Cross-Sectional and Medico-Legal Investigations of Covid-19 Response, Ghana

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ABSTRACT

From the 12th of March 2020, Ghana took bold steps against Covid-19, aimed at controlling the spread among the population, protecting against community infections, treating those with the disease and ensuring public trust in the healthcare delivery system. This cross-sectional survey, assessed the effectiveness of Ghana's risk communication, legal framework and response approaches to the Covid-19 Pandemic.

The first part was a Cross-Sectional approach. The authors used data collected on-line via a self-reported questionnaire between 16th March and 16th April from [127] participants. Differences in mean scores and other factors associated with awareness; as a function of risk communication; to Covid-19, knowledge of safety protocols, and practices towards the disease, were conducted using univariate and multivariate data analytical methods. The second approach was a literature review of Ghana's legal framework existing prior to the outbreak of Covid-19 and those enacted by Parliament during the emergency period towards the management of the pandemic. A content analyses of the legal framework, to assess official compliance with the framework in relation to the aim of this study was conducted.

The majority of the study participants were knowledgeable about how Covid-19 was transmitted. An independent samples t-test was performed to determine if a difference existed between the mean scores of COVID-19 knowledges for males and females. The outcome variable was found to be normally distributed and equal variances are assumed based upon results of Levene's test ($F(125) = 0.097$, $p\text{-value} = 0.756$). There was no significant difference in knowledge scores (with minimum = 1, and maximum = 3) for males (mean = 1.61, standard deviation = 0.665) and females (mean = 1.56, standard deviation = 0.698; $t\text{-value } t(125) = 0.374$, $p\text{-value} = 0.709$, two-tailed). The magnitude of the difference in the means (mean difference = 0.054, 95% confidence interval: -0.234, 0.343) and the effect size was very small (Cohen $d = 0.08$). The independent samples t-test was also performed to test the hypothesis that males and females were associated with statistically significant different COVID-19 awareness mean scores. The test showed no significant difference in the awareness scores for males and females. The results from the content analyses of the legal framework show there was lax adherence of government to the legal framework for Pandemic response on these dimensions: Planning and Coordination; Surveillance, Situation monitoring and Assessment; Prevention, Containment and Management; Communications; and Social Mitigation. It further shows that neither the existing legislation nor the Executive Instruments, E. I. 63 - 66, and 164 directed at Covid-19 administrative and epidemiologic controls, have helped to stop the spread of Covid-19, considering the uptick of new infections of Covid-19.

Covid-19 has exposed the lack of effective risk communication modalities in Ghana and the government's lack of adherence to the legal framework on disasters and emergencies in general, a vacuum which is filled by social media.

Keywords: Risk Communication for Covid-19; Knowledge, Awareness and Practices; Legal framework.

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I. INTRODUCTION

The coronavirus disease of 2019 was christened Covid-19 by the World Health Organization, WHO in March of 2020.

The WHO declared Covid-19 on 30th January 2020 an outbreak of global health emergency. On March 11, 2020, Covid-19 was declared by the WHO as a global Pandemic. Covid-19 is said to be otherwise known as Severe Acute

Respiratory Syndrome coronavirus 2 (SARS-CoV-2) [4]. It belongs to the family of ribonucleic acid (RNA) viruses that are zoonotic and can be transmitted from animals such as bats, cattle, cats and camels. It can lead to the common cold, and other diseases such as the Middle East Respiratory Syndrome (MERS-CoV). The symptoms of Covid-19, include fever, dry cough, fatigue, pneumonia, general feeling of un-wellness, shortness of breath and kidney failure. Internationally, the mortality rate is around 4% but nationally, the mortality rate, ranges from 0.56% to 0.62% [1], [2]. The most vulnerable are those with pre-existing chronic diseases of the heart, diabetes, and lungs, which are described as co-morbidities, together with the elderly persons [3], [4].

Covid-19 was first discovered in December of 2019, in Wuhan, a province of Hubei [3], [6]. The first confirmed case in Africa was in Egypt on the 14th of February 2020. Ghana had its first two confirmed cases on 12th March 2020, both of which were imported by foreign travelers [6]. On 15th March, the government of Ghana, under the Declaration of Public Health Emergency (Coronavirus Covid-19 Pandemic) E. I. 61 mandate, consistent with the Public Health Act, 2012 (Act 851) Sections 169 and 170, the Minister of Health declared a public health emergency. The government initiated a 5-prong attack thus: "(i) limit and stop the importation of the virus, (ii) contain its spread, (iii) provide adequate care for the sick, (iv) limit the impact of the virus on social and economic life, and (v) use the opportunity afforded by the emergency to expand our domestic capability and deepen our self-reliance" [5]. The new pandemic response approach made no reference or implied the existing national response plan on the pandemic. In addition to the new national response plans articulated, sometimes, in ad hoc manner to the pandemic, Ghana passed a number of new legislations and issued a series of Executive Instruments, all aimed at curbing and controlling the pandemic.

These were, the (i) Establishment of Emergency Communication System Instrument, 2020, under Executive Instrument, E. I. 63; (ii) Imposition of Restrictions Act of 2020, (Act 1012) on the 21st March, 2020, with its implementing provision under (iii) Executive Instrument, E. I. 64 and 65, 2020. These were followed by (iv) Executive Instrument, E. I. 66 issued to extended the lock-down period under E. I. 64. These were meant to buttress the reach of existing legislation such as the Public Health Act, 2012 (Act 851), the Emergency Powers Act of 1994, and in consonance with the 1992 Constitution of Ghana. Under the combined authority of these pieces of legislations and executive instruments, the government suspended all inbound and outbound flights, imposed restrictions on select cities in Ghana, namely, Greater Accra and Kasoa and Greater Kumasi. The rest of the nation was not placed under restrictions. All universities, both public and private, Churches and Mosques as well as basic schools in the nation were all shut down. Markets, Malls and Supermarkets, pharmacies and trading centers, together with public transport were not shut down, even within the lockdown cities and towns. Several social mitigation programs were introduced by the government, including the supply of potable water by tanker loads to communities that had no access to pipe borne water in the city of Accra and its environs and in deprived suburbs in Greater Kumasi. Food on wheels was delivered to

the vulnerable and at-risk populations also within the lockdown areas.

As the confirmed cases continued to climb despite the restrictions on movement and other activities, the government raised (v) Executive Instrument 164. E. I. 164, which came into force on June 15, 2020, made it a crime for people who fail to wear face masks in public. They would be committing an offence that carries a prison sentence of four to 10 years or a fine of GH¢12,000 [USD\$1,791] to GH¢60,000, [USD\$8,955] or both. This was to continue for three months.

Each and every one of the government's 5-step attack was dependent on the knowledge and awareness of the population to the pandemic, the nature and appropriateness of the risk communication and public education, adherence to both the WHO and national hygienic protocols such as face-mask wearing, hand-washing, the use of hand sanitizers, coughing into one's elbow sleeve, physical distancing of at least one meter as well as the enforcement of the legislative framework during the lock-down (WHO, Hand Hygiene, 2020; Country & Technical Guidance-Coronavirus disease (Covid-19), 29/3/2020).

Risk communication envisions a system encompassing the actual communication of imminent danger to the community and early warning system, such as what Covid-19 pandemic called for [8]-[11]. The concept of risk perception deals with the overall awareness and knowledge surrounding a particular contingency or threat. The risk perception of a body politic such as Ghana is established through learned social patterns and cultural relationships to risk [12], [8], [13]. That is to say, there is a relationship between psychosocial background and risk perception [14], [15]. Due to the sudden outbreak of Covid-19, and perhaps, due to the deep penetration of social media, the literature appears to support the theory that, the general public may have been sufficiently become aware or had knowledge of the novel coronavirus disease even before the central government began its deliberate risk communication against Covid-19 with respect to personal protection, mode of transmission, and the adherence to social etiquette.

The legal architecture for pandemic and health emergency response appears to have been muddled with the new legal strategies adopted by the central government. The Emergency Powers Act of 1994, (Act 472) seems to have provided a more direct pathway to the initiation of the imposition of restrictions, without the need to enact another legislation for the same purpose. The Emergency Powers Act definition of the state of emergency is that, "Disaster means any occurrence by which there is a serious disruption of general safety endangering the life and health of many people or large material interests which requires coordinated action by services of different disciplines and includes floods, earthquakes, drought, rainstorm, war, civil strife, and industrial accidents". Covid-19 is one of such situations which the Act describes.

The Imposition of Restrictions Act of 2020, (Act 1012) did not materially add deeper level of restrictions on civil liberties and neither did the Executive Instruments, E. I. 64 and 65. The outbreak of Covid-19, appears to have been one of those situations Ghana, where the declaration of a state of emergency would have been consistent with the legal framework and the constitutional mandate.

This study assessed the national risk communication strategy to assess knowledge, awareness, and practices as integral parts of the response approaches for Covid-19. It took into consideration the legal construct on which the aims of the national risk communication and response protocol were meant to be realized. This is the first study in Ghana, probably in Africa, to the best of the authors' knowledge and research, on knowledge, awareness, practices and the effectiveness of risk communication and response vis-à-vis the legal framework against Covid-19.

II. METHODS

A. Sample Size

The authors used data collected on-line via a self-reported questionnaire between 16th March and 16th April from [127] participants. Differences in mean scores and other factors associated with awareness; risk communication to Covid-19, knowledge of safety protocols, and practices towards the disease were conducted using univariate and multivariate data analytical methods.

B. Study Design and Preparation of Questionnaire

This cross-sectional study was conducted between 16th March and 16th April, 2020, among the population of Ghana, using Google's On-line survey platform for the administration of the questionnaire due to the Imposition of Restrictions, E. I. 64 of the same period. Ethical clearance for this study was sort from the Research and Ethical Committee of the Institute for Security, Disaster and Emergency Studies. The study was conducted among 127 from purposively selected social media platforms, where all the authors were members in Ghana. The membership of those platforms consisted of government and private sector employees, informal workers, and university students and lecturers. Ghana had its two first confirmed Covid-19 cases on 12th March, 2020. On 15th March, 2020, a Partial Lockdown in Greater Accra and Kumasi, two metropolises with about a third of the national population of 30 million. The questionnaire was prepared in the English Language. The first part of the questionnaire involved an introduction showing the objectives of the study and highlighting that participation in this study was voluntary and that the answers would be treated confidentially. Participants were not offered any financial compensation. The completion of the online survey took about 8–10 min and included multiple-choice questions, or yes/no/ I don't know options within different sections. A second section determined the sociodemographic variables of the participants including gender, age, university, location, major field of study, education level, and religion as well as geographical location. The other sections measured the participants' knowledge about COVID-19, such as mode of transmission, hygienic and safety protocols, government interventions, and symptoms. Another section explored the source they used for information about COVID-19.

C. Consistency and Validation of Questionnaire

The questionnaire was prepared based on the available information on the web sites of the Ghana Health Service, Ministry of Health, Ghana and the American Centers for Disease Control, CDC respectively and the World Health

Organization (WHO) as well as Ghana's 2009-2013 Integrated Strategic Response Plan for Pandemic Influenza. The questionnaire was reviewed internally, and by several public health experts. It was revised based on their comments. It was pilot tested among a select group of participants to evaluate the internal consistency and validity of the questions and to estimate the time for completion.

D. Method for Data Analysis

The study employed univariate and multivariate data analytical methods. SPSS software (IBM Statistics 23) was used to tabulate the frequency of all the questions using both numbers and percentages. One-way analysis of variance (ANOVA) was used to assess differences in mean values for knowledge, and awareness in terms of risk communication, and response. The assessment measured the variables of knowledge, and awareness of COVID-19 across males and females, and different age groups. Due to the small size of the sample, N-127, independent samples t-test was performed to determine if a difference existed between the mean scores of knowledge, and awareness of COVID-19 based on gender, and age. This was followed by a multivariate linear regression analysis to identify factors related to knowledge, awareness, practices, risk communications, and response.

E. Content Analysis of Legal the Legal Framework on Covid-19

Authors read and briefed each of the specific legislations enacted to respond to Covid-19, to identify the effect of the law on achieving the cardinal aim of government's initiated 5-prong attack against Covid-19. The following are the five pillars of the national Covid-19 intervention program: (i) limit and stop the importation of the virus, (ii) contain its spread, (iii) provide adequate care for the sick, (iv) limit the impact of the virus on social and economic life, and (v) use the opportunity afforded by the emergency to expand our domestic capability and deepen our self-reliance [5]. The laws that were read and briefed are the following: (a) Establishment of Emergency Communication System Instrument, 2020, under Executive Instrument, E. I. 63; (b) Imposition of Restrictions Act of 2020, (Act 1012) on the 21st March, 2020, with its implementing provision under (c and d) Executive Instrument, E. I. 64 and 65, 2020. These were followed by (e) Executive Instrument, E. I. 66 issued to extended the lock-down period under E. I. 64. These were meant to buttress the reach of existing legislation such as the (f) Public Health Act, 2012 (Act 851), the (g) Emergency Powers Act of 1994, and in consonance with the 1992 Constitution of Ghana. The authors' recorded the pertinent portions of the law on the dimensions of this study and reported those portions in the results, based on the authors skills, knowledge and training in public health, law and policy analysis.

III. RESULTS

A. Self-reported Online Survey between 16th April and 16th May, 2020 Demographic Characteristics

The national online survey reported here was opened to all. The male participants were 78.7% while only 21.3% were female. Considering that 93.7% of the respondents had HND;

Bachelor/Masters/Ph.D. education, the low participation of females is a concern. Please see Table 1. Out of the sixteen (16) administrative districts in Ghana, respondents from twelve (12) districts participated in the study.

TABLE I: SELF-REPORTED ONLINE SURVEY BETWEEN 16TH APRIL AND 16TH MAY 2020

Characteristic	Number (%) N=127
Age group, yrs.	
<30	24(18.9)
31-40	64(50.4)
41-50	25(19.7)
>51	14(11.0)
Gender	
Male	100(78.7)
Female	27(21.3)
Religion	
Christian	115(90.6)
Moslem	7(5.5)
Traditional	2(1.6)
Non-religious	1(0.8)
None	2(1.6)
Region	
Greater Accra	58(45.7)
Ashanti	9(7.1)
Upper East	20(15.7)
Upper West	1(0.8)
Northern	4(3.1)
Savannah	1(0.8)
Oti	1(0.8)
Volta	21(16.5)
Bono	2(1.6)
Western	3(2.4)
Central	5(3.9)
Eastern	2(1.6)
Educational Level	
Primary	0(0.0)
Junior High School	0(0.0)
Senior High School/A-level	8(6.3)
Degree	119(93.7)

B. COVID-19 Risk Communication and Response Evaluation (Responses), Attitudes, Knowledge, Awareness and Preparedness

The cohort reported that overall perception of risk before the Covid-19 Pandemic was relatively high with 60.6% while “low risk” to “No risk” was 15.7% and 1.6% respectively (Table 2). This development could be attributed to the widespread use of mobile phones and access to other telephonic services and the Internet. These variables changed after the introduction of public education and health promotion by the government on the Covid-19 to 42.5% for “High” risk perception as opposed to the previous 60.6%. However, the cohort that entertained “Moderate” risk perception improved from the previous 22.2% to 41.7%. This may be explained with the acquisition of knowledge, awareness and practices, KAP of the burden the disease could pose to their health-seeking behaviors. Among the respondents in Ghana, cohort of (127), 31.5% knew corona virus to be a disease-causing agent, and with another 97.6% knowing or having an idea about how the disease is transmitted as reported in Table 2 below. Specifically, 87.4% said (contact within infected person), 84.8% knew (contact with ‘infected’ surfaces) where droplets and contact from and with an infected person may have been made. The KAP on transmission found 87.4% knew transmission was from ‘droplets of saliva or discharge from nose’ or mouth.

TABLE II: COVID-19 RISK COMMUNICATION AND RESPONSE EVALUATION (RESPONSES), ATTITUDES, KNOWLEDGE, AWARENESS, AND PREPAREDNESS

Characteristic	Age group (yrs)				
	Overall N = 127	<30 n = 24	31-40 n = 64	41-50 n = 25	>50 n = 14
Gender					
M	100(78.7)	15(62.5)	51(79.7)	23(92.0)	11(78.6)
F	27(21.3)	9(37.5)	13(20.3)	2(8.0)	3(21.4)
Knowledge of Corona viruses as a disease-causing agent					
Yes	40(31.5)	8(33.3)	16(25.0)	8(32.0)	8(57.1)
No	87(68.5)	16(66.7)	48(75.0)	17(68.0)	6(42.9)
Knowledge of Covid-19 mode of transmission					
Yes	124(97.6)	23(95.8)	63(98.4)	24(96.0)	14(100.0)
No	3(2.4)	1(4.2)	1(1.6)	1(4.0)	0(0.0)
How is it transmitted					
<i>Through droplets of saliva or discharge from the nose</i>					
Yes	111(87.4)	19(82.6)	59(92.2)	22(88)	11(78.6)
No	14(11.3)	4(17.4)	5(7.8)	2(8.0)	3(2.4)
<i>Contact with Infected Persons</i>					
Yes	111(87.4)	22(91.7)	54(84.4)	23(92.0)	12(85.7)
No	14(11.3)	1(4.2)	10(15.6)	1(4.0)	2(14.3)
<i>Contact with Infected Surfaces</i>					
Yes	106(84.8)	20(87.0)	54(84.4)	22(88.0)	10(71.4)
No	19(15.3)	3(12.5)	10(15.6)	2(8.0)	4(28.6)
Recommended prevention measures against Covid-19					
<i>Social Distancing</i>					
Yes	121(95.3)	23(95.8)	62(96.9)	24(96.0)	12(85.7)
No	6(4.7)	1(4.2)	2(3.1)	1(4.0)	2(14.3)
<i>Stay Home</i>					
Yes	121(95.3)	22(91.7)	61(95.3)	25(100.0)	13(92.9)
No	6(4.7)	2(8.3)	3(4.7)	0(0.0)	1(7.1)
<i>Washing Hands with running Water frequently</i>					
Yes	120(94.5)	23(95.8)	59(92.2)	25(100.0)	13(92.9)
No	7(5.5)	1(4.2)	5(7.8)	0(0.0)	1(7.1)
<i>Using Hand Sanitizer</i>					
Yes	120(94.5)	23(95.8)	60(93.8)	25(100.0)	12(85.7)
No	7(5.5)	1(4.2)	4(6.3)	0(0.0)	2(14.3)
<i>Frequenting Crowded Places</i>					
Yes	12(9.4)	4(16.7)	6(9.4)	2(8.0)	0(0.0)
No	115(90.6)	20(83.3)	58(90.6)	23(92.0)	14(100.0)
Perception of risk before the global outbreak of Covid-19					
No	2(1.6)	1(4.2)	1(1.6)	0(0.0)	0(0.0)
Low	20(15.7)	3(12.5)	11(17.2)	5(20.0)	1(7.1)
<i>Moderate</i>					
	28(22.2)	6(25.0)	13(20.3)	7(28.0)	2(14.3)
High	77(60.6)	14(58.3)	39(60.9)	13(52.0)	11(78.6)
Current perception of risk after interventions by the Government of Ghana					
No	1(0.8)	0(0.0)	1(1.6)	0(0.0)	0(0.0)
Low	19(15.0)	3(12.5)	9(14.1)	4(16.0)	3(21.4)
<i>Moderate</i>					
	53(41.7)	9(37.5)	31(48.4)	11(44.0)	2(14.3)
High	54(42.5)	12(50.0)	23(35.9)	10(40.0)	9(64.3)
The preparedness of the Government of Ghana following the notification of the first case of COVID-19 in Ghana was timely					
Yes	40(31.5)	9(37.5)	19(29.7)	8(32.2)	4(28.6)
No	87(68.5)	15(62.5)	45(70.3)	17(68.0)	10(71.4)
The preparedness of the Government of Ghana following the notification of the first case of COVID-19 in Ghana was adequate					
Yes	23(18.1)	6(25.0)	12(18.8)	2(8.0)	3(21.4)
No	104(81.9)	18(75.0)	52(81.3)	23(92.0)	11(78.6)
If NO, what was missing in the preparedness of the Government of Ghana.					
<i>Government was not prepared</i>					
Yes	79(62.2)	15(62.5)	40(62.5)	19(76.0)	5(25.7)
No	28(22.0)	4(1.7)	12(18.8)	5(20.0)	7(50.0)
<i>Government underestimated the risk</i>					
Yes	81(63.8)	16(67.0)	42(65.6)	16(64.0)	7(50.0)
No	26(20.5)	3(12.5)	10(15.6)	8(32.0)	5(35.7)
<i>Education not comprehensively taken into consideration the societal dynamics (language, culture, etc)</i>					
Yes	73(57.5)	9(37.5)	38(59.4)	17(68.0)	9(64.3)
No	34(26.8)	10(41.7)	14(21.9)	7(28.0)	3(21.4)

<i>Education was not carried out in a timely manner</i>					
Yes	74(58.3)	10(41.7)	39(60.9)	18(72.0)	7(50.0)
No	33(26.0)	9(37.5)	13(20.3)	6(24.0)	5(35.7)
<i>Government over-relied on Systems and structures put in place for the Ebola Outbreak</i>					
Yes	9(7.1)	2(8.3)	4(6.3)	3(12.0)	0(0.0)
No	98(77.2)	17(70.8)	48(75.0)	21(84.0)	12(85.7)
Measures put in place by the Government of Ghana in response to the Covid-19 in Ghana were adequate					
Yes	39(30.7)	12(50.0)	18(28.1)	4(16.0)	5(35.7)
No	88(69.3)	12(50.0)	46(71.9)	21(84.0)	9(64.3)
If NO, what was missing in measures put in place by Government of Ghana in response to the Covid-19					
<i>I expected a much timely response</i>					
Yes	44(34.6)	6(25.0)	22(34.4)	11(44.0)	5(35.7)
No	44(34.6)	7(29.2)	23(35.9)	10(40.0)	4(28.6)
<i>Governments response is saddled with politics</i>					
Yes	42(33.1)	9(37.5)	20(31.3)	10(40.0)	3(21.4)
No	46(36.2)	4(16.7)	25(39.1)	11(44.0)	6(42.9)
<i>The risk was underestimated</i>					
Yes	31(24.4)	4(16.7)	16(25.0)	9(36.0)	2(14.3)
No	57(44.9)	9(37.5)	29(45.3)	12(48.0)	7(50.0)
<i>Response measures not adequate</i>					
Yes	34(26.8)	8(33.3)	12(18.8)	11(44.0)	3(21.4)
No	54(42.5)	8(33.3)	33(51.6)	10(40.0)	6(42.9)
Press Briefings by the Ministry of Health and other relevant stakeholders on the Covid-19 pandemic have been useful in clearly defining the situation both globally and locally					
Yes	85(66.9)	16(66.7)	42(65.6)	16(64.0)	11(78.6)
No	42(33.1)	8(33.3)	22(34.4)	9(36.0)	3(21.4)
If NO, what was missing in the press briefings?					
<i>I expected a much timely engagement</i>					
Yes	23(18.1)	4(16.7)	12(18.8)	6(24.0)	1(7.1)
No	23(18.1)	5(20.8)	13(20.3)	3(12.0)	2(14.2)
<i>Government communications are not transparent</i>					
Yes	29(22.8)	5(20.8)	17(26.6)	5(20.0)	2(14.2)
No	17(13.4)	4(16.7)	8(12.5)	4(16.0)	1(7.1)
<i>Conflicting explanations were given</i>					
Yes	20(15.7)	3(12.5)	13(20.3)	3(12.0)	1(7.1)
No	26(20.5)	6(25.0)	12(18.8)	6(24.0)	2(14.2)
<i>I expected a much frequent engagement</i>					
Yes	18(14.2)	3(12.5)	8(12.5)	5(20.0)	2(14.2)
No	28(22.0)	6(25.0)	17(26.6)	4(16.0)	1(7.1)
<i>The risk was underestimated</i>					
Yes	17(13.4)	4(16.7)	8(12.5)	4(16.0)	1(7.1)
No	29(22.8)	5(20.8)	17(26.6)	5(20.0)	2(14.2)
The aspect of this pandemic outbreak that causes the greatest concern?					
<i>The nature of the disease</i>					
Yes	75(59.1)	11(45.8)	38(59.4)	14(56.0)	12(85.7)
No	52(40.9)	13(54.2)	26(40.6)	11(44.0)	2(14.3)
<i>The fact that the cases are increasing in Ghana</i>					
Yes	70(55.1)	16(66.7)	35(54.7)	15(60.0)	4(28.6)
No	57(44.8)	8(33.3)	29(45.3)	10(40.0)	10(71.4)
<i>The number of notified cases</i>					
Yes	35(27.6)	7(29.2)	19(29.7)	6(24.0)	3(21.4)
No	92(72.4)	17(70.8)	45(70.3)	19(76.0)	11(78.6)
<i>The fear of being infected with Covid-19</i>					
Yes	44(34.6)	7(29.2)	26(40.6)	7(28.0)	4(28.6)
No	83(65.4)	17(70.8)	38(59.4)	18(72.0)	10(71.4)
Preferred source of information used to find out about the Covid-19 pandemic and its possible consequences.					
<i>Social Media (Facebook, Twitter, etc.)</i>					
Yes	62(48.8)	15(62.5)	30(46.9)	14(56.0)	3(21.4)
No	65(51.2)	9(37.5)	34(53.1)	11(44.0)	11(78.6)
<i>Television and newspapers</i>					
Yes	68(53.5)	12(50.0)	35(54.7)	15(60.0)	6(42.8)
No	59(46.5)	12(50.0)	29(45.3)	10(40.0)	8(57.1)
<i>NCE and local radio station and also the use of the chiefs</i>					
Yes	2(1.6)	0(0.0)	2(3.1)	0(0.0)	0(0.0)
No	125(98.4)	24(100.0)	62(96.9)	25(100.0)	14(100.0)
<i>GHS Covid-19 Press Briefings and Website</i>					
Yes	76(59.8)	15(62.5)	35(54.7)	14(56.0)	12(85.7)
No	51(40.2)	9(37.5)	29(45.3)	11(44.0)	2(14.3)
<i>Search on specialized websites</i>					
Yes	29(22.8)	7(29.2)	11(17.2)	9(36.0)	2(14.3)
No	98(77.2)	17(70.8)	53(82.8)	16(64.0)	12(85.7)

<i>Institutional websites (WHO, John Hopkins University, etc.)</i>					
Yes	63(49.6)	10(41.7)	29(45.3)	15(60.0)	9(64.3)
No	64(50.4)	14(58.3)	35(54.7)	10(40.0)	5(35.7)
Availability of sufficient ventilators for those critically ill from Covid-19					
Yes	15(11.8)	1(4.2)	10(15.6)	1(4.0)	3(21.4)
No	112(88.2)	23(95.8)	54(84.4)	24(96.0)	11(78.6)
Is the government of Ghana doing a good job in quarantining and isolating travelers into Ghana at expensive hotels?					
Yes	60(47.2)	12(50.0)	30(46.9)	10(40.0)	8(57.1)
No	67(52.8)	12(50.0)	34(53.1)	15(60.0)	6(42.9)
Should they have been quarantined in student hotels such as at University of Ghana to cut costs to the nation?					
Yes	77(60.6)	12(50.0)	40(62.5)	15(60.0)	10(71.4)
No	50(39.4)	12(50.0)	24(37.5)	10(40.0)	4(28.6)
Should government provide stimulus package to businesses in general?					
Yes	108(85.0)	20(83.3)	53(82.8)	23(92.0)	12(85.7)
No	19(15.0)	4(16.7)	11(17.2)	2(8.0)	2(14.3)
Assessment of government's intervention to feed the needy and vulnerable in the Lockdown areas.					
<i>It is a waste of national resources</i>					
	18(14.2)	3(12.5)	8(12.5)	4(16.0)	3(21.4)
<i>It is a laudable and good intervention</i>					
	109(85.8)	21(87.5)	56(87.5)	21(84.0)	11(78.6)
What do you think would happen to the feeding program should the disease be within Ghana till the end of June?					
<i>It will be Continued</i>					
	54(42.5)	10(41.7)	24(37.5)	12(48.0)	8(57.1)
<i>It will be Discontinued</i>					
	45(35.4)	8(33.3)	26(40.6)	7(28.0)	4(28.6)
<i>It will be farm out to private operators and philanthropist.</i>					
	28(22.0)	6(25.0)	14(21.9)	6(24.0)	2(14.3)
Was the deployment of the Ghana Police and Army personnel in line with public health emergency intervention?					
Yes	116(91.3)	22(91.7)	56(87.5)	24(96.0)	14(100.0)
No	11(8.7)	2(8.3)	8(12.5)	1(4.0)	0(0.0)
Was it wrong for the police and the army to carry weapons for such duties?					
Yes	47(37.0)	6(25.0)	24(37.5)	10(40.0)	7(50.0)
No	80(63.0)	18(75.0)	40(62.5)	15(60.0)	7(50.0)
Do you think public confrontations with the security in the lockdown areas where preventable?					
Yes	80(63.0)	8(33.3)	45(70.3)	16(64.0)	11(78.6)
No	47(37.0)	16(66.7)	19(29.7)	9(36.0)	3(21.4)
Do you think, your religious beliefs influence your perception of Covid-19 disease?					
Yes	33(26.0)	9(37.5)	16(25.0)	5(20.0)	3(21.4)
No	94(74.0)	15(62.5)	48(75.0)	20(80.0)	11(78.6)
If yes, how would you assess the impact of your religion on your perception of Covid-19?					
<i>Negatively, confused as to who is speaking the right things</i>					
	3(2.4)	1(4.2)	2(3.1)	0(0.0)	0(0.0)
<i>Positively, giving me a clearer understanding of what is at stake</i>					
	33(26.0)	7(29.2)	17(26.6)	6(24.0)	3(21.4)

Overall, 95.3% of the respondents agreed with the “Stay home” recommendation of public health officials, with the same cohort endorsing “Social Distancing” protocol. The number of cohorts that endorsed “Washing hands with running water frequently” was 94.5%, and also those observing the “use of hand sanitizer” recording 94.5% of the cohort. The result was also encouraging with respect to “frequenting crowded places”, where only 9.4% overall, did not observe this protocol. The majority of the cohort, 90.6% overall did not frequent crowded places. This may account for the high level of education of the cohort.

In assessing knowledge and awareness of Covid-19 among the study participants, it was noticed that those aged within 31 and 40 years displayed higher levels of “knowledge” of

Covid-19 compared to those less or above this cohort.

The same group of respondents between 31 and 40 years showed the greatest “awareness” of Covid-19 with 69.2% of them having a high level of awareness within the respective groups as shown in Tables 3 and 4. The disparity may be explained by the fact the group, perhaps, that cohort is relatively more youthful, are better educated and have, perhaps, better access to web-based information through their independent research or search for information on Covid-19.

It may also be that risk communication lacked behind in government’s intervention efforts at the initial stages. Those who were less than 30 years in age, registered only 18.1% high awareness of Covid-19. Interestingly, those greater than 50 years in age, also showed low “high awareness” of 9.6%. These outcomes in their cases demand more targeted public education on the diseases.

TABLE III: AGE * KNOWLEDGE OF COVID-19 CROSS TABULATION

		Knowledge of COVID-19			Total
		Low Knowledge	Moderate Knowledge	High Knowledge	
Age	Count	10	13	1	24
	<30 years				
	% within Age	41.7%	54.2%	4.2%	100.0%
	% within COVID-19 Knowledge	15.6%	26.0%	7.7%	18.9%
	% of Total	7.9%	10.2%	0.8%	18.9%
	Count	37	18	9	64
	31-40 years				
	% within Age	57.8%	28.1%	14.1%	100.0%
	% within COVID-19 Knowledge	57.8%	36.0%	69.2%	50.4%
	% of Total	29.1%	14.2%	7.1%	50.4%
	Count	13	11	1	25
	41-50 years				
	% within Age	52.0%	44.0%	4.0%	100.0%
	% within COVID-19 Knowledge	20.3%	22.0%	7.7%	19.7%
	% of Total	10.2%	8.7%	0.8%	19.7%
> 50 years	Count	4	8	9	14
	% within Age	28.6%	57.1%	14.3%	100.0%
	% within COVID-19 Knowledge	6.3%	16.0%	15.4%	11.0%
	% of Total	3.1%	6.3%	1.6%	11.0%
	Count	64	50	13	127
	% within Age	50.4%	39.4%	10.2%	100.0%
Total	% within COVID-19 Awareness	100.0%	100.0%	100.0%	100.0%
	% of Total	50.4%	39.4%	10.2%	100.0%

TABLE IV: AGE * COVID-19 AWARENESS CROSS TABULATION

		COVID-19 Awareness			Total
		Low Awareness	Moderate Awareness	High Awareness	
Age	Count	1	6	17	24
	<30 years				
	% within Age	4.2%	25.0%	70.8%	100.0%
	% within COVID-19 Awareness	12.5%	24.0%	18.1%	18.9%
	% of Total	0.8%	4.7%	13.4%	18.9%
	Count	4	13	47	64
	31-40 years				
	% within Age	6.3%	20.3%	73.4%	100.0%
	% within COVID-19 Awareness	50.0%	52.0%	50.0%	50.4%
	% of Total	3.1%	10.2%	37.0%	50.4%
	Count	1	3	21	25
	41-50 years				
	% within Age	4.0%	12.0%	84.0%	100.0%
	% within COVID-19 Awareness	12.5%	12.0%	22.3%	19.7%
	% of Total	0.8%	2.4%	16.5%	19.7%
> 50 years	Count	2	3	9	14
	% within Age	14.3%	21.4%	64.3%	100.0%
	% within COVID-19 Awareness	25.0%	12.0%	9.6%	11.0%
	% of Total	1.6%	2.4%	7.1%	11.0%
	Count	8	25	94	127
	% within Age	6.3%	19.7%	74.0%	100.0%
Total	% within COVID-19 Awareness	100.0%	100.0%	100.0%	100.0%
	% of Total	6.3%	19.7%	74.0%	100.0%

Cross-tabulation of gender to knowledge showed that among the males, 76.9% had “high knowledge” of Covid-19 as compared to 23.1% of females. This persisted at the low and moderate levels of knowledge for gender. The total percentage of males with “high awareness” was 79.8% while the females had only 20.20% in Table 5.

In terms of “awareness” between males and females, whereas males appeared to be relatively better aware of Covid-19, with 79.8% at the highest level of awareness,

females had 20.2% at the highest level. More females 25.9% were moderately aware of the disease compared to only 18.0% of males.

TABLE V: GENDER * KNOWLEDGE OF COVID-19 CROSS TABULATION

		Knowledge of COVID-19			Total
		Low	Moderate	High	
Gender	Count	49	41	10	100
	% within Gender	49.0%	41.0%	10.0%	100.0%
	% within Knowledge of COVID-19	76.6%	82.0%	76.9%	78.7%
	% of Total Count	38.6%	32.3%	7.9%	78.7%
	% within Gender	55.6%	33.3%	11.1%	100.0%
	% within Knowledge of COVID-19	23.4%	18.0%	23.1%	21.3%
	% of Total Count	11.8%	7.1%	2.4%	21.3%
	% within Gender	50.4%	39.4%	10.2%	100.0%
	% within Knowledge of COVID-19	100.0%	100.0%	100.0%	100.0%
	% of Total	50.4%	39.4%	10.2%	100.0%

TABLE VI: GENDER * COVID-19 AWARENESS CROSS TABULATION

		COVID-19 Awareness			Total
		Low	Moderate	High	
Gender	Count	7	18	75	100
	% within Gender	7.0%	18.0%	75.0%	100.0%
	% within COVID-19 Awareness	87.5%	72.0%	79.8%	78.7%
	% of Total Count	5.5%	14.2%	59.1%	78.7%
	% within Gender	3.7%	25.9%	70.4%	100.0%
	% within COVID-19 Awareness	12.5%	28.0%	20.2%	21.3%
	% of Total Count	0.8%	5.5%	15.0%	21.3%
	% within Gender	6.3%	19.7%	74.0%	100.0%
	% within COVID-19 Awareness	100.0%	100.0%	100.0%	100.0%
	% of Total	6.3%	19.7%	74.0%	100.0%

An independent samples t-test was performed to determine if a difference existed between the mean scores of COVID-19 knowledges for males and females. The outcome variable was found to be normally distributed and equal variances are assumed based upon results of Levene's test ($F(125) = 0.097$, $p\text{-value} = 0.756$). There was no significant difference in knowledge scores (with minimum = 1, and maximum = 3) for males (mean = 1.61, standard deviation = 0.665) and females (mean = 1.56, standard deviation = 0.698; $t\text{-value } t(125) = 0.374$, $p\text{-value} = 0.709$, two-tailed). The magnitude of the difference in the means (mean difference = 0.054, 95% confidence interval: -0.234, 0.343) and the effect size was very small (Cohen $d = 0.08$). The independent samples t-test was also performed to test the hypothesis that males and females were associated with statistically significant different COVID-19 awareness mean scores. The test showed no significant difference in the awareness scores for males and females.

TABLE VII: INDEPENDENT SAMPLES TEST KNOWLEDGE OF COVID-19

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2 tailed)	Mean Diff.
	Equal variances assumed	.097	.756	.374	125	.709	.054
	Equal variances not assumed			.363	39.68	.718	.054

C. Literature and the Review of the Legal Framework:

The Imposition of Restrictions Act, 2020 (Act 1012) relied on the mandate of the Public Health Act of 2012 (Act 851) Sections 169-170:

169 (1): The Minister shall declare a public health emergency by Executive Instrument where there is a situation that poses an immediate risk to health, life property or the environment.

(2) To meet the criteria for a public health emergency, the incident should

(a) immediately threaten life, health, property or the environment;

(b) have already caused loss of life, health detriments, property damage or environmental damage, OR

(c) have a high probability of escalating to cause immediate danger to life, health, property and the environment. Emergency powers in respect of public health matters.

170 (1): The Minister shall direct a public health official to respond immediately to a public health emergency and may order an individual to take preventive measures or be quarantined.

(2) A public health official may be authorized to act outside the area of authority of the public health officer.

If Article 31 of the 1992 Constitution had been used instead, it would have established a more direct and powerful legal basis for the subsequent imposition of restrictions on the people due to the superior position of the constitutional grant. Article 31 (1), (8) and (9) define emergency as:

(1) The President may, acting in accordance with the advice of the Council of State, by Proclamation published in the Gazette, declare that a state of emergency exists in Ghana or in any part of Ghana for the purposes of the provisions of this Constitution.

(8) For the avoidance of doubt, it is hereby declared that the provisions of any enactment, other than an Act of Parliament, dealing with a state of emergency declared under clause (1) of this article shall apply only to that part of Ghana where the emergency exists.

(9) The Circumstances under which a state of emergency may be declared under this article include a natural disaster and any situation in which any action is taken or is immediately threatened to be taken by any person or body of persons which –

(a) is calculated or likely to deprive the community of the essentials of life; or

(b) renders necessary the taking of measures which are required for securing the public safety, the defense of Ghana and the maintenance of public order and of supplies and services essential to the life of the community.

There appears to have been no legal exigency to use Act

851 Sections 169 and 170 as opposed to using Article 31 Clause (1), (8) and (9) for the declaration of “Health Emergency” since Covid-19 impact on the population was beyond health. Its impact on the economy, society, civil liberties and functioning of the people, called for a declaration of a state of a national emergency. Additionally, it appears the enactment of the Imposition of Restriction Act of 2020, (Act 1012), “to give effect to paragraphs (c), (d) and (e) of Article 21 of the Constitution in the event or imminence of an emergency, disaster or similar circumstances to ensure public safety, public health and protection”, was a legal faux pas. This move was superfluous, and at best, it undermined the superior prowess of the 1992 Constitution over all other laws and enactments. It appears to suggest that, Article 21 provisions could not stand ‘as is’, without the enactment of Act 1012, hence the use of the expression, “to give effect to paragraphs (c) to (e) of Article 21. The enactment of Act 1012 was an improvident and an expensive economic travail that did not add to the quality of the encroachment on the people’s liberties, a result which could have been easily achieved under Articles 21 and 31 provisions. It appears the Attorney-General’s office, together with the Council of State and the Parliament of Ghana erred by using Article 21 (1) (c), (d) and (e) provisions, as the legal and Constitutional basis for the Imposition of Restrictions Act of 2020. To trigger Article 21 provisions, it is not necessary to employ a lesser legal provision. For Article 21 to be triggered, there first ought to have been an exigent circumstance. Article 21 (1) states that: All persons shall have the right to:

(c) freedom to practice any religion and to manifest such practice

(d) freedom of assembly including freedom to take part in processions and demonstrations

(e) freedom of association, which shall include freedom to form or join trade unions or other associations, national and international, for the protection of their interests;

In order to take away this freedom, there should have been a stronger authority to do so and that a declaration of a public health emergency was not enough legal basis to jump to Article 21 (4) (c), (d) and (e), particularly because the emergency had other dimensions besides health. Article 21 (4) states:

(c) for the imposition of restrictions that are reasonably required in the interest of defense, public safety, public health or the running of essential services, on the movement or residences within Ghana of any person or persons generally, or any class of persons; or

(d) for the imposition of restrictions on the freedom of entry into Ghana, or of movements in Ghana, of a person who is not a citizen of Ghana, or

(e) that is reasonably required for the purpose of safeguarding the people of Ghana against the teaching or propagation of a doctrine which exhibits or encourages disrespect for the nationhood of Ghana, the national symbols and emblems, or incites hatred against other members of the community.

There is no justification from (c), (d) and (e) for depriving the population of the above liberties as articulated under either Article 21 by the impulsively drawn Imposition of Restrictions Act of 2020 on the strength of a public health emergency. The emergency was bigger than health.

Therefore, Article 31 provisions should have been relied on. The declaration of the state of emergency on the 15th of March 2020, by the Minister of Health under the Declaration of Public Health Emergency (Coronavirus Covid-19 Pandemic) E. I. 61 mandate, consistent with the Public Health Act, 2012 (Act 851) Sections 169 and 170, was misplaced from the point of view of the legal framework.

In relation to Response, Protocols and Practices, there are still many gaps although there have been significant achievements, considering the rising daily case numbers of 400 new cases in June of 2020 and the gradual uptick of mortality overall (Ghana Health Service, Home page, 2020). There has been laxity in the initial safety protocols and measures. The partial lockdown of specific parts of the nation stayed in force for only three weeks and during those three weeks, the implementation was haphazardly applied. Although the Ghana Health Service began with aggressive and enhanced contact tracing, testing, quarantine and isolation, and treatment, the current approach is more relaxed [16]. Hospitals and frontline workers still have complaints of the lack of Personal Protective Equipment, PPE and the poor quality of the PPEs being supplied to them [17] This situation may have resulted in some 2,065 of frontline workers, 200 medical doctors getting infected [18], [19].

1. Imposition of Restrictions Act of 2020, (Act 1012) on the 21st March, 2020

The Instrument imposed these restrictions on:

(1) (a) public gatherings, including (i) conferences; (ii) workshops; (iii) funerals; (iv) festivals; (v) political rallies; (vi) sporting events and sporting clubs; (vii) private parties and other social gatherings; (viii) night clubs, drinking spots and event centers; and (ix) religious activities in churches, mosques, shrines and at crusades, conventions, pilgrimages and other religious gatherings; and (b) travel to Ghana.

(2) All public gatherings set out in paragraph 1 (1) (a) have been suspended.

(3) Despite paragraph 1 (2), a private burial may be carried out with not more than twenty-five persons in attendance.

(4) All universities and other tertiary institutions, training institutions, senior high schools, basic schools, public and private schools, nurseries, crèches, and such other schools have been closed down.

(5) The Ministry of Education, in collaboration with the Ministry of Communications, may, as far as practicable, run distance learning programs.

Under “Exemptions” the following were delineated:

Exemptions 4. (1)

Paragraph 1 (1) (a) does not apply to the following facilities or establishments:

(a) a service, manufacturing or industrial workplace;

(b) a market;

(c) an establishment in the nature of (i) a supermarket; (ii) a shopping mall; (iii) a restaurant; (iv) a hotel; or (v) a drinking spot; (d) the security services; and (e) essential services.

Notice that the announced exemptions did not prevent the transmission of the disease to the various workplaces of some of the exempted institutions. For example, at least 70 railway workers of a private contractor building Ghana’s railway lines, were reported to have been infected with the virus

(<http://www.mrd.gov.gh/4/16/109/coronavirus-hampers-railway-construction-as-over-70-workers-test-positive>). From a fish factory in Tema, 533 workers were also infected with the virus. “A single worker at a fish factory in Ghana infected 533 co-workers with coronavirus in an incident that now accounts for roughly 11 percent of the West African country’s total recorded infections (<https://www.ft.com/content/6dd451ce-e2b7-470f-bf9a-a215ccf6c10f>). If anything at all, the exempted institutions probably added to the local transmission of the disease.

2. Executive Instrument, E. I. 65 and 66, 2020.

Although Executive Instrument, E. I. 65 issued clear the confusion created in the implementation of E. I. 64, it rather added to the challenges of implementation of the previous Executive Instruments on Covid-19. The pertinent portion of E. I. 65 to this paper is the following on streamlining the modalities for the imposition of restrictions:

- 1) There is imposed, by this Instrument, restrictions on the movement outside the place of abode of person resident within the areas specified in the First Schedule.

The enumerated communities in the First Schedule to E. I. 65 were 26 and 14 in Greater Accra and Kumasi respectively. The communities are a mix of upper class, upper-middle class, middle class and lower classes. Many of the low to poor classes lack basic amenities such as potable supply of water from the City’s mains, in-house plumbing and toilets, lack of domestic utensils like refrigeration, individual bathrooms and even kitchens. Many of the residents in some of these communities usually eat or depend on food sold by street vendors situated on the edges of gutters along the city and town streets and thoroughfares [20]. In the Greater Accra area, the communities were: Ablekuma Central Municipality; Ablekuma North Municipality; Ablekuma West Municipality; Accra Metropolis; Adentan Municipality; Ashiaman Municipality; Awutu Senya East Municipality; Ayawaso Central Municipality; Ayawaso East Municipality; Ayawaso North Municipality; Ayawaso West Municipality; Ga Central Municipality; Ga East Municipality; Ga North Municipality; Ga South Municipality; Ga West Municipality; Korle-Klottey Municipality; Kpone Katamanso Municipality; Krowor Municipality; La-Dade-Kotopon Municipality; La-Nkwantanang-Madina Municipality; Ledzokuku Municipality; Okaikwei North Municipality; Tema Metropolis; Tema West Municipality; and Weija/Gbawe Municipality.

In Greater Kumasi Metropolitan Area and contiguous districts, the communities were: Afigya-Kwabre South District; Asokore Mampong Municipality; Asokwa Municipality; Atwima Kwanwoma District; Atwima Nwabiagya Municipality; Atwima Nwabiagya North District; Bosomtwi District; Ejisu Municipality; Kumasi Metropolis; Kwabre East Municipality; Kwadaso Municipality; Oforikrom Municipality; Old Tafo Municipality; and Suame Municipality.

It appears the drafters of the Imposition of Restrictions Act of 2020, (Act 1012) did not think about the needs of the majority of the inhabitants. Therefore, Executive Instrument, E. I. 65 and 66 were, perhaps, drawn to cure the deficiencies of Act 1012. The following was proffered to relax the restrictions on the poor and vulnerable members of those two

cities:

- 2) Despite subparagraph (1), a person may move within the specified areas for the following purposes:
 - (a) to obtain food, medicine and water;
 - (b) to undertake banking transactions;
 - (c) to use public toilet facilities; or
 - (d) to pay for utility services.
- 3) The restrictions specified in subparagraph (1) shall apply to inter-city movement of vehicles and aircraft for private or commercial purposes.
- 4) A rider of a motorbike shall not carry a pillion rider.
- 5) All intra-city passenger vehicles, including taxis and “tro-tros” shall reduce the number of passengers in order to observe specified social distancing and appropriate enhanced hygiene protocols.
- 6) All commercial vehicle stations shall observe the specified social distancing and appropriate enhanced hygiene protocols.

From the content analyses conducted, it can be said that the Executive Instruments, perhaps, contributed to only two (2) of the avowed strategy of the government’s 5-prong pillars for Covid-19 interventions. With the exception of (i) limiting the importation of the virus and, (iii) the provision of adequate care for the sick, the remaining E. I.s do not appear to have positively contributed to “... (ii) contain its spread, (iv) limit the impact of the virus on social and economic life, and (v) use the opportunity afforded by the emergency to expand our domestic capability and deepen our self-reliance”. Between 26 Apr [1,550 cases] and 27 Jun [15,834 cases], the rate of percentage changes with respect to confirmed cases was 921.55% increase. With a ten (10) days interval from the date Ghana recorded her first case till now, it can be observed from the data above that, there has been a sharp diminishing rate of increase, and as a result, it proves a positive impact of the employed measures. Note, Ghana started off with a rate of change of 950.00% increase as of 22nd March but has sharply declined to 38.42% as of 19th June. Despite the diminishing rate of the rate of increase has reduced per comparison of the figures between 20 May and 19 June with the figures between 12 March and 10 May, the general diminishing rate of the rate of increase between the respective periods is still very significant [21]. Today, Ghana has recorded 40,097 cases, with 36,638 recoveries and 206 deaths [1].

3. Justification for Executive Instrument, E. I. 164

By all indications, Executive Instrument, E. I. 164 was issued to cure administrative and implementation challenges of the previous policy strategies articulated to (ii) contain its spread, (iii) provide adequate care for the sick, and (iv) limit the impact of the virus on social and economic life. The new addition to the rapidly growing Executive Instruments, E. I. 164 mandated the wearing of face masks, face shield and adherence to hygienic protocols and practices as mandatory. Other more progressive nations had had such policies in place prior to Ghana’s adoption. Some of the gaps addressed in this part of this paper came from the gaps identified in the section dealing with the cross-sectional study. These gaps led to the raising of E. I. 164 of 15 June 2020 on the part of government, having noticed, perhaps, earlier on that the previous measures were not effective, considering the uptick of new infections.

Consequently, E. I. 164 made it mandatory for the population “to wear face masks, face shields or any other face covering that covers his or her nose and mouth completely when the person is in public or leaving or returning to his place of abode”. It empowered the police on the beat to make random “checks to ensure enforcement compliances”. Those who were caught not wearing face masks would be found to have committed an offence that carries a prison sentence of four to 10 years or a fine of GH¢12,000 [USD\$1,791] to GH¢60,000, [USD\$8,955] or both. This was to continue for three months. It appears E. I. 164 was an act of desperation on the part of government, and a confirmation that the government was gradually but steadily losing control over the announced Practices and Hygienic Protocols meant to contain the diseases. Part of the failure of this policy was reported to be due to the perceived recalcitrant behavior of the population. But as events in the public space revealed, it was also due to observed nonchalant approach to the practices and protocols by government officials and political party functionaries in the public spaces during official events such as the conduct of a new voter registration by the Electoral Commission of Ghana [22]. Similar non-compliance with Practices and Hygienic Protocols were observed at the registration centers for the National Identification Card. The National ID Card was one of two accepted forms of proof of citizenship to register as a voter. The other form of ID is the Ghanaian passport. Holders of these two cards or one of them are deemed by the Electoral Commission to be citizens and who could vote in general elections.

IV. DISCUSSION

There appears to have been broad support for government stay at home order, the hygienic protocols and practices among the study participants. The data has provided a snapshot of how the population has related to the diseases and the interventions as well as the restrictions on their civil liberties during the Covid-19 Pandemic. This also shows that the people of Ghana recognize the seriousness of Covid-19 and have generally, accepted government intervention programs such as handwashing, social distancing, face masking wearing and the other hygienic etiquette announced by the Ghana Health Service, Ministry of Health and WHO.

The same cannot be said about government's risk communication modalities and preparedness towards the disease or the equipment and other inputs for clinical interventions as well as policy and legal inputs strategies against the disease. The Executive Instruments raised to address Covid-19, namely (i) Executive Instrument, E. I. 63; (ii) Imposition of Restrictions Act of 2020, (Act 1012) on the 21st March, 2020, with its implementing provision under (iii) Executive Instrument, E. I. 64, 65, 66n and 164, did not deal with the specific issue of Risk Communication as an important aspect of disease surveillance, prevention, management and containment.

The Executive Instruments do not appear to have helped to “limit the impact of the virus on social and economic life”. The disease and the actions taken, legal, virological, epidemiological, and others has each not helped the nation to “used the opportunity afforded by the emergency to expand

domestic capability and deepen self-reliance”. Health facilities in the nation continue to be poorly resourced. Many of the nation's hospitals are not prepared for large Covid-19 cases, resulting in surge demands, and do not possess general emergency preparedness programs. The hospitals' respective abilities to handle large influx of cases or patients are compromised by the lack of competent medical and allied health personnel and adequate supplies. The several stimulus packages announced by the government appears to favor regime favorites and party functionaries in an election year.

On the other hand, some of the interventions appear to “have limited and stopped the importation of the virus” to an impressive extent, although due to the rent-seeking behaviors of some in the security apparatus, occasionally some Covid-19 positive persons from neighboring countries manage to enter Ghana on foot. Ghana appears to have “provided adequate care for those with the disease”, with a mortality rate of between 0.56% and 0.62% depending on who is doing the computation and for what purpose [2].

V. CONCLUSION

There is mixed results overall, regarding perceived effectiveness of government and public health programs to contain the disease, limit the spread at the community level, treat those infected, mitigate the impact on the people and use the lessons learned to improve the healthcare delivery system in Ghana. Without a vaccine, the effective way to contain the spread of the disease is through a combination of community adherence to the Social or Physical distancing measures. Additionally, adherence to hygienic protocols and practices, supported by on-going risk communication and good, public-friendly policies to moderate behaviors in the public space. If the policy or legal framework appears to be too draconian in its implementation as reported in Table 2, the public may react negatively to those public orders. Periodic review of KAP on a bigger scale may help to reveal changes over time and adjustment to risk communication made, to improve public education on Covid-19.

VI. STUDY LIMITATIONS

This study has a number of limitations, namely, the web-based sampling method, the small sample size, the self-reporting nature of the questionnaire, creating the possibility that, the responses and the social desirability measures may be biased. The majority of the respondents had some form of tertiary, post-secondary school education, such as HND, Bachelors, Masters and Ph.D., except 6.3% of the cohort that did not. This weakness may skew the result to one direction, while ignoring the input of the majority of the people of Ghana that do not have such antecedents. The study is not representative of Ghana, even though the cohort came out of twelve of the sixteen administrative districts of Ghana, due to, among others, the web-based sampling method used. This approach denies the use of population-based probability sampling method for a more representative cross-sectional survey. For example, 90.6% of the respondents were Christians, with only 5.5% being Muslims. The rest were Traditional believers 1.6%, and those who self-described as

non-religious or None being 0.8% and 1.6% respectively. The percentage representation of Muslims in Ghana is estimated to be between 10 and 20% of the overall population. For these reasons, this survey may not be generalized to the rest of the nation without stating these caveats. The study is still useful in understanding the role of risk population, social distancing and hygienic practices and protocol in mitigating the spread, containment, treatment and social mitigation against Covid-19. In terms of the legal framework, it provides an insightful excursion into law and policy formulation during a public health emergency in Ghana, which is instructional to other common law nations in Africa south of the Sahara. A conclusion section is not required. Although a conclusion may review the main points of the paper, do not replicate the abstract as the conclusion. A conclusion might elaborate on the importance of the work or suggest applications and extensions.

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