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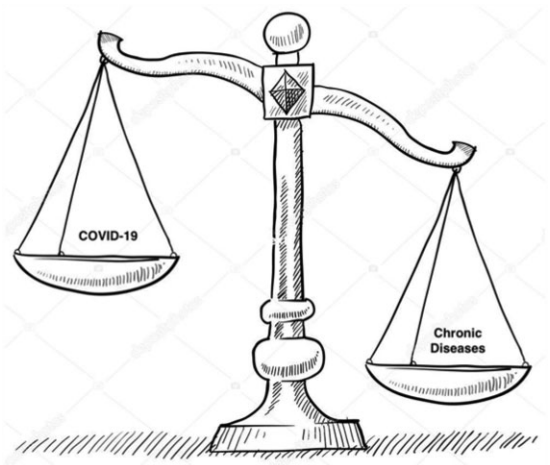
Taking care of the ordinary in extraordinary times—delayed routine care means more morbidity and pre-mature mortality

Sarah Cuschieri, Julian Mamo

Faculty of Medicine and Surgery, University of Malta, Msida, Malta

Correspondence: Julian Mamo, Faculty of Medicine and Surgery, University of Malta, Msida, Malta, Tel: 00356 70478909, e-mail: julian.mamo@um.edu.mt

Individuals with chronic diseases are more susceptible to its grave complications and negative outcomes if infected by COVID-19. Furthermore, mandatory isolation and cancellations of routine healthcare services led to the disruption of the screening and management plans for chronic diseases. Fear of attending health services as well as disruptions to public transport are other factors increasing health risks among persons with chronic conditions during the pandemic. Ensuring access to universal healthcare services, increasing use of digital services, targeted interventions to risk groups are examples of measures that need to be taken when reviewing health systems preparedness for future pandemics and other disasters.



Introduction

Since time immemorial, chronic diseases have challenged humans everywhere. In 2019, non-communicable diseases were reported to contribute to a substantial proportion of the global disease burden and disability, with heavy demands on the health services.[1] The onset of the COVID-19 pandemic in 2020 has brought with it additional challenges, including enhanced social and chronic diseases inequalities, as well as the collapse of many healthcare systems.[2,3] As the virus spread across countries, the number of hospital admissions increased. It became very evident that individuals with chronic diseases as well as the older population were more susceptible to its grave complications and negative outcomes if infected by COVID-19.[4] Hence, the high prevalence of chronic diseases plays a substantial role in the burden of COVID-19 through enhanced mortality rate among this population.[5]

Impact of COVID-19 and its care on chronic diseases

With the onset of Corona Virus disease of 2019 (COVID-19), governments and public health authorities in most countries instituted several measures to try to curb the viral spread. Measures included the institution of lockdowns and the postponement or cancellation of ongoing healthcare consultations to prioritize health resources towards the pandemic. Such measures, although having had a degree of positive containment, presented new challenges to the population already living with chronic conditions.[6]

Mandatory isolation and cancellations of routine healthcare services led to the disruption of the screening and management plans for chronic diseases. Those with already established chronic disease/s may have had periods of uncontrolled disease due to limited access to healthcare, as the resources were shifted to deal with COVID-19.[7] A World Health Organization survey conducted in May 2020 across 155 countries identified treatment disruptions among the studied populations of 53% for hypertension, 49% for diabetes, 42% for cancer and 31% for cardiovascular emergency response.[8] Indeed, healthcare professionals reported that since the onset of the pandemic, chronic diseases care have been affected significantly following the changes made to the healthcare services.[9] Furthermore, it is known that the presence of comorbidities including chronic diseases, are associated with the onset of depressive illness—which inevitably worsens the health outcomes of these individuals.[10]

Additionally, population anxiety, social distancing and isolation exacerbate further chronic diseases through changes in dietary and physical activity habits, while increasing psychological stress.[11] Indeed, it has been reported that since the onset of COVID-19, the mental health burden among the populations has heightened.[12] Although it is still early to quantify the exact impact of these measures, it is envisaged that there will be major negative repercussions to population health following these actions. A glimpse of this reality has already been reported by the UK, where in the year 2020, a rate reduction of new Type 2 diabetes diagnosis was noted, along with higher mortality rates in people with Type 2 diabetes.[13] This supports the notion that new onset of chronic diseases, including mental health problems, may have been missed with current, sub-optimal screening and care.

Deferred and suspended population screening programmes, including cancer screening, have negatively impacted on the health of the population, resulting in substantial economic losses, avoidable deaths and loss in quality of life.[14,15] A national modelling exercise estimated that 40% of the total UK cancer burden could have been avoided if screening services and diagnostic tests were not suspended during the first COVID-19 wave. Indeed, it was estimated that on a per-capita basis, cancer deaths were far greater than those due to COVID-19 in the UK.[15] Similar projections were reported by Canada for both colorectal and breast cancers.[16] Suspension of both screening and diagnostic care for cardiovascular disease, the leading cause of morbidity and mortality across the world, is also anticipated to result in a substantially increased health and economic burden.[17,18] Additionally, the restrictions might have delayed the provision of acute medical care as well as altered behaviour, such as in seeking medical care, resulting in excess deaths. Although since the onset of the pandemic, most excess deaths have been attributed to COVID-19, a proportion of these deaths were not.[19,20] Indeed, a US study reported a substantial increase in deaths due to cardiovascular disease and diabetes rather than COVID-19 during the first wave lockdown.[21] Similarly, a Swedish study reported that 10–15% of excess deaths might be the result of the pandemic's indirect consequences including restricted access to healthcare.[19]

Considering that COVID-19 is here to stay for an inestimable period, even if vaccination rollout is underway, the incline in chronic diseases prevalence and its sub-optimal control increases the susceptibility for complicated COVID-19 infections. Consequently, this enhances the burden to healthcare systems, while hindering further routine care and screening capacity to identify other newly diagnosed chronic diseases.

It has already been noted that individuals with chronic diseases have a higher susceptibility for COVID-19 morbidity and mortality through their biological determinants in combination with other determinants, such as limited healthcare access.[22] This burden might be challenged further with the occurrence of higher transmissible variants, such as SARS CoV-2 variant Alpha (B.1.1.7), Beta (B.1.351), Gamma (P.1) and Delta (B.1.617.2). In fact, it has been reported that variant infection increased the risk of mortality.[23] The population suffering from chronic diseases that survive the COVID-19 infection might experience 'long COVID-19' symptoms as well as have an enhanced disease progression of their pre-existing chronic disease.[7,24] Indeed, time will reveal whether COVID-19 is yet to be considered as a new chronic disease among a proportion who have survived it. Currently, there are several theories pertaining to the underlying pathophysiology of the long COVID-19 syndrome including: the persistence of the virus in immune-privileged sites; an abnormal immune response or autoimmunity as well as post-viral fatigue.[25] However, surveillance and screening for the long COVID-19 syndrome is definitely a new paradigm in healthcare services.

COVID-19, health inequalities and chronic diseases

Infection of individuals with COVID-19, both in its acute phase and in the post-acute sequela, has exacerbated several indirect effects on the health of the population, resulting in widening of health inequalities.[26,27] Low socioeconomic groups, including those with low-income jobs, jobs within the cleaning and hospitality sectors, those living in deprived areas or in overcrowding housing, elderly as well as those with underlying health conditions, were mostly susceptible.[28,29] A high unemployment rate was noted following the onset of COVID-19, especially among these marginalized groups, with social, economic and health consequences.[29] Adverse economic conditions are associated with poor population health including depression, cardiovascular disease and suicide.[30,31] Unemployment among those with an underlying health condition might have resulted in diminished medication affordability, especially if their health insurance was forfeited as collateral damage of their unemployment. This may further increase their non-adherence to medication and further result in disruption of chronic diseases management.[32] Additionally, unemployment leads to insecure housing, poverty and hunger.[33] All factors have a negative effect on chronic diseases management as well as enhancing the risk for the development of new onset chronic diseases. Besides, unemployment has been linked with increased alcohol consumption, substance use, poor mental health as well as family violence.[29]

Individuals suffering from chronic diseases have been noted to fear contracting the virus.[34] Such fear may hinder them from reaching out to their family doctor in instances of ill-health as well as to attend to pre-scheduled appointments, thus, escalating their susceptibility for uncontrolled disease while increasing the burden of the disease. It has also been reported that disruptions to public transport may also have had an effect on the ability of these individuals to reach out for medical care.[34]

Preparing for the future

In the wake (or rather, the crest) of COVID-19, the many sufferers of chronic disease are envisaged to be experiencing increased social, physical and economic inequalities that need to be identified and prioritized in order to ensure a better universal health coverage. Identifying these inequalities through data monitoring is essential to enable evidence-based decision-making and the setting up of accountable frameworks.[2] It is vital that an effective management plan for chronic diseases and continuity of care is present. This will have a dual positive effect on the chronic diseases' population. It could reduce the occurrence of chronic disease's related complications as well as decrease the susceptibility for complex negative outcomes, should sufferers acquire COVID-19.[11] There are multiple action strategies that can be followed for an effective management plan. In the era of digital health, virtual healthcare can be the key to improve chronic diseases management while abiding with the COVID-19 preventive measures. Video consultation is a good way to engage in consultations between the professionals and the patients.[35] However, the major drawback to this modality is the lack of opportunity for the professionals to undergo physical examinations, which may be imperative for picking up of new signs and/or complications. In order to overcome this challenge, Mirsky and Horn[36] proposed the development of real-time clinical registries. These registries may not be everyone's cup of tea due to several envisaged hurdles including the need for a substantial capital investment and extra care to patient confidentiality among others. However, should a healthcare system be able to facilitate such real-time clinical registries, it will enable the monitoring and identification of high-risk chronic disease patients digitally. It will also allow for continuous surveillance of the patient's anthropometric parameters as well as track their medications while keeping track of their appointments. Such a system will be complemented with synchronous and asynchronous virtual platforms to support the patient's care.[36] Furthermore, online patient education programmes could be set up to enhance the knowledge and the skill of chronic

disease patients to engage in positive lifestyle changes along with engaging them to follow their medical management plans.[11]

Concurrently, the health and wellbeing of healthcare professionals should be addressed, since amid the pandemic, these were the frontliners and the point of care for the population. Inadequate sleeping hours, a lack of breaks and frenetic work schedules have taken their toll. Physical, psychological and digital burnout are thought to be present among healthcare professionals, requiring appropriate care and support, without which healthcare services will be impeded.[37,38]

Dual action plan

COVID-19 has already been reported to be a syndemic experience that interreacts and exacerbates chronic diseases.[39] Hence, a proposed action plan is to follow a syndemic approach, where both the chronic disease/s and COVID-19 are managed simultaneously in a more balanced manner. A multidisciplinary approach should be adopted to ensure that a holistic care plan is provided at individual level. This should include a thorough physical examination of individuals to screen for the possibility of multi-organ failure resulting from the progression of the chronic disease/s as well as for identifying COVID-19 symptoms. This holistic approach should not only target the direct organic health consequences but also engage in psychological and social assessments, including the assessment for mental health burden, food security, healthcare affordability, wellbeing and social support, in order to target potential health inequalities as a consequence of the pandemic. The multidisciplinary approach should also be extended to cover and care for the caregivers and families of the individual with chronic diseases. COVID-19 has not only impacted on the vulnerable but also on their formal and informal caregivers, with additional coping and psychological strains being registered by caregivers.[40–42]

The ideal setting for instituting such a holistic management approach is in the primary healthcare setting. Indeed, this dual action plan builds on the fundamental bases of Alma-Ata declaration (1978) and later of the Astana declaration (2018) that showcase the role of primary healthcare in providing quality care to every human without any distinction. Ensuring universal health coverage, disease prevention and health promotion while addressing each individual's needs is the ultimate goal.[43,44] Furthermore, primary healthcare centres are known to cover defined geographical catchment areas, ensuring proximity healthcare access for residents, while decreasing health access inequalities. Additionally, continuation of care is facilitated when primary physicians continue to see their patients regularly. Setting up (or simply adopting) such a service at primary healthcare hubs could be expected to result in higher attendance probability for appointments. Furthermore, by offering this service at primary healthcare level, there could be substantial shifting of healthcare service workloads away from secondary and tertiary settings, enhancing tertiary healthcare resilience to deal with acute conditions.

The proposed syndemic approach should complement the COVID-19 vaccination rollout programme as well as the instituted safety measures of social distancing, mask wearing and personal hygiene. The population suffering from chronic diseases are considered as a vulnerable population and should be given priority in the vaccine strategy programmes. Indeed, many countries have adopted this strategy with 80% of the 80+ years population receiving at least one dose and 72% being fully vaccinated across the European Union (up till time of writing).[45] However, vaccine hesitancy is a known deterrent for vaccine uptake. Therefore, it is essential that a strong public vaccine awareness and transparency is afforded by health authorities to ensure appropriate uptake of the COVID-19 vaccine. Indeed, the vaccine is being considered as the 'magic bullet' against the pandemic[46] and in reality, there are effectively no alternatives.

Implications for future research and public health policy

There are several future unknowns pertaining to the chronic diseases' population. With the occurrence and persistence of the COVID-19 pandemic, the chronic diseases landscape has been altered. This will have implications on European public health policies and healthcare management plans. It is therefore imperative that research should be conducted to understand the impact of the pandemic on the health status of all but especially of chronic diseases' sufferers, while assessing for potential acceleration of disease progression or complications. Considering that primary healthcare is the first point of medical care contact for patients, this provides the perfect setting to conduct practice-based research while integrating the priorities set by local public health authorities. Digital technologies make such research more accessible and sustainable while ensuring that the patient's privacy is respected. Primary healthcare also plays a part in understanding the characteristics and burden of long COVID-19 syndrome among the chronic diseases' population. This is another research niche that is essential to explore for appropriate management plans as well as for the development of appropriate strategies. Such research could provide evidence-based data that is essential for timely European health policies.

Conclusion

The future is unknown but what is certain is that COVID-19 is here to stay, at least for the time being. Therefore, public health authorities and policymakers need to adopt and refocus action plans to prevent and manage chronic diseases simultaneously with COVID-19 management, ensuring that the actions to prevent negative health outcomes for this pandemic will not result in an overall worse health status of populations in general. These public health priorities should be part of a coordinated effort across all European countries to ensure true population universal health coverage, attention to diminish health inequalities and to maintain the resilience of a health system under strain. However, such actions need to be supported by equitable fund allocation, both from a European and country levels, to address and aid the health systems in achieving such indispensable goals.

Conflicts of interest: None.

Additional Content

A video to accompany this paper is available at https://youtube.com/playlist?list=PLv5eq4ZCoNWubJurAJ-7Ht33cjNshLw7R.

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