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EXPLORING THE EFFICACY OF COVID-19 PROTOCOL OF WEARING NOSE MASK AMONG GHANAIAN MARKET WOMEN IN PREVENTING THE SPREAD OF THE VIRUS DURING COVID-19 PANDEMIC PERIOD: A STUSY OF THE MARKET WOMEN IN KANESHIE, ACCRA

BY

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CANDIDATE'S DECLARATION

I hereby declare that this dissertation is the result of my original research, and that no part of it has been presented for another (degree or diploma) in this institute or elsewhere. I am solely responsible for any shortcomings.

…… ……

DIANA BOSUH **DATE**

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SUPERVISOR'S CERTIFICATION

I hereby certify that the preparation of this dissertation was supervised by me in accordance with the guidelines of supervision of dissertation laid down by Ghana Institute of Journalism.

…… ……..

DR. COLLINS ADU-BEMPAH BROBBEY **DATE**

(SUPERVISOR)

DEDICATION

I dedicate this study to my supervisor Dr Collins Adu-Bempah Brobbey, to my parents, Mr. Isaac Bosuh Yelbgrariya and Mrs. Cecilia Bosuh, and my siblings Sister Monica Tenbil Bosuh (Mrs Naabil), Brother Donatus Palsomma Bosuh, and Sister Beatrice Bosuh (Mrs Akonai) who all have made this research possible with their conscious prayers and best wishes.

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ABSTRACT

This study explored the efficacy of the Covid-19 protocol of wearing nose mask among market women using women in Kaneshie Market, Accra, as a case study. The central argument of this study is that nose mask wearing is likely to prevent the spread of Covid-19 virus. However, evidence showed that most market women refused to wear nose mask hence increasing rate of the spread of the virus in Ghana. Quantitative method involving survey questionnaire and purposive and convenient sampling techniques, and peer reviewed articles as well as newspapers were used for the study. This study explored the rationale behind market women's refusal to wear nose mask at market places; ascertain the efficacy of orientation given to market women on wearing of nose mask as a measure to prevent them from being infected by Covid-19 virus as well as to explore and analyse the challenges market women go through with wearing of nose mask. Findings revealed that most market women do not see the need to wear nose mask because they do not believe that Covid-19 is real and if it is, they have neither observed, seen nor heard anyone contracting the virus for not wearing nose mask. To them, Covid-19 is rather a myth. They would want to observe, see or witness someone with Covid-19 before they take the wearing of nose mask seriously. It recommends that the government should intensify her orientation to include provision of billboards, flyers, cartoons, adverts among other Covid-19 preventive measures. For those in lower-income neighbourhoods who may be more at risk and unable to purchase nose masks, the government should foot the bills. This study concluded that the market women's responses to wearing of nose masks indicate that the use of nose marks has not yielded positive results. This is largely due to the fact that the orientation given the market women was not only been sufficient and effective, but also the fact that they considered the use of nose mask as unnecessary, hence this study makes the above recommendations.

Keywords: Efficacy of Covid-19 protocol; Wearing of nose mask; Kaneshie Market women; Orientation; Preventive measures. Spread of Covid-19 Virus; Market women's Refusal.

CHAPTER 1

GENERAL OVERVIEW AND BACKGROUND TO THE STUDY

1.0 Introduction

Wearing a nose mask is one of the simplest ways to reduce spread of Covid-19 hence persuading people in the communities to embrace nose mask use is and continues to be a core intervention for curbing the pandemic (The World Health Organisation (WHO) Report, 2020). The WHO, the U.S. Centres for Disease Control and Prevention (CDC), the Africa Centres for Disease Control (Africa CDC) and numerous other government and public health agencies have recommended that people using mask in public settings serves as a catalyst to minimize the spread of Covid-19. The evolution of recommendations by several governmental and non-governmental organizations for widespread nose mask wearing in non-medical settings has understandably caused confusion in some communities (Feng et al., 2020). Early in the pandemic, before the accumulation of evidence that nose mask wearing can reduce the spread of Covid-19, some countries with no history of the practice resisted adopting nose mask wearing recommendations.

In this study, nose mask is defined as surgical or procedure nose mask that is flat or pleated (some are shaped like cups); that is affixed to the head with straps (Liu and Zhang, 2020). They are tested according to a set of standardized test methods (ASTM F2100, EN 14683, or equivalent) that aim to balance high filtration, adequate breath-ability and optionally, fluid penetration resistance. Other countries modeled their nose mask policies on prior responses to pandemic influenza, recommending them only for specific groups such as pregnant women. In contrast, where populations had experienced prior epidemics of SARS or MERS (two other diseases caused by corona viruses), and in settings, mostly in Asia, where nose mask wearing is common to people with even a minor cold, people were more likely to consistently wear nose mask in public spaces, even without mandates (Duncan, 2020).

As scientific understanding of Covid-19 has evolved, the importance of widespread use of nose mask has become clear in part, because of the transmission dynamics of the virus. People with Covid-19 are most infectious early in the course of disease, including before symptoms develop, and a significant proportion of people infected with Covid-19 never develop symptoms at all (asymptomatic) (Feng et al., 2020). The prevalence of infections transmitted from people with no symptoms makes wearing nose mask crucial, even among people who feel healthy. Promotion of mask wearing should be part of a package of measures that also includes hand washing, physical distancing, interventions to reduce indoor exposures, finding infected people and their contacts quickly, implementing rapid and supportive isolation and quarantine services and providing Covid-19 vaccines when available (Howard, 2020).

Prior to the coronavirus disease in 2019 (Covid-19) pandemic, the efficacy of community nose mask wearing to reduce the spread of respiratory infections was controversial because there were no solid relevant data to support their use (Umeha, 2020). During the pandemic, the scientific evidence has increased. Compelling data now demonstrate that community nose mask wearing is an effective non-pharmacologic intervention to reduce the spread of this infection, especially as source control to prevent spread from infected persons, but also as protection to reduce wearers' exposure to infection (Feng et al., 2020). Covid-19 spreads primarily through respiratory droplets exhaled when infected people breathe, talk, cough, sneeze, or sing. Most of these droplets are smaller than 10 μm in diameter, often referred to as aerosols. The amount of small droplets and particles increases with the rate and force of airflow during exhalation (e.g., shouting, vigorous exercise) (Fernandes, 2020). Wearing a nose mask can become uncomfortable, particularly for long periods in warm environments such as markets, and covering the nose and mouth may inhibit verbal and nonverbal communication, particularly for market women (Salao, 2020). The overall community benefit of wearing nose mask derives from their combined ability to limit both exhalation and inhalation of infectious virus. Similar to the principle of herd immunity for vaccination, the greater the extent to which the intervention—nose mask wearing in this case is adopted by the community, the larger the

benefit to each individual member (Matthew, 2020). Emphasis has been placed on ensuring adequate hand washing and social distancing in all public places, including markets. This was partly because the majority of urban-dwelling Ghanaians rely on open markets for groceries. Public markets in many parts of the Greater Accra Region are usually not spacious and are characterized by high vehicular and human density, especially during rush- hours (Chan and Yueng, 2020).

1.2 Research Questions

The study was guided by the following questions:

1. Do market women wear their nose mask during their time in the market?
2. Do market women believe the wearing of nose mask can prevent them from getting Covid-19?
3. What are the challenges market women go through with wearing of nose mask?

1.3 Statement of Problem

In general, the few studies existing on the topic provide a hint toward the importance of the meaning of the nose mask in people's conducts. The prevalence of nose mask use in the community may be of greater importance than the type of nose mask worn. Liu and Zhang (2020) highlight the role of nose mask in reducing the spread of Covid-19. They used analysis of a typical case of cluster outbreak as a result of public transportation exposure in China. One individual traveling from Chongqing, China, transmitted the Covid-19 virus to five other people in the same vehicle when he did not wear a nose mask, and transmitted the virus to someone on a second vehicle (on the second half of the same journey) after he wore a nose mask.

The Center for Disease Control and Prevention conducted an epidemiological investigation and close contact tracing to screen and treat all passengers that had come in contact with the suspected case. The 14-day medical observation showed that all passengers that had come in contact with the infected individual after he wore a nose mask, did not have Covid-19, while 5 of the 39 passengers that had come in contact with the individual on the first bus, had contracted the disease. However, it

merits noting that a recent study has been improperly characterized by some sources as showing that cloth or surgical nose masks offer no benefit. This randomized trial in Denmark was designed to detect at least a 50% reduction in risk for persons wearing surgical nose mask (Salao, 2020). Hence, one can say findings on the effectiveness of nose mask wearing is inconclusive. Furthermore, these studies were mainly conducted in other continents and may not offer the same outcome as that of Africa, specifically Ghana. This can be said to be a gap in literature. Also, taking note of the fact that Covid-19 is still a current topic, no study has been carried out as far as the researcher is concerned with market women as the focus of the study. The central argument of this study is that nose mask wearing is likely to prevent the spread of Covid-19 virus, nonetheless, evidence showed that most market women refused to wear the nose mask resulting in increasing rate of the spread of the virus in Ghana.

1.4 Research Objectives

The main objective of this study is to explore the efficacy of the Covid-19 protocol of wearing nose mask among market women in Kaneshie Market, Accra. Specifically, it sought to:

1. Examine whether or not market women wear their nose mask during their time in the market.
2. Identify whether or not market women believe the wearing of nose mask can prevent them from getting Covid-19.
3. Analyse the challenges market women go through with wearing of nose mask.

1.5 Significance of the Study

The study adds to the dearth of literature on Covid-19 and bring to bear whether market women believe in the wearing of mask is effective or not. Also, the study serves as a guide for policy makers and market regulators to know whether market women are actually abiding by the nose mask wearing directive issued by the President. Furthermore, challenges that market women nose when it comes to nose mask wearing will be identified and possibly addressed. Finally, the study serves as a foundational study to students, academicians and researchers, who would like to know

more about the efficacy of Covid-19 protocol of wearing nose mask as a preventive measure for the spread of the virus.

1.6 Scope of the Study

The study revolves around nose mask wearing among market women in Ghana. The Kaneshie Market in the Greater Accra region of Ghana was chosen for this study.

1.7 Organisation of the Study

This study is divided into five chapters. Chapter One covers the general overview and background to the study, statement of the problem, objectives of the study, significance of the study, scope of the study and organization of the study. Chapter Two deals with a review of previous works or literature relevant to the study. Chapter Three describes the study methodology. Chapter Four, the penultimate chapter essentially, draws the empirical results of the survey key findings, discusses in the light of the objectives of the study. Finally, Chapter Five concludes the study with summary of key findings, conclusions and recommendations.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

This section is dedicated to the review of the related and relevant empirical studies. The literature on the discourse on the trajectories and nuances of Covid-19 pandemic is scanty since the pandemic broke in barely two years ago. Although, the literature on contagious pandemic globally is legion, this study considers or limits the review of the literature to the related and relevant studies in order to elucidate the understanding of the pandemic within the context of Ghana. This chapter, therefore, presents a comprehensive review of relevant literature in an attempt to position the study in an appropriate theoretical and conceptual frameworks. Thus, it discusses findings of related researches to this study. This chapter tackled the theoretical foundation upon which this study is discussed.

2.1.0 Theoretical Foundation

The broad theory providing the understanding of the efficacy of Covid-19 protocol of wearing nose mask as a preventive measure against the spread of the virus, globally, and among market women in particular, is subsumed under the rubrics of behavioural and attitudinal change theory. For better and proper understanding of the efficacy of Covid-19 preventive protocol, this study employed two main theories namely; the Theory of Planned Behaviour (TPB) and the Health Belief Model (HBM).

2.1.1 Theory of Planned Behaviour

Ajzen (1985) created the Theory of Planned Behaviour (TPB), which included non-volitional actions, in order to enhance the Theory of Reasoned Action (TRA). Individual conduct, he believed, may be seen as a goal or a result. The degree of control one has over one's conduct determines the extent to which one's intentions to act in a certain way may be carried out. According to the TPB, an individual's conduct falls on a continuum spanning from behaviours that are simple to execute at

one end to behaviours that are difficult to perform at the other. The behaviours that need the talents, resources, opportunities, and cooperation of others are the most difficult to carry out (Ajzen, 1991). As a result, one of the predictors in the theory of planned behaviour is the individual's perceived control over the activity to be performed. Control beliefs, which are beliefs about the likelihood that one has what it takes to accomplish the planned activity or achieve the specified objective, influence an individual's impression of being in control (Ajzen,1991). As a result, perceived control influences behaviour in at least two ways: first, by influencing the intention to execute the action in question, and second, by having a direct impact on the conduct in question (Ajzen and Driver, 1991). This suggests that people participate in actions over which they are confident in their ability to succeed.

To what extent can one assert control over a certain behaviour? According to Ajzen (1991), the TPB is primarily concerned with real control. By real control, he meant a scenario in which a person has the necessary abilities and resources to accomplish a certain act and has several opportunities to do so. Because perceptions can be misleading or incorrect, Ajzen believes that perceived control can only be used as a substitute for actual control (Ajzen and Driver, 1991). This has led to criticism that the TPB's ideas about personal control are skewed by people's natural tendency to overestimate their sense of personal control over situations that directly affect their egos (Langer, 1975). Furthermore, according to Ajzen (1985), perceived control can impact behaviour through a psychological effect that causes an individual to exert more effort to accomplish a certain act or attain a specific objective. The TPB can be algebraically represented as follows: $I = bA + cU + dP + et$ (2). Where P represents the perceived behavioural control of the individual to perform the act and d is its coefficient.

2.1.2 The Health Belief Model (HBM)

Irwin; Rosetock et al., (1950), Social Psychologists and members of the United States Public Health (1950s) propounded the Health Belief Model (HBM). HBM posits that messages will achieve

optimal behaviour change if they successfully target perceived barriers, benefits, self-efficacy, and threat. While the model seems to be an ideal explanatory framework for communication research, theoretical limitations have limited its use in the field. The Health Belief Model (HBM) is a tool that scientists use to try and predict health behaviours. It was originally developed in the 1950s and updated in the 1980s. The model is based on the theory that a person's willingness to change their health behaviours is primarily due to their health perceptions.

According to this model, your individual beliefs about health and health conditions play a role in determining your health-related behaviours. Key factors that affect your approach to health include:

- ✓ Perceived susceptibility
- ✓ Perceived severity
- ✓ Perceived Benefits
- ✓ Perceived Barriers
- ✓ Cues to action
- ✓ Self-efficacy

Any barriers you think might be standing in your way, exposure to information that prompts you to take action, how much of a benefit you think you will get from engaging in healthy behaviours. how susceptible you think you are to get illness, what you think the consequences will be of becoming sick, your confidence in your ability to succeed.

Health experts often look for ways that such health belief models can impact the actions people take, including behaviours that can have an impact on both individual and public health.

2.1.2.1 Perceived Susceptibility

People will not change their health behaviours unless they believe that they are at risk. For instance, some Ghanaians were reluctant to wear nose masks and adhere to the safety protocol until some prominent persons begun contracting the virus. Others adhered to the preventive measures because close family members, and friend contracted the virus or had experiences to share.

2.1.2.2 Perceived Severity

The probability that a person will change their health behaviours to avoid a consequence depends on how serious they believe the consequences will be. For instance, some Ghanaians did not believe the coronavirus existed in the country until there were videos of people in intensive care units (ICU) fighting for their lives before they believed the disease's severity.

Similarly, people are less likely to consider nose mask when they think Covid-19 is a minor inconvenience. That's why receptiveness to messages about Covid-19 virus cases increased during the peak of the pandemic. The perceived severity increased enormously.

The severity of an illness can have a major impact on health outcomes. However, a number of studies have shown that perceived risk severity is actually the least powerful predictor of whether or not people will engage in preventive health behaviours.

2.1.2.3 Perceived Benefits

It's difficult to convince people to change a behaviour if there is not something in it for them. People don't want to give up something they enjoy if they don't also get something in return. For example:

An individual's reasons why they do not change their health behaviour is that, they think wearing nose mask is going to be hard. Therefore, changing their health behaviour can cost effort, money and time.

For instance, some Ghanaians refused to wear the nose masks and sanitize their hands because the cost of hand sanitizers and nose masks were sold at an expensive price. This behaviour changed when there was large productions and subsidized price for these items. Commonly perceived barriers include: Amount of effort required, Danger, Discomfort, Expense, Inconvenience.

2.1.2.4 Perceived Barriers

An individual's reasons why they don't change their health behaviour is that, they think doing so is going to be hard. Therefore, changing their health behaviour can cost effort, money and time.

For example, some Ghanaians refused to wear nose masks and sanitize their hands because the cost of hand sanitizers and nose masks were sold at expensive price. This behaviour changed when there was high productions and subsidized price for these items.

One of the best things about the Health Belief Model is how realistically it frames people's behaviours. It recognizes the fact that sometimes wanting to change a health behaviour isn't enough to actually make someone do so. Because of this, the model includes two more elements that are necessary to get an individual to make the leap. These two elements are cues to action and self-efficacy.

2.1.2.5 Cue to Action

It is the external events that prompts a desire to make health change. Thus, actions that help move someone from wanting to make health change to actually making the change. For instance, there were (instructional) videos of television personalities demonstrating how to properly wash and sanitize hands in different ethics languages.

Also, Gary Smith, a sports presenter captured his journey to recovery after he was infected with the virus.

It looks at a person's belief in his/her ability to make a health related change. Thus, the faith in one's ability to do something has an enormous impact on his/her actual ability to do it.

2.1.2.6 Self Efficacy

Self-efficacy is an element that wasn't added to the model until 1988. Self-efficacy looks at a person's belief in his/her ability to make a health-related change. It may seem trivial, but faith in your ability to do something has an enormous impact on your actual ability to do it. For example, one study found that women who had a greater sense of self-efficacy toward breastfeeding were more likely to nurse their infants longer. The researchers concluded that teaching mothers to be more confident about breastfeeding would improve infant nutrition.

2.2.0 Basic Assumption

The guiding hypothesis of this study therefore is that although nose mask wearing is likely to prevent the spread of Covid-19 virus, evidence showed that most market women refused to wear the mask hence increasing rate of the spread of the virus in Ghana.

2.3.0 Review of the Related and Relevant Empirical Literature

In this section, attention is given to related and relevant studies on Covid-19 pandemic protocol and other preventive measures. To begin with, it is important to appreciate the empirical studies of Covid-19.

2.3.1 Review of Empirical Literature

In 2008, a research published in the International Journal of Infectious Diseases, showed that when worn properly, nose masks are very efficient at preventing the transmission of viral infections. In

2009, at Ogumiyamae Elementary School, in Tokyo's Arakawa Ward, just 2% of students who used medical masks (3 out of 151) caught influenza, compared to 9.7% of children who did not wear masks (10 out of 103). The typical influenza infection rate among youngsters in the same area was 8.2 percent (Japan Hygiene Products Industry Association, 2011). Cowling et al., (2009) reported similar findings in the Annals of Internal Medicine. The researchers examined 407 individuals who had the flu. The risk of contracting influenza was decreased by 70% when family members frequently cleaned their hands and used surgical masks.

Aiello et al. (2012) conducted a research with over 1,000 students residing at University of Michigan residence halls. The research team divided the students into three groups: those who wore masks and exercised hand hygiene, those who wore masks but did not perform hand hygiene, and those who did neither. The findings indicated that individuals who used masks and washed their hands properly lowered their risk of flu-like sickness by 75%. Medical Masks may be used in conjunction with other preventative measures to increase the effectiveness of flu prevention.

Milton et al. (2013) investigated whether inhaled droplets are sufficiently big prior to evaporation to be successfully collected by source control masks. They discovered that surgical masks reduced viral copies in exhaled breath by 37 influenza patients by 3.4 (95 percent confidence interval [CI] 1.8 to 6.3) fold. Vanden Driessche et al. (2015) employed an enhanced sampling approach based on a controlled human aerosol model, which allowed droplets to evaporate and become airborne for a longer period of time. The scientists were also able to detect any aerosol that could have leaked over the mask's edges by sampling a homogeneous mixture of all the air around the patient. When six cystic fibrosis patients coughed, they found that wearing a surgical mask decreased the airborne Pseudomonas aeruginosa load by 88 percent (95 percent confidence interval [CI], 81-96 percent; P=0.03).

Wood et al. (2018) discovered that using a N95 mask (94 percent reduction, P0.001), surgical mask (94 percent reduction, P0.001), or cough etiquette (53 percent reduction, P0.001) reduced the aerosol Pseudomonas aeruginosa concentration at 2 meters from the source for their 14 cystic

fibrosis patients with high viable aerosol production during coughing. Stockwell et al. (2018) verified in a comparable Pseudomonas aeruginosa aerosol cough research that surgical masks are effective at source control and comfortable to wear for extended periods of time. Dharmadhikari et al. (2012) discovered that surgical masks reduced TB (an airborne bacterial illness) transmission by 56 percent (95 percent confidence interval [CI], 33-70.5 percent) when used as a source control and comparing guinea pig tuberculosis infections.

Anfinrud et al. (2020) demonstrated the use of laser light scattering to detect droplet emission during speech. Their study revealed that while almost no droplets were "ejected" while speaking without a mask made of a washcloth secured around the head with two rubber bands, considerable amounts were expelled when speaking without a nose mask. According to the scientists, “everyone wearing a cloth mouth cover in public, together with rigorous adherence to distancing and hand washing, may dramatically reduce transmission rates and so contain the epidemic until a vaccine becomes available.” One of the most pertinent articles (Leung et al., 2020), with significant implications for public mask usage during the Covid-19 epidemic, evaluates the efficacy of surgical masks for source control of seasonal coronaviruses (NL63, OC43, 229E, and HKU1), influenza, and rhinovirus. The masks were efficient in blocking coronavirus droplets of all sizes in all 10 subjects. Masks, on the other hand, were much less efficient in blocking rhinovirus particles of any size or small influenza droplets. The findings imply that masks may play a key role in the current coronavirus outbreak's source control. The research did not include patients with Covid-19, and it is unknown if SARS-CoV-2 acts similarly to these seasonal corona viruses; nevertheless, given their close relationship, comparable behaviour is expected.

Another potentially significant, but severely under-powered study (Bae et al., 2020) asked four patients with Covid-19 to cough repeatedly into a sample plate placed approximately 20 cm from the coughing person's mouth, alternating between no nose mask, surgical nose mask, cloth nose mask, and then again without a nose mask. According to the authors, the median viral loads following coughs without nose mask, with a surgical nose mask, or with a cotton nose mask were

2.56 log copies/mL, 2.42 log copies/mL, and 1.85 log copies/mL, respectively. They omit Patient 2 from this assertion since she had detectable virus in all trials except those in which she wore a cotton nose mask. If we assume a conservative limit of detection of 1.4 log copies/mL for Patient 2 and allow each patient to serve as their own control (because the study design allows for paired comparisons), the median within-patient difference between no mask control and wearing a cotton mask results in a virus reduction of approximately 1 log (10 fold). Notably, we, like Bae et al., omit Patient 4 from these estimates because they tested negative for virus in the first three trial conditions. While the research is small in size, the results show that fabric nose masks can help limit the amount of SARS-CoV-2 that escapes when an infected individual coughs. However, further research is required.

In a comparison of handmade and surgical nose masks for bacterial and viral aerosols (Davies et al., 2013), it was discovered that "the median fit factor of the homemade nose mask was less than half that of the surgical nose masks." Both nose masks considerably decreased the quantity of germs ejected by participants, but the surgical nose mask was three times more efficient than the hand-made nose mask in preventing transmission." Aerosol exposure research has discovered that all types of nose masks are at least partly efficient at protecting the wearer. Van der Sande et al. (2008) discovered that "all types of masks reduced aerosol exposure, remained relatively stable over time, and were unaffected by wear duration or type of activity," and concluded that "any type of general mask use is likely to reduce viral exposure and infection risk on a population level, despite imperfect fit and adherence." However, because the percentage of particles released as aerosol (vs. droplet) is very tiny, an examination of particle filtering on a global scale is likely to underestimate the efficacy of nose masks (Papineni & Rosenthal, 1997).

When seasonal coronavirus are compared to rhinoviruses (Leung et al., 2020), it appears that Covid-19 filtration may be significantly more effective, particularly for source control. Aiello et al. (2010) found that "nose masks and hand hygiene may reduce respiratory illnesses in shared living settings and mitigate the impact of the influenza A (H1N1) pandemic."

A randomized intervention trial (Aiello et al., 2012) discovered that "combination use of nose mask and hand cleanliness may decrease the risk of ILI [influenza-like illness] and confirmed influenza in community settings." These non-pharmacological interventions should take place at densely populated areas at the onset of an influenza pandemic. According to the authors, their study "established a strong relationship between the combined usage of nose mask and hand cleanliness and a significantly lower incidence of ILI during a seasonal influenza outbreak." If nose mask and hand hygiene have comparable effects on the main incidence of infection with other seasonal and pandemic strains, particularly in crowded, community settings, then these treatments may dramatically reduce viral transmission between individuals.

In a Hong Kong observational research on SARS, (Lau, Tsui, Lau, & Yang, 2004), it was discovered that "regular nose mask usage in public venues, frequent hand washing, and cleaning dwelling quarters were all significant protective variables (OR 0.36 to 0.58). A significant finding was that “members of the case group [those infected with SARS] were less likely than members of the control group [those not infected] to have worn a nose mask often in public settings (27.9 percent vs. 58.7 percent).

To proceed, it is important to appreciate the conceptual framework of Covid-19 pandemic.

2.4.0 Conceptual Framework

2.4.1 Definition of Covid-19

Covid-19 is an acronym that stands for coronavirus disease of 2019. it is an infectious disease caused by a coronavirus (a type of virus), that usually causes fever, tiredness, a cough, and changes to the senses of smell and taste, and can lead to breathing problem and severe illness in some people: you can reduce your chances of being infested with or spreading Covid-19 by wearing a nose mask covering over your nose and mouth (Cambridge Advanced Dictionary and Thesaurus, University Press).

2.4.2 Overview of Covid-19 Pandemic

The Covid-19 pandemic in Ghana is part of the worldwide pandemic of coronavirus disease 2019 (Covid-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (SARS-CoV-2). The first two cases in Ghana were verified on March 12, 2020, when two infected persons traveled to Ghana, one from Norway and the other from Turkey. Of the first two instances recorded in Ghana, one example was a senior official at the Norwegian Embassy in Ghana, who had returned from Norway; while the other was a staff member at the United Nations (UN) headquarters in Ghana, who had returned from Turkey. In this month, there were the early confirmed cases and initial response from the Government of Ghana. Joint discussions among important stakeholders were organized as well as training sessions provided for teachers and other professionals on how to manage suspected cases of Covid-19. Measures implemented by the President of Ghana on March 15, 2020, included prohibitions on school activities, ban on all social gatherings, and a temporary lockdown and limitations of the movements of people in the Greater Accra and Ashanti Regions of Ghana.

By the end of the month, there had been 152 confirmed cases, 5 deaths, and 22 recovered patients, leaving 125 ongoing cases going into April. Ghana's President, Nana Addo Dankwa Akufo-Addo, began delivering a series of state of the nation speeches about Covid-19 in March 2020 by stating that the cedi equivalent of US$100 million will be made available to strengthen Ghana's coronavirus preparedness and response strategy. Initially, the Government of Ghana prohibited all public meetings including conferences, seminars, funerals, festivals, political rallies, religious activities and other similar events to limit the spread of the virus. Activities at beaches were also banned. Basic schools, senior high schools and universities, both public and private, were also closed. Only Basic Education Certificate Examination (BECE) and West African Senior School Certificate Examination (WASSCE) candidates were permitted to remain in school under social distancing procedure. They were also obliged to wear nose masks, wash hands with soap under running water and use hand sanitizer.

Traveling to Ghana from countries that had reported over 200 positive Covid-19 instances was severely banned with non-admittance of such passengers. This prohibition did not, however, apply to Ghanaian nationals and persons with residence permits. All of Ghana's borders were later closed for two weeks from midnight of Sunday, March 22, 2020. Passport services were also halted. Accra and Kumasi were placed under partial lockdown on March 30, 2020. Exempt from the limitations were members of the Executive, Legislature, and Judiciary; and certain services providers, such as those involved in the manufacture, distribution, and marketing of food, drinks, medicines, paper and plastic packaging, media, and telecommunications.

In Ghana, the economic shock caused by Covid-19 resulted in income cutbacks for over 770,000 people, work hours reductions for over 700,000 workers, and layoffs of over 42,000 workers. Small and Medium Scale Enterprises (SMEs) account for more than 90% of all companies in Ghana and account for more than 70% of the country's Gross Domestic Product (GDP). Ghana has one of the highest proportion of women-owned companies in the world, with females owning 46% of the country's firms. Additionally, Ghana has Sub-Saharan Africa's highest rate of young unemployment (12%) and underemployment (50%) in Sub-Saharan Africa. The government of Ghana established a number of measures to combat Covid-19 as part of the Coronavirus Alleviation Programme (CAP).

The government has assisted SMEs by providing loans with a one-year moratorium and a two-year payback period in conjunction with the National Board of Small Scale Industries (NBSSI). Another component of the CAP is the distribution of dry or canned food packages and hot meals to approximately 400,000 households and individuals via a network of civil society groups based in Accra, Kasoa, Tema, and Kumasi. To facilitate digital payments, the Bank of Ghana collaborated with local banks and telecommunications companies to make all digital payments under GH100 free, increase daily transaction limits, and streamline on boarding to the Minimum Know Your Customer Account, which serves as a means of verifying client identity.

2.4.3. Concept of Nose Mask Wearing

In this study, the term "mask" refers to nose mask intended for single-use in medical circumstances, rather than N95 respirators. In the late nineteenth century, nose mask for infection protection were adopted. During that historical period, only rudimentary nose mask were utilized (Weaver, 2019). There are several varieties of medical nose mask available nowadays. Medical nose mask have a higher bacterial filtering effectiveness (80%) than other types of nose mask (for example, nose mask used for food preparation or construction) (Health Sciences Authority, 2014). The Food and Drug Administration (FDA) states that nose masks are not intended to be used more than once. If a mask gets broken, damp, or soiled, or if breathing through it becomes difficult, the user should remove it, properly dispose of it, and replace it with a new one (FDA, 2018).

When worn appropriately, a nose mask is intended to assist prevent large-particle drops, sprays, or spatter from reaching the mouth and nose. Nose mask may also assist limit exposure to others of one's saliva and respiratory secretions (FDA, 2018). Nose mask can be an effective preventative approach by acting as barriers (Del Valle et al., 2010) that slow and divert exhaled air flows to keep them out of other people's breathing zones (Tang and Settles, 2009). Medical nose mask filter out some of the big virus-containing droplet particles produced when an ill individual sneezes or coughs. According to some research, an infected person's mask slows the air expelled from the mouth or nose, therefore reducing the distance traveled by big particles (Inouye, Matsudaira & Sugihara, 2006). Additionally, it makes it more difficult for a healthy individual to transmit virus particles from their hands to their nose and mouth, therefore avoiding secondary contact transmission (Fabian et al., 2008).

Nose masks are available in a variety of materials and designs (CDC, 2009), which affect their filtering capacity. There are strict requirements for masks used in healthcare settings, but they focus on the nose mask's effectiveness, or its capacity to protect the wearer from infectious particles. Nose mask can also be used for source control, which refers to the act of preventing the user from ejecting droplets. If everyone wears nose mask to reduce the possibility of unintentionally infecting

someone, everyone benefits from increased protection. Numerous studies demonstrate that fabric masks filter more effectively than surgical nose masks. Particle sizes for speech are on the order of 1m (Asadi et al., 2019), whereas droplet sizes are often defined as 5m-10m (JAMA, 2020).

Generally available home materials filtered between 49% and 86% of inhaled particles with a diameter of 0.02 m, whereas surgical nose mask filtered 89 percent of such particles (Davies, et al. 2013). In a laboratory context, home materials filtered particles in the relevant size range at a rate of 3% to 60%, making them equivalent to some surgical masks (Rengasamy, Eimer & Shaffer, 2010). In another experimental setting, it was discovered that a tea towel nose mask filters 60% of particles between 0.02m and 1m, but surgical nose masks filter 75%. (Sande, et al, 2008). Dato et al. (2006) note that "high-quality commercial masks are not always available." They designed and tested a mask made from heavyweight T-shirts and discovered that it "provided substantial protection from the challenge aerosol and demonstrated good fit with minimal leakage." Many recommended cloth mask designs also include a layer of paper towel or coffee filter, which may increase filter effectiveness for some applications (CDC, 2020). According to existing data, the following recommendations can assist ensure optimum mask efficacy:

2.4.4 Nose Mask Material

1. Cloth nose mask should be constructed of high-quality cotton or a blend of cotton and other fibers (such as cotton combined with a synthetic fiber). If these materials are unavailable, a replacement nose mask is better than none at all.
2. Cloth nose mask should be constructed in many layers. Wearing a single-layer nose mask, on the other hand, is better than wearing no nose mask at all.
1. Plastic and other non-breathable materials are ineffective, as air exchange is impossible through such material and must, therefore, take place through holes in the nose mask or gaps around the sides.
2. Additionally, materials that are very breathable, such as knit textiles, are less effective.

2.4.5 Nose Mask Structure

1. Nose mask with perforations that enable unfiltered exhaled air to escape are ineffective, as are nose mask with one-way valves.
2. Nose mask that do not fit securely on the nose are also less effective due to the passage of unfiltered air in and out. This includes bandannas that are wrapped over the nose and mouth but are not fitting on the sides, surgical nose mask that fit too loosely, and plastic nose shields that are worn alone without a nose mask underneath.

2.4.6 Nose Mask Fit

1. The nose mask should completely cover the lips, including the tip of the nose and the nostrils. It should span both cheeks and stop beneath the chin.
2. The nose mask's edges should be snug enough that air does not escape unfiltered but is forced to flow through the nose mask's material. A nose mask with bands around the ears or behind the head to tighten it, a semi-rigid adjustable piece over the bridge of the nose, and elastic under the chin to avoid gaps is more likely to fit snugly.
3. While wearing nose mask, it should be feasible to breathe and speak normally.

2.4.7 Appropriate Nose Mask Use

1. Thoroughly wash your hands with soap and water or a hand sanitizer before and after applying and removing a mask.
2. If the nose mask becomes moist, damaged, visibly filthy, or comes into contact with possibly contaminated hands, it should be replaced.
3. The nose mask should be replaced on a regular basis, preferably daily. The nose mask may be washed if the material is machine washable and the nose mask is not damaged during the process; if the material is not machine washable, the nose mask should be disposed of gently with ordinary household garbage.

2.4.8 Best Practices for Nose Mask Wearing

*Almost everyone should mask whenever they are in public***:** Nose mask use is especially critical in environments where the risk of transmitting SARS-CoV-2 is greater. Indoor settings, in especially those that exhibit any of the "Three C" traits, fall under this category.

1. Enclosed/constrained spaces with inadequate ventilation
2. Densely populated areas
3. Close-contact environments conducive to intimate discussion

Mask usage is especially essential in circumstances where individuals may be at a greater risk of severe Covid-19 infection, such as those who are elderly or have certain underlying diseases or disorders.

Moreover, nose mask should be worn in non-public settings when there is an increased risk of Covid-19: Nose mask should be used anytime there is a risk of infection to effectively decrease SARS-CoV-2 transmission. Although nose mask usage in private settings is frequently not required or monitored, it is critical for the public to understand how much home transmission contributes to Covid-19 spread. Due to the elevated risk of Covid-19, officials should urge that nose mask should be used in the following situations:

1. Private indoor settings involving individuals from several households;
2. Inside a household, if anybody exhibits symptoms consistent with Covid-19, has recently come into contact with someone who has Covid -19, or has been diagnosed with Covid -19.

In addition, people should use nose mask with maximally effective material and design, and wear them correctly**:** Not all nose masks are made equal but any nose mask is preferable to none. Numerous research has been conducted to determine the efficiency of various types of nose masks in minimizing exposure to droplets or preventing the spread of Covid-19. Cloth nose mask made by members of the community can be effective filters. Cloth, gauze, cotton, and paper nose mask were all linked with a decreased incidence of Covid-19 infection in healthy mask wearers, according to a meta-analysis.

Nose mask constructed of high-thread-count cotton and hybrid fabrics, as well as those with several layers rather than single layers, are likely to have the greatest transmission reduction. There is evidence that nose mask efficacy is diminished when the fit is inadequate and air can escape unfiltered between the nose mask and the nose.

However, it has been demonstrated that handmade nose mask provide superior protection against respiratory infections than no nose mask at all, even when fit and adhesion are not ideal. Modelling studies have confirmed this, indicating that even nose mask that are only partially effective can significantly lower transmission risk, especially when used in conjunction with other successful public health and social strategies.

2.4.9 Availability of Nose Masks in Ghana

Although standardized nose mask such as the N95 (American standard) or FFP2 (European equivalent) are most effective in reducing the danger of contracting Covid-19, it is believed that these standardized nose mask will become rare during a worldwide pandemic such as Covid-19 (Howard et al., 2020). According to Greenhalgh et al., (2020), even fabric nose mask may be slightly (15%) less efficient in blocking released particles in the absence of these standardized nose masks. According to them, fabric nose masks are five times more effective than not wearing one, while still providing adequate protection for the wearer. Due to the paucity of these standardized nose mask at the time, the few that the Ghanaian government received both domestically and from international donors were mostly aimed at front-line health workers and healthcare professionals. In his sixth address to the nation on Covid-19, President of the Republic of Ghana announced the establishment of a local manufacturing facility capable of producing approximately 3.6 million nose mask at a rate of 150, 000 per week, to ensure the availability of personal protective equipment for ordinary citizens beyond the lockdown.

To this aim, the Food and Drug Administration (FDA) was permitted to examine the quality of locally made nose masks to ensure they fulfilled basic safety requirements. Additionally, the

Ministry of Health made public the requirements for producing nose mask used as personal protective equipment (PPE). They promoted the employment of java or wax cloths stitched in a triple layered way and strung with side loops as ear hooks, calico inlaid with fabric stiffener and strung with side loops as ear hooks, and handmade nose mask with strings knotted behind the neck or head (Zurek, 2020).

Prices for these locally manufactured nose masks varied between GHC1 (US$ 0.17) and GHC7 ($1.2) on average, while surgical nose mask increased to around GHC100 (US$17.48) each box, up from GHC9 (US$1.57) prior to the pandemic. N95 masks, which normally cost GHC 10 ($1.75), were also available for around GHC 25 ($4.37) per nose mask. This price increase was ascribed to the excessive demand for nose mask, notably from foreign citizens who purchased them for delivery to their relatives abroad (Alamisi, 2020) [prior to Ghana's first case]. The government and other private companies donated critical supplies to some transit operators in designated regions of the country, including local wash sinks, nose mask, and hand sanitizers. The great majority of transit operators and users, on the other hand, were expected to purchase their own nose mask and hand sanitizers throughout the period.

2.4.10 Evidence that Nose Mask Wearing Reduces Covid-19 Transmission

The virus that causes Covid-19 is mostly transmitted by respiratory droplets exhaled when a person breathes, coughs, sings, talks, or sneezes (Javid, Weekes, & Matheson, 2020). Masks can help prevent the spread of Covid-19 in two ways: by keeping healthy individuals from contracting the disease and by preventing infected individuals from transmitting it. In the latter instance, referred to as source control, the nose mask serves as a barrier, preventing respiratory droplets from spreading to adjacent individuals or to surnoses where the virus can survive (Kraemer et al., 2020).

There is compelling scientific evidence that widespread usage of nose mask, including non-medical masks, helps reduce Covid-19 transmission. International public health authorities' suggestion that mask use in public places be included in a comprehensive Covid-19 control plan is based on

numerous lines of research. To begin, several investigations have demonstrated that fabric and surgical masks are capable of filtering droplets of various sizes. Certain cloth masks, particularly those constructed of high-thread-count fabrics with many layers of material, are capable of filtering even extremely tiny droplets efficiently. Second, because people can transmit the virus prior to developing symptoms (pre-symptomatic transmission) and because a significant proportion of people infected with SARS-CoV-2 may never develop symptoms but continue to transmit the virus (asymptomatic transmission), people without symptoms may play a significant role in Covid-19 spread.

This gives a strong theoretical justification for broad community nose mask usage, since nose mask can help limit the spread of infectious droplets ("source control") from people who appear to be healthy but are potentially contagious. Individuals with Covid-19 who wear nose mask before to developing symptoms are less likely to transfer the disease to others in their families, according to studies (Jacobson, 2010). A further argument in favor of extensive community mask use is that a mask can protect the user against Covid-19. Both medical procedure masks (sometimes called surgical masks) and respirators (such as N95 respirators) have been shown in health care settings to protect the wearer from viral respiratory infections. Cloth nose mask protect wearers against droplet exposure more effectively than surgical nose mask, according to studies (Winet, 2012).

Additionally, Liu and Zhang (2020) emphasize the importance of nose mask in preventing the transmission of Covid-19. They analyzed a typical cluster epidemic in China as a result of public transportation exposure. When one man traveling from Chongqing, China, did not use a nose mask, he transmitted the Covid-19 virus to five other people in the same vehicle, but not to anybody in a second vehicle (on the second portion of the same journey) after wearing a nose mask. The Centres for Disease Control and Prevention began an epidemiological investigation and traced all passengers who had come into touch with the probable case. The 14-day medical examination revealed that none of the passengers who came into touch with the sick man after he wore a nose

mask acquired Covid-19, but five of the 39 passengers who came into contact with the individual on the first bus did.

Howard et al. (2020) suggest that wearing a nose mask decreases transmissibility per encounter by preventing the spread of contaminated droplets, as demonstrated in both laboratory and clinical settings. They assert that nose mask may be most effective in halting viral spread when compliance is high among big populations. Reduced transmission has the potential to significantly lower the mortality toll and, perhaps, the economic burden of Covid-19.

2.4.11 Promoting Nose Mask Wearing with Policy

Community-wide nose mask-wearing rules will be most effective if they are explicit, consistent, legally sound, and tailored to promote widespread compliance. While the specifics of any particular regulation must be adjusted to each municipality and private environment where nose mask usage is not mandated by law, certain broad rules should apply.

Rules on nose mask wearing should be clear and comprehensive: Who must wear nose mask, what sorts of nose mask are permitted, where and when nose mask must be worn, and how they must be worn, should all be clearly stated in the rules. Regardless of local or private restrictions, wearing a mask decreases the danger of Covid-19 spreading, which should be notified to the public (Brewer, Weinstein, Cuite & Herrington, 2004). Mandates should clearly describe the sorts of nose mask that are permitted and those that are not, achieving a balance between accuracy and flexibility. Too tight standards may impede supply or make compliance more difficult, while excessively permissive guidelines may encourage the use of nose mask that provide little or no protection. There should be a specific measure that the nose mask must always cover the nose and mouth. If surgical masks or other specialized masks, such as N95 mask, become scarce, governments may restrict their usage to health care personnel, compelling the general public to utilize other types of nose mask (Keltner, 1995).

Mandates should be implemented to all indoor public spaces that are open to the general public or are utilized collectively, such as workplaces and public transit. While private homes are not generally considered public spaces, if visitors from outside the household are present, physical separation and masks should be maintained. Directives may also apply to densely frequent outdoor areas where maintaining physical distance is difficult to maintain regularly. Local governments may apply modified nose mask restrictions for activities that are impossible or difficult to do while wearing nose mask. Activities should be exempted only if a certain level of physical separation can be maintained or if adjacent persons are wearing nose mask. (For example, during a dental treatment, a patient may briefly remove their nose mask, but the doctor should continue to wear one.) Additional distance requirements may be considered for some tasks that demand significant exertion or exhalation. Among the activities that may qualify for an exemption from a mandate are the following:

1. Consumption of food or beverages;
2. Participating in sports or physical activity;
3. Experimenting with or performing on a musical instrument;
4. Activities that require a wet nose, such as swimming or showering;
5. When an individual is required to prove their identification for legitimate purposes;
6. Communicating with a deaf individual;
7. Having a dental or medical examination or treatment conducted through a nose mask.

Furthermore, narrowly tailor sanctions for non-compliance: In an ideal world, communities would embrace mandatory nose mask use without the necessity for punishments. Promoting widespread usage of nose mask through social norms is likely to be more successful than enforcement. In some instances, officials may opt to continue enforcing fines for non-compliance (Schneider, 2009). Prior to imposing punishments, authorities should verify that the rules have been conveyed properly, that individuals have access to masks, and that leaders demonstrate appropriate conduct. If these criteria are satisfied and penalties are still necessary, they should be proportional to the offense (Woodard,

2012). In rare cases where existing measures fail to deter recurrent or egregious offenders, officials may impose graduated punishments that gradually increase in severity as long as the penalty stays commensurate to the offense. For instance, a warning for the first infraction, a small fee for the second offense, and increased penalties for subsequent offenses (Garreau, 1981).

For the majority of individuals, the fear of penalties may be sufficient to motivate compliance, and governments may consider advertising the sanctions' presence in the news media to raise awareness. Law enforcement should take caution to ensure that punishments are implemented consistently across the community and that no specific group is singled out. Enforcement attempts may backfire if the law is viewed as a weapon of discrimination or harassment directed at particular communities, or if these efforts exacerbate conditions ripe for violence (Neils, 2016).

More so, engage businesses in promoting nose mask wearing: By imposing additional obligations on corporations, policymakers can broaden the scope of their requirements. Governments can impose conditions on the reopening of companies, including as physical separation, hand washing, and nose mask use (Budhwani & De, 2016). Retail and other companies frequently interact nose to nose with their staff and customers, which may be an effective method of disseminating public health messages. Business requirements should create and enforce community standards and help firms comply with mask laws (Teasdale, Santer, Geraghty, Little & Yardley, 2014). Local governments could assist companies in this role by offering instructional tools, complimentary signs, and other incentives.

Businesses should be obliged to prominently display signs alerting all customers and workers to wear masks at all times while on the premises, and to train personnel to advise consumers about the regulations and offer nose mask when available (Simoni, 1992). If clients refuse to comply, employees should refuse to serve them, request that they vacate the premises, and, if necessary, contact the police. Employees should be compelled to wear nose mask as a condition of employment, and companies should suspend or fire employees who refuse without justification. 8 Generally, governments should avoid penalizing enterprises that do not strictly adhere to the nose

mask regulations. Sanctions may be acceptable in certain situations, such as when companies encourage consumers or staff to violate local rules. Penalties should be severe enough to prevent future breaches in these instances and may include non-monetary punishments such as license suspension or revocation (Chandra, Kassens-Noor, Kuljanin & Vertalka, 2013).

Besides, promoting nose mask wearing with strategic communication: In addition to regulations that promote mask-wearing, governments should create communication techniques to advocate broad usage of nose mask as the “new normal” for the foreseeable future (Goldberg, 1996). (Goldberg, 1996). Data from public opinion polls show that there are numerous reasons why people might not wear nose mask and that often persons who do not follow nose mask wearing conventions or legislation may encounter several, overlapping barriers to nose mask use. Strategic communication campaigns may be used to modify knowledge, attitudes and behaviours and impact perceived societal norms regarding nose mask wearing, addressing some of these hurdles. It’s vital to regularly perform barrier analysis to determine why individuals are not nose wearing mask. This can assist focus messages and discover reliable sources of information for the audience (Epstei, 2017).

2.4.12 Barriers to Nose Mask Wearing

Lack of knowledge about perceived benefits: The term "perceived advantage" refers to the perception of the beneficial outcomes of a certain activity (Leung, 2013). The word perceived advantage is frequently used in behavioural medicine to describe an individual's motivation for doing a behaviour and accepting an intervention or therapy. According to researchers and theorists, conduct is motivated by an individual's cognition regarding the acceptability, motivations, and attitudes toward such behaviour, particularly when they are good (Leung, 2013). Individuals who are aware of the benefits of wearing a mask during a pandemic may take action. In comparison, if consumers are unaware of the perceived advantages of nose mask use, they may neglect this preventative measure.

Firstly, lack of perception of being at risk: Health behaviour research has established the perception of risk as a necessary condition for behaviour change (Weinstein & Nicolich, 1993). A high perceived risk of damage, it is argued, motivates individuals to take action to mitigate the danger (Sadique et al., 2007). Individuals, who are unaware about the risk of Covid-19 are less likely to take preventive measures. For instance, a study of influenza vaccination in the United States discovered that persons who self-reported less than great health vaccinated more frequently, regardless of accuracy (self-rated health vs. actual health status). In other words, persons who believe themselves to be in great health are less likely to be vaccinated (Budhwani & De, 2016). They felt that because they were healthy, prevention was unnecessary.

Secondly, anxiety of nose-covering**:** Acceptance of nose mask wearing may be a result of the difficulties nose mask have reading the user's emotions (Fischer, Gillebaart, Rotteveel, Becker & Vliek, 2011). Emotion perception (Carroll & Russell, 1996) is a constructive process in which numerous nose signals are utilized to identify certain emotional categories such as fear, rage, humiliation, or sadness (Ekman, 1993). noses have a significant role in the expression of emotion (Carroll & Russell, 1996). However, when a person wears a nose mask, emotional facial clues are obscured. Fischer investigated the effect of eliminating emotional signals on emotion perception by covering the lower portions of the nose in studies. nose-covering has an effect on emotional messages, which are critical in social interaction (Fischer & Manstead, 2008). Another study found that doctors wearing nose masks had a detrimental influence on patients' views of the doctors' empathy (Wong et al., 2013). Due to the fact that sub-conscious facial expressions have the ability to impact the viewer's emotional state, attitudes, and future behaviours (Dimberg, Thunberg, & Elmehed, 2000), wearing a mask and concealing the nose may function as a barrier to social contact.

Thirdly, negative side of drawing attention to self: Sometimes, employing non-pharmaceutical treatments may lead to social stigma and may cause embarrassment or prejudice, such as being regarded as too meticulous with regular hand-washing. Although mask wearing is considered by some as useful precaution, there are worries regarding prejudice owing to the existence of a mask

being visible (Teasdale, Santer, Geraghty, Little & Yardley, 2014). (Teasdale, Santer, Geraghty, Little & Yardley, 2014). Currently, there is no accurate data on how many individuals have negative perceptions of those wearing a nose mask. Comments by persons from other disciplines show that possible unfavorable perceptions may be a barrier to wearing a nose mask (Teasdale, Santer, Geraghty, Little & Yardley, 2014). (Teasdale, Santer, Geraghty, Little & Yardley, 2014). For example, Dr. Gajendra Singh, a surgeon, revealed that wearing a nose mask made it tougher for him to communicate to patients since individuals would assume he was unwell, step away from him, and even refuse to share an elevator with him (Stapleton, 2017).

Comfort: One of the complaints from users about nose masks is that they are uncomfortable to wear masks and Morishima, Kishida, Uozumi, and Kamijo (2014) investigated the user experiences of Japanese university students using nose mask in 2014. Around 60% of nose mask wearers self-reported having a problem with humidity, 51% reported fogging of their spectacles, 50% had difficulties breathing, and 20% reported feeling uncomfortable when wearing a nose mask. Other issues included difficulty removing makeup, ear discomfort, feeling overheated, poor fit, and distraction caused by the nose mask. Individual wearers reported regular issues with the masks' moisture, airflow, and temperature characteristics. Thus, the comfort associated with wearing nose mask may act as a deterrent to their use in personal prevention (CDC, 2018).

Policy recommendations and laws: People are responsible for their behaviours, but individual lifestyles are also influenced by the policies adopted by communities, states, and national leaders (Brownell et al., 2010).

Risk compensation behaviour: It is difficult to forecast the behavioural changes that would occur as a result of regulations encouraging the use of public nose mask. One concern raised about public health messaging encouraging the use of nose coverings is that members of the public may engage in risk-avoidance behaviour. This entails overlooking other critical preventative measures such as physical separation and hand hygiene in favour of the protection a surgical nose mask may provide as a result of an exaggerated or false sense of security. Previously, similar arguments were made in

support of HIV prevention strategies, motorcycle helmet laws, seat belts, and alpine skiing helmets. Contrary to expectations, risk compensation behaviours have been insignificant at the population level, being outweighed in each case by increased safety. Risk compensation is unlikely to undo the strongly suggest that, instead of withholding a preventative tool, accompanying it with accurate messaging that combines different preventative measures would display trust in the general public's ability to act responsibly and empower citizens.

2.5.0 Relevance of the Study

The relevance of this study is that nose mask wearing is likely to prevent the spread of Covid-19 virus, information gathered indicates that most market women refused to wear the nose mask hence increasing rate of the spread of the virus in Ghana. Mohammad Ashraful Haque et al (2020-2021), suggested that an evidence where in their investigation that nose mask can protect against Covid-19. When surgical nose mask were employed, 1 in 3 symptomatic infections were avoided for individuals 60+ years old, the age group that noses the highest risk of death following infection. The work can be used as a reference material for students studying Covid-19. It can also serve as a secondary source for further research on wearing of nose masks and its implications for persons with Covid-19 or without it.

2.6.0. Chapter Summary

This chapter helps to identify the knowledge gap which necessitated the conduct of this study. The gap in the literature is that wearing nose mask is likely to prevent the spread of Covid-19. This gap was revealed by a copious work reviewed in this chapter. Evidence exist largely confirmed that wearing nose masks significantly reduce the spread since the major means of transmitting the virus and/or infecting someone is through a direct contact with nose and mouth. Although, this study succeeded in bridging the gap, nonetheless, TPB and HBM assumed that, it is not just a matter of physical difficulty of wearing the nose mask, but social difficulty as well in wearing the nose mask.

CHAPTER 3

METHODOLOGY

3.0 Introduction

This chapter outlined the methodology that was employed for the study. Specifically, this chapter details the research design, population and sample, sampling techniques, sources of data, data collection tools as well as the methods of data analysis.

3.1 Methods

This study deployed quantitative method. This data collection approach uses data collection tool involving survey questionnaire. In choosing the sample size, it used purposive and convenient sampling techniques. This study combined primary and secondary data sources. So, in addition to the survey questionnaire, it used peer reviewed articles as well as newspapers in exploring the rationale behind market women's refusal to wear their nose mask at market places; ascertain the efficacy of orientation given to market women on wearing of nose mask as a measure to prevent them from being infected by Covid-19 virus as well as to explore and analyze the challenges market women go through with wearing of nose mask.

3.2 Research Design

The main aim of this study was to explore the efficacy of the Covid-19 protocol of wearing nose masks among market women in Kaneshie Market, Accra. During the process of conducting the research, it was very important to identify the research design to go with (Bryman & Bell, 2011). Research design is the plan and structure of investigation so conceived as to obtain answers to research questions. The study adopted the descriptive research design and was purely quantitative in nature. The descriptive research was used because of its ability to use either qualitative or quantitative data or both, giving the researcher greater options in selecting the instrument for data-gathering (Saunders et al., 2007). The design provides a more accurate picture of events at a point in

time. Creswell (2003) asserted that, a descriptive study involves measurement, classification, analysis, comparison and interpretation of data.

3.3 Population

The population comprised all market women within the Kaneshie Market. A total of two hundred (200) market women were sampled for the study. A non-probability sampling procedure was adopted for this study. Specifically, convenience sampling, (were respondents who are good prospects for accurate information), was used. Questionnaire were used as the data collection instrument. Responses gathered were analysed using SPSS. It is imperative to encourage men and women who have daily transactions in crowded places such as market to abide by the Covid-19 protocol. All the items under consideration in any field of inquiry constitute a population. It can be presumed that in such an inquiry when all the items are covered, no element of chance is left and highest accuracy is obtained. Sekeran (2012) reported that population refers to the entire group of people, events or things of interest that the researcher wishes to investigate. The population comprised all market women within the Kaneshie Market.

3.4 Sample Size

Quite often we select only a few items from the population for our study purposes. The items so selected constitute what is technically called a sample. Sekeran (2010) defines a sample as a portion of the population that has attributes as the entire population. A total of two hundred (200) market women were sampled out for the study.

3.5 Sampling Procedure

Sampling procedure is the process by which relatively small number of individuals or measures of individuals, objects or events is chosen and analyzed in order to find out something about the entire population from which it was chosen. A non-probability sampling procedure was adopted for this study. Specifically, purposive and convenience sampling, (were respondents who are good

prospects for accurate information), was used. Purposive and convenience sampling techniques constitute a non-probability sampling technique where subjects are selected because of the reliability and convenience of accessibility and proximity to the researcher (Castillo, 2009). Purposive and convenience sampling allowed the selection of the most suitable and accessible respondents respectively.

3.6 Sources of Data

There are two major sources of data namely; Primary and Secondary data.

*Primary Sources of Data***:** The source of primary data was influenced by the size of the population, and subject under review. The researcher found it necessary to use a structured questionnaire. This ensured that respondents shared information about intimate and relevant matters concerning the subject under review. For the purpose of this study, primary data comprised of responses obtained through questionnaires administered to target respondents under study. Several advantages are associated with this method and they include:

1. Access to direct data or response from selected respondents
2. Unbiased information
3. Original data

This study depended on *secondary sources of data* such as peer review articles and books obtainable from Mcmillan Library and JOSTER as well as some newspapers.

3.7 Data Collection Instrument

A questionnaire was chosen as the data collection instrument. The questionnaire had close-ended questions which respondents were asked to tick the appropriate answer. The questionnaires were divided into various sections to capture the critical areas spelt out in the objectives of the study. The questions were thoroughly explained to the respondents after copies of the questionnaire were handed to them. The purpose was to help the respondents understand the relevance of the research and provide their independent views on the questions. The questionnaire was divided into four

sections. The first section dealt with the demographics of the respondents whiles the second to fourth sections revolved around the objectives of the study.

3.8 Data Analysis Techniques

The raw data obtained from a research is useless unless it is transformed into information for the purpose of decision making. The data analysis involved developing summaries as well as the use of tables and charts to make meaning out of the raw data. Consequently, the following steps were taken to analyze the data for the study. The data was edited to detect and correct, possible errors and omissions that are likely to occur, to ensure consistency across respondents. The data was then coded to enable the respondents to be grouped into limited number of categories. Statistical Product and Service Solutions (SPSS.v.21.0) was used in the processing of primary data gathered. This was to enable data gathered to be presented into tables, graphs and charts for qualitative explanations and to give a good visual impression and clarity of information.

3.9 Ethical Considerations

The researcher consider the research values of voluntary participation, anonymity and protection of respondents from any possible harm that can arise from participation in the study. Thus, the researcher; will introduce the purpose of the study as a fulfilment of a requirement of a Masters' Degree and not for any other hidden agenda. The researcher requested the respondents to participative in the study on a voluntary basis. Refusal or abstaining from participation was permitted. The researcher also assured the respondents of confidentiality of the information they will give and protection from any possible harm that could arise from the study since the findings would be used for the intended purposes only.

3.10.0 Limitations and Delimitations

3.11.1 Limitations of this study

These were influences that the researcher cannot control. They were the shortcomings, conditions or influences that cannot be controlled by the researcher that place restrictions on your methodology and conclusions. The study might be limited due to a number of constraints and challenges such as anticipated unwillingness of some potential respondents to participate in the study, unreturned questionnaires, provision of wrong information and lastly the nature and sensitivity of the questionnaire items. Another limitation of this study relates to time constraints which limited the intensity of the spread of coverage of the study for about year. Open space markets are spread throughout the length and breadth of Greater Accra Region, but the research only covered the Kaneshie Market. To address the concerns of the sensitivity of the questionnaire items and provision of wrong information, the researcher will establish and maintain the optimum level of confidentiality and assure the respondents that the study will be purely an academic requirement and will have nothing to do with other relations. In addressing the problem of unwillingness to participate in the study and response rate, the researcher will personally administer the data collection instrument, while encouraging the respondents to voluntarily provide the required information.

3.11.2 Delimitations

These were choices that were made by the researcher, enclosed were my intellectual knowledge and observations, newspapers to butteries the internet materials gathered for this study and advises from some correspondents that were very difficult to access, which indeed, seriously needed to aid in making this study a success. They were challenges above the researcher’s control though, these were described above as part of the boundaries that were set for the study. This difficulty did not affect the study in any significant way because it was assumed and accepted as true, and at least

plausible, by the researcher, supervisor and would be found plausible by the peers who will read this dissertation.

3.12.0 Duration of Work

The study of this work started from April to October 2021.

3.13.0 Chapter Summary

This chapter dealt with the methodology that was used for the study. This study deployed quantitative method.

CHAPTER 4

ANALYSIS OF THE EFFICACY OF Covid-19 PROTOCOL OF WEARING NOSE MASK AMONG GHANAIAN MARKET WOMEN IN PREVENTING THE SPREAD OF THE VIRUS DURING Covid-19 PANDEMIC PERIOD USING MARKET WOMEN IN KANESHIE, ACCRA AS A CASE STUDY

4.0. Introduction

This chapter analyses and discusses the key findings from the field study. It depends on the information obtainable from the responses of the various questions provided by the respondents.

4.1.0 Analysis of Key Findings

This section deals with data relating to demographic characteristics of the respondents.

4.1.1.0 Demographic Data of Respondents

4.1.1.1 Age of Respondents

Table 1 below provides the age information of respondents. The information shows that majority of the respondents representing 53% were between the ages of 40 and 49 years whiles 36% were 50 years and above while 11% were between 30 to 39 years constituting the minority. Thus, most of the respondents were between the ages of 40 and 49 years. This clearly shows that market women at Kaneshie are of the ages above 39 and below 50, who are matured enough not only to know but also do understand whatever decision they take. Therefore, refusing to wear nose mask is probably a deliberate attempt by the market women to flout the law on wearing nose mask, hence they (women) are liable for any unforeseeable consequences.

Table 1
Age of Respondents

Response	**Frequency**	**Percentage**
30 to 39 years	22	11%
40 to 49 years	107	53%
50 and above	71	36%
Total	**200**	**100%**

Source: Field Survey, 2021

4.1.2 Marital Status of Respondents

Table 2 below provides information about the marital status of the respondents, Out of the total of 200 respondents, 42% representing the majority, said they were married, 31% said they were divorced/separated whiles 27%, representing the minority, said they were single. Thus, most of the respondents were married. The implication here is that in the event of the spread of Covid-19, the likelihood that the virus will go viral is true. A majority of the women are married and so their families would be at a greater risk.

Table 2
Marital Status of Respondents

Response	**Frequency**	**Percentage**
Single	55	27%
Married	83	42%
Divorced/Separated	62	31%
Total	**200**	**100%**

Source: Field Survey, 2021

4.1.3 Highest Level of Education

Out of the total of 200 respondents, 39% said they had no formal education whiles 33% said they had basic education. However, 28%, representing 56 persons, said they had secondary education. Thus, most of the respondents said they had no formal education. This presupposes that although, the market women are matured enough and that the majority are married, interestingly, however, their level of education clearly shows that they are ignorant about the seriousness of the spread of the virus. No wonder they wanted to experience with the virus before believing that it exist. It also presupposes that inadequate orientation including adverts, billboards, fliers among others, has since been given to Ghanaians especially the market women.

Table 3
Highest Level of Education

Response	Frequency	Percentage
No formal education	78	39%
Basic education	66	33%
Secondary/vocational education	56	28%
Total	**200**	**100%**

Source: Field Survey, 2021

4.1.4 Years of Operating Business at Kaneshie Market

The figure below shows the number of years the respondents have been selling at Kaneshie Market. The majority, representing 44%, said they have been selling at the Kaneshie Market for over 10 years whiles 23% said 7-10 years. Also, 22%, representing 45 persons, said they have been selling at the Kaneshie Market for 4-6 years whiles minority of 11% said they have been selling there for 1-3 years. Thus, most of the respondents have been operating in the market for over 10 years. This implies that the majority of the market women depend on the market for their livelihood and so, any event of the spread of the virus would mean that many households would be seriously affected.

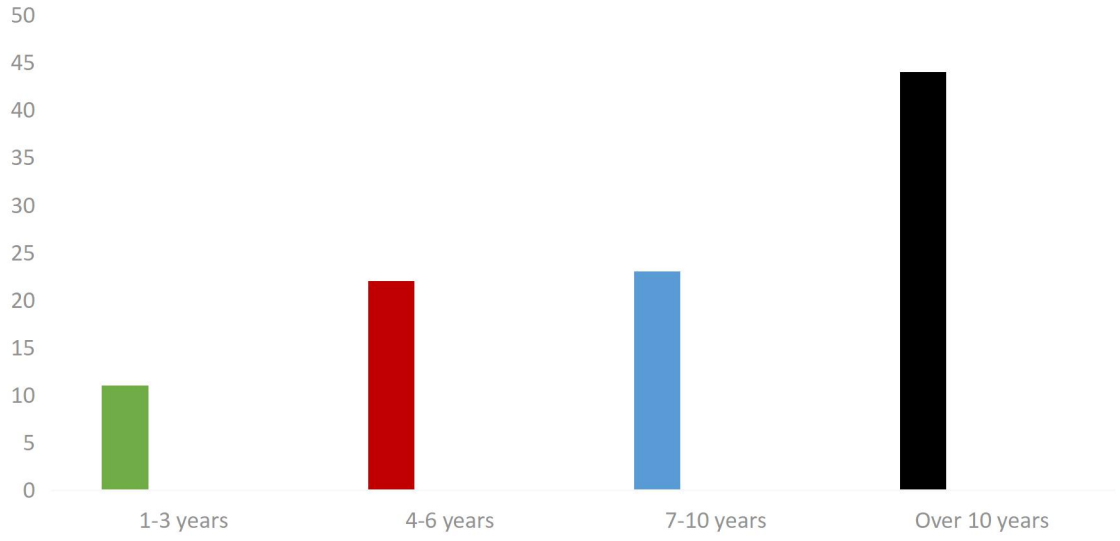

Figure 1: Years of Operating Business at Kaneshie Market
Source: Field Survey, 2021

4.1.5 Business Operated at Kaneshie Market

The question sought to know what specifically the respondents sell at the market. Out of the total (200) respondents, 70% said they are foodstuff and grocery sellers whiles 22% said they sell other things. However, 8%, representing 15 persons, said they sell kitchenware. Thus, most of the respondents were foodstuff and grocery sellers at the market.

Table 4
Business Operated at Kaneshie Market

Response	**Frequency**	**Percentage**
Foodstuff and Groceries	140	70%
Kitchenware	15	8%
Other	45	22%
Total	**200**	**100%**

Source: Field Survey, 2021

4.2.0 Wearing of nose Mask By Market Women

4.2.1 Awareness of Covid-19 Disease

The respondents were asked whether they were aware of the Covid-19. The study revealed that all 200 respondents were aware of the disease.

Table 5
Awareness of Covid-19 Disease

Response	**Frequency**	**Percentage**
Yes	200	100%
Total	**200**	**100%**

Source: Field Survey, 2021

4.2.2 Contraction of Covid-19 by Respondents

The respondents were further asked if they had ever contracted the Covid-19 before. Majority (55%) said they had never contracted Covid-19 before whiles 26% said they don't know if they have contracted it before. Also, a minority of 19% responded 'yes, indicating that they have contracted Covid-19 before. Thus, most of the respondents said they have not contracted Covid-19 before. The table below shows the findings.

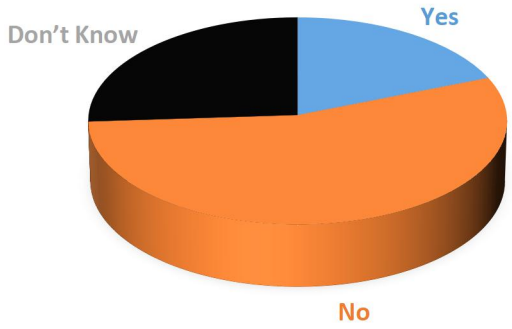

Figure 2: Contraction of Covid-19 by Respondents
Source: Field Survey, 2021

4.2.3 Knowledge on Colleagues Being Infected by Covid-19

The question posed sought to know whether the respondents know any of their colleagues in the market who have contracted the Covid-19 disease. In the table below, 94% representing the majority said no, they don't know any colleague with the disease whiles the minority (6%) said yes, they do. Thus, most of the respondents said they do not know anyone at the market with Covid-19 disease.

This buttresses the point the market women are making "in respect of seeing is believing," observing for confirmation and experiencing the virus before they could take the nose mask wearing seriously.

Table 6
Knowledge on Colleagues Being Infected by Covid-19

Response	**Frequency**	**Percentage**
Yes	13	6%
No	187	94%
Total	**200**	**100%**

Source: Field Survey, 2021

4.2.4 Receiving the Covid-19 Vaccine

The respondents were asked whether they have received the Covid-9 vaccine. The majority representing 52% said "Yes", they have, whiles the minority (48%) said "No," they haven't received the vaccine yet. Thus, most of the respondents have received the vaccine. The table below

shows the findings. This might motivated the market women not to take the wearing of nose masks seriously, perhaps they believed that once they have vaccinated, they are free from the virus attack.

Table 7
Receiving the Covid-19 Vaccine

Response	Frequency	Percentage
Yes	104	52%
No	96	48%
Total	**200**	**100%**

Source: Field Survey, 2021

4.2.5 Wearing of Nose Mask Being a Preventive Measure for Covid-19

The question sought to know whether the respondents know that wearing of the nose mask is one of the preventive measures for Covid-19. The survey showed that all 200 respondents, representing 100% said "Yes," they are aware of the masks being a preventive measure for Covid-19. The table below shows the findings. This confirmed the earlier assertion made in this study that the market women perhaps are ignorant about the virus, hence their refusal to wear nose mask.

Table 8
Wearing of Nose Mask Being a Preventive Measure for Covid-19

Response	Frequency	Percentage
Yes	200	100%
Total	**200**	**100%**

Source: Field Survey, 2021

4.2.6 Easy Acquisition of Nose Masks at the Market

When asked whether they (the respondents) are able to acquire the nose masks easily at the market, all (200 respondents) representing 100% said "Yes," the nose mask are easily acquired at the market. The table below shows the findings. This confirms that the market women deliberately refused to wear the nose mask given that there is no difficulty in securing them.

Table 9
Easy Acquisition of Nose Masks at the Market

Response	Frequency	Percentage
Yes	200	100%
Total	**200**	**100%**

Source: Field Survey, 2021

4.2.7 Wearing of Nose Mask by Respondents

The question sought to know whether the respondents wear nose mask while at work at the market. Majority (53%) said they sometimes wear the nose masks whiles 37% said yes, they do. Also, a minority of 10% said no, they do not wear the nose mask while at work. Thus, most of the respondents sometimes wear the nose masks whiles at work at the market.

Table 10
Wearing of Nose Masks by Respondents

Response	Frequency	Percentage
Yes	74	37%
No	20	10%
Sometimes	106	53%
Total	**200**	**100%**

Source: Field Survey, 2021

4.2.8 Reason for Wearing Nose Mask

The respondents were asked the main reason they (the respondents) wear the nose mask while at work at the market. Majority (67%) said they wear the nose mask because they don't want to contract Covid-19 whiles the minority (33%) said because wearing of nose masks is mandatory. Thus, most of the respondents said they wouldn't want to contract Covid-19 that's why they wear the nose mask while at work.

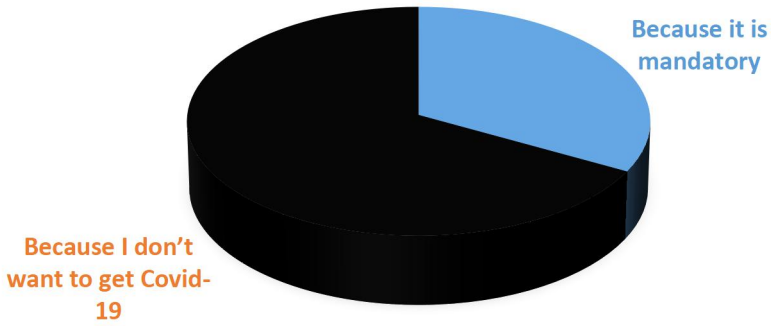

Figure 3: Reason for Wearing Nose Masks
Source: Field Survey, 2021

4.2.9 Wearing of Nose Masks by Other Sales Women

When asked whether other market women wear their nose masks whiles selling at the market, majority (61%) said yes, most of the sales women at the market wear their nose mask whiles 37% said they (other sales women) sometimes wear the nose mask. Also, a minority of 2% said no, they (other sales women) do not wear the nose masks while at work. Thus, most of the respondents asserted that the other sales women do wear their nose mask at the market.

Table 11
Wearing of Nose Mask by Other Sales Women

Response	Frequency	Percentage
Yes	122	61%
No	4	2%
Sometimes	74	37%
Total	**200**	**100%**

Source: Field Survey, 2021

4.2.10 Persons Responsible for the Wearing of Nose Mask

When asked whether there are persons responsible for the wearing of nose mask by market women wear, majority (64%) said sometimes there are whiles 26% said no, there are no enforcers. Also, a minority of 10% said yes, there are persons in the market that ensure that all sales women wear their

nose masks while at work. Thus, most of the respondents said sometimes there are persons that ensure that every worker at the market wear their nose masks.

Table 12
Persons Responsible for the Wearing of Nose Mask

Response	Frequency	Percentage
Yes	21	10%
No	51	26%
Sometimes	128	64%
Total	**200**	**100%**

Source: Field Survey, 2021

4.3.0 Believe in the Wearing of Nose Mask

4.3.1 Nose Mask Preventing One from Contracting Covid-19

The respondents were asked whether they believe wearing of nose masks can prevent them from contracting Covid-19. Out of the 200 respondents, majority (77%) said yes, they believe whiles the minority (23%) said no, they don't believe that nose masks can prevent them from contracting the Covid-19 disease. Thus, most of the respondents said they believe the nose mask can prevent them from contracting Covid-19 disease. The table below shows the findings.

Table 13
Nose Mask Preventing One from Contracting Covid-19

Response	Frequency	Percentage
Yes	154	77%
No	46	23%
Total	**200**	**100%**

Source: Field Survey, 2021

4.3.2. If Yes, the Reason

The respondents were further asked why they believe wearing of the nose mask can prevent one from contracting the Covid-19 disease. The survey showed that most of the respondents representing 60% believe wearing of nose masks can prevent them from contracting Covid-19 because that's what the experts and doctors say whiles 40% representing the minority said since they haven't contracted Covid-19 and because they are always in their nose mask, they believe wearing it works. Thus, most of the respondents said they believe the nose masks can prevent them

from contracting Covid-19 disease because that's what the experts and doctors say. The table below shows the findings.

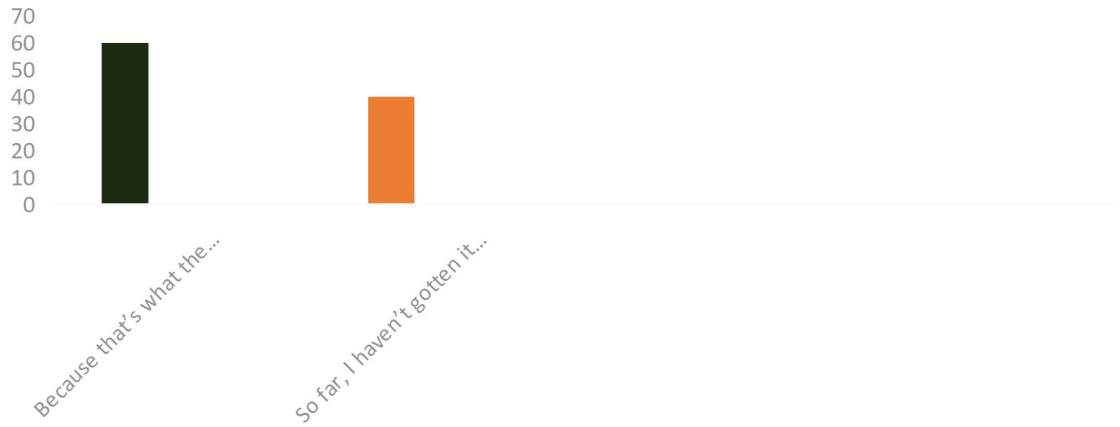

Figure 4: If Yes, the Reason
Source: Field Survey, 2021

4.3.3 If No, the Reason

Out of the 46 respondents that asserted that they do not believe wearing of the nose mask prevents them from contracting the Covid-19 disease, 76% said they just don't believe wearing nose mask prevent them from contracting Covid-19 whiles 24% said they know people who had their nose mask on always yet they contracted Covid-19. Thus, most of the respondents said they just don't believe it works.

Table 14
If No, the Reason

Response	Frequency	Percentage
Because I know people who had their nose mask always on but still got Covid-19	11	24%
I just don't believe it works	35	76%
Total	**46**	**100%**

Source: Field Survey, 2021

4.4.0 Challenges to the Wearing of Nose Mask

4.4.1 Challenges Encountered with the Wearing of Nose Mask

The respondents were asked whether they encounter any form of challenges with the wearing of nose masks. The survey showed that all (200 respondents) said yes, they encounter challenges with the wearing of nose mask while at work, at the market.

Table 15
Challenges Encountered with the Wearing of Nose Mask

Response	Frequency	Percentage
Yes	200	100%
Total	**200**	**100%**

Source: Field Survey, 2021

4.4.2 If Yes, the Challenges

Out of the 200 respondents that asserted that they encounter challenges with the wearing of nose mask. The survey showed that majority (57%) said they find it difficult in communicating with clients through nose masks whiles 18% said they feel discomfort in wearing of nose masks while at work. However, 14%, representing 36 persons, said there is a cost in purchasing the nose mask whiles the minority (11%) said they get skin irritation when they are in nose masks. Thus, most of the respondents find difficulty in communicating with clients through the nose mask.

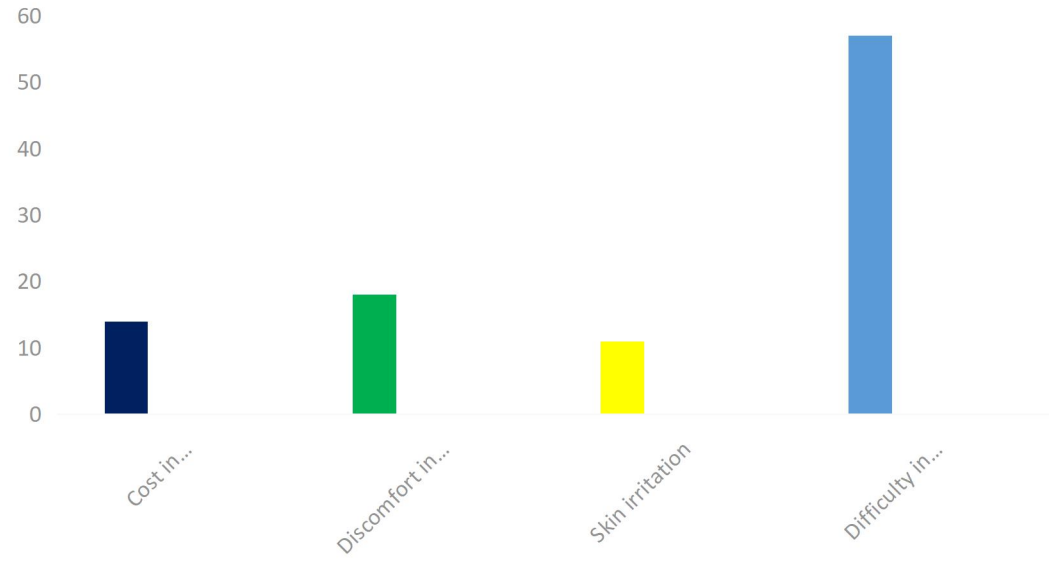

Figure 5: If Yes, Challenges Source: Field Survey, 2021

4.5 Discussion of Findings

In the previous chapters, chapter 1, 2, and 3, this study diagnosed the problem understudy, set out the procedure to investigate the problem by providing a clear methodology after reviewing the related and relevant literature. Here, it is only right to do prognosis in the light of the objectives.

The first objective sought to examine whether market women wear their nose mask during their time in the market. The study revealed that the respondents sometimes wear nose masks whiles at work at the market. In a Hong Kong observational research on SARS (Lau, Tsui, Lau, & Yang, 2004), it was discovered that "regular mask usage in public venues, frequent hand washing, and cleaning dwelling quarters were all significant protective variables (OR 0.36 to 0.58). A significant finding was that “members of the case group [those infected with SARS] were less likely than members of the control group [those not infected] to have worn a nose mask often in public settings (27.9 percent vs. 58.7 percent).

The second objective sought to identify whether market women believe the wearing of nose mask can prevent them from getting Covid-19. The study revealed that most of the respondents said they believe nose mask can prevent them from contracting the Covid-19 disease. Similarly, Liu and Zhang (2020) emphasize the importance of nose masks in preventing the transmission of Covid-19. They analyzed a typical cluster epidemic in China as a result of public transportation exposure. When one man traveling from Chongqing, China, did not use a nose mask, he transmitted the Covid-19 virus to five other people in the same vehicle, but not to anybody in a second vehicle (on the second portion of the same journey) after wearing a nose mask. The Centres for Disease Control and Prevention began an epidemiological investigation and traced all passengers who had come into touch with the probable case. The 14-day medical examination revealed that none of the passengers who came into touch with the sick man after he wore a nose mask acquired Covid-19, but five of the 39 passengers who came into contact with the individual on the first bus did.

The third and final objective sought to analyse challenges market women go through with wearing of nose mask. The study revealed that respondents find it difficult in communicating with clients through nose masks, cost involved in the frequent purchasing of nose mask and skin irritation were the challenges market women go through with wearing of nose mask. Similarly, Morishima, Kishida, Uozumi, and Kamijo (2014) investigated the user experiences of Japanese university students using nose mask in 2014. Around 60% of nose mask wearers self-reported having a problem with humidity, 51% reported fogging of their spectacles, 50% had difficulties breathing, and 20% reported feeling uncomfortable when wearing a nose mask. Other issues included difficulty removing makeup, ear discomfort, feeling overheated, poor fit, and distraction caused by the nose mask. Individual wearers reported regular issues with the masks' moisture, airflow, and temperature characteristics. Thus, the comfort associated with wearing nose mask may act as a deterrent to their use in personal prevention (CDC, 2018).

4.6. Conclusion

This study concludes that the market women’s responses to wearing of nose masks have not yielded positive results largely due to the fact that the orientation given has not only been sufficient and effective but also they find it to be unnecessary, hence this study makes some recommendations following the chapter five.

CHAPTER 5

SUMMARY OF KEY FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presents a general summary of the objectives and the main findings relating to the study. Conclusions and proposed recommendations based on the analysis of the results of the study are also presented.

5.1 Summary of Key Findings

The main objective of the study is to explore the efficacy of the Covid-19 protocol of wearing nose masks among market women in Kaneshie Market, Accra. The study was guided by the following objectives.

1. Examine whether market women wear their nose mask during their time in the market.
2. Identify whether market women believe the wearing of nose mask can prevent them from getting Covid-19.
3. Analyse the challenges market women go through with wearing of nose mask.

The study adopted the descriptive study design and was purely quantitative in nature. The population comprised all market women within the Kaneshie Market. A total of two hundred (200) market women were sampled out for the study. A non-probability sampling procedure was adopted for this study. Specifically, convenience sampling, (were respondents who are good prospects for accurate information), was used. Questionnaire were used as the data collection instrument. Responses gathered were analyzed using SPSS.

The first objective sought to examine whether market women wear their nose mask during their time in the market. The study revealed that the respondents sometimes wear the nose mask whiles at work, at the market. The second objective sought to identify whether market women believe the wearing of mask can prevent them from getting Covid-19. The study revealed that most of the

respondents said they believe nose mask can prevent them from contracting the Covid-19. The third and final objective sought to analyse the challenges market women go through with wearing of nose mask. The study revealed that respondents find it difficult in communicating with clients through nose masks, cost involved in the frequent purchasing of nose masks and skin irritation were the challenges market women go through with wearing of nose mask.

5.2 Conclusions

It is hoped that by implementing Covid-19 measures (lock-downs, physical distance, and the wearing of nose mask), hospitalizations will be reduced, especially for critically sick patients, and that healthcare systems will be better equipped to deal with the disease. Ghana, which has a doctor-to-patient ratio of 1:84, 813 (Henkens, 2020) and a present Covid-19 bed capacity of around 700, might nose a large increase in the number of patients, making disease treatment more challenging. It is therefore imperative to encourage men and women who have daily transactions in crowded places such as market to abide by the Covid-19 protocol. The study concluded that, most market women sometimes wear the nose masks whiles at work, at the market.

5.3 Recommendations

Based on the findings of the study, the following recommendations are made for policy action and future research and praxis:

Firstly, the Government of Ghana should intensify very detail orientation to include provision of billboards, fliers, cartoons, adverts on how to wear nose mask among other Covid-19 protocol prevention measures. It is a fact that the percentage of illiterates in Ghana is high. It is therefore clear that, the newspapers publications only are not sufficient to deal with the spread.

Secondly, Government should make good use of Ministry of Information Service Cinema Vans to reach out the whole country and advantage points to show citizens how important it is to wear nose

mask every time when in public. This Cinema Van campaign worked well in Guinea worm epidemic period.

Thirdly, with regards to the disease, the government allocates a major amount to developing inexpensive and reusable nose masks for the general public.

Fourthly, for those in lower-income neighborhoods who may be more at risk and unable to purchase nose masks, the government should foot the bill for the time being.

Fifthly, nose mask have many benefits, and the government should continue to use media channels to educate the public about these benefits and promote their voluntary usage. By combining these approaches, we can lower the chance of Covid-19 spreading among the population.

Sixthly, when there are shortages, health authorities should consider considering nose mask distribution as well as clear standards for manufacturing, usage, and sanitation or re-use. South Korea and Taiwan were early adopters of surgical mask distribution, whereas Japan, Singapore, and Belgium are already giving cloth masks to their whole populations. South Korea and Taiwan are not alone. Communities may get closer to their objective of controlling the spread of the disease by following simple, easy-to-implement instructions.

Seventhly, rules should explicitly state who must wear a mask, what kinds of masks are permitted, where and when masks must be worn, and how they must be worn in order to prevent confusion.

Eighthly, Governments should keep an eye on how many people are wearing nose masks in their communities, undertake social science research to figure out why some people stick to the practice more than others, and look at epidemiological statistics to see if the practice affects different groups differently.

Ninethly, and finally, till virus propagation is extremely limited or vaccination produces adequate protection in general population, widespread nose mask wearing should be pushed as a "new normal." People should continue to use nose masks while the vaccination is being distributed as well as reducing or eliminate exposure to high-risk situations (for example, crowded indoor events)

as well as wash hands often and physically distance yourself from others to help prevent the spread of Covid-19.

BIBLIOGRAPHY

Aiello, A., Perez, V., Coulborn, R., Davis, B., Uddin, M., & Monto, A. (2012). nosemasks, Hand Hygiene, and Influenza among Young Adults: A Randomized Intervention Trial. Plos ONE, 7(1), e29744. doi: 10.1371/journal.pone.0029744

Ajzen, I. (1985). "From Intentions to actions: A Theory of Planned behaviour", in J. Kuhl and J. Beckmann. (Eds.), *Action Control: From Cognition to behaviour*. pp. 11- 39, New York: Springer-Verlag.

Ajzen, I. & Driver, B. L. (1991). "Prediction of Leisure Participation from behavioural, Normative and Control Belief: An Application of the Theory of Planned behaviour", *Leisure Sciences,* 13, 185 -204.

Alamisi, D. (2020). Sale of "coronavirus" mask in Accra goes up by 1000%. Retrieved from The Ghana Report website: https://www.theghanareport.com/Covid-19-chinese-empty-ghanapharmacies-forcing-mask-prices-to-skyrocket-10-times/

Anfinrud, P, CE Bax, V Stadnytskyi, A Bax (2020). Could sars-cov-2 be transmitted via speech droplets?

Asadi, et al., (2019) Aerosol emission and super emission during human speech increase with voice loudness. Sci. reports 9, 1–10.

Bae, et al., (2020). Effectiveness of Surgical and Cotton Masks in Blocking SARSCoV-2: A Controlled Comparison in 4 Patients. Annals Intern. Medicine

Brewer, N., Weinstein, N., Cuite, C., & Herrington, J. (2004). Risk perceptions and their relation to risk behaviour. Annals Of behavioural Medicine, 27(2), 125-130. doi: 10.1207/s15324796abm2702_7

Brownell, K., Kersh, R., Ludwig, D., Post, R., Puhl, R., Schwartz, M., & Willett, W. (2010). Personal Responsibility and Obesity: A Constructive Approach To A Controversial Issue. Health Affairs, 29(3), 379-387. doi: 10.1377/hlthaff.2009.0739

Budhwani, H., & De, P. (2016). Disparities in influenza vaccination across the United States: Variability by minority group, Asian sub-populations, socio-economic status, and health insurance coverage. Public Health, 138, 146-153. doi: 10.1016/j.puhe.2016.04.003

Carroll, J., & Russell, J. (1996). Do facial expressions signal specific emotions? Judging emotion from the nose in context. Journal of Personality And Social Psychology, 70(2), 205-218. doi: 10.1037/0022-3514.70.2.205

Chan KH, & Yuen K-Y, (2020). Covid-19 epidemic: disentangling the re-emerging controversy about medical nosemasks from an epidemiological perspective. *Int J Epidemiol* Mar 31. pii: dyaa044.

Chandra, S., Kassens-Noor, E., Kuljanin, G., & Vertalka, J. (2013). A geographic analysis of population density thresholds in the influenza pandemic of 1918–19. International Journal Of Health Geographics, 12(1), 9. doi: 10.1186/1476-072x-12-9

Cowling, B., Chan, K., Fang, V., Cheng, C., Fung, R., & Wai, W. et al. (2009). nosemasks and Hand Hygiene to Prevent Influenza Transmission in Households. Annals Of Internal Medicine, 151(7), 437. doi: 10.7326/0003-4819-151-7-200910060-00142

Davies, et al., (2013). Testing the Efficacy of Homemade Masks: Would They Protect in an Influenza Pandemic? Disaster Medicine Public Heal. Prep. 7, 413–418

Del Valle, S., Tellier, R., Settles, G., & Tang, J. (2010). Can we reduce the spread of influenza in schools with nose masks? American Journal Of Infection Control, 38(9), 676-677. doi: 10.1016/j.ajic.2010.03.012

Dharmadhikari, et al. (2012). Surgical nose masks worn by patients with multidrug-resistant tuberculosis: impact on noneffective of air on a hospital ward. Am. journal respiratory critical care medicine 185, 1104–1109

Dimberg, U., Thunberg, M., & Elmehed, K. (2000). Unconscious Facial Reactions to Emotional Facial Expressions. Psychological Science, 11(1), 86-89. doi: 10.1111/1467-9280.00221

Driessche, et al., (2015). Surgical masks reduce airborne spread of pseudomonas aeruginosa in colonized patients with cystic fibrosis. Am. J. Respir. Critical Care Medicine 192,897–899 PMID: 26426786

Duncan, J (2020). "Two cases of coronavirus confirmed in Ghana". *Citi Newsroom*

Ekman, P. (1993). Facial expression and emotion. American Psychologist, 48(4), 384-392. doi: 10.1037/0003-066x.48.4.384

Epstein, E. (2017). Who Was That Masked Man? Retrieved from https://www.weeklystandard.com/ethan-epstein/who-was-that-masked-man

Feng S, Shen C, Xia N, Song W, Fan M, & Cowling BJ, (2020). Rational use of nose masks in the Covid-19 pandemic. *Lancet Respir Med* 8: 434–436.

Fernandes, N. (2020). Economic effects of coronavirus outbreak (Covid-19) on the world economy. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3557504.

Fisher, B., Kulindwa, K., Mwanyoka, I., Turner, R.K. & Burgess, N.D. (2010) Common pool resource management and PES: lessons and constraints for water PES in Tanzania. Ecological Economics, 69, 1253–1261.

Fraenkel, J.R. & Wallen, N. (2010). How to design and evaluate research in education. New York, NY: Mc Graw Hill

Garreau, J. (1981). The Nine Nations of North America. Boston: Houghton Mifflin Company.

Goldberg, D. (1996). Unmasking the Ku Klux Klan: The Northern Movement against the KKK. Journal Of American Ethnic History, 15(4), 32-48.

Greenhalgh, T., Schmid, M. B., Czypionka, T., Bassler, D., & Gruer, L. (2020). nose masks for the public during the Covid-19 crisis Trisha Greenhalgh and colleagues argue that it is time to apply the precautionary principle. 1435(April), 1–4. https://doi.org/10.1136/bmj.m1435
Health Sciences Authority. (2014). Health Products Regulation. Retrieved from http://www.hsa.gov.sg/content/hsa/en.html

Howard, J., Huang, A., Li, Z., Tufekci, Z., Zdimal, V., & Westhuizen, H. Van Der. (2020). nose Masks Against Covid-19: An Evidence Review. (April), 1–8. https://doi.org/10.20944/preprints202004.0203.v1

Irwin M. Rosenstock, Godfrey M. Hochbaum, S. Stephen Kegeles, and Howard Leventhal at the U.S. Public Health Service.

Japan Hygiene Products Industry Association. (2011). NEWS. Retrieved from http://www.jhpia.or.jp/pdf/news71.pdf

Javid, B., Weekes, M. P., & Matheson, N. J. (2020). Covid-19 : should the public wear nose masks ? BMJ, 1442(April), 11–12. https://doi.org/10.1136/bmj.m1442

JT Lau, H Tsui, M Lau, X Yang (2004). SARS Transmission, Risk Factors, and Prevention in Hong Kong. Emerg. Infect. Dis. 10, 587–592.

Kraemer, M. U. G., Yang, C.-H., Gutierrez, B., Wu, C.-H., & Klein, B. (2020). The effect of human mobility and control measures on the Covid-19 epidemic in China. Science, 368(6940), 493–497. https://doi.org/10.1126/scie

Langer E. J. (1975). “The Illusion of Control”, *Journal of Personality and Social Psychology*, 32, 311 – 328.

Leung, Y. (2013). Perceived Benefits. Encyclopedia Of behavioural Medicine, 1450-1451. doi: 10.1007/978-1-4419-1005-9_1165

Leung, et al., (2020). Respiratory virus shedding in exhaled breath and efficacy of nose masks. Nat. Medicine, 1–5.

Liu, X., & Zhang, S. (2020). Covid-19: nose masks and human-to-human transmission. Influenza and Other Respiratory Diseases, 14(March),

MacIntyre, C., Dwyer, D., Seale, H., Fasher, M., Booy, R., & Cheung, P. et al. (2008). The First Randomized, Controlled Clinical Trial of Mask Use in Households to Prevent Respiratory Virus Transmission. International Journal Of Infectious Diseases, 12, e328. doi: 10.1016/j.ijid.2008.05.877

Matthew A, (2020). *Bizzare! These Women Were Seen Washing Used Nose Mask in Order to Resell! Naija Super Fans*. Available at: https://naijasuperfans.com/bizzare-these-women-were-seen-washing-used-nose-mask-in-order-to-resell-see-pictures/.

Milton, DK, Fabian, BJ, Cowling, ML Grantham and McDevitt, JJ (2013). Influenza Virus Aerosols in Human Exhaled Breath: Particle Size, Culturability, and Effect of Surgical Masks. PLOS Pathog. 9, e1003205.

Neils, D. (2016). The Naked Truth of What It's Like Wearing a nose Mask in Public. Retrieved from https://themighty.com/2016/08/what-its-like-wearing-a-surgical-mask-in-public

Nesta (2017). The state of small business: Putting UK entrepreneurs on the map, https://www.nesta.org.uk/sites/default/files/the-state-of-small-business-uk.pdf

Papineni, RS and Rosenthal, FS (1997). The size distribution of droplets in the exhaled breath of healthy human subjects. J. Aerosol Medicine 10, 105–116.

Rengasamy, B Eimer, RE Shaffer, Simple Respiratory ProtectionEvaluation of the Filtration Performance of Cloth Masks and Common Fabric Materials Against 201000 nm Size Particles. The Annals Occup. Hyg. 54, 789–798 (2010).

Sadique, R, Edmunds, M, W., Smith, R., Meerding, W., de Zwart, O., Brug, J., & Beutels, P. (2007). Precautionary behaviour in Response to Perceived Threat of Pandemic Influenza. Emerging Infectious Diseases, 13(9), 1307-1313. doi: 10.3201/eid1309.070372

Salant, P., & Dillman, D. A. (2004). How to conduct your own survey. New York: John Wiley

Salao G, (2020). Improper Use, Disposal of nosemasks, Hand Gloves Could Trigger COVID-19 Community Transmission in Nigeria. *The Guardian Newspaper*.

Schneider, C. (2009). My Experience on the Inside. Kenyon Collegian, 296

Stapleton, E. (2017). Should Healthcare Workers Be Required To Wear Masks If They Can't Get The Flu Shot? Retrieved from https://www.wfmynews2.com/article/news/local/should-healthcareworkers-be-required-to-wear-masks-if-they-cant-get-the-flu-shot/381689299

Teasdale, E., Santer, M., Geraghty, A., Little, P., & Yardley, L. (2014). Public perceptions of non-pharmaceutical interventions for reducing transmission of respiratory infection: systematic review and synthesis of qualitative studies. BMC Public Health, 14(1). doi: 10.1186/1471-2458-14-589

Van der Sande, M, Teunis, & R Sabel, (2008). Professional and Home-Made nose Masks Reduce Exposure to Respiratory Infections among the General Population. PLoS ONE 3.

Wood, et al., (2018). nose masks and cough etiquette reduce the cough aerosol concentration of pseudomonas aeruginosa in people with cystic fibrosis. Am. J. Respir. Critical Care Medicine 197, 348–355 PMID: 28930641.

Umeha C, (2020). NIDS Warns Against Misuse, Abuse of nose Masks to Prevent COVID-19. *Independent Newspapers Nigeria*.

Weinstein, N., & Nicolich, M. (1993). Correct and incorrect interpretations of correlations between risk perceptions and risk behaviours. Health Psychology, 12(3), 235-245. doi: 10.1037//02786133.12.3.235

Winet, E. (2012). nose-veil bans and anti-mask laws: State interests and the right to cover the nose. Hastings International and Comparative Law Review, 35(1), 217-252.

Wong, C., Yip, B., Mercer, S., Griffiths, S., Kung, K., & Wong, M. et al. (2013). Effect of nosemasks on empathy and relational continuity: a randomized controlled trial in primary care. BMC Family Practice, 14(1). doi: 10.1186/1471-2296-14-200

Woodard, C. (2012). American nations. New York [etc.]: Penguin Books

World Health Organisation (2020). *Coronavirus Disease 2019 (Covid-19) Situation Report -73*. Available at: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200402-sitrep-73-Covid-19.pdf?sfvrsn=5ae25bc7_6.

Zurek, K. (2020). FDA registers 10 nose masks and nose shields for use in Ghana. Graphic Online. Retrieved from https://www.graphic.com.gh/news/general-news/fda-registers-10nose-masks-nose-shields-for-use-in-ghana.html

OTHER INSTITUTIONAL SOURCES

CDC. (2018). CDC Influenza E Brief. Retrieved from https://www.cdc.gov/washington/pdf/flu_newsletter.pdf

United States CDC, Coronavirus Disease 2019 (Covid-19) (2020).

APPENDIX

QUESTIONNAIRE FOR KANESHIE MARKET WOMEN

Dear Respondent,

I am a student of the Ghana Institute of Journalism and I am conducting a study on the efficacy of the Covid-19 protocol of wearing nose masks among market women in Kaneshie Market, Accra. You have been selected to respond to the questions below. I would deeply appreciate it if you fill out this questionnaire to help me obtain the needed data to complete the research work. I assure you that any information you will provide will be used STRICTLY for this academic work and treated with utmost confidentiality. You do not need to write your name or contact on the questionnaire.

Only the general results, conclusions and recommendations drawn from the analyses of the data obtained would be included in the final report. Thank you.

Section A: Demographic Information

Please, tick the appropriate answer/option.

i. Age
[ ] Less than 30 [ ] 30 to 39 [ ] 40 to 49 [ ] 50 and above

ii. Marital Status
[ ] Single [ ] Married [ ] Divorced/Separated

iii. Highest level of education
[ ] No formal education [ ] Basic education [ ] Secondary/vocational education
[ ] Tertiary education

iv. For how long have you been operating in this market?
[ ] 1-3 years [ ] 4-6 years [ ] 7-10 years [ ] Over 10 years

v. What specifically do you sell?
[ ] Foodstuff [ ] Groceries [ ] Kitchenware
[ ] Other (please specify)…….

Section B: Examine Whether Market Women Wear nose mask

Please, tick the appropriate answer/option.

1. Are you aware of the disease Covid-19?
[ ] Yes [ ] No

2. Have you contracted Covid-19 before?
[ ] Yes [ ] No [ ] Don't Know
3. Do you know of any of your colleague market women who have contracted Covid-19?

[ ] Yes [ ] No

4. Have you received the Covid-19 vaccine?
   [ ] Yes [ ] No

5. Are you aware that the wearing of nose masks is one of the preventive measures for Covid-19?
   [ ] Yes [ ] No

6. Are nose masks easy to acquire at the market?
   [ ] Yes [ ] No

7. Do you wear nose mask whiles at work at the market?
   [ ] Yes [ ] No [ ] Sometimes

8. Why do you do so?
   [ ] Because it is mandatory [ ] Because I don't want to get Covid-19
   [ ] Other (please, specify) ……

9. Do other sales women in the market wear their nose masks?
   [ ] Yes [ ] No [ ] Sometimes

10. Are there persons in the market who ensure that all sales women are wearing their nose masks?
    [ ] Yes [ ] No [ ] Sometimes

Section C: Believe in the Wearing of nose Mask

Please, tick the appropriate answer/option.

11. Do you believe the wearing of nose mask can prevent you from contracting Covid-19?
    [ ] Yes [ ] No

12. If yes, why so?
    [ ] Because that's what the experts and doctors say
    [ ] So far, I haven't gotten it because I am always in my nose mask so I believe it works
    [ ] Other (please, specify) ……

13. If no, why so?
    [ ] Because I know people who had their nose mask always on but still got Covid-19
    [ ] I just don't believe it works
    [ ] Other (please, specify) ……

Section D: Challenges to the Wearing of nose Mask

14. Do you encounter any form of challenges with the wearing of nose masks?
    [ ] Yes [ ] No

15. If yes, what are some of these challenges?
    [ ] Cost in purchasing the nose mask
    [ ] Discomfort in the wearing of nose mask
    [ ] Skin irritation
    [ ] Difficulty in communicating with clients through nose masks
    [ ] Other (please, specify) ……