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Telling the COVID-19 Story – An Overview of Our COVID-19 Study Protocols and Research at Livewell Initiative LWI and Global Public Health University GPHU

Bisi Bright[1, 4, 10, 11, *], Patrick Sobande[2, 4], Temitope Alonge[3, 5], Chinedum Peace Babalola[4, 5, 6], Adewale Abdul-Semiu Musa-Olomu[7], Wael Ali[1, 11], Olayinka Kotila[5], Niyi Fajimi[1, 11], Ewaoche Sunday Itodo[8], Seun Falayi[1, 5, 11], David Ajayi[6], Adebola Olatunji[4, 9], Toyin Adesope[1], Fidelis Ojeblenu[7], Modupe Ologunagba[10], Aduh[5, 6], Rilwan Rotinwa[1, 11], Gbenga Odunfa[7], Arinzechchukwu Chukwurah[1, 11], Sylvester Adeyemi[1, 12]

[1]Department of Public Health, Live Well Initiative LWI, Lagos, Nigeria

[2]Dayton Children's Hospital, Dayton, USA

[3]Oyo State COVID-19 Isolation Center, Ibadan, Nigeria

[4]National COVID-19 Think-Tank, Lagos, Nigeria

[5]Department of Pharmaceutics, University of Ibadan, Ibadan, Nigeria

[6]Vice Chancellor's Office, Chrisland University, Abeokuta, Nigeria

[7]Federal Medical Center, Abeokuta, Nigeria

[8]Department of Medical Laboratory Science, Niger Delta University, Amassoma, Nigeria

[9]Health and Wellness Unit, Avoda Initiative, Fort Worth, USA

[10]The Practicum Center, Women in Hepatitis Africa WIHA, Lagos, Nigeria

[11]Department of Health Sciences, Global Public Health University GPHU, Lagos, Nigeria

[12]Arkland Health, Abuja, Nigeria

Email address:

bisibright@livewellng.org (B. Bright), asobande3@hotmail.com (P. Sobande)

[*]Corresponding author

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Abstract: A study by LiveWell Initiative's Global Public Health University (GPHU) in collaboration with frontline healthcare workers in Nigeria tested 4-Aminoquinolines as prophylaxis for COVID-19 in Nigeria, recorded some significant level of success. Quinine crosses the blood-brain barrier into the alveoli which gives it an added advantage over chloroquine and hydroxychloroquine in COVID-19 and picks up where CQ/ HCQ stop. The study was a random Physician – Patient Trials at the discretion of Prescribing Clinicians and Clinical Researchers, they are as recommended. The preliminary data analyzed using Microsoft excel, were from 123 study participants (110 used as prophylaxis and 23 as treatment). CQ/HCQ is also relevant for Inpatient care as the 11 Laboratory Tested Positive Patients placed on admission at the COVID-19 Isolation Center who were treated with CQ are all fully recovered, up to 6 weeks post-lockdown with no relapse, and having tested negative twice post treatment. Quinine works in advanced COVID-19 as the Single Laboratory Tested Positive client on the ventilator, were fully recovered after Treatment with I.V. Quinine and is still symptom free 6 weeks post-lockdown. The tests were re-run through the second, third wave, Delta and Omicron stages. The further results will be discussed in subsequent papers scheduled for publication.

Keywords: GPHU (Global Public Health University), LWIA (LiveWell Initiative Academy), CQ (Chloroquine), HCQ (Hydroxychloroquine), rRT-PCR (Rapid Test – Polymerase Chain Reaction), HCWs (Healthcare Workers), COVID-19 (Coronavirus Disease), MPH (Masters in Public Health)

1. Introduction

The new SARS COV-2 (COVI-19) took the world by surprise and the world is still searching for more effective preventive or curative ways of dealing with the virus either through vaccine or medication [15]. While scientists are working tirelessly in finding the cure for the pandemic, researchers at the Global Public Health University GPHU and LiveWell Initiative Academy LWIA have tried several medications like hydroxychloroquine (HCQ) and chloroquine (CQ). There have been publications saying HCQ and CQ do not have effect and some researchers have recorded good results using them [10].

DOSES:

1. Asymptomatic healthcare workers working in non-COVID hospitals/non-COVID areas / Asymptomatic healthcare workers involved in containment and treatment of COVID-19.
2. Asymptomatic household contacts of laboratory confirmed cases.
3. Treatment doses below 4g, sustained due to the ionophoric effect of zinc on chloroquine, which makes lower doses of chloroquine more efficacious due to enhanced tissue binding affinity and uptake by the viral cell.

USE BEYOND 7 WEEKS:

For its use beyond 7 weeks on weekly dosage with strict monitoring of clinical and ECG parameters which would also ensure that the therapy is given under supervision. This is ideally for IPT Intermittent Prophylactic Therapy post-recovery, as the virus is still shed through the bowels after recovery.

The 4-Aminoquinolines deployed for the preliminary study as Chloroquine / Hydroxychloroquine for PreP and PEP therapy, Chloroquine / Hydroxychloroquine for ambulatory care, Quinine Oral For inpatient care, injectable Quinine for critical care patient and CQ/HCQ for post-discharge intermittent prophylactic therapy.

The drug combination is relevant for ambulatory care as the laboratory tested positive healthcare worker on self-quarantine who was treated with Chloroquine is fully recovered, up to six weeks post-lockdown with no relapse and having tested negative twice post-treatment.

In the study there were 100 per cent positive outcome and zero deaths with 4 Aminoquinolines in COVID-19 response and quinine works in an advanced stage of COVID-19 as one laboratory tested positive client in the advanced stage and in ICU recovered.

The LWI treatment protocol has been proven to work effectively in COVID-19 but more studies are needed to further validate this finding and add to the body of knowledge [8]. The LWI Study Protocol for COVID-19 Response is affordable, scalable, and replicable [11].

2. Literature Review

COVID-19 can affect any age group. Most of the cases (77.8%) were in 30 - 69 years age group. Pre-existing hypertension, diabetes, cardiovascular, cancer, and chronic respiratory illness are at risk of complications with a little male predominance (51.4%).

Initially, the 2019-CoV outbreak was reported as limited person-to-person transmission and a contaminated source from infected or sick wild animals in the wet market may have been the common origin [1, 2].

THE VIROLOGY OF COVID-19 AND ITS PATHOGENESIS

Perlman, S. (2020), stated Coronavirus to be an enveloped, positive single-strand RNA virus which belongs to the Orthocoronavirinae subfamily [14], as the name, it possesses the characteristic "crown-like" spikes on their surfaces [3].

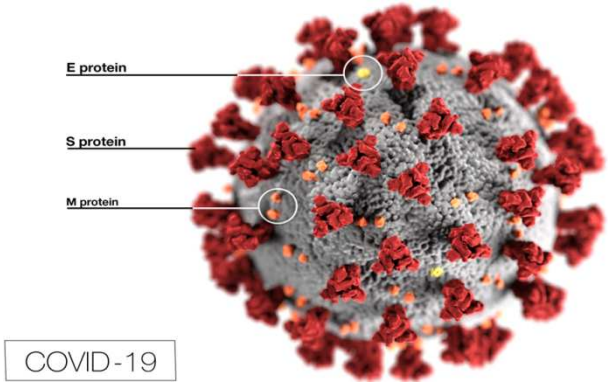

Figure 1. *SARS-CoV-2 (virus).*

Chan, J et al. (2020) stated that alongside SARS-CoV, bat SARS-like CoV and others, it also falls into the genus beta-coronavirus [13]. COVID-19 (caused by 2019-nCoV infection) is classified as a fifth-category notifiable communicable disease in Taiwan on January 15, 2019[4]. The genus beta-coronavirus can be divided into several subgroups.

Indeed, we are repurposing to find new therapeutic indications for old or currently used drugs such as Chloroquine and hydroxychloroquine, both with an original indication to prevent or cure malaria, have now been successfully used to treat several other infectious diseases by taking advantage of their anti-inflammatory, immunomodulating, anti-infective, antithrombotic, and metabolic effects. Among the biological effects of chloroquine and hydroxychloroquine, it is important to highlight their strong antiproliferative, antimutagenic, and inhibiting autophagy capacities. The well-demonstrated good tolerability of chloroquine and hydroxychloroquine make

them safe even during pregnancy.

PROGNOSIS

Prognosis is good, with about 10 days on average for recovery [5]. Prior to discharging a patient during recovery case, two respiratory samples should be taken 24 hours apart and must be negative [12].

Recently few confirmed COVID-19 cases (HCWs) tested positive again by rRT-PCR after hospital discharge. They were tested positive after 5 - 13 days of discharge during the home quarantine. However, they were asymptomatic and chest CT did not show any change from previous images [3, 6].

LIMITATIONS AND CHALLENGES – MOVING FORWARD:

Among the challenges posed to these trials are, funding challenges amidst the lack of precedence and supporting data. This remains to date an unpublished monograph, with personalized Physician-Patient Trials.

The funding challenge therefore remains a major impediment to the COVID-19 Response in Africa. However, most African countries have embedded CQ/HCQ [6, 7] in their treatment protocols for COVID-19 Response, including Egypt, South Africa, Ghana, and Kenya among others.

1. As a responsible organization, we have escalated the Hypothesis to government, public and private sector physicians and pharmacists, with a view to gathering data for a future Randomized or Adaptive Study.
2. After the webinar series, we have progressed into a preliminary study and we shall progress into formal Randomized Study with willing partners.
3. This is a Study by Africans for COVID-19 RESPONSE; to assist ALL VULNERABLE POPULATIONS AROUND THE WORLD.
4. It is Affordable, Realistic, Scalable, Replicable and Sustainable for ALL ECONOMIES AROUND THE WORLD.

MECHANISM OF ACTION – CHLOROQUINE AND HYDROXYCHLOROQUINE [6, 7, 9]

1. CQ/HCQ has a multiple mode of action on the virus.
2. It prevents the virus from penetrating the host cell using its S protein and Protease.
3. It breaks the polymerase chain and prevents viral replication.
4. It is a zinc ionophore and ensures penetration of zinc into the viral cell, altering the pH.
5. Zinc also potentiates CQ action, and CQ has a good safety profile in therapeutic doses.
6. Suppress exaggerated Immunoglobulin response IgG and IgM through Immunomodulation and therefore also exerts.
7. Anti-inflammatory action.
8. A highly soluble and more potent 8-Aminoquinoline, Quinine, will cross the BBB.
9. Will therefore penetrate the Alveoli and displace the viruses, disseminate the glass ground opacity, restore heme iron and normalcy.
10. Haemozoin Inhibitor – starves the virus of its food vacuoles.

SAFETY WELL ESTABLISHED – TOXICITY DUE TO OVERDOSING FOR COVID-19

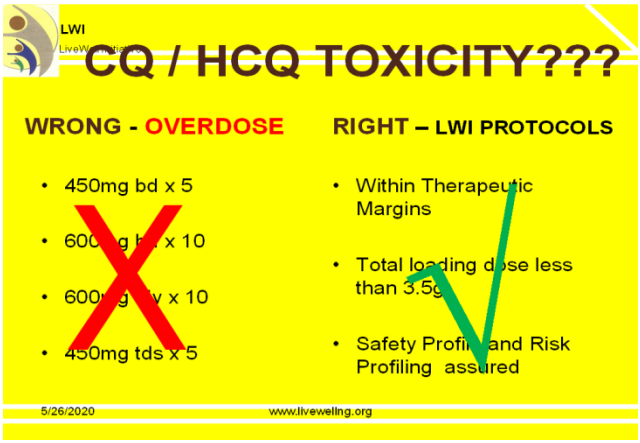

Figure 2. *CQ/HCQ Protocol by LWI.*

AZITHROMYCIN – A MACROLIDE ANTIBIOTIC

1. Highly soluble antibiotic.
2. Highly penetrating.
3. Aids in Phagocytosis.
4. Disseminates debris.
5. Rids the Respiratory Track of opportunistic Organisms.

ZINC –

1. An ionophore.
2. Prevents viral coupling with ACE2 Receptor.
3. Catalyses Chloroquine entry into viral cell through its ionophoric action.

CHLOROQUINE AND HCQ- MERITS OF USE AND DEMERITS OF OVERDOSING [10, 11]

There is a dose-dependent relationship between Chloroquine or its analogues, and patient outcomes. In a laudable article in 2018, the National Institutes of Health applauded Chloroquine and Hydoxychloroquine as Safe Medicines with increasingly important scopes of action including anti-infective, antiviral, and its well-established immunomodulatory action, even citing Antitumor effects.

Patients on Chloroquine or Hydroxychloroquine Prophylaxis are less likely to develop SARS-COV2 Infection, compared to those who are not on it, using the LWI Protocols.

This does not however be-lie the importance of PPEs.

However, a blanket Prophylaxis for all vulnerable populations, is the strong recommendation of LWI.

Overdosing is responsible for all the poisoning found in countries in the west, and the global North. This finding is as tabulated below, here at LWI.

3. Materials and Methods

THERAPY DESIGN – An Empirical Reverse Logic Model was used.

1. *Empirical Reverse Logic* Model.
2. We Looked at *All component parts* of the disease.
3. Healthcare Professionals – *PrEP / Travelers.*

4. Early Exposure / Asymptomatic Stages (URA)– *PEP.*
5. Early Disease (MRA - Trachea) – *Ambulatory Care.*
6. Advanced Disease – (LRA –Bronchi) – *Inpatient Care.*
7. Intensive Disease – (LRA – Aveoli) – *Critical Care, glass-ground opacity resultant from Cytokine Surge, Platelet aggregation, Displaced Heme Iron, Hyperoxia and Hyperviraemia.*
8. Post – Treatment *IPT - Intermittent Preventive Therapy.*

RANDOMISED CONTROLLED TRIAL:

STUDY DESIGN: ADAPTIVE / RANDOMIZED CONTROLLED TRIALS

Double Blind Clinical Trials where Control 1 will use LWI STUDY PROTOCOLS double blinded against Placebo or other Government Protocols.

1. PrEP to be Administered to Healthcare Workers and Self Isolated Persons.
2. PEP to be Administered to exposed HCWs, Post-Travel Self Quarantined Persons and Family Members of Outpatients.
3. Ambulatory Regimen to be Administered to Persons tested Positive treated as Outpatient.
4. Inpatient care for Persons on admission.
5. Critical Care – Severe Symptoms and Persons requiring mechanical ventilation.
6. Post-Discharge Intermittent Prophylactic Therapy.

Inclusion Criteria:

1. All persons are entitled to Treatment using these protocols.
2. However, children, pregnant women, and elderly patients have to undergo individual physician assessment prior to commencement of therapy.
3. All persons with history of ocular disease should undergo baseline visual acuity tests prior to treatment and should be monitored for toxicity.

Exclusion Criteria:

1. History of Acute Respiratory Airways Disease presents moderate to high risk.
2. History of Chronic Airway disease presents High Risk.
3. History of Hepatitis B or C or HIV presents moderate to high risk.
4. History of Renal Disease presents High Risk.
5. History f Diabetes with or without recent travel presents high risk.
6. Heart disease including Hypertension presents moderate to high risk.
7. Cardiovascular Disease with recent travel abroad and without post-travel self-isolation poses moderate to high risk.
8. Ageing Patients >65 years pose moderate to high risk.
9. Ageing Patients >75 years present with high risk.
10. Hepatitis B or C patient not in remission present with high risk.
11. Patients with elevated Liver Enzymes pose high risk.

Elimination Criteria:

1. History of allergy to Aminoquinlines.
2. History of severe Hypersensitivity reactions.

Risk Modification and Pre-Testing:

1. LFT for Hepatitis with or without remission.
2. BUN, Urea and Creatinine for Renal History.
3. Electrolytes and ECG for severely Hypertensive patients and above 75 years.
4. Visual acuity before and after intervention for patients with Chronic Eye Disease.
5. Baseline BP, for continuous monitoring.
6. Dosage Calibration below 4G for all patients as much as is possible.
7. Patients who present with moderate to high risk, should be monitored before, during and after intervention.
8. In particular, such patients' liver function, electrolytes and urea, or visual acuity may be monitored before and after intervention.
9. This is aligned with risk modification.

STUDY PROTOCOLS 1, 2, 3

1. STUDY PROTOCOL 1 – *'Smart' Protocol.*
2. STUDY PROTOCOL 2 –*The 'Generic' Protocol along with ancillary and symptomatic remedies.*
3. STUDY PROTOCOL 3 – *Easy to understand, easy applicability... Written for Community Health Workers, CHW, in Low income settings.*
4. *Includes Intermittent Preventive Therapy IPT*

LWI STUDY PROTOCOLS FOR COVID-19 RESPONSE IN AFRICA RECOMMEND AS FOLLOWS:

1. PrEP Pre-Exposure Prophylaxis.
2. PEP Post Exposure Prophylaxis.
3. Ambulatory Regimen for COVID-19 Outpatients.
4. Inpatient Regimen for COVID-19 Patients on admission.
5. Critical Care Regimen for ICU Patients and
6. Post-Recovery IPT (Intermittent Prophylactic Therapy) for post-discharge patients.

EMPIRICAL DATA FROM PHYSICIAN-PATIENT TESTING OF LWI STUDY PROTOCOLS SO FAR:

1. Kaduna State – *Positive feedback from State Government, adopting the protocol for trial.*
2. Bauchi State - *Positive feedback from State Official, adopting the protocol after debates* https://www.premiumtimesng.com/coronavirus/390660-coronavirus-ive-authorised-use-of-chloroquine-for-treatment-of-covid-19-bauchi-governor.html
3. Oyo State Isolation Centre – *11 patients all fully recovered and discharged.*
4. Chevron- *Self isolated Traveller recovered after PEP upon displaying symptoms and advised by the physician.*
5. Canada - *an ICU patient discharged after fully recovering on quinine i.v. Instituted by her physician*
6. United Kingdom – *Self Quarantined Nurse fully recovered after PEP.*
7. Lagos cohorts – *Group PrEP, Self-PrEP, PEP.*

ONGOING DISCUSSION WITH PROXIES / TEAMS AT:

1. UCH – IBADAN – *Agreed in principle to RCT. Discussion still ongoing.*
2. Lilly Hospital, Warri.
3. FMC Keffi.
4. Faith Multiplex Hospital, Benin City.
5. Babcock University, Ilesha.
6. Plateau State Government, Jos.
7. Lagos University Teaching Hospital LUTH.
8. FMC, Owerri.
9. ....and a host of others.

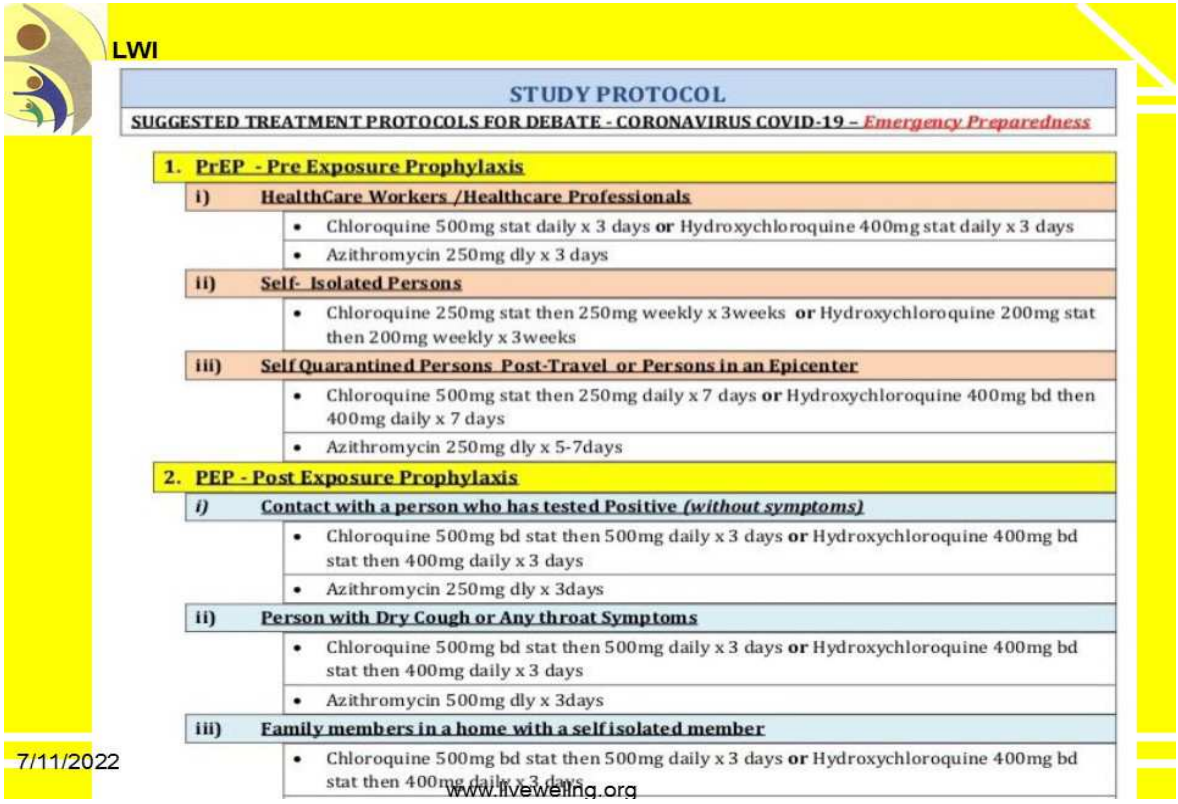

Figure 3. *Study Protocol.*

Figure 4. *Study Protocol.*

PREIMINARY DATA FROM PRELIMINARY STUDY PROTOCOLS – CHLOROQUINE/HYDROXYCHLOROQUINE AND QUININE IN COVID-19 RESPONSE IN AFRICA:

To operationalize the study protocols, they were designed as end to end protocols which were affordable, realistic and scalable for the low-income African setting.

The end to end protocols were in component parts including pre and post exposure prophylaxis, Asymptomatic Positive laboratory tested COVID-19 Ambulatory Care, ALL recommended for CQ/HCQ while Inpatient Care for Symptomatic COVID-19 Laboratory tested persons, in Advanced COVID-19 were recommended for Oral Quinine Tablets and Advanced Severe COVID-19 / Critical Care were recommended for Intravenous Quinine. The protocols further elucidate the controversy of non-infectivity in viral shedding post-treatment, by further recommending post treatment prophylaxis.

These Study Protocols underwent Hypothesis Testing among Groups of Physicians, Researchers, Virologists, Pharmacists and Clinicians for a 5-week period after which they were officially presented to the world community through an African continental webinar titled 'COVID-19 Africa Pump' to which over 450 subscribers were registered from around the continent. Such Study Protocols, with panelists from WHO, UN, Mayo Clinic and the Emropharm await being considered for Clinical Trials.

Table 1. *LWI study protocols frequency table.*

Study Protocol	Frequency
Inpatient	11
Outpatient	1
PEP	34
PrEP	76
ICU_Patient *(Treated on Quinine i.v.)*	1
Grand Total	123

Table 2. *LWI study protocols frequency table.*

Age (Years)	Frequency
18-35	65
36-55	55
>55	3
Grand Total	123

Table 3. *LWI study protocols frequency table.*

Gender	Frequency
Male	76
Female	34
Grand Total	123

4. Results and Discussion

In this preliminary trial in Nigeria, the use of CQ and HCQ in Pre and Post Exposure Prophylaxis resulted in positive outcomes for 110 clients placed on prophylaxis. None of the clients progressed into COVID-19 in 6 weeks Post-Lockdown; none of them was symptomatic.

The LWI Study Protocols have undergone Hypothesis Testing among Physicians, Researchers, Pharmacists and Clinicians, with online debates on several professional health platforms.

The results in this preliminary study are based on preliminary data gathered from Physician-Patient recommendations of Prophylaxis using the 4-Aminoquinolines in COVID-19 Treatment and Prophylaxis. It also recognizes some self-medicating individuals who took advantage of the non-prescription remedy.

The LWI Study Protocols are currently being used in Kaduna State, Bauchi State, and some other States in Nigeria. The unique thing about the Study Protocols, the 4-Aminoquinolines offer an end to end care in COVID-19, from CQ/HCQ in Pre and Post Exposure, to Mild and Moderate COVID-19 and escalating into QUININE I.V. for Critical Care in COVID-19.

Recently it was discovered that some tertiary health institutions are using the LWI Study Protocols for COVID-19 Prophylaxis and Outpatient Care.

The Study Protocols, composed of 6 segments namely;

1) PreExposure Prophylaxis.
2) Post Exposure Prophylaxis.
3) Ambulatory Care.
4) Inpatients Care.
5) Critical Care / ICU – *treated on Quinine Intravenous Injection.*
6) Post-Discharge Intermittent Prophylactic Therapy IPT.

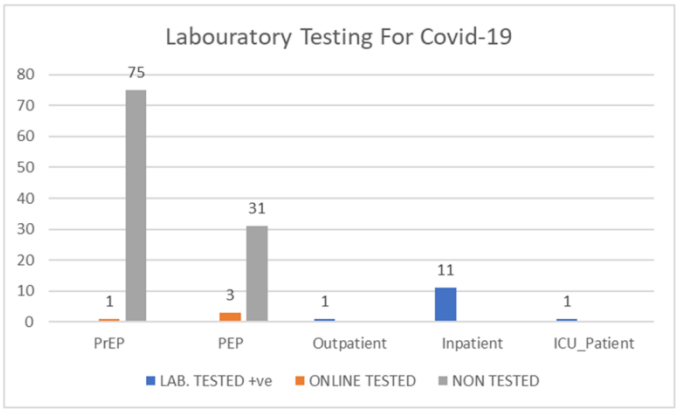

Figure 5. *Laboratory Testing For COVID-19.*

Table 4. *Laboratory testing for COVID-19.*

CLASSIFICATION	LABORATORY TESTED (n)	NON-TESTED (n)	ONLINE TESTED - AWAITING LABORATORY TESTING (2)
PrEP	NIL	75	1
PEP	NIL	31	3
OutPatient (U.K. Nurse)	1	-	-
Inpatient / Isolation Center (Oyo State Isolation Center)	11	-	-
Critical Care / Ventilator Patient (Canada) *treated on Quinine Injection i.v.	1	-	-
TOTAL	13	106	4

Table 5. *Symptom outcomes assessment before and after use of chloroquine and hydroxychloroquine for COVID-19 prophylaxis.*

SYMPTOMS & TESTING STRATIFICATION	Number (n)	Comments – AFTER
SYMPTOMATIC, ONLINE TESTED, Awaiting Laboratory Test	*3*	*General Public – Awaiting Laboratory Test for 3 weeks but now symptom free*
SYMPTOMATIC NOT LABORATORY TESTED	*8*	*4 Frontline Workers, 4 Frontline Healthcare Workers. No Symptoms*
SYMPTOMATIC, LABORATORY TESTED POSITIVE	*13*	*1 inpatient in Canada, 1 Self Quarantined HCW in the UK, 11 Isolation Center inpatients in Nigeria. No Symptoms.*
TOTAL	*24*	*COVID-19 Free 100% NIL mortality NIL morbidity*

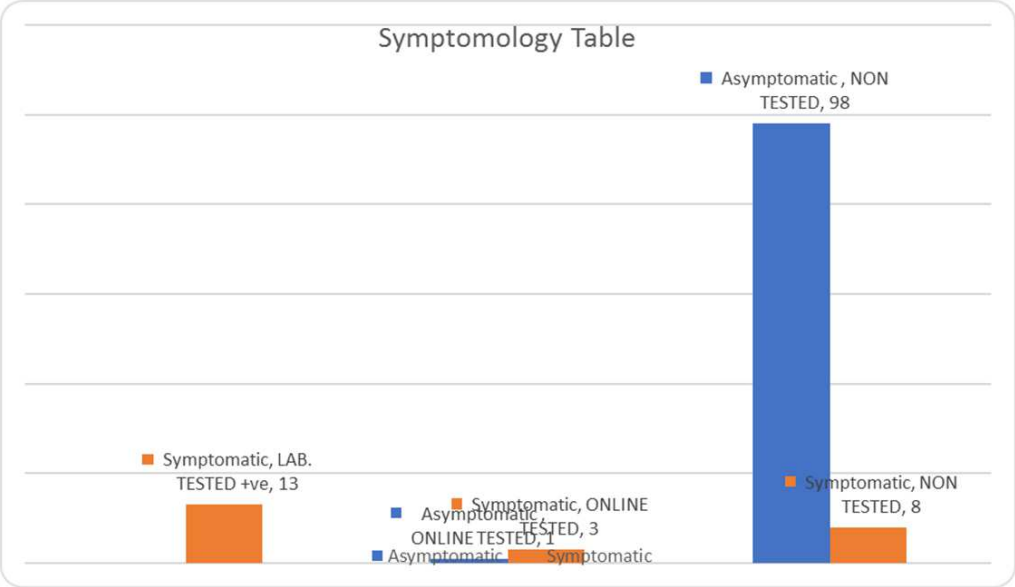

Figure 6. *Symptomology Table.*

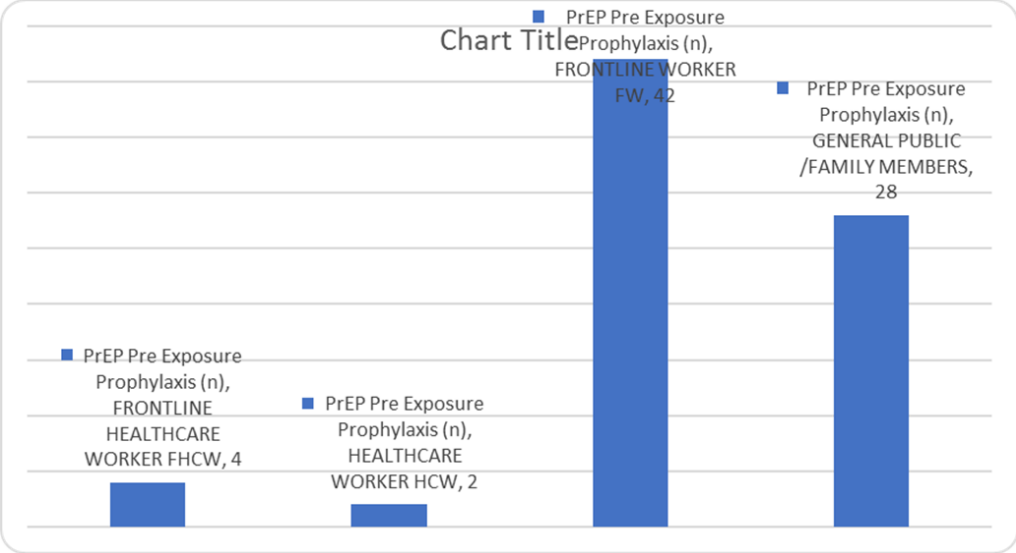

Figure 7. *PrEPPre Exposure Prophylaxis (n).*

Table 6. *Outcomes of pre-exposure prophylaxis using chloroquine / hydroxychloroquine for COVID-19 pre emptive-therapy.*

CATEGORY	PrEPPre Exposure Prophylaxis (n)	Post-Lockdown/6 weeks after	Comments
FRONTLINE HEALTHCARE WORKER FHCW	*4*	*NIL SYMPTOMS*	*COVID-19 Free*
HEALTHCARE WORKER HCW	*2*	*NIL SYMPTOMS*	*COVID-19 Free*
FRONTLINE WORKER FW	*42*	*NIL SYMPTOMS*	*COVID-19 Free (22-man Cohort of Security men and 20 Bankers)*
GENERAL PUBLIC /FAMILY MEMBERS	*28*	*NIL SYMPTOMS*	*COVID-19 Free*
TOTAL on PrEP	*76*	*Post-PrEP Post-Lockdown Symptom free after 6 weeks*	

Table 7. *Outcomes of post exposure prophylaxis using chloroquine / hydroxychloroquine for COVID-19 prophylaxis.*

CATEGORY	PEP Post Exposure Prophylaxis	Post-Lockdown / 6 weeks after	Comments
FRONTLINE HEALTHCARE WORKER FHCW	*3*	*NIL SYMPTOMS*	*COVID-19 Free (3 Isolation Center Staffers)*
HEALTHCARE WORKER HCW	*15*	*NIL SYMPTOMS*	*COVID-19 Free (15 Community Pharmacists)*
FRONTLINE WORKER FW	-	-	-
GENERAL PUBLIC	*16*	*NIL SYMPTOMS*	*COVID-19 Free* * 2 persons awaited Laboratory Testing after symptoms but are now symptom free*
TOTAL on PEP	*34*	*Post-PEP Post-Lockdown Symptom Free after 6 weeks*	

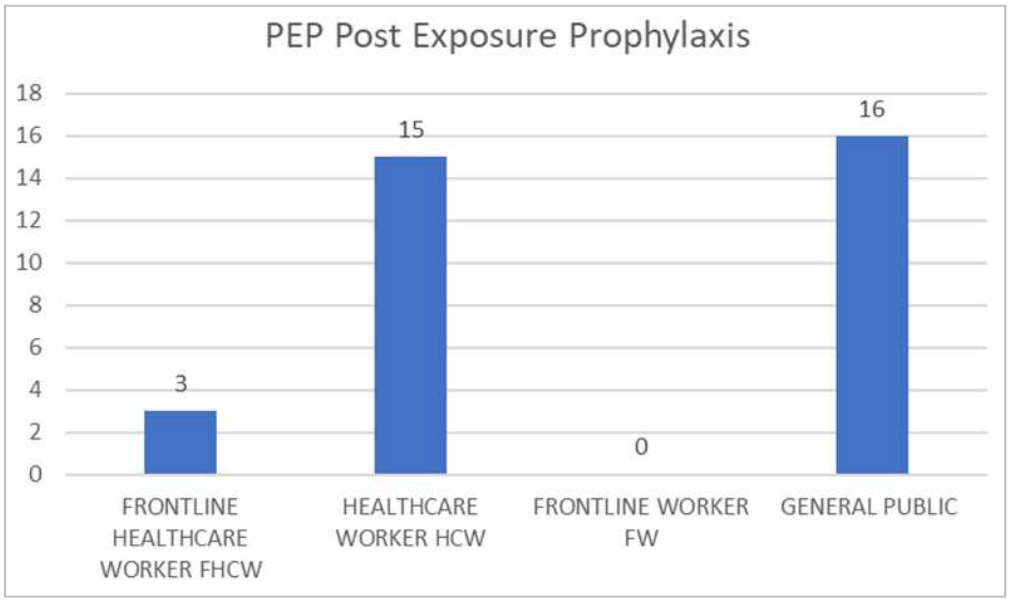

Figure 8. *PEP Post Exposure Prophylaxis.*

5. Conclusion

The LWIA and GPHU jointly conclude that CQ and HCQ Prophylaxis works as none of the 110 clients placed on prophylaxis progressed into COVID-19 in 6 weeks Post-Lockdown; none of them was symptomatic.

CQ/HCQ is relevant for Ambulatory care as the Laboratory Tested Positive Healthcare Worker on Self Quarantine who was treated with CQ were fully recovered, up to 6 weeks post-lockdown with no relapse, and having tested negative twice post treatment.

CQ/HCQ is also relevant for Inpatient care as the 11 Laboratory Tested Positive Patients placed on admission at the COVID-19 Isolation Center who were treated with CQ are all fully recovered, up to 6 weeks post-lockdown with no relapse, and having tested negative twice post treatment.

Quinine works in advanced COVID-19 as the Single Laboratory Tested Positive client on the ventilator, were fully recovered after Treatment with I.V. Quinine and is still symptom free 6 weeks post-lockdown.

The tests were re-run through the second, third wave, Delta and Omicron stages.

The further results will be discussed in subsequent papers.

References

[1] Huang C, Wang Y, Ren L, Zao J, Hu. Y et al. Clinical features of patients infected with 2019 novel. Coronavirus in Wuhan China. Lancet 2020 DOI: 10.1016/SO140-6736(20)30183-5.

[2] World Health OrganizationNovel Coronavirus (2019-nCoV) Available at https://www.who.int/emergencies/novelcoronavirus-2019. Accessed February 7, 2020.

[3] World Health Organization 2019-nCoV Situation Report. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports/. Accessed February 7, 2020.

[4] World Health Organization 2019-nCoV Situation Report. https://apps.who.int/iris/bitstream/handle/10665/331935/SITREP_COVID-19_WHOAFRO_20200429-eng.pdf

[5] Kakodkar P, Kaka N, Baig MN, A Comprehensive Literature Review on Clinical Presentation, and Management of the Pandemic Coronavirus Disease. [*A Review*] *Cureus*. 2020 Apr 06; 12 *(4)*: e7560.

[6] Centor RM, Kim AH, Sparks JA. Annals On Call - COVID-19: Is Chloroquine the Answer?*Ann Intern Med*. 2020 Apr 09 [Online ahead of print].

[7] Juurlink DN. Safety considerations with chloroquine, hydroxychloroquine and azithromycin in the management of SARS-CoV-2 infection. *[Journal Article] CMAJ*. 2020 Apr 08 *[Online ahead of print]*.

[8] Study Protocols for COVID-19 RESPONSE IN AFRICA – *An African Solution to the Pandemic.* Bright B, Ali W, Adesope T https://www.slideshare.net/BisiBright/study-protocols-for-covid-19-response-in-africa-an-african-solution-to-the-pandemic

[9] Revised advisory on the use of Hydroxychloroquine (HCQ) as prophylaxis for SARS-CoV-2 infection (in supersession of previous advisory dated 23rd March, 2020) - Indian Council of Medical Research https://www.icmr.gov.in/pdf/covid/techdoc/V5_Revised_advisory_on_the_use_of_HCQ_SARS_CoV2_infection.pdf

[10] Abdel Ghaffar MM, Omran D, Elgebaly A, Bahbah EI, Afify S, AlSoda M, et al. (2022) Prediction of mortality in hospitalized Egyptian patients with Coronavirus disease-2019: A multicenter retrospective study. PLoS ONE 17 (1): e0262348. https://doi.org/10.1371/journal. pone.0262348

[11] Otto MA. Wuhan virus: What clinicians need to know. Medscape Medical News. 2020, [cited 2020 Jan 27]. Available from: https://www.medscape.com/viewarticle/924268.

[12] Chan Jasper FW, Yuan S, Kok KH, To Kelvin KW, Chu H, Yang J, et al. A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. Lancet 2020DOI: https://doi.org/10.1016/S0140-6736(20)30154-9

[13] Perlman S. Another decade, another coronavirus. N Engl J Med 2020 DOI: 10.1056/NEJMe2001126.

[14] World Health Organization. Clinical management of severe acute respiratory infection when novel coronavirus (2019-nCoV) infection is suspected-Interim Guidance. 2020, [cited 2020 Feb 18]. Available from: https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-(ncov)-infection-is-suspected