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Literature Review
COVID-19: Adaptations to Primary Care in Australia

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Summary of article:

- A review of the literature surrounding the efficacy of some of the most commonly implemented adaptations to primary care in Australia during the COVID-19 pandemic.

Learning points:

- Effective implementation of telehealth in primary care settings in Australia can help to reduce the transmission and spread of COVID-19.
- More evidence is required to accurately assess the effectiveness and practicality of the public use of face masks.
- Despite being incredibly effective at reducing the spread of COVID-19, physical distancing has resulted in devastating economic impacts globally.

Keywords: telehealth, physical distancing, primary care, COVID-19, coronavirus

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Abstract

Introduction

The Australian Government has implemented its National Primary Care Response action plan to combat the growing threat of the COVID-19 pandemic across the country. The plan recognises the integral role of primary care services in protecting the most vulnerable citizens of our nation and recommends a number of interventions aimed at reducing transmission, including expanding telehealth services, physical distancing measures, and the use of personal protective equipment. The efficacy of these suggested measures needs to be evaluated to ensure everything is being done to maximise the safety of Australia's primary care system while maintaining the highest level of care possible.

Summary

This review article delves into the benefits and limitations of the interventions suggested in the National Primary Care Response action plan and formulates recommendations on each intervention based on the currently available literature. Based on the literature findings, recommendations have been made to implement telehealth, physical distancing, and face masks in primary care settings across Australia to curb the transmission of COVID-19 across the country.

Introduction

Since late December 2019, a novel coronavirus COVID-19 spread rapidly across the globe from its origin in Wuhan, China, causing pneumonia-like respiratory illness. A global pandemic was officially declared on 11 March 2020 [1]. Lessons learnt from past outbreaks of disease underline the critical frontline role of primary care, and the need for clear, regular communication between the community and the primary care workforce [1]. In early March, as part of the Australian Health Sector Emergency Response Plan for the novel coronavirus, the Australian Government announced the National COVID-19 Primary Care Response, an action plan that aims to protect the nation's health care system and most vulnerable citizens through facilitating rapid implementation of initiatives to optimize workforce capacity, efficiency, and safety. The four key objectives to the Primary Care Response are: 1. Protection of vulnerable citizens, 2. Function of the healthcare system, 3. Support and treatment, and 4. Capacity to maintain stocks of personal protective equipment [2].

Many components are integral to the Primary Care Response. These include the creation of General Practitioner (GP)-led respiratory clinics, public fever clinics, changes to influenza vaccination recommendations, and increasing research funding, among others. This article will focus on three of these components; the expansion of telehealth services, the implementation of physical distancing measures in face-to-face consultation situations, and the use of personal protective equipment (PPE) in primary care settings. These components have been chosen to reviewed as they have been the most publicised and implemented strategies across Australia during this pandemic [3]. Evaluating the available evidence of the efficacy and practicality of these measures in the primary care setting will provide valuable insight into the value of the implementation of these measures across Australia.

Materials and methods

A literature search was performed of trials published from 2005 to 2020 involving telehealth practices, physical distancing, and past and current global health emergencies. The search terms and keywords used were ‘telehealth’, ‘physical distancing’, ‘primary care’, ‘COVID-19’, and ‘coronavirus’. Four databases (EMBASE, Google Scholar, Cochrane, and PubMed), were searched. The inclusion criteria required the studies to be published in English language journals, published between the years of 2005 – 2020, and be sufficiently relevant to the topic of the article. Using these inclusion criteria, 12 scientific articles relevant to the topic were chosen to include. Local and foreign government websites were also searched for relevant official documents, policies, and statistics.

Telehealth

Telehealth use – using technologies to promote and support long-distance clinical care – has over the past decade seen a dramatic increase in correlation with the increased frequency and severity of disasters across the world [4]. There is strong evidence for the efficacy of using telehealth to decrease patient flow through primary care facilities and emergency departments alike, decreasing the strain on these facilities and allowing them to operate more efficiently [5]. The American city of Houston has rolled out mobile home healthcare units to chronic disease patients at home, allowing remote monitoring of these patients to prevent their repeated exposure to healthcare workers through in-person primary care consultations and emergency department admissions. Implementation of these measures showed a 56% decrease in exposure to healthcare workers compared to the control group [6]. In Australia, the accessibility of telehealth for people in rural and remote communities is another big advantage. Patient care can be more effectively delivered with less patients lost to follow up as the need to travel to consultations will be much less frequent, and access to services for people in areas where there are no local health services will be increased [7]. In addition to this, the cost of providing telehealth services is minimal, with each consult resulting in net savings mainly due to the avoidance of travel costs [8].

With rapid implementation of new initiatives comes unique limitations, and these are evident with telehealth. A major concern of telehealth consultations is patient confidentiality and privacy. Due to the remote nature of telehealth, the confidentiality of the consultation cannot be guaranteed by the practitioner and sensitive health information may inadvertently become the knowledge of a larger than intended group [9]. The Australian Government, in conjunction with the Royal Australian College of General Practitioners (RACGP), has provided guidelines to be used to maximise the confidentiality of telehealth consultations. These guidelines recommend verifying the patient's identity and the identity of anyone else in attendance, confirming verbal consent, and keeping accurate and up to date documentation in the same manner as is required for a face-to-face consultation [9]. These measures are designed to optimise the privacy of patients while still allowing an effective consultation but are still far from comparable to the level that can be achieved in a traditional consultation. Most telehealth services are being delivered via telephone in Australia and hence availability is not an issue, but adequate platforms for the delivery of video services, such as tablets or computers, are not immediately available in numbers large enough to service entire countries, especially with the disruptions in international supply chains that have been seen throughout the COVID-19 pandemic. The standard of patient care delivered through a telephone consultation must be questioned when the visual cues of the patient cannot be interpreted and the level of understanding gained from body language in a traditional consultation is lost. Hence, this can potentially adversely affect patient outcomes [10]. Thus, the quality of care delivered through telehealth compared to traditional consultations must be questioned, and more research is needed in this area to allow a direct comparison of care before telehealth can be considered a viable alternative to traditional face-to-face primary care.

Physical Distancing

Physical distancing measures have been perhaps the most widely implemented initiative across the world in response to the COVID-19 pandemic. There is ample evidence to emphasise the benefits of physical distancing with respect to reducing both the severity and number of cases [11,12]. The basic reproductive number, R_0 , reflects the number of individuals directly infected by an infectious person in an otherwise susceptible population. The lower the R_0 value, the lower the number of newly infected people. An R_0 value of 1 suggests a disease is endemic, whereas if R_0 is less than one, the case numbers will likely be

in decline. The R_0 value is influenced by the number of contacts an infectious person has, the risk of transmission per contact, and the duration of contagiousness of the disease [13]. Physical distancing principles mostly relate to the first factor – reducing the number of contacts an infected person has. The second concept to consider is the notion of a negative multiplier effect. The negative multiplier effect refers to the exponential decrease in case numbers that is seen with effective physical distancing measures, as illustrated in *Figure 1* below [14].

It can therefore be suggested that implementation of adequate physical distancing measures in the primary care setting, as well as the wider community, will lower the rate of transmission and hence reduce the R_0 value, contributing to reduced overall numbers of the disease. With regard to primary care, there are a number of very simple physical distancing measures that can be immediately implemented to reduce infection rates and transmission. These include no handshaking, coughing, and sneezing etiquette (into the elbow), paying by card instead of cash, and making videoconferencing the default for staff and multidisciplinary team meetings. These measures and their swift implementation are all supported by the World Health Organization [15].

Limitations to the implementation of physical distancing are relatively minimal, as the above measures are free of cost, not impacted by supply chain disruptions, and are effective across all demographic groups. However, the economic cost of physical distancing has been significant. Industries such as hospitality, live music, air travel, and tourism have all been severely affected. Restrictions on international and domestic flights, as well as laws preventing large gatherings of people have resulted in steep downturns in business, resulting in an estimated \$34.2 billion decrease in Australia's gross domestic product (GDP) over the next year [16]. In addition to this, the practicality of enforcing physical distancing rules in every domain is limited in certain situations. Essential services such as public transport and grocery stores see a large amount of unavoidable foot traffic throughout the day, and hence it is difficult to practice physical distancing in these settings due to the inherently high demand for these services [17].

Personal Protective Equipment

It is universally agreed that personal protective equipment (PPE) is essential to prevent the spread of COVID-19 to healthcare workers in the hospital setting. The use of PPE by the public, particularly face masks, is much more contentious, especially when it comes to environments outside the hospital, such as the primary care setting.

Surgical face masks are protective against medium to large droplet spread, and N95 masks are protective against small droplet spread [18]. The literature in this area is rapidly changing and there are many contrasting conclusions on the benefits and risks of mask use outside of hospital facilities [19]. A review conducted by the Bond University Institute for Evidence-Based Healthcare has recently suggested that wearing face masks did lead to a significant reduction in incidence of influenza-like illness, based on observational data from the severe acute respiratory syndrome (SARS) epidemic [20]. Research from the United Kingdom (UK) suggests that widespread community use of face masks possibly reduced the transmission of SARS, and there is clear evidence that face masks should be used in households and facilities that are caring for COVID-19 positive patients for extended periods of time [21]. Recently, a recommendation has been made by the US Centres for Disease Control and Prevention that fabric masks be used at the community level, although due to a lack of data this is based on

laboratory studies investigating the effectiveness of different materials at trapping particles of different sizes [22].

It is important that masks fit for use in hospitals are not redirected away from vital healthcare supplies in hospital facilities, and hence supply is the major limitation to the recommendation of face masks in primary care settings as well as in the wider community. More evidence and community input into the effectiveness and practicality of this initiative is needed before a reasonable recommendation can be made regarding the use of face masks.

Conclusion

It is evident that COVID-19 will continue to disperse and circulate across the globe for some time, with waves of infections likely for the foreseeable future. The relevance of the aforementioned adaptations will become increasingly pertinent as the pandemic develops. Due to the rapidly developing nature of the situation, evidence on the efficacy of individual measures in preventing COVID-19 is not widely available. Despite this, there is definite evidence for the benefits of telehealth and physical distancing measures in the primary care setting, and hence it is proposed that these measures be utilised, resources permitting, to their full potential across the Australian primary care landscape. This is further emphasised by the relatively low cost and little harm of these measures. Based on the currently available evidence, a recommendation can be made advocating the use of face masks at the community level to prevent virus transmission, although this continues to be a divisive issue across the country. The Victorian Premier, Daniel Andrews, has since made the wearing of face masks mandatory for Victorians outside their homes. This is an unprecedented step in Australia's fight against COVID-19, and the outcome of this measure remains to be seen.

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Conflict of Interest Statement

The author declares that there is no conflict of interest.

Authors Contribution

James Pietris:

- Substantial contribution to the conception & design of the work
- Substantial contribution to the analysis and interpretation of data for the work
- Final approval of the version to be published

Non-Author Contributors

Dr Mark Morgan & Dr Anne Spooner:

- Critically reviewed the study proposal
- Participated in technical editing of the manuscript

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