workforce. Furthermore, some examples of health systems that have consistently been among the best performers looked to be unable to keep up with the events and manage with them [19].

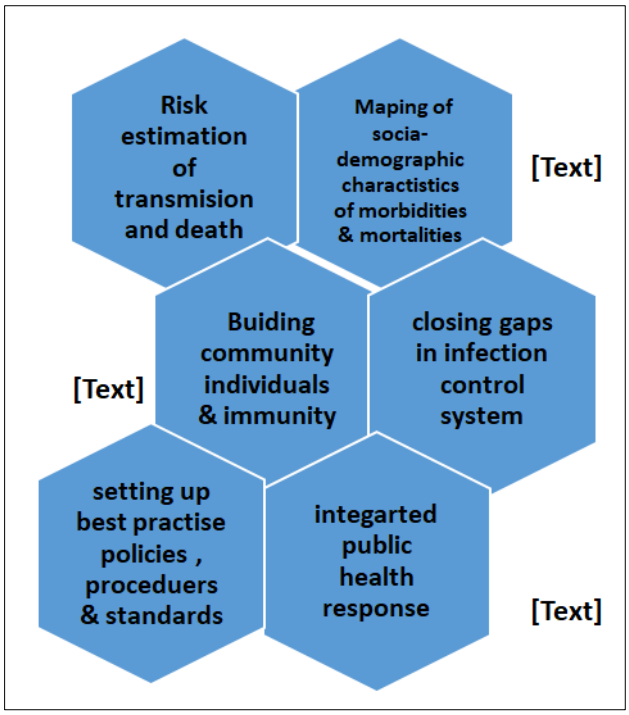
-Many high-quality healthcare institutions were befuddled, unable to prioritize, and lacking in vision when it came to implementing response and comprehensive containment strategy [20].

-Risk assessment, risk categorization, and risk mitigation measures remained poor, failing to offer full protection for vulnerable high-risk groups, which had resulted in numerous victims and contributed to significant losses. In terms of creating medicines, Vaccinations, and fast assessment kits, there were no coordinated worldwide initiatives [21].

-The strategies to respond to the disaster remained dispersed, relying on various answers from various sources. Even the World Health Organization was unable to serve as a worldwide cover under which efforts might be pooled [22].

DISCUSSIONS

The study found that the measures taken by the EM region, in general, were not tailored to the outbreak's pattern or the national/regional settings. As a result of the early steps taken, some damage was caused, leading to a relaxation in the application of limited roles and regulations by health systems. As a result, the sickness is spreading rapidly. (1) Covid 19 and future emerging and reemerging illnesses necessitate strategic regional action [23].



1. Mapping of case and death social, demographic, and epidemiological parameters.
2. The elements that increase the chance of transmission between people.
3. How to strengthen both group and individual immunity.
4. Gaps in prevention and public health measures that could be exploited.
5. Identifying and addressing gaps in infection control measures among healthcare providers.
6. What public health response approach do we require that is integrated, comprehensive, and coordinated?
7. International best practices are being developed, as well as comparisons of different health systems' responses.The epidemiological curve of the pandemic (when will we reach the peak) and what will happen next
8. Community mobilization and the development of a competent healthcare system
9. Loss and expense reduction, transitioning from collapse to long-term employment, and appropriate coping strategies
10. For the next few years, a confrontation plan with Coved 19 is being developed.
11. How will the global health system be rebuilt in the light of the lessons and data gleaned from the Battle of Covid 19?
12. Requirements for national and international health systems in the event of underlying outbreaks in the future
13. Possibilities for using AI features, big data algorithms and science, and technological advantages in upcoming fights.
14. Creating accurate prediction systems
15. The strategic move from surveillance to proactive health systems prediction and forecasting.
16. To what extent are we investing in health systems research, public health research, and clinical research in addition to basic science research?
17. Recognize the significance of health as a worldwide economic driver.
18. Lessons in national health systems resilience, tenacity, and sacrifice
19. Reform the World Health Organization and invest in expanding its future duties in achieving global health security) [1-4], [24-26].

-Sanitary Situation

In other parts of the region, the sanitary condition appears to be even more precarious. The crisis put the region's weak resilience to the test, and if threats materialize, they might erode prosperity and threaten political stability in the region's East Mediterranean economy and cultures. Countries may seek to use their innovative policy efforts to boost inclusion, maintain social programs, and pursue a structural reform agenda linked with the Sustainable Development Goals for more open and private sector-led economies. This update covers the most recent analysis of the crisis' economic and social implications, as well as additional sections on fiscal and educational issues, as well as insights into the healthcare system' [27].

-Standard Management of Covid19

COVID-19 does not t have a standard treatment for a long time. There were many

management protocols and regimens that been tried and applied throughout the pandemic course, such uncertainty remains a major source of restlessness, panic, and anxious reaction, and thrown the health care delivery system to the edge of the trustless level, the management protocols kept changing frequently and rapidly and was based on the personal point of view at most the time confronting the crisis. These protocols will require further clinical testing in randomized clinical trials to confirm improvements in patient clinical outcomes. Many healthcare institutions in the Kingdom of Saudi Arabia have implemented different management policies. These approaches will necessitate additional clinical trials [28].

-Regional Coordination and Accountability

Although it may be too late to form a cohesive Middle East response, it is not too late to show some coordination—especially for richer states to provide logistical, technical, and financial aid to their neighbors. Because they have more similar healthcare systems and demographics, public health activities within the MENA sub-regions of the Maghreb (North Africa), Mashreq (Levant), and Gulf may be more effective. The WHO EMRO has played a critical role in bridging gaps and ensuring regional readiness. To stop COVID-19 from spreading over the Middle East, aggressive containment efforts and extensive public participation should be undertaken immediately. Because no country is completely insulated from the others, cooperation and coordination would only be beneficial [29].

-Conflicts & Fragility Status in the Region

In crisis zones when there is instability, poor governance, and major resource shortages while some nations in the MENA region have the resources to respond effectively to the COVID-19 epidemic, others, particularly those in protracted conflicts such as Syria, Iraq, Yemen, and Palestine, lack the resources and capacity to combat the pandemic. The COVID-19 crisis has revealed major gaps in the social and public health systems in these countries, including Palestine, such as social exclusion, inequalities, fragility, unpreparedness, underinvestment, and weakness in governance and cooperation. The pandemic is an opportunity for governments and donors to diligently address these priorities on their agendas [30].

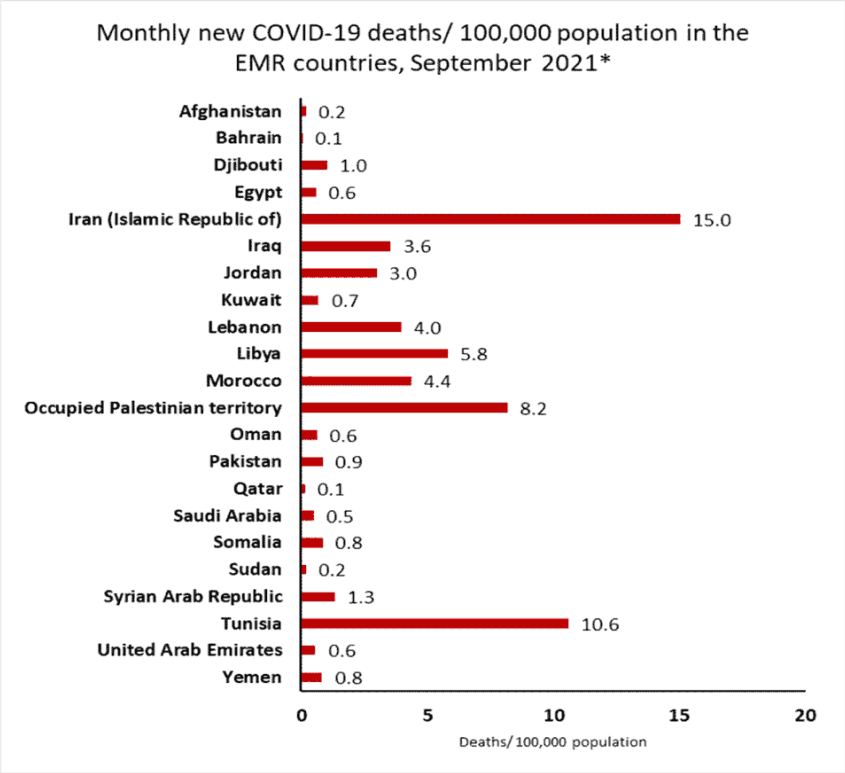
-Information Sharing and Expanding Public Health Measures

Information sharing and regional information networking, stayed as one of the main challenges to the COVID- 19 response in the EMR which involves expanding public health measures information sharing, achieving behavior change, protecting health workers, establishing reliable supply chains, and ensuring continuity of essential health services. Despite the effectiveness of country-specific measures which still vary from one country to the other, yet the best practice still should be recognized as an important approach in the regional response. The Governmental and societal approach should stay central in any response effort which per se needs Decisive leadership. National plans with multi- sectorial involvement that covered the nine pillars of the WHO COVID-19 Strategic Preparedness and Response Plan For the regional surveillance system, the countries utilized the existing national systems, including polio and influenza routine surveillance infrastructure. It was the market that reported epidemiological data in the region as the base on international health regulation to WHO regional and international offices were stayed in adequate, incomplete, and not reliable. Committing to the behavior change interventions, maintaining continuity of key health services, and developing trustworthy supply chains stayed as among the most important challenges encountering, the COVID-19 response in the EMR [31-33].

-Regional Laboratory Network Capacity

Although all 22 countries can test for SARS-CoV-2, laboratory capacities, testing methodologies, and testing rates vary widely—for example, in EMR nations, testing rates range from 33 to 146 343 tests per 100 000 people. In general, contact tracking is insufficient and has not yet been scaled up. COVID-19 cases, the majority of which are severe, are managed by authorized health centers in all EMR countries. Treatment techniques range from supportive to complicated regimens, with compassionate drug usage outside of research studies being one of them. During the first three months of the pandemic, health professionals accounted for 7–10% of COVID-19 cases in the EMR, and outbreaks among these workers accelerated the pandemic. Inadequate infection prevention and control (IPC) programs, as well as poor IPC compliance, are major contributors, especially because 10 countries had no prior national IPC program. As the pandemic evolved, risk communications and community engagement faced challenges, such as widespread so-called pandemic fatigue.COVID-19 knowledge and risk perception vary across the region; the use of masks ranges from 6% to 83% across EMR countries. The socioeconomic impacts of COVID-19 response measures have been substantial, with gross domestic product projected to decline by 4·7% across the EMR in 2020 and by 13% in conflict-affected countries. WHO recommends risk assessment before the easing of COVID-19 response measures, but some countries struggled to make such assessments while mitigating economic impacts and often decisions were not adequately informed by public health data [34].

-Mortality Burdens



* The notification rate of newly reported COVID-19 deaths is based on data collected by WHO and is affected by the national testing strategy, the laboratory capacity and the effectiveness of surveillance systems. Interpreting the epidemiological situation regarding COVID-19 should therefore not be based on these rates alone
** including East Jerusalem

*World Health Organization, Global Health Observatory data, "Density of physicians (total number per 1000 population, latest available year)"

The WHO's Eastern Mediterranean Region had reported about 12.6 million cases of COVID-19 and over 236 000 deaths as of July 31. Many nations, including the Islamic Republic of Iran, Iraq, Lebanon, Libya, Morocco, Pakistan, Tunisia, and Somalia, have reported a significant increase in the number of cases and deaths in the last month. Iraq has the most verified cases, followed by Saudi Arabia and Morocco.6.New infections in the Gulf countries have been flattened because of a cautious de-confinement operation that took place from May to August, focusing on relaxing mobility restrictions, reopening borders, and expanding economic activities. Unfortunately, a new wave is affecting the Maghreb and the most vulnerable countries in North Africa and the Levant, with some governments reinstituting tighter measures [35].

Burdens on Medical /Health Care System

The pandemic is putting Eastern Mediterranean medical systems under strain, with some of them being particularly frail and overburdened. The situation is not the same in the wealthier Gulf countries, developing economies in the Levant and North Africa, or fragile and conflict-affected countries like Iran, Syria, Iraq, the Palestinian Authority, Yemen, and Libya, where a lack of hospital beds and testing capacity is a major concern. In Lebanon, Morocco, and Tunisia, the first wave has left public hospitals and their workers fatigued and have harmed public trust in official statistics and the crisis' overall management. Some governments, on the other side, have taken swift, decisive, and/or novel methods to contain the virus, such as smooth crisis management [36].

Public Health Sector

The crisis is also putting the public sector to the test, compelling governments to make swift choices, coordinate crisis response, and take dramatic measures to safeguard vulnerable areas. While preparing for stimulus packages to support people and businesses, many administrations have exhibited remarkable abilities to mobilize and implement prevention measures. The relevance of underlying structural concerns like openness and anti-corruption, effective public procurement, the maturity of digitization and open government initiatives, as well as a greater role for civil society, is highlighted by this crisis. In many nations, governments' willingness to engage with civil society has been critical to efficient disaster response. While enhancing public sector resilience, public governance methods should be implemented to ensure the continuity of response and critical services by public institutions [37]

Economic Burdens

Despite most countries' huge fiscal packages, the epidemic is already doing havoc on the economy, with both a negative demand/supply shock and a shock from the decline of oil prices 2. As countries implement a series of containment measures limiting transportation and economic activity, people's ability to go to work and businesses' capacity to contribute to the economy is being severely harmed. At the same time, demand in the region is declining at both the regional and global levels, and most supply chains are disrupted. Containment measures' effects on the services sector, which employs a big number of people in the region (especially in the tourism industry), will have far-reaching consequences if unemployment rises. Wages and remittances diminish when inflation rises. Furthermore, falling crude oil prices have put additional strain on even the region's wealthiest countries, resulting in lower investments from Gulf countries, the region's largest investor, as well as lower remittances from Gulf countries and fewer job opportunities in the richer GCC region for nationals of other MENA countries. This year, the region could lose almost USD 42 billion in GDP3 [38].

Social Burdens

It will be vital to keep track of the crisis's social implications, particularly for the most disadvantaged (women, youth, elderly, informal workers, refugees). Even though welfare provisions and social safety nets were frequently strengthened, the United Nations Economic and Social Commission for West Asia (UNESCWA) anticipate that the pandemic's economic slowdown will push an additional 8.3 million people into poverty4. The pandemic has the potential to exacerbate existing inequities. The future development of MENA societies may be jeopardized by school closures. Given the region's demographic importance, ensuring that all young people have the opportunity to thrive in school and develop the information, skills, attitudes, and values that will enable them to contribute to society should be a priority [39].

Health Sector Resilience

The COVID-19 is putting the region's weak resiliency to the test. In other circumstances, it may promote regional competitiveness, political instability, and fragility. The virus's spread has had an impact on MENA economies' political processes, and their ability to rebuild and uphold their social contracts is being called into doubt. Due to the sanitary issue, demonstrations in Algeria and Lebanon have been halted. Lebanon is crippled by the impact of multiple shocks, including a cataclysmic blast at Beirut's main port and daily spikes in COVID-19 cases, which have exhausted its economy and caused an unprecedented increase in poverty, with more than 55 percent of the country's population now trapped in poverty and struggling for bare necessities, according to UNISECWA. Economic rehabilitation strategies will need to be implemented in unstable and conflict-affected countries to ensure a minimal level of stability. The GCC economies have made significant expenditures in healthcare facilities, as well as initiatives to increase the number of doctors and nurses. While the GCC continues to lag below the worldwide average in terms of healthcare spending, budget allocations have been steadily increasing. The quality of healthcare services in the region has significantly increased because of this. In an evaluation of All GCC nations, except for Qatar, scored 4 or 5 on the WHO's COVID-19 preparation assessment, which graded countries on a scale of 1 (no capacity) to 5 (sustainable capacity). Despite accounting for over half of COVID-19 regional cases, GCC governments have been able to contain the outbreak in their nations, with recovery rates much higher than the global average5. These outcomes are the consequence of a prevention- focused strategy, early adoption and effective enforcement of stringent control measures, and significant resources devoted to case detection and tracking. The UAE and Bahrain are among the world's testing leaders, ranking first and third in terms of new tests per 1,000 people, respectively. Jordan, despite having a weaker health system and a lower degree of COVID-19 preparedness than the GCC countries, was able to implement a strategy similar to the GCC countries. This has proven to be effective in the past, albeit at a significant economic and societal cost.COVID-19 infection and mortality rates in Jordan have stayed persistently low because of a quick government response and efficient implementation of lockdown measures facilitated by the state's high enforcement capacity [40].

Fragile and Conflict-Affected Countries

Lebanon was able to contain the first COVID-19 wave by implementing robust containment measures early on and receiving widespread public support. The health situation has mainly spiraled out of control since an explosion in Beirut's port on 4 August, which destroyed half of the city's medical centers and rendered three hospitals "non-functional," according to the WHO. COVID-19 cases and deaths have been reported at an unprecedented rate, raising concerns about the ability of ICUs and dedicated institutions to handle the second wave, as many are already overburdened treating individuals injured in the blast. The spike in instances shows no signs of diminishing in the current emergency, where public health measures are being violated. At the same time, the economic downturn limits the ability to reintroduce severe containment measures. Indeed, due to economic pressures; the two-week lockdown that had been proclaimed after the explosion was prematurely lifted. Given the devastation to health systems in other weak and conflict-affected nations, the COVID-19 outbreak offers a huge challenge.9 Applying preventive measures to reduce the spread of the disease have proven difficult in emergency settings where access to water, sanitation, and hygiene (WASH) services is limited. Countries

whose healthcare infrastructure was partially damaged during the conflict and whose administration remains severely fragile and uncoordinated in some parts, and who lack the required medical facilities, equipment, and personnel to respond to the crisis. According to the WHO10, 70% of Syrian healthcare personnel have fled the nation as migrants or refugees, while just 64% of hospitals and 52% of basic healthcare centers are still open. One possible explanation for the low number of COVID-19 cases recorded in these nations at the start of the pandemic is that, due to the nature of the virus, it is difficult to detect it. People regularly die at home due to a lack of hospital beds or the inability to get to a hospital.11Furthermore, a shortage of testing capacity has led to months of under-reporting, particularly in Syria and Yemen. The situation has gotten worse over the summer, with the number of COVID-19 cases and deaths skyrocketing. At the same time, enforcing containment measures has proven challenging in the face of already precarious economic conditions, with many countries unable to finance the required limitations to prevent the virus from spreading [41].

Health Policies

COVID-19 vaccine development is expected to increase healthcare supplies and infrastructure in specific region countries quickly. For example, the United Arab Emirates, Saudi Arabia, and Morocco have collaborated on vaccine research with other countries (most notably China and Israel) and private corporations, and are currently in advanced trial phases. Phase III trials for vaccines made by two Chinese companies, Sinopharm and CanSino Biologics, began in the UAE in July 12 and Saudi Arabia in August. Egypt has also formed collaboration with China for the development and distribution of two Sinopharm-developed COVID-19 vaccines. This could lead to a stronger China-MENA partnership in this area [13]. Opportunities for the private sector to help the development of health systems will expand as more investment (both public and private) is made in healthcare [14]. In the Gulf, a boom in demand – driven by aging populations, mandated health insurance, and high rates of lifestyle-related disorders like diabetes – is boosting private investment in the healthcare business, along with new government initiatives and regulatory reforms. According to recent research by Mashreq and Frost & Sullivan, the COVID-19 crisis boosted expenditures in digitalization and telemedicine significantly. According to the study, annual investment in digital infrastructure in the GCC would increase by 10% to 20% in the next two years, while tele consultations will be multiplied by four by Q4 2020.15In Morocco, A Health Tech Company is gaining traction. A Health Tech startup from the MAScIR research and development center can now produce 1 million RT-PCR tests per month, and a public-private partnership between the Ministry of Industry and various private sector actors has allowed for the development of a locally produced ICU bed that is significantly less expensive than those imported from abroad. The crisis has also bolstered MENA countries' humanitarian efforts and medical diplomacy. The UAE quickly established itself as a significant medical aid supplier, shipping aid supplies as early as March 16, 2016. Other Gulf economies, such as Qatar and Kuwait, adopted a similar strategy. Morocco was particularly active, dispatching gloves, sanitary equipment, and medical supplies mostly to its African continent neighbors via its national aircraft [42].

Comprehensive Responses, of Governments

"It's worth emphasizing that the approach – in numerous countries – was mostly centralized, which is understandable in a crisis and demonstrates the critical role that centers of government have had in dealing with the crisis17."However, delivering personalized and practical solutions at the local level is also important. This has resulted in some conflict between the central and decentralized levels, like in Tunisia [43].

Economic Affects the EMR

The epidemic is causing massive economic turmoil in the region due to a combination of simultaneous shocks, including a drop in local and foreign demand, low oil prices, disrupted commerce and global value chains, a loss of consumer and investor confidence, and tightening financial conditions. Due to a decline in worldwide demand, commodity prices and quantities have fallen. The susceptibility of emerging countries to crises has increased significantly as a result of growing statistical inequality and embryonic financial fragilities (in particular, insolvencies, non-performing loans, and credit access). The vulnerability of developing countries to crises has increased significantly. As a result, GDP growth will be considerably slowed in 2020.According to the IMF, all MENA economies, with the exception of Egypt, are likely to contract by -4.1 percent in 2020 as a result of considerable containment measures implemented by MENA countries, disruption in global supply networks, and structural characteristics of individual economies. According to recent projections, the MENA region's growth in 2020 will decelerate to -6.6 percent for oil exporting countries and -1 percent for oil importing countries. The two hardest-hit countries, Libya and Lebanon, are expected to witness the steepest drops in GDP growth, at -66.6 percent and -25 percent, respectively. The GDP per capita of fragile and conflict-affected countries is expected to fall, causing major poverty problems. According to preliminary estimates [44], the catastrophic explosion at Beirut's main port caused between USD 3.8 and USD 4.6 billion in damage to physical goods in Lebanon, which accommodates a substantial number of refugees, especially from Syria. Changes in economic flows because of the drop in oil prices were.

Vulnerable Groups

Tragically, the COVID-19 crisis risks reversing decades of progress in the fight against poverty and exacerbating already high levels of inequality within and between countries. Volatility, combined in some countries with market tampering and stockpiling, is starting to impact food prices, with deleterious effects on the nutrition of the most vulnerable. Countries with a large informal economy, narrow fiscal space, and limited social protection (welfare) mechanisms in place, are facing a daunting challenge in balancing saving lives with protecting livelihoods. Countries with a significant proportion of the population living below the poverty line, including daily wage earners and the unemployed, are considering quick policy options and mechanisms for expanding their social protection systems to provide subsistence income to those who need it the most so that they are not forced to be mobile, potentially spreading the infection. Coming up with appropriate criteria for identifying deserving households, locating them, and transparently disbursing the income support through a large-scale social protection mechanism is not only administratively complex but is politically challenging [22, 23]. Unless measures are promptly put in place, the disruptions imposed by the pandemic and the measures adopted to suppress the virus will dramatically worsen the situation. This is especially important in the least developed countries, where the degree of complexity of the crisis is likely to be further compounded by the significant size of the vulnerable population, including migrants, and the extent of the informal sector [45].

CONCLUSIONS

Insufficient national, strong, and scientific evidence of policy and practice in modifying preventative and control strategies hampered the management and prevention of the COVID-19 pandemic in EMRO. Furthermore, the measures were not sufficiently modified to fit the local context's requirements and the outbreak's layout.

RECOMMENDATIONS

As a result, in the control of current and future outbreaks and pandemic diseases, the East Mediterranean region in particular should adopt a strategy of generating and utilizing local evidence. As a result, the region should design culturally appropriate and locally sensitive health-system treatments for COVID-19, as well as potential future epidemic responses based on locally generated evidence.

ETHICAL ISSUES

Ethical standards have been applied throughout the stages of the wok conduction

CONFLICT OF INTERESTS

All the author declare that there are no conflicts of interest in this work

REFERENCES

1. Hussein, H. Y. (2020). Covid19 Bill, What We Paid So Far & What We Have To Pay. *Epidemiology International Journal*, 4(3), 1-3.
2. Hussain, H. Y. (2020). COVID-19: Today's Ambiguity, Tomorrow's Uncertainty and After Tomorrow's Questions. *International Healthcare Research Journal*, 4(1), 1-3.
3. Gudina, E. K., Siebeck, M., & Eshete, M. T. (2021). Evidence Gaps and Challenges in the Fight Against COVID-19 in Africa: Scoping Review of the Ethiopian Experience. *Risk Management and Healthcare Policy*, *14*, 4511.
4. Chan, J., Oo, S., Chor, C. Y. T., Yim, D., Chan, J. S. K., & Harky, A. (2020). COVID-19 and literature evidence: should we publish anything and everything?. *Acta Bio Medica: Atenei Parmensis*, *91*(3), e2020020. Doi: 10.23750/abm.v91i3.9827.
5. Harris, C., Carson, G., Baillie, J. K., Horby, P., & Nair, H. (2020). An evidence-based framework for priority clinical research questions for COVID-19. *Journal of global health*, *10*(1). 011001. Doi: 10.7189/jogh.10-011001.
6. Rubin, R. (2021). Sorting out whether vitamin D deficiency raises COVID-19 risk. *JAMA*, *325*(4), 329-330. doi:10.1001/jama.2020.24127.
7. Amundsen, P. A., Evans, D. W., Rajendran, D., Bright, P., Bjørkli, T., Eldridge, S., ... & Froud, R. (2018). Inclusion and exclusion criteria used in non-specific low back pain trials: a review of randomised controlled trials published between 2006 and 2012. *BMC musculoskeletal disorders*, *19*(1), 1-13.
8. WHO's Regional Director for the Eastern Mediterranean on COVID-19, Source, WHO Posted 22 Dec 2021, Originally published 22 Dec 2021, https://reliefweb.int/report/world/statement-who-s-regional-director-eastern-mediterranean-covid-19.
9. Porter, M. E. (2010). What is value in health care. *N Engl J Med*, *363*(26), 2477-2481. https://www.57357.org/app/uploads/2020/06/What-is-Value-in-Health-Care-NEJM-2010.pdf.
10. Wilcox, B. A., & Colwell, R. R. (2005). Emerging and reemerging infectious diseases: biocomplexity as an interdisciplinary paradigm. *EcoHealth*, *2*(4), 244-257.
11. Simpson, R. J., Campbell, J. P., Gleeson, M., Krüger, K., Nieman, D. C., Pyne, D. B., ... & Walsh, N. P. (2020). Can exercise affect immune function to increase susceptibility to infection?. *Exercise immunology review*, *26*, 8-22. http://researchonline.ljmu.ac.uk/id/eprint/12547/.
12. Wandersman, A., & Florin, P. (2003). Community interventions and effective prevention. American Psychologist, 58(6-7), 441-448. https://doi.org/10.1037/0003-066X.58.6-7.441.
13. Villa, S., Lombardi, A., Mangioni, D., Bozzi, G., Bandera, A., Gori, A., & Raviglione, M. C. (2020).

The COVID-19 pandemic preparedness or lack thereof: from China to Italy. *Global Health & Medicine*. 2(2). https://www.jstage.jst.go.jp/article/ghm/2/2/2_2020.01016/_article/-char/ja.

14. Aniche, E. T., Iwuoha, V. C., & Obi, K. C. (2021). Covid-19 containment policies in Nigeria: the role of conflictual federal–state relations in the fight against the pandemic. *Review of African Political Economy*, *48*(169), 442-451.
15. Abounoori, M., Maddah, M. M., Sharif Nia, H., Rahmatpour, P., Khosravifar, S., SamadiKouchaksaraei, M., & Khosravifar, S. (2021). Development and validation of the knowledge and attitude scale toward COVID-19 pandemic breaking transmission chain (KA-C) among Iranian population. *Frontiers in Public Health*, *9*, 627013. https://doi.org/10.3389/fpubh.2021.627013.
16. Bonaccorsi, G., Pierri, F., Cinelli, M., Flori, A., Galeazzi, A., Porcelli, F., ... & Pammolli, F. (2020). Economic and social consequences of human mobility restrictions under COVID-19. *Proceedings of the National Academy of Sciences*, *117*(27), 15530-15535.
17. Grammes, N., Millenaar, D., Fehlmann, T., Kern, F., Böhm, M., Mahfoud, F., & Keller, A. (2020). Research output and international cooperation among countries during the COVID-19 pandemic: Scientometric analysis. *Journal of medical Internet research*, *22*(12), e24514.
18. Albreht, T., & Klazinga, N. S. (2008). Restructuring public health in Slovenia between 1985 and 2006. *International journal of public health*, *53*(3), 150-159.
19. Heath, C., Sommerfield, A., & von Ungern-Sternberg, B. S. (2020). Resilience strategies to manage psychological distress among healthcare workers during the COVID-19 pandemic: a narrative review. *Anaesthesia*, *75*(10), 1364-1371.
20. Ung, L., Jonas, J. B., Lietman, T. M., & Chodosh, J. (2021). COVID-19 and the unfinished agenda of VISION 2020. *American Journal of Ophthalmology*, *224*, 30-35.
21. Chatterjee, R., Bajwa, S., Dwivedi, D., Kanji, R., Ahammed, M., & Shaw, R. (2020). COVID-19 Risk Assessment Tool: Dual application of risk communication and risk governance. *Progress in Disaster Science*, *7*, 100109.
22. Stock, P. G., Henrich, T. J., Segev, D. L., & Werbel, W. A. (2021). Interpreting and addressing suboptimal immune responses after COVID-19 vaccination in solid-organ transplant recipients. *The Journal of Clinical Investigation*, *131*(14). **e151178.** https://doi.org/10.1172/JCI151178**.**
23. Zhao, H., & Feng, Z. (2020). Staggered release policies for COVID-19 control: Costs and benefits of relaxing restrictions by age and risk. *Mathematical biosciences*, *326*, 108405.
24. Zahidie, A., Iqbal, M., & Hussain, S. W. (2020). Worsening of the COVID-19 Pandemic in New York City: Analysis of response gaps and challenges at the public policy and community levels. *J. Coll. Physicians Surg*, *30*, 32-36.
25. CDC, A. W. (2020). Centers for disease control and prevention. https://www.cdc.gov/coronavirus/2019-ncov/-cases-updates/cases-in-us.html.
26. *WHO. (2020). Rolling updates on coronavirus disease (COVID-19), 4. https://www.who.int/e-mergencies/diseases/novel-coronavirus-2019/events-as-they-happen.*
27. *Giné-Garriga, R., Delepiere, A., Ward, R., Alvarez-Sala, J., Alvarez-Murillo, I., Mariezcurrena, V., ... & Jiménez, A. (2021). COVID-19 water, sanitation, and hygiene response: Review of measures and initiatives adopted by governments, regulators, utilities, and other stakeholders in 84 countries. Science of the Total Environment, 795, 148789.*
28. *Al-Tawfiq, J. A., & Memish, Z. A. (2020). COVID-19 in the Eastern Mediterranean Region and Saudi Arabia: prevention and therapeutic strategies. International Journal of Antimicrobial Agents, 55(5), 105968.*
29. *Sawaya, T., Ballouz, T., Zaraket, H., & Rizk, N. (2020). Coronavirus disease (COVID-19) in the Middle East: a call for a unified response. Frontiers in public health, 8, 209. https://doi.org/10.3389/fpubh.2020.00209, https://www.frontiersin.org/articles/10.3389/fpubh.2020.00209/full.*
30. *AlKhaldi, M., Kaloti, R., Shella, D., Al Basuoni, A., & Meghari, H. (2020). Health system's response to the COVID-19 pandemic in conflict settings: policy reflections from Palestine. Global public health, 15(8), 1244-1256.*
31. *European Centre for Disease Prevention and Control. (2020). Guidelines for the use of non-pharmaceutical measures to delay and mitigate the impact of 2019-nCoV. Tech Rep, 10.*
32. COVID-19. (2020). 'Top priority' must be on containment, insists WHO's Tedros, *UN News.* https://news.un.org/en/story/2020/03/1058461.
33. European Centre for Disease Prevention and Control. (2020). An outbreak of novel coronavirus disease 2019 (COVID-19): increased transmission globally, *fifth update. Stockholm: ECDC.*
34. *Al-Mandhari, A. S., Brennan, R. J., Abubakar, A., & Hajjeh, R. (2020). Tackling COVID-19 in the eastern Mediterranean region. The Lancet, 396(10265), 1786-1788.*
35. *COVID-19 crisis response in MENA countries, https://www.oecd.org/coronavirus/policy-responses/covid-19-crisis-response-in-mena-countries-4b366396*
36. Armocida, B., Formenti, B., Ussai, S., Palestra, F., & Missoni, E. (2020). The Italian health system

and the COVID-19 challenge. *The Lancet Public Health*, *5*(5), e253.

37. Haldane, V., De Foo, C., Abdalla, S. M., Jung, A. S., Tan, M., Wu, S., ... & Legido-Quigley, H. (2021). Health systems resilience in managing the COVID-19 pandemic: lessons from 28 countries. *Nature Medicine*, *27*(6), 964-980.
38. Ataguba, J. E. (2020). COVID-19 pandemic, a war to be won: understanding its economic implications for Africa. *Applied Health Economics and Health Policy*, *18*(3), 325-328.
39. Bavel, J. J. V., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., ... & Willer, R. (2020). Using social and behavioural science to support COVID-19 pandemic response. *Nature human behaviour*, *4*(5), 460-471.
40. Legido-Quigley, H., Mateos-García, J. T., Campos, V. R., Gea-Sánchez, M., Muntaner, C., & McKee, M. (2020). The resilience of the Spanish health system against the COVID-19 pandemic. *The lancet public health*, *5*(5), e251-e252.
41. Ebrahim, S. H., Gozzer, E., Ahmed, Y., Imtiaz, R., Ditekemena, J., Rahman, N. M., ... & Memish, Z. A. (2021). COVID-19 in the least developed, fragile, and conflict-affected countries—How can the most vulnerable be protected?. *International Journal of Infectious Diseases*, *102*, 381-388.
42. Earnshaw, V. A., Eaton, L. A., Kalichman, S. C., Brousseau, N. M., Hill, E. C., & Fox, A. B. (2020). COVID-19 conspiracy beliefs, health behaviors, and policy support. *Translational behavioral medicine*, *10*(4), 850-856. doi:10.1093/TBM/ibaa090).
43. Djalante, R., Lassa, J., Setiamarga, D., Sudjatma, A., Indrawan, M., Haryanto, B., ... & Warsilah, H. (2020). Review and analysis of current responses to COVID-19 in Indonesia: Period of January to March 2020. *Progress in disaster science*, *6*, 100091.
44. Bellizzi, S., Napodano, C. P., Fiamma, M., & Maher, O. A. (2020). Drought and COVID-19 in the Eastern Mediterranean Region of the WHO. *Public Health*, *183*, 46-47. DOI: 10.1016/j.puhe.2020.04.032 ,PMCID: PMC7205725, PMID: 32422440.
45. World Health Organization. (2020). *WHO policy brief: the economic and social impact of COVID-19 in the Eastern Mediterranean Region* (No. WHO-EM/HEC/050/E). World Health Organization. Regional Office for the Eastern Mediterranean. https://apps.who.int/iris/bitstream/handle/10665/332818/WHOEMHEC050E-eng.pdf