

## Opinion

Online first publication

 HSI Journal (2020) Volume 1(Issue 2):135-138. <http://doi.org/10.46829/hsijournal.2020.12.1.2.135-138>

# COVID-19-related health behaviour changes among Ghanaians: applying the health belief model

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*Received October 2020; Revised October 2020; Accepted November 2020*

## Abstract

Although the Coronavirus disease 2019 (COVID-19) is a physical illness, it very much requires behavioural practices to prevent its infection and transmission. Coronavirus protective measures may sound simple to adhere to compared to chronic disease-related behavioural practices, but this is not the case. Understanding adherence to COVID-19-related health behaviours using the health belief model as an explanatory model, can help to design interventions for change and maintenance of this change. The health belief model posits that, practicing a health behaviour depends on the individual's perceived susceptibility to a disease, his/her perceived severity of the disease, and the perceived benefits/cost of engaging in the health behaviour, all of which are prompted by internal and external cues to action. Some Ghanaians may believe they are not susceptible to the disease or may downplay the severity of the disease, and thus will be less likely to engage in the health behaviours to avoid COVID-19 infection. Again, if Ghanaians believe the cost of engaging in these behaviours outweigh the health benefits of adhering to the behaviours, then they are less likely to follow these health behaviours. Finally, internal (e.g. experiencing COVID-19 symptoms) and external (e.g. daily COVID-19 updates) cues may act as triggers to engaging in health behaviours. Ghanaians should be well educated about the coronavirus and well informed, to be equipped to adhere to the COVID-19 protective measures. Clinical and health psychologists should be engaged to champion behaviour change practices.

**Keywords:** COVID-19, health belief model, health behaviours, behaviour change, Ghana

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## Introduction

The coronavirus disease 2019 (COVID-19) was first discovered in Wuhan (the capital of Hubei province) in China [1]. In January 2020, the World Health Organisation declared the outbreak to be a "Public Health Emergency of International Concern" and by March 2020, coronavirus had been declared as a pandemic [2]. As of 21<sup>st</sup> August 2020, a total of 22,492,312 individuals had been diagnosed with COVID-19 infection with 788,503 deaths worldwide [3]. In Ghana, the first two cases were diagnosed on 12<sup>th</sup> March 2020 and 6 weeks afterwards, the confirmed cases increased to 3,091 with 18 deaths. This was after three weeks of a partial lockdown in two regions (where the infections were recorded) out of the 16 regions in Ghana. On 28<sup>th</sup> May 2020, almost three months after the first diagnoses, confirmed cases were 7,117 with 34 deaths. As

at 21<sup>st</sup> August 2020, five months afterwards the first diagnoses, Ghana's infected cases stood at 43,260 with 261 deaths and by 30<sup>th</sup> October 2020, confirmed cases were 48,055 with 320 deaths [3]. Despite the increase in infections, a large number of Ghanaians do not adhere to and maintain the protective measures recommended by WHO (Table 1) to prevent infection with coronavirus and slow down transmission [4]. Despite the Ghana Government's efforts to educate the populace about COVID-19 and the need to adhere to the protective measures, there is increased concern about the constant rise in transmission of the virus. This perhaps could be due to the lack of understanding about the virus infection, individuals' perceived susceptibility to the infection, and their perceived severity of the infection.

## Understanding COVID-19-related behaviour changes using the health belief model

The coronavirus disease though a physical illness very much requires behavioural practices such as consistent

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Table 1: World Health Organization (2020a)- Prevention of Coronavirus

How to prevent infection and to slow transmission of COVID-19
<ul style="list-style-type: none"> <li>• Wash your hands regularly with soap and water, or clean them with alcohol-based hand rub</li> <li>• Maintain at least 1 metre distance between you and people <i>coughing</i> or sneezing</li> <li>• Avoid touching your face</li> <li>• Cover your mouth and nose when coughing or sneezing</li> <li>• Stay home if you feel unwell</li> <li>• Refrain from smoking and other activities that weaken the lungs.</li> <li>• Practice physical distancing by avoiding unnecessary travel and staying away from large groups of people</li> </ul>

handwashing with soap (under running water for at  $\leq 20$  sec); using alcohol-based hand sanitizer; practising good respiratory hygiene by covering mouth with tissue (and disposing of it); flexing the elbow when coughing; avoiding touching of eyes, nose and mouth; and social distancing [1]. Wearing of face mask has also been deemed very important to curb the spread to the virus. These behavioural practices, which can be termed COVID-19-related health behaviours, are the basic protective measures against the virus infection [1]. These health behaviours may sound simple to adhere to compared to adhering to behavioural (and lifestyle) practices for the management of chronic illnesses (such as diabetes, hypertension or Human Immunodeficiency Virus or Acquired Immune Deficiency Syndrome) or terminal illnesses (such as cancer), but this is not the case. Changing behaviours to maintain good health requires providing individuals with accurate information, understanding why they may find it difficult to engage in the behaviour change and planning ways to help them make the behaviour change. Theories and models used in the practice of health psychology can be used to understand these processes, and one such theory is the health belief model.

The health belief model [5,6] posits that practising a health behaviour depends on two factors 1) whether people will perceive a personal health threat and 2) whether they believe engaging in a particular health practice will reduce the threat [7]. Threat perception will depend on the perceived susceptibility to an illness/ disease and the perceived severity of the illness/ disease (in this case coronavirus). If an individual does not personally feel susceptible to coronavirus infection, he/she will not adhere to the protective measures. For instance, some Ghanaians believe “COVID-19 does not exist at all – if the virus exists it is not in Ghana, or it is a ‘White man’s’ disease and therefore does not affect Blacks”. Other beliefs are, sunshine can kill the coronavirus, only individuals who have travelled from Europe and America into Ghana may be infected, God is greater than any virus, or God is the only protector of lives and not adherence to the COVID-19-related protective measures [8,9]. For these reasons and many more (all of which are myths), some Ghanaians believe they are not susceptible to the disease and therefore

do not see the need to make any behaviour changes. Additionally, if Ghanaians downplay the severity of the disease, believing it does not come with severe health consequences, then they are less likely to maintain the protective measures to avoid getting COVID-19. This is especially so when they do not seem to be accurately well informed about the virus infection. Some Ghanaians believe that even if they are infected, drinking hot water from boiled Neem leaves and inhaling its steam can cure the infection. Others believe drinking homemade remedies, typically, a concoction of lime, ginger, garlic and honey can cure the infection. Alternatively, if these individuals know persons infected with COVID-19 or persons who have lost their lives due to this pandemic, they will appreciate the severity of the disease and maintain protective measures. Also, if people begin to experience symptoms of COVID-19, particularly severe ailments, they will appreciate the severity of the condition”. Thus, Ghanaians will adhere to the COVID-19-related health behaviours, if they believe they are susceptible and consider the disease to be a severe condition.

The perceived benefits (positive outcome) and the perceived cost or barriers (negative outcome) of engaging in the health behaviours can also determine whether Ghanaians will practice COVID-19-related health behaviours. If they believe the health benefits of adhering to the behaviours outweigh the cost of engaging in these behaviours, then they are more likely to follow these health behaviours and vice versa. For instance, if benefits such as staying healthy, avoiding the pain and suffering of the virus infection, avoiding death, and preventing the transmission of the virus, outweigh the costs such as; disruptions to one’s job, loss of income, cost of buying hand sanitizers and soap for regular hand cleansing, and missing out on social functions, then Ghanaians will maintain the health behaviours. Thus, besides the lack of understanding about the infection, to appraise one’s susceptibility and severity of the illness, economic hardship is also a major reason why curbing the spread of the disease can become challenging. For instance, due to economic hardship, there may be poor adherence to social distancing which may lead to the spread of the pandemic. About 90% of the Ghanaian workforce is

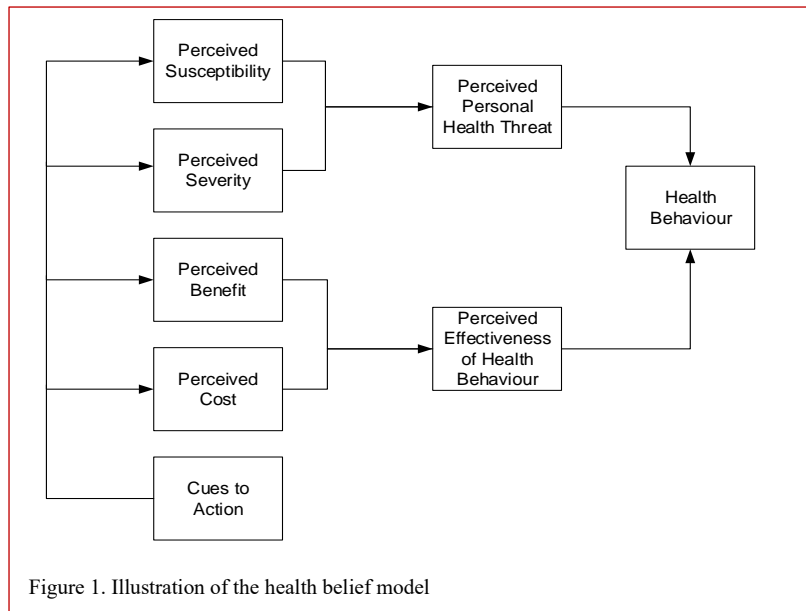


Figure 1. Illustration of the health belief model

employed in the informal sector [10], and such restrictions will mean businesses shutting down and many families losing their livelihood. Hence, due to economic hardship, individual will go about their daily duties without maintaining social distancing, because the cost of adherence outweighs the benefits. Thus, the severity of the disease is modulated as people only look to their economic loss and not the overall impact of the spread of the pandemic in terms of its medical, social, and psychological impact. Perceived susceptibility, perceived severity and perceived benefits/cost, as described above are all prompted by Cues to Action [11].

Cues to action are internal and external factors that may act as triggers to taking action or engaging in health behaviours. Internal factors can be the physical symptoms a person may experience, such as fever, coughing, palpitations, breathlessness, aches and pains, dizziness, fatigue, a rash etc., which will suggest the need to seek medical attention or make a change in behaviour. In the case of COVID- 19, if individuals begin to experience any of its symptoms such as fever, dry cough, tiredness, headache, aches and pains, sore throat, diarrhoea, loss of taste or smell. etc., these will serve as internal cues that suggest they may be infected with COVID- 19. Thus, they will be prompted to seek help and make behavioural changes. On the other hand, if individuals do not experience any of these symptoms, they may not be prompted to assess their susceptibility to, and the severity of the disease, much less consider practising the COVID-19-related health behaviours. External factors, on the other hand, can be media campaigns about diseases, reports on infections and death rate, advice from health professionals, measures set in place by the government to curb the spread of diseases and infections, etc. In the case of COVID-19 infection, external cues may be the daily updates on the count of

infection, recovery, and death rates in Ghana and worldwide and media campaign on observing COVID- 19 protective measures. Others are reminders to wear face masks, COVID- 19 information shared on social media, press briefings, the presence of handwashing facilities (e.g. Veronica buckets) at supermarkets entrances and other public places, and the “President’s COVID- 19 Updates”. According to the health belief model, if these external cues are present in individuals’ environment, then they will be prompted to assess their susceptibility to, and severity of COVID-19 infection which will trigger behavioural changes. Alternatively, if there is no information/inadequate information about the disease, lack of media campaigns or government press briefings, and absence of measures from government that will serve as external cues, individuals will not be prompted to assess their susceptibility to, and severity of the disease to trigger the practising of health behaviours. The health belief model is shown in Figure 1.

### Promoting the maintenance of COVID-19-related health behaviours

In addition to the health belief model facilitating understanding of why individuals will/ will not engage in COVID-19-related behaviour changes, this model can also be used to facilitate the maintenance of these health-related behaviours. To enforce behaviour change among Ghanaians, first, it is important to provide adequate information about the virus and its infection. Information should be provided on all possible media platforms (television, radio, public education vans, social media, newspapers, posters, emails, etc.), in the nation’s official language (English) and the most common local languages. Most importantly, the populace should be educated to distinguish myths and fake news from authentic information, as the former can be misleading. When

Ghanaians have the appropriate information and education about the coronavirus, they will be equipped to re-evaluate their susceptibility to and severity of the virus infection as they assess the behaviours that put them at risk. Such information should focus on susceptibility to infection, mode of transmission, symptoms, treatments, prevention, statistics on infection, recovery and death rates, benefits of adhering to the health behaviours etc. Provision of adequate information will also enable individuals to appreciate the benefits or positive outcomes (perceived benefits- avoid symptoms, infection and death, while having better physical and psychological wellbeing) of adhering to the protective measures. Ghanaians will appreciate that the benefits of engaging in the COVID-19-related health behaviours outweigh the cost of engaging in the behaviours (such as economic loss due to lockdown, loss of time and resources). Presently, media reports of interactions with the public indicate there is a huge gap in the knowledge and understanding of the coronavirus disease [9]. If this gap is not bridged, promoting the protective health behaviours to prevent infection and to slow transmission of COVID-19 will be an illusion.

## Conclusion

The coronavirus disease is still spreading globally, and this is likely to continue if individuals do not adhere to the preventive measure to flatten the curve of infection and eradicate the virus [12]. This suggests Ghanaians, and the world at large will have to continue engaging in the COVID-19-related health behaviour practices for longer than was initially anticipated. It is therefore important that every effort is made to help individuals change their behaviours to prevent infection and transmission. The health belief model can assist in bringing about behaviour change and therefore should be used to facilitate the promotion and maintenance of COVID-19-related health behaviour. Ghanaians should be educated to enable them to appraise their susceptibility to COVID-19 infection, understand the severity of the infection, appreciate that the benefits of adhering to the protective measures outweigh the cost so that they may make behavioural change. To this end, the services of psychologists, especially clinical and health psychologists should be employed to champion the course of behaviour change and its maintenance.

## DECLARATIONS

### Ethical considerations

Not applicable

### Consent to publish

Not applicable

### Funding

None

## Competing interests

No conflict of interest was reported by the author

## Author contributions

MAP conceived, drafted, and revised the manuscript for intellectual content.

## Acknowledgements

None

## Availability of data

None

## REFERENCES

1. WHO (2020) Coronavirus. In: World. [https://www.who.int/health-topics/coronavirus#tab=tab\\_1](https://www.who.int/health-topics/coronavirus#tab=tab_1). Accessed 10 Dec 2020
2. WHO (2020) Mental health and psychosocial considerations during the COVID-19 outbreak. <https://www.who.int/docs/default-source/coronaviruse/mental-health-considerations.pdf>. Accessed 10 Dec 2020
3. WHO (2020) WHO Coronavirus Disease (COVID-19) Dashboard. [https://covid19.who.int/?gclid=CjwKCAiAq8f-BRBtEiwAGr3DgfPD3vEwcoWHMt9I5Tk81bBI-ubta-F1QgL2MdmLxRhwTbcwtyq8RoC\\_NIQAvD\\_BwE](https://covid19.who.int/?gclid=CjwKCAiAq8f-BRBtEiwAGr3DgfPD3vEwcoWHMt9I5Tk81bBI-ubta-F1QgL2MdmLxRhwTbcwtyq8RoC_NIQAvD_BwE). Accessed 10 Dec 2020
4. Dzisi EKJ, Dei OA (2020) Adherence to social distancing and wearing of masks within public transportation during the COVID 19 pandemic. *Transp Res Interdiscip Perspect* 7:100191. <https://doi.org/10.1016/j.trip.2020.100191>
5. Hochbaum G (1958) Public participation in medical screening programs; a socio-psychological study. Washington, Government Printing Office.
6. Rosenstock IM (2005) Why people use health services. *Milbank Q* 83:92–124. <https://doi.org/10.1111/j.1468-0009.2005.00425.x>
7. Taylor SE (2018) *Health Psychology*, 10th editi. New York: McGraw-Hill Education
8. Citi Newsroom (2020) Traders selling along Madina streets flout social distancing protocols. <https://citinewsroom.com/2020/05/traders-selling-along-madina-streets-flout-social-distancing-protocols/>. Accessed 10 Dec 2020
9. Citi Newsroom (2020) COVID-19: Persons without face mask prevented from entering Accra City Hall. <https://citinewsroom.com/2020/04/covid-19-persons-without-face-mask-prevented-from-entering-accra-city-hall/>. Accessed 10 Dec 2020
10. Ghana Statistical Service (2016) 2015 Labour Report. [https://www2.statsghana.gov.gh/docfiles/publications/Labour\\_Force/LFS\\_REPORT\\_fianl\\_21-3-17.pdf](https://www2.statsghana.gov.gh/docfiles/publications/Labour_Force/LFS_REPORT_fianl_21-3-17.pdf). Accessed 10 Dec 2020
11. Becker MH, Becker MH (1975) Sociobehavioral determinants of compliance with health and medical care recommendations. *Med Care* 13:10–24 . <https://doi.org/10.1097/00005650-197501000-00002>
12. Bliss C, Musikanski L, Phillips R, Davidson L (2020) When Will the Pandemic End? Suggestions for US Communities to Manage Well-Being in the Face of COVID-19. *Int J Community Well-Being* 24:1–15 . <https://doi.org/10.1007/s42413-020-00075->

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