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Proactive Vs Reactive Social Marketing and Corona Virus Awareness: A Literature Review

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Abstract

Purpose

This paper is a systematic review of pioneer publications on COVID-19 in its first three months of inception as documented by the World Health Organization from Web of Science, Scopus, Social Science Citation collections (December 2019 to February 2020). A systematic analysis technique was adopted in qualitatively analyzing the existing literature. The findings revealed that as at the time of this study, published articles focusing on COVID-19 public awareness/enlightenment were relatively insignificant (28%), and very few studies (12%) focused on social marketing or public positive attitudes and behavior changes toward Coronavirus. However, there is a significant number of articles on the medical areas of Coronavirus, covering: infection prevention and control, epidemiology case studies, medical ethics, virology, and a host of others. The findings call attention to the urgent need of empirical studies in this area, for experts in marketing communications and other communications-related fields to fully come on board in the global war against the Coronavirus pandemic. Being the first of its kind, this review aids the assessment of published literature, highlights the strengths and gaps in the social marketing aspects, and provides directions for future research.

Keywords: Coronavirus Awareness, Coronavirus Myths, Social Marketing, Systematic Review, World Health Organization

1.1 Introduction

The entire global community is presently experiencing one of its most debilitating health crisis- the Coronavirus. Coronaviruses (CoV) are a specie of viruses causing diseases like mild flu to more extreme ones such as the Respiratory Syndrome that emanated from the Middle East (MERS-CoV) and the Severe Acute Respiratory Syndrome (SARS-CoV) (WHO, 2020; Burki, 2020; Chen et al., 2020). The COVID-19 in full is a new variant that was detected in December 2019 and, not before witnessed in humans (Epidemiology Working Group, 2020; Bai, Wang & Zhou, 2020). Hence, it is a respiratory virus that is contracted mainly through cough droplets or sneezes from infected persons, saliva or nasal discharges. It is believed in medical sciences that Coronaviruses are zoonotic, or initially transmitted from animals to people (WHO, 2020; CDC, 2019; ECDC, 2020). This is because medical researchers discovered that SARS-CoV came from civet cats to man, while MERS-CoV came from dromedary camels to people (Chen, Guo, Pan & Zhao, 2020). There are some other strains of coronaviruses found in animals but not in man (WHO, 2020). Lai et al. (2020) assert that Coronavirus is transmitted mainly through human-to-human transmission contacts. The incubation period is about 6.4 days, while a reproduction rate of about 2.24 - 3.58 have been estimated for the infection.

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The concept of social marketing is used worldwide in solving different health issues like risky behaviour (smoking), maternal and child health, campaign against female genital mutilation, tuberculosis, and so on (Odigbo, Amadi & Bassey, 2018). Social marketing purpose is directed towards the use of a combined marketing-mix methods to persuade people to embrace a social path, which may be unpalatable, but for their good. In the case of Coronavirus, the combined marketing-mix variables are 8Ps, used in making people all over the world to accept: the ***product*** (e.g COVID test-kit, drug, vaccine, glove, face mask, sanitizer, equipment used in treatment, gifts, palliatives, healthcare personnel and care givers); the ***price*** (e.g. monetary/non-monetary sacrifices on the part of citizens, total lockdown, efforts of governments, health personnel, World Health Organisation, and concerned philanthropists to prevent/control the disease and ensure affected victims are treated, job stoppages, business closures, and other deprivations on people); the ***place*** (hospitals, different testing locations, residential areas, health centres, etc.); the ***promotion*** (social-distancing, hand-washing, COVID-19 behaviour ethics, coronavirus test, and giving cooperation to healthcare personnel, governments and law enforcing officers); ***the policy*** (such as right governmental laws and regulations); ***purse strings*** (sourcing for fund e.g. donations from individuals and corporate bodies); and ***partnership*** (global cooperation on the fight against COVID-19, nation's ensuring synergy with the World Health Organisation, and many more), (Odigbo, 2016). All these will be geared towards influencing positive attitudes and behavioural changes amongst people in the fight against COVID-19, globally. Social marketing is all about change for the benefit of society. Odigbo, Amadi and Bassey, (2018) were of the view that convincing the target audience is an essential element in every social marketing campaign. Social marketing exertions focuses on conduct that improves wellbeing, avoids accidents, protects the environment and contributes to the community to do that which is socially good to society. (Kotler & Lee, 2011).

1.2 Corona Virus Historical Review and Global Update

An outbreak of the new Coronavirus diseases was reported first in December 2019, as coming from Wuhan in China. It, however, spread quickly to other parts of the heavily-populated country (CDC, 2020). From December 2019 to February 2020, about 1,386 counties across all the 31 provinces in China have been affected. Then, from Hubei the disease spread outwards, to the rest of Mainland China within just thirty days, and like wildfire, globally. The coronavirus from the last count has affected 170 countries and territories and 1 foreign conveyance (the cruise ship Diamond Princess based in Yokohama, Japan) as reported by Worldometer (2020). This has encouraged the World Health Organisation to declare COVID-19 a pandemic (WHO 2020).

Even though almost all countries of the world are beset with the COVID-19 scourge, the United States of America seems to be the worst hit. However, no country is free, and many countries are devising serious measures to curb the spread among their citizens. For instance, at the height of the lockdown in the United Kingdom, according to the Guardian Newspaper (2020), schools were closed as a precaution to avoid COVID-19 in Northern Ireland, Wales and Scotland. National emergency was announced in Ontario, Canada. The Premier of Ontario, Doug Ford, observed that COVID-19 portends grave danger of significant proportions, and this must be seriously dealt with (The Guardian, March 17, 2020). The Belgian government declared a lockdown, 18 March to 5 April, announcing that people would be permitted to leave their houses only for "emergency" visits to supermarkets, pharmacies and banks. Austria banned gatherings of more than five persons. (Newstrust, 2020). Many countries imposed travel bans to curb spread of the coronavirus as of March 16, 2020, (The Economist, 2020). More countries closed their borders, international airports, and other travelling routes (New York Times, 2020; Aljazeera, 2020).

Many countries are battling spiritedly to discover vaccines against COVID-19 (Andersen et. al., 2020). More than 160 countries also closed schools nationally, affecting about 87 percent of the world's student population (UNESCO, 2020). There are fears that the world may be in for another impending global recession of the worst kind (Havard Business Review, 2020). However, despite all these gory tales, the citizens of the global community could turn this into a huge victory if it is given a total fight (ABCnews, 2020).

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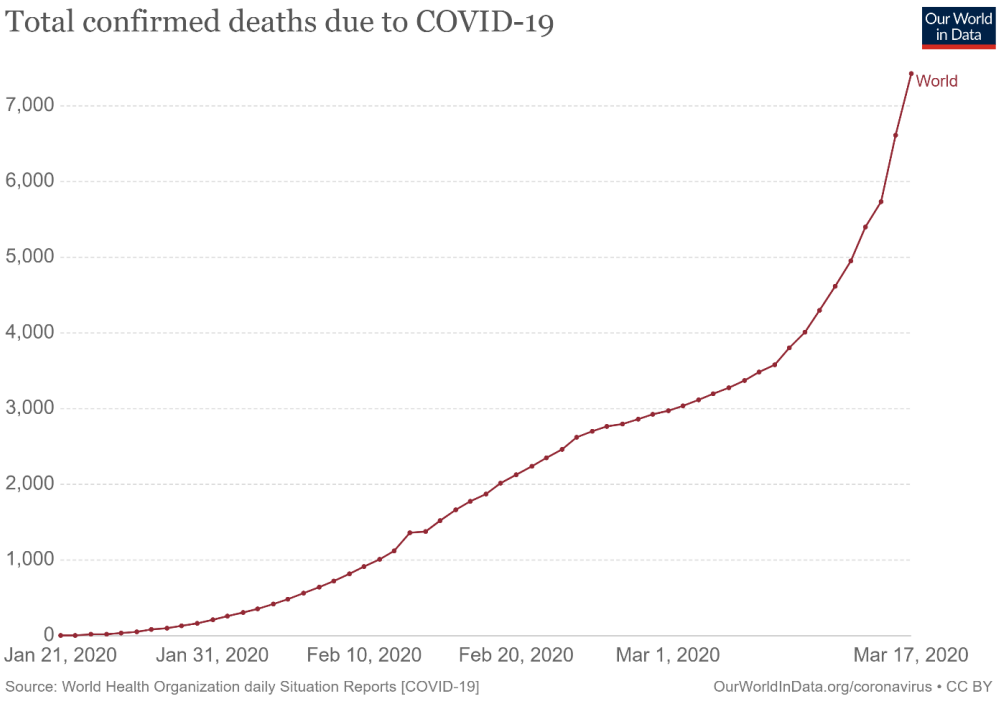

Fig. 1: Global record of deaths due to the Covid-19 as of March 17, 2020.
Source: World Health Organisation.

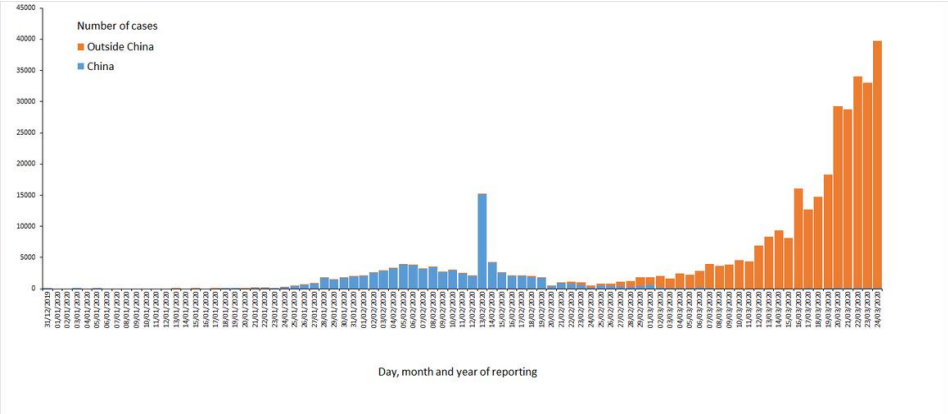

Fig. 2: Distribution of COVID-19 cases worldwide, as of 24 March 2020.
Source: https://www.ecdc.europa.eu/en/geographical-distribution-2019-ncov-cases

1.3 Corona Virus Symptoms and Spread

People with Covid-19 display symptoms ranging from moderate to severe respiratory illnesses, fever, cough, and shortness of breath. The virus is transmitted mainly by respiratory droplets from an infected person, that is, coughs or sneezes among people in close contact with each other (around 6 to 12 feet). COVID-19 can also be contracted by touching an item which has the virus and then touching your mouth, nose, or even eyes (CDC, 2020).

The World Health Organisation states that fever, weakness, and persistent dry cough are the most prominent symptoms of COVID-19. Other symptoms include nasal blockages or congestions, runny nose, aches and pains, sore throat and, or diarrhoea. Typically, such symptoms may occur and begin slowly. Some people may be asymptomatic, that is they get infected, but do not display the symptoms or feel unwell. Many

people recover from the infection without major treatment being required. However, approximately 1 in 6 people who get COVID-19 become critically ill and have trouble breathing. Elderly people are more susceptible to the diseases, and those with serious health challenges like high blood pressure, asthma, heart problems or diabetes may be more at risk (WHO, 2020).

1.4 Corona Virus Myths

Since the advent of the Covid-19 pandemic, there have been some dangerous rumours and myths flying about all over the world regarding this lethal virus (WHO, 2020; CDC, 2019). Some people have also resorted to one medically worrisome and unthinkable measure or the other to safeguard themselves from Covid-19. Among those false myths and rumours are the following:

i. COVID-19 virus is not transmittable in areas where the climate is humid and hot. People in tropical regions are immune.
ii. The Covid-19 virus can be killed by cold weather and snow.
iii. Bathing with hot water and regularly inhaling steam can be a means of preventing corona virus.
iv. Mosquitoes can be agents of transmission of the virus.
v. Hand dryers and other heat mechanisms are effective for preventing or killing the virus.
vi. Ultraviolet disinfection lamps can be used to kill the coronavirus.
vii. The coronavirus can be destroyed by bathing with alcohol or chlorine.
viii. Pneumonia vaccines may protect someone against coronavirus.
ix. Washing the nose regularly with saline helps avoid coronavirus.
x. Eating garlic, ginger, lime and lemon can prevent coronavirus infection.
xi. Antibiotics are used in coronavirus prevention and treatment.
xii. For the prevention or treatment of coronavirus, some specific medications could be used.
xiii. COVID-19 is a deliberate biological weapon from either China or the US that accidentally leaked out.
xiv. Coronavirus can be prevented by praying.
xv. Finally, COVID-19 virus pandemic is a punishment from God, for sins committed especially by the rich and corrupt leaders of the world.

Reacting to most of these myths and rumours, the WHO and the US Centre for Disease Control gave the following answers:

i. That regardless of the climatic condition, you should take protective measures. This translates to all countries of the world because no country is spared now.
ii. There is no reason to assume that the current coronavirus or other diseases can be destroyed by cold weather, since the natural human body temperature stays between 36.5 ° C and 37 ° C, irrespective of external temperature or weather (WHO, 2020). The implication of this is that even if the weather is cold or COVID-19 hates cold weather, the virus will get the warmth when it gets into your body.
iii. Hot baths will not keep anyone from COVID-19 infection, since the usual body temperature stays about 36.5°C to 37°C, notwithstanding the temperature of your bath or shower, (WHO, 2020).
iv. To date, no information or evidence has been given to show that the new coronavirus is transmittable by mosquitoes. (WHO, 2020).
v. That hand dryers have not been known to be effective in killing the coronavirus (WHO, 2020).
vi. As UV radiation can cause skin irritation, ultraviolet (UV) disinfection lamps should not be used for the prevention of coronavirus, (WHO, 2020).
vii. Due to an infection with the new coronavirus, a higher than average body temperature can be detected by thermal scanners. However, asymptomatic people will not be detected since it takes between 2 to 10 days for individuals who are infected with COVID-19 to get sick and develop fever. (WHO, 2020).

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viii. Viruses that have already reached your bloodstream will not be destroyed by bathing with alcohol or chlorine. It can be dangerous for clothing or mucous membranes to spray such substances. Alcohol and chlorine can however be useful for disinfecting surfaces, but they must be used according to acceptable guidelines. (WHO, 2020).
ix. Pneumonia vaccines, such as the pneumococcal and type B (Hib) Haemophilus influenza vaccines, do not protect against coronavirus. This is because researchers are still trying hard to produce a vaccine against the coronavirus.
x. There is no proof that routine use of saline to rinse the nose has saved people from coronavirus infection.
xi. That garlic as a healthy food have certain antimicrobial properties, however, no medical proof yet suggests that eating garlic has protected individuals from coronavirus. (WHO, 2020). The implication of this is that even though the eating of garlic, ginger, lime and lemon may be quite good to your health, do not hinge your hope seriously on them for the prevention of coronavirus.
xii. People of all ages can be infected by coronavirus, however, the elderly and people with pre-existing medical conditions tend to be more vulnerable to the virus. (WHO, 2020).
xiii. That antibiotics are meant for bacteria, not viruses, and since COVID-19 is a virus, antibiotics cannot be used for prevention or treatment purposes. However, you can receive antibiotics if you are hospitalized for the virus, because bacterial co-infection is likely. (WHO, 2020).
xiv. That to date, no unique medical drugs have been recommended to prevent or treat coronavirus (2019-nCoV). Some particular therapies, however are under review and will be tested in clinical trials, and this is receiving accelerated attention from the World Health Organisation, governments, philanthropists and international organisations (WHO, 2020).

The claims that COVID-19 is a punishment from God has also been debunked by many credible men of God (Punch newspaper, 2020).

With the foregoing in mind, the first research questions for this study is, therefore, stated as follows:

RQ1: Are studies on Coronavirus focused more on its medical solution or public enlightenment on the pandemic?

1.5 Corona Virus Myths Amongst the Poor and Rural Populace

Spreading among the poor and rural populace, especially in Africa, are also the following myths:

i. Coronavirus is a big man's disease and, does not afflict the poor.
ii. Coronavirus is meant only for city dwellers and, does not concern rural people.
iii. Coronavirus afflicts only people who have travelled outside the country.
iv. Coronavirus can be prevented or cured by plant-based medications.
v. Coronavirus can be prevented or cured by gulping palm wine or other alcohols.
vi. Coronavirus can be prevented or cured by hot water bathe.
vii. Coronavirus can be prevented or cured by steam-water inhalation.
viii. Coronavirus is a demonic attack, only curable through prayers.
ix. Coronavirus is an end-to-the world sign.
x. Coronavirus can be prevented or cured by consuming chloroquine.

All these claims have dire consequences for people because it could give them false hope to go off-guard and, become easy prey for the COVID-19.

1.6 Social Marketing and COVID-19

Kotler and Zaltman (2011) say that social marketing entails the designing, implementation and controlling of social issues in such a way as to influence the public acceptance of the social ideas, by including product development or design, distribution, pricing, communication, and research considerations. Martinez (2018), asserts that social marketing involves the application of commercial marketing, principles, techniques and

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strategies in effecting positive behavior changes of a target populace, to enhance their physical, social and economic well-being. This implies the use of ideas and techniques of commercial marketing to change or improve negative social behaviors. Social marketing experts, (Hastings & McDermott, 2006). Thus, social marketing instruments can be used to modify the behaviour, perception and actions of the population. (Kotler & Zaltman, 1971). Through social marketing, people are also encouraged to modify specific negative behavior to beneficial positive behaviour (Kotler & Roberto, 1981; Ricordeau, 2003).
Odigbo, Okonkwo and Ekemezie (2017) posited that social marketing has been tested and successfully applied in various health platforms to achieve desired behavior changes, for example in stemming HIV/AIDS spread amongst a populace. Oti, Eze and Odigbo (2016), observed that social marketing has been used in reducing the high costs of some negative health habits amongst Nigerians. Seetharam, Priya, Somu, and Varun (2014) observed that social marketing has notably been used to boost maternal health and child health, for optimal health care center usages, decreased difficulty in deliveries, better prenatal care, and increased vaccination, resulting in a reduction in maternal and infant mortality. The implication of all these is that social marketing could be used to highlight the dare consequences of contracting the Coronavirus, how to prevent it, the dos and don'ts when contracted and, including the facts and fictions about the myths, as it has done in other health-related matters in the past (Odigbo, Eze & Bassey, 2016). This raises the second research question:

RQ2: Is the level of social marketing promotions on the Coronavirus pandemic in published articles significant?

1.7 Methodology

The Boolean method of literature search of terms related to social marketing in studies done between December 2019 when the new coronavirus disease (nCov) was first reported to February 2020, was reviewed mainly from the existing published literature on Coronavirus as documented by the World Health Organisation from Web of Science, Scopus and the Social Science Citation Index collections. In doing this, a five-steps secondary data research process as shown in figure 3, was adopted (Denyer & Tranfield, 2009; Casimir and Tobi, 2011; Meglio and Risberg, 2011).

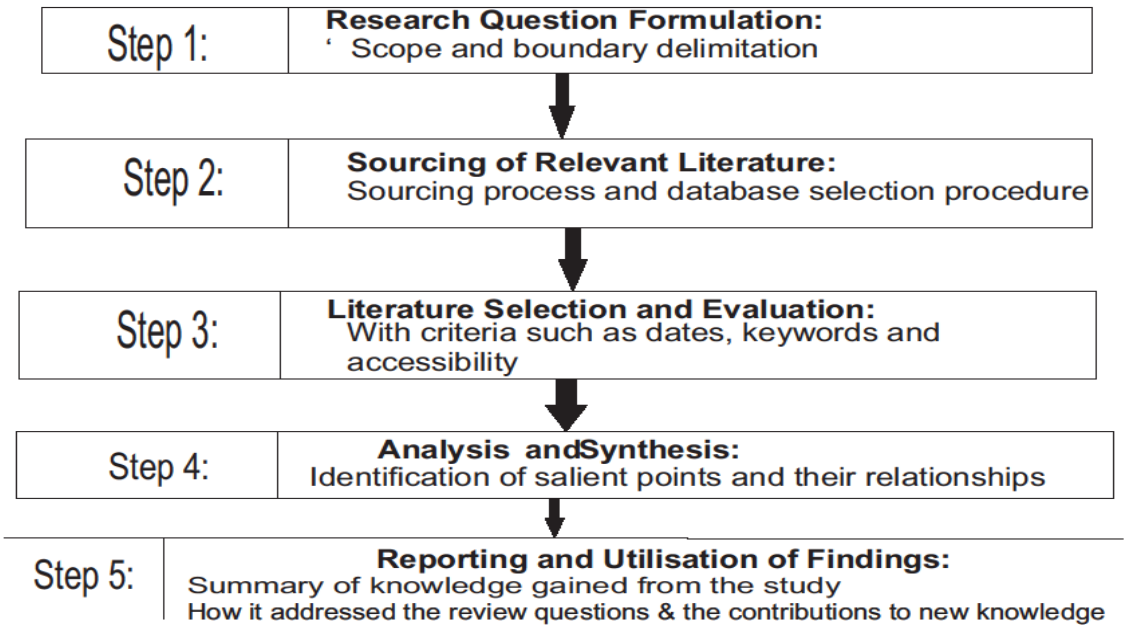

Fig. 3: Systematic review methodology. Source: Denyer, D. and Tranfield, D. (2009).

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In the first step, the search criteria and the time during which the work was carried out the basic research questions and the scope of the work were clearly specified.
The second step was to find the appropriate articles by choosing the relevant words or phrases from the target publications, like: "Coronavirus" or "COVID-19," "Social Marketing." Following the Boolean method, the sample is limited to those journals that were recognized by the World Health Organisation as published articles so far on the subject matter (Coronavirus or COVID-19). The journals selected and the number of coronavirus article(s) in each of them is displayed in Table I.
The third part of action was the selection, evaluation and categorization of the "articles" in those journals with regards to publication dates, keywords and accessibility. There were a total of 15 published articles on Coronavirus within the period under study (WHO, 2020). Table II shows the topics on coronavirus in those journals, reflecting their contributions concerning the issues of this study. The choice of the articles was based on two criteria: first the paper must be peer-reviewed. Secondly, it must include the keywords "Coronavirus" and or "COVID-19," thereby justifying the significance of the inclusion in this literature study.
The fourth part is the synthetization of the "articles" and data analysis according to the salience and relevance of the articles to this subject matter. The structured content analysis is employed through this standardized method literature research (Brewerton and Millward, 2001; Seuring and Gold,2012). The fifth step included a review of results and, discussion of the results, with focus on how it contributed to knowledge and the recommendations for the way forward..

1.8 Data Presentation and Analysis

1.8.1 A Review of Published Articles' Focus Areas and Conceptual Boundaries on Corona Virus

Table1: n = 25. (95 % level of confidence).

Name of Journal	Author(s)	Article Title	Date	Area of Focus and Conceptual Boundary
Chinese Journal of Epidemiology,	Epidemiology Working Group for NCIP Epidemic Response	The epidemiological characteristics of an outbreak of 2019 novel coronavirus diseases (COVID-19) in China	2020	Epidemic Response
C & EN Global Enterprise	Jarvis	Biotech start-ups hit by coronavirus work stoppages	2020	Biotech/ Pharmaceuticals
International Journal of Infectious Diseases	Andersen *et al.*	Discovery and development of safe-in-man broad-spectrum antiviral agents	2020	Clinical care and treatment
Gansu Province Journal	Bai *et al.*	Analysis of the first cluster of cases in a family of novel coronavirus pneumonia	2020	Case study/case series; Epidemiology
The Lancet Infectious	Burki	The outbreak of coronavirus disease	2020	Narrative review on

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Diseases				Coronavirus
Zhonghua Yu Fang Yi Xue Za Zhi	Chen *et al*.	Early containment strategies and core measures for prevention and control of novel coronavirus pneumonia in China	2020	Infection prevention and control; Narrative review (Social Marketing)
Biochemical and Biophysical Research Communications	Chen, et al.	Structure analysis of the receptor binding of 2019-nCoV	2020	Virology, immunology
Zhonghua Yu Fang Yi Xue Za Zhi	Chen, et al.	The network investigation on knowledge, attitude and practice about Novel coronavirus pneumonia of the residents in Anhui Province	2020	Case study/case series; Ethics, social science, economics; Narrative review, (Social Marketing)
Journal of the American Academy of Dermatology	Chen, Pradhan, & Xue	What are we doing in the dermatology outpatient department amidst the raging of 2019-nCoV?	2020	Infection prevention and control (Social Marketing)
Nature	Cyranoski	When will the coronavirus outbreak peak?	2020	Epidemiology; Opinion piece
Zhonghua Jie He He Hu Xi Za Zhi	Du, et al.	Pharmacotherapeutics for the New Coronavirus Pneumonia	2020	Clinical care and treatment
Rev Clin Esp	Ena & Wenzel	A Novel Coronavirus Emerges	2020	Narrative review
Global Social Welfare	Kapiriri & Ross	The Politics of Disease Epidemics: a Comparative Analysis of the SARS, Zika, and Ebola Outbreaks	2020	Ethics, social science, economics
International Journal of Antimicrobial Agents	Lai et al.	Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and coronavirus disease-2019 (COVID-19): the epidemic and the challenges	2020	Clinical care and treatment; Epidemiology
Chin J Integr Med	Luo et al.	Can Chinese Medicine Be Used for	2020	Clinical care and treatment

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		Prevention of Corona Virus Disease 2019 (COVID19)? A Review of Historical Classics, Research Evidence and Current Prevention Programs		
JO - Intensive Care Medicine	Pan, Wang & Huang	How to face the novel coronavirus infection during the 2019-2020 epidemic: the experience of Sichuan Provincial Peoples' Hospital	2020	Clinical care and treatment; Infection prevention and control
Pathogens and Disease	Salata et al.	Coronaviruses: a paradigm of new emerging zoonotic diseases	2020	Narrative review; Reservoir
AAAS Journal	Service	Coronavirus epidemic snarls science worldwide: The disruption is enormous	2020	Ethics, social science, economics
Japanese Journal of Infectious Diseases	Shirato et al	Development of Genetic Diagnostic Methods for Novel Coronavirus 2019 (nCoV-2019) in Japan	2020	Clinical care and treatment; Infection prevention and control
The Lancet.com	Editorial	Challenges of coronavirus disease 2019	2020	Ethics, social science, economics
Emerg Microbes Infect	Tian et al.	Potent binding of 2019 novel coronavirus spike protein by a SARS coronavirus-specific human monoclonal antibody	2020	Virology, immunology
The Lancet	Xiang et al.	Timely research papers about COVID-19 in China	2020	Ethics, social science, economics; Opinion piece
The Journal of Infectious Diseases	Yu et al.	A familial cluster of infection associated with the 2019 novel coronavirus indicating potential person-to-	2020	Case study/case series; Epidemiology

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		person transmission during the incubation period		
Zhonghua Er Ke Za Zhi	Zeng et al.	First case of neonate infected with novel coronavirus pneumonia in China	2020	Case study/case series
Emerg Microbes Infect	Zhang et al.	Molecular and serological investigation of 2019-nCoV infected patients: implication of multiple shedding routes	2020	Case study/case series; Infection prevention and control; Virology, immunology

From table 1, it could be seen that a total of 25 journal articles were reviewed. All the articles were from a World Health Organisation's compilation of published articles on Coronavirus from Web of Science index, Tomson Reuters and Scopus. The journal articles were classified into seven major categories. Some of the articles were multi-disciplinary and have overlapping categories. The major areas of focus and conceptual boundaries of the articles were on: epidemic response, biotech/pharmaceuticals**,** clinical care and treatment, epidemiological case study/case series, coronavirus narrative reviews, social marketing via infection prevention and controls, virology, immunology, the ethics, social science and economics of coronavirus pandemic. A summary of the number of articles and their areas of focus or categorization or conceptual boundaries is shown in table 2.

Table 2: n = 25. A summary of the number of articles and their areas of focus or categorization

S/N	**Articles Areas of Focus (Categorization)**	**Frequency**	**%**
1	Epidemiology/Epidemic Response (Medical)	4	16%
2	Biotech/ Pharmaceuticals (Para-Medical)	2	8%
3	Clinical care and treatment (Medical)	6	24%
4	Narative Reviews (Medical)	4	16%
5	Social Marketing/ Infection prevention and control	3	12%
6	Virology, immunology (Medical)	3	12%
7	Epidemiology Case Studies (Medical)	3	12%
Total =		**25**	**100%**

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Addressing RQ1: Are studies on Coronavirus focused more on the medical solutions or public awareness of the pandemic?

Out of the 25 published articles displayed in table 1, only 7 (28%) focused on public awareness of the Coronavirus pandemic. This to our opinion is very small, considering the urgency for public enlightenment as a tool for containing the global crisis. The articles in question, the journals and the authors are as shown in table 3.

S/N	**Table 3: n = 25. Correlation between published articles and COVID-19 pandemic public awareness (95% Confidence Level)**				
1	The Lancet Infectious Diseases	Burki, Talha	Outbreak of coronavirus disease	2019	Narrative review on Coronavirus
2	Zhonghua Yu Fang Yi Xue Za Zhi	Chen et al.	Early containment strategies and core measures for prevention and control of novel coronavirus pneumonia in China	2020	Infection prevention and control; Narrative review (Social Marketing)
3	Zhonghua Yu Fang Yi Xue Za Zhi	Chen et al.	The network investigation on knowledge, attitude and practice about Novel coronavirus pneumonia of the residents in Anhui Province	2020	Case study/case series; Ethics, social science, economics; Narrative review, (Social Marketing)
4	Journal of the American Academy of Dermatology	Chen, Pradhan & Siliang	What are we doing in the dermatology outpatient department amidst the raging of 2019-nCoV?	2020	Infection prevention and control (Social Marketing)
5	Rev Clin Esp	Ena & Wenzel	A Novel Coronavirus Emerges	2020	Narrative review
6	The Lancet	Xiang et al.	Timely research papers about COVID-19 in China	2020	Ethics, social science, economics; Opinion piece
7	Zhonghua Er Ke Za Zhi	Zeng et al.	First case of neonate infected with novel coronavirus pneumonia in China	2020	Case study/case series

Addressing RQ2: Is the level of social marketing promotions on the Corona Virus pandemic in published articles significant?

Out of a total of 25 published articles displayed on table 1, only 3 (12%) focused on social marking or public awareness campaigns directed towards positive health attitudes and behavior-changes on the Coronavirus

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pandemic. This again, to our opinion is very disappointing, because the war against the Coronavirus pandemic cannot be won through medicines, but through concerted efforts at getting the public to adopt the rightful health behaviours and attitudes against the problem. The articles in question, the journals and the authors are as shown in table 4.

S/N	**Table 4: n = 25. Summary of number of articles and the correlations to social marketing on COVID-19 pandemic (95% Confidence Level)**				
1	Zhonghua Yu Fang Yi Xue Za Zhi	Chen et al	Early containment strategies and core measures for prevention and control of novel coronavirus pneumonia in China	2020	Infection prevention and control; Narrative review (Social Marketing)
2	Zhonghua Yu Fang Yi Xue Za Zhi	Chen et al	The network investigation on knowledge, attitude and practice about Novel coronavirus pneumonia of the residents in Anhui Province	2020	Case study/case series; Ethics, social science, economics; Narrative review, (Social Marketing)
3	Journal of the American Academy of Dermatology	Chen, Pradhan & Xue	What are we doing in the dermatology outpatient department amidst the raging of 2019-nCoV?	2020	Infection prevention and control (Social Marketing)

1.9 Discussion of Findings

Even though we commend the efforts of mass media and governments all over the world at promoting public awareness and mass enlightenment over the global COVID-19 scourge, the percentage of published articles directed at this is quite low (only 28%), while the remaining 72 percent centered on medical and medical-related matters. According to Seymour (2017), raising awareness should be the key plank of every public health programme, which this result negates. Social marketing health behavior change campaigns could employ online interventions or internet-based interventions for optimal success (Cugelman, Thelwall & Dawes, 2011; Van Genugten, et al., 2016).

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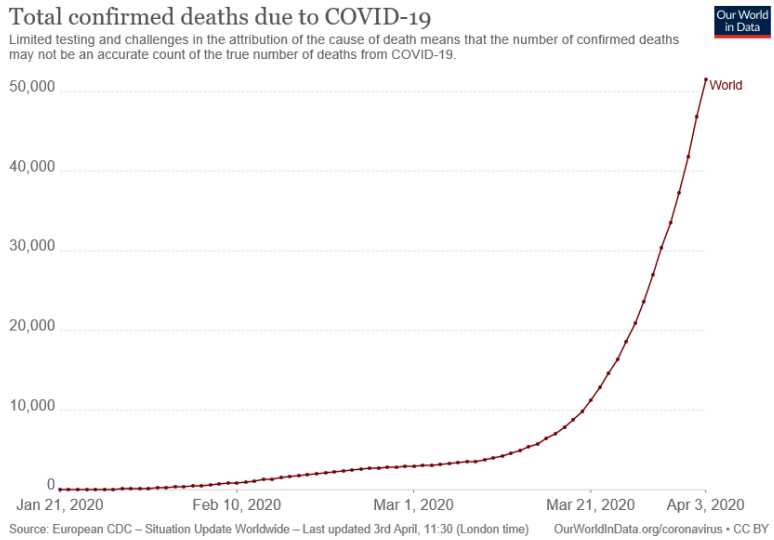

Fig. 4: Statistics of global COVID-19 confirmed deaths globally as of April 3, 2020. Source: Max Roser, Hannah Ritchie and Esteban Ortiz-Ospina (2020).

The public awareness programme should also identify and address the needs of both city and rural dwellers, accommodate literacy skills and make unequal access to resources (Seymour, 2017). This agrees with Kapiriri and Alison (2020) views that regardless of income setting, there is need to give voice to the most marginalized communities during an epidemic and also, that the experiences and narratives of those most vulnerable to an epidemic, specifically poor communities, need to be represented in literature, to mitigate some of the negative impact of epidemics in such vulnerable areas.

Again, that only 12 percent of published articles as at the time of this study focused on social marketing behavior-change campaigns towards the Coronavirus pandemic is worrisome, considering that this very disease has turned into a global emergency. While we commend the efforts of medical personnel all over the world, who have put their lives on the lines in trying to contain the pandemic, it is also good to recognize the fact that COVID-19 cannot be won through medications alone, but through social marketing that will engender the right attitudes and desired behavior changes amongst the global citizens. This agrees with the views of Colby et al. (2011), and Gordon, McDermott, Stead and Angus (2006), that social marketing communication strategies could be used to promote public health resources. Other authors also agree that an effective social marketing campaign in the health arena for health behavior change interventions could be championed through diverse media channels like the use of online social networks (Maher, Lewis, Ferrar et al., 2014), mass media interventions (Grilli, Freemantle & Minozzi, 2002), social media networks (Maher, Ryan & Kernot, 2016).

1.10 Recommendations

Based on the outcome of the literature reviewed in this study, we hereby recommend as follows:

i. That experts in public relations, marketing communications, health communications, health marketing and social marketing should join the team of medical experts researching and publishing on Coronavirus now, in fighting the pandemic from the angle of mass public education and enlightenment.
ii. That most of the articles by those communications and communications-related experts should be centred around social marketing health behavior changes aimed at getting people to adopt the right attitudes, dos and don'ts towards the Coronavirus.
iii. That through social marketing, those erroneously believing that the Coronavirus is a big man's disease and, does not afflict the poor, should be made to realize that they are deluding themselves because reports from the World Health Organization and other international organizations reveal

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the virus is no respecter of social status and have so far killed people of all income levels around the world.

iv. That through social marketing, those erroneously believing that the Coronavirus is meant only for city dwellers and, does not concern rural people, should be made to know that the virus thrives and harms anyone that contracts it regardless of his / her location. Social marketing campaigns must be packaged to accommodate both city dwellers, where a greater percentage of media resources are located and poor rural communities with little or no access to media resources.

v. Social marketing interventions should also be used to change the mindset of those who believe that Coronavirus afflict only people who travelled outside the country, not the poor and rural people, to understand that through social interactions, business transactions and other activities, international travelers, city dwellers and rural dwellers all mix together, hence, the likelihood of transmissions.

vi. Social marketing interventions should be used to educate those who believe that Coronavirus can be prevented or cured by plant-based medications, to seek expert advice before and confirmed evidence over history before such treatment, in line with World Health Organisation's evidence-based medicine (EBM), (WHO, 2014).

vii. Social marketing interventions should be used to enlighten those who claim that Coronavirus can be prevented or cured by drinking palm wine or other alcohols, that they stand the risk of falling into alcoholism, which negates the wise counsel of Trump (2020), that people should not let the cure they resort to, be worse than the problem itself.

viii. Social marketing campaigns should be used to change the mindset of people who assert that Coronavirus can be prevented or cured by hot water bathe or by steam-water inhalation, that this has not received medical sciences' confirmation, so, any suspected victim must not resort to self-medication, but seek expert medical attention without any delay.

ix. Social marketing campaigns should be used to let people who claim that Coronavirus is a demonic attack, only curable through prayers, that they must not throw caution to the winds, but must abide by all the advertised Coronavirus preventive measures of regular hand-washing, social distancing and many more, seek expert medical attention without any delay when symptoms of the virus appear, while still not neglecting their prayers.

x. Social marketing campaigns should be used to change the mindset of people who have been brainwashed that Coronavirus is a sign of an end-to-the world, that they should not fall prey to fear-mongers, because fear could prove a deadlier disease than the COVID-19 itself.

xi. Social marketing campaigns should also be used to enlighten those who believe Coronavirus can be prevented or cured by consuming chloroquine, that they must do so only on doctor's prescriptions and advise.

xii. Social marketing campaigns should also be used to mass market the World Health Organisation's informed positions debunking most of the myths spreading around COVID-19, as highlighted in item 1.4 of this paper.

xiii. Finally, social marketing campaigns should be used to educate citizens of the world that in this trying time, we must be our brother's keepers, even while observing social distancing. We must avoid stigmatization and ostracizations, which could kill COVID-19 sufferers even faster than the disease itself.

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