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NEWSLETTER OF COCHRANE NIGERIA, CALABAR INSTITUTE OF TROPICAL DISEASES RESEARCH AND PREVENTION, UNIVERSITY OF CALABAR TEACHING HOSPITAL.

Efficacy and safety of COVID-19 Vaccine

Coronavirus disease 2019 (COVID-19) is a highly infectious disease caused by the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). The first case of COVID-19 occurred in Wuhan, Hubei Province, China in December 2019 from where it rapidly spread to other parts of the World. On the 11th of March 2020, The World Health Organization (WHO) declared COVID-19 a pandemic. The disease is characterized by signs and symptoms such as fever, cough, tiredness, loss of taste or smell, sore throat, headache, diarrhoea, skin rash, discolouration of fingers or toes, red or irritated eyes, difficulty breathing or shortness of breath, loss of speech or mobility, confusion, or chest pain [1]. Most individuals infected with the virus suffer mild to moderate respiratory illness and recover without the need for special treatment. Some people, however, experience severe illness and require medical attention. Older people and those with underlying medical conditions such as cancer, diabetes, chronic lung disease, or cardiovascular disease are more prone to experience serious illness.

The virus that causes COVID-19 is transmitted through respiratory droplets or aerosols when an infected person speaks, sneezes, sings, or coughs; or through contact with contaminated surfaces or items. Since the pandemic began, several measures have been employed to curb the spread of the virus. These include use of face-masks, hand hygiene (hand washing and use of alcohol-based sanitizers), social distancing, self-quarantine, and vaccination. Substantial effort has been put into the research and development of vaccines. Vaccines exploit the ability of the immune system to respond to pathogenic antigens. COVID-19 vaccine development aimed at conferring protection against infection, or symptomatic disease, has been accelerated due to priority funding over other diseases.

Initially, Nigeria and other African governments struggled to get access to Covid-19 vaccines, however, delivery to African countries has improved and as at the 5th of February 2023, The World Health Organization confirmed that a total of 111,985,403 vaccine doses have been administered in Nigeria[2] . A lot of people, however, have still not been vaccinated and for some people this may be due to vaccine hesitancy (delay in acceptance or refusal of vaccination despite availability of vaccination services[3]) arising from uncertainty about the safety and efficacy of the vaccine.

Contents

In a recent Cochrane systematic review[4] Grana and colleagues sought to assess the efficacy and safety of COVID-19 vaccines (as a full primary vaccination series or a booster dose) against SARS-CoV-2. They searched the Cochrane COVID-19 Study Register, the COVID-19 L·OVE platform, WHO International Clinical Trials Registry Platform, regulatory agency websites, and Retraction Watch, for randomized controlled trials (RCTs) comparing COVID-19 vaccines to placebo, no vaccine, other active vaccines, or other vaccine schedules. Key outcomes reported by the authors included confirmed symptomatic COVID-19, severe and critical COVID-19, and serious adverse events for the ten WHO-approved vaccines.

For the outcome confirmed symptomatic COVID-19, the authors found, high-certainty evidence that BioNtech/Fosun Pharma/Pfizer (BNT162b2), Oxford/AstraZeneca (ChAdOx1), Sinopharm-Beijing (Ad26.COV2. S, BBIBP-CorV) and Bharat Biotect (BBV152), reduce the incidence of symptomatic COVID-19 compared to placebo. In addition, they found moderate-certainty evidence that Novavax (NVX-CoV2373) probably reduces the incidence of symptomatic COVID-19 compared to placebo; and low-certainty evidence for Sinovac(CoronaVac) for this outcome.

The results of their research also showed that there was high-certainty evidence that BNT162b2, ModernaTx (mRNA-1273), Ad26.COV2. S, and BBV152 result in a large reduction in incidence of severe or critical disease due to COVID-19 compared to placebo. There was moderate-certainty evidence that NVX-CoV2373 probably reduces the incidence of severe or critical COVID-19. Two trials found that CoronaVac had a high efficacy for severe or critical disease with broad confidence intervals, however these findings could not be integrated. With regards to adverse events, the results of the review showed that mRNA-1273, ChAdOx1 (Oxford-AstraZeneca)/SII-ChAdOx1 (Serum Institute of India), Ad26.COV2. S, and BBV152 probably result in little or no difference in Serious adverse events (SAEs) compared to placebo. Evidence for SAEs was uncertain for BNT162b2, CoronaVac, BBIBP-CorV, and NVX-CoV2373 compared to placebo

The authors concluded that when compared to placebo, most vaccines reduce, or likely reduce, the proportion of participants with confirmed symptomatic COVID-19. For some vaccines, there was high-certainty evidence that they reduce severe or critical disease while there is probably little or no difference between most vaccines and placebo for serious adverse events.

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(From the Cochrane Library)

Plain Language Summaries

HOUSE MODIFICATIONS FOR PREVENTING MALARIA

What is the aim of this review?

House modifications, such as screening (covering or closing potential house entry points for mosquitoes with mesh or other materials) or the use of specific house materials or designs, such as metals roofs instead of thatched roofs, or elevated rooms, may contribute to reducing the burden of malaria. They work by preventing mosquitoes from entering houses, and reducing the number of bites householders receive indoors. Some house modifications under consideration additionally aim to kill any mosquitoes that attempt to enter houses by incorporating insecticide into the modification.

Key messages

Modifying houses to prevent mosquitoes entering the home was associated with a reduction in the proportion of people with malaria parasites in their blood and reduced anaemia, based on evidence from seven studies conducted in Africa. The effect of house modifications on the number of cases of malaria identified during specific time periods was mixed, and the effect on indoor mosquito density was less clear due to differences between study results. Six trials awaiting publication are likely to enrich the current evidence base.

What was studied in the review?

This review summarized studies investigating the effects of house modifications on human malaria outcomes. If studies additionally reported the effect of the house modifications on mosquitoes (those with potential to carry the parasites that cause malaria), or householders' views, we also summarized this data. After searching for relevant studies, we included seven published trials and six ongoing trials. All complete trials assessed screening (of windows, doors, eaves, ceilings, or any combination of these), either alone or in combination with roof modification or eave tube installation (a "lure and kill" device positioned in eave gaps to attract and kill mosquitoes). One trial incorporated insecticide into their house screening.

What are the main results of the review?

The seven included trials all assessed either the number of cases of malaria identified during specific time periods in people living in the house, the proportion of people with malaria parasites in their blood, or both. Overall, the studies showed that people living in modified houses were around 32% less likely to have malaria parasites in their blood, and were 30% less likely to experience moderate or severe anaemia. Our confidence in these results was moderate to high. The studies demonstrated 37% reduction in the number of mosquitoes trapped indoors at night in modified houses, although this result varied between trials. The trials showed mixed results for the likelihood of experiencing an episode of clinical malaria (caused by *Plasmodium falciparum* parasites), ranging from a 62% lower rate to a 68% higher rate of malaria for people living in modified houses. Due to the high inconsistency between these results, we have very low confidence in this evidence.

How up to date is this review?

The review authors searched for studies available up to 25 May 2022.

Reference: *Fox T, Furnival-Adams J, Chaplin M, Napier M, Olanga EA. House modifications for preventing malaria. Cochrane Database of Systematic Reviews 2022, Issue 10. Art. No.: CD013398. DOI: 10.1002/14651858.CD013398.pub4. Accessed 02 March 2023.*

INTERVENTIONS TO IMPROVE SANITATION FOR PREVENTING DIARRHOEA

What is the aim of this review?

The aim of this Cochrane Review was to assess if diarrhoea is reduced by sanitation interventions to provide, upgrade, or encourage people to use toilets or latrines. We collected and analysed all relevant studies of certain prespecified rigorous study design types and found 51 studies involving 238,535 people.

Key messages

We found evidence that sanitation interventions may be protective against diarrhoea. However, the effects varied by the type of intervention and setting, and the certainty of the evidence ranged from very low to moderate.

What was studied in this review?

Diarrhoea is a major cause of death and disease, especially amongst young children in low-income countries. Many of the pathogens that cause diarrhoea are transmitted through exposure to human faeces. Sanitation facilities, such as toilets and latrines, serve as a primary barrier to separate pathogens excreted in human faeces from the environment. This review examined intervention studies to improve sanitation access, facilities, or use. We identified 51 studies of such interventions, most of which were

from low- or middle-income countries.

What were the main results of this review?

The results suggest that sanitation interventions reduce diarrhoea by about 15% to 26%, both in vulnerable young children and all age populations. However, not all interventions were protective, and effects varied substantially by the type of intervention and setting. We estimated that an intervention to provide sanitation access to people practising open defecation would probably reduce diarrhoea by about 11% to 21%, an intervention to improve existing sanitation facilities may reduce diarrhoea by about 15% to 35%, and a behaviour change intervention to improve sanitation access or use without providing infrastructure or subsidies would probably reduce diarrhoea by about 15% to 18%. However, the certainty of the evidence ranged from moderate to very low, and additional research is likely to change these estimates, particularly for interventions that provide sanitation access or improve existing sanitation facilities. Further research is also necessary to understand which type of interventions would yield the most protective health effects in various types of settings.

Reference: *Bauza V, Ye W, Liao J, Majorin F, Clasen T. Interventions to improve sanitation for preventing diarrhoea. Cochrane Database of Systematic Reviews 2023, Issue 1. Art. No.: CD013328. DOI: 10.1002/14651858.CD013328.pub2. Accessed 10 March 2023.*

CALCIUM AND VITAMIN D FOR IMPROVING BONE HEALTH IN HEALTHY PREMENOPAUSAL WOMEN

Key messages

The evidence suggests that calcium, vitamin D, or calcium plus vitamin D supplementation has no effect on bone mineral density at any site (hip or spine) in healthy premenopausal women.

What is osteoporosis?

Osteoporosis is characterised by low levels of calcium and other types of minerals in the bones (called bone mineral density). This causes holes to form inside the bones and the outer walls of the bone to become thin making the bones more fragile, which may lead to increased fractures and breaks.

Osteoporosis constitutes a major public health problem and contributes to more than 8.9 million broken bones annually, which means that on average, an osteoporotic fracture occurs every three seconds. Supplements of calcium and vitamin D are often recommended for women after menopause (although not everyone agrees), but adequate supplementation of calcium and vitamin D is always recommended in institutionalised people (e.g. people living in care homes) and people taking osteoporosis treatment. Little is known about the effect of calcium and vitamin D on the bone density of women who have not yet started menopause. There are few studies in this age group and the results are inconclusive. In this age group, increasing bone strength and health is considered the goal of supplementation, so BMD is relevant.

What did we want to find out?

We wanted to determine if calcium and vitamin D were able to increase the mineral content of bones and reduce the risk of fractures, and to report potential side effects of supplementation.

What did we do?

We searched medical databases for well-designed clinical studies of calcium and vitamin D supplementation alone or in combination compared with placebo (dummy treatment) in healthy women aged 18 to 45 years (premenopausal). We analysed three combinations: calcium versus placebo, vitamin D versus placebo, and calcium plus vitamin D versus placebo, administered for at least three months. We looked at their effects on increasing minerals in the bones of the hip and spine, if the women had vertebral (backbone) or any other fractures during the study, effects on quality of life, and if these women had to stop the supplementation because of side effects.

What did we find?

We included seven studies with 941 healthy premenopausal women with an average age per study of 18 to 42.1 years. The women were randomly assigned to receive supplementation of calcium,

vitamin D, or vitamin D plus calcium, or placebo.

Main results

There was no difference in bone mineral density in any of the groups being supplemented with calcium, vitamin D, or calcium plus vitamin D compared with placebo. The studies did not report fractures (from any anatomical site), quality of life, or stopping the supplementation for side effects.

What are the limitations of the evidence?

The common limitations in the methods of the studies included small numbers of participants, studies, and data; problems in adherence to treatment, participants may have known which treatment they received; and lack of information for withdrawals from treatment. The funding for the studies was provided by institutional, academic, government, and pharmaceutical industries.

How up to date is this evidence?

The evidence is up to date to April 2022.

Reference: *Méndez-Sánchez L, Clark P, Winzenberg TM, Tugwell P, Correa-Burrows P, Costello R. Calcium and vitamin D for increasing bone mineral density in premenopausal women. Cochrane Database of Systematic Reviews 2023, Issue 1. Art. No.: CD012664. DOI: 10.1002/14651858.CD012664.pub2. Accessed 10 March 2023.*

RECENT EVENTS

COURTESY VISIT TO THE CHAIRMAN, NIGERIAN UNION OF JOURNALISTS, CALABAR CHAPTER

Cochrane Nigeria recently paid a courtesy visit to the Chairman, Nigerian Union of Journalists (NUJ), Calabar Chapter on the 17th of February 2023. The Cochrane Nigeria team consisting of Mrs. Moriam Chibuzor and Mrs. Dachi Arikpo (Senior Research Officers, Cochrane Nigeria) and, Ms. Deborah Ndukwu and Ms. Mavis Otonkue (Research Assistants) was well received by Mr. Nsa Gill (Chairman,NUJ Calabar Chapter).

The objective of the visit was to strengthen ongoing collaboration with the NUJ and to congratulate the recently elected Chairman of the Union. The NUJ has been partnering with Cochrane Nigeria to disseminate evidence-based health care information to the general public.

During the visit, Mrs. Moriam Chibuzor, gave a brief background of Cochrane Nigeria's mission, vision and objectives. She also reiterated the importance of evidence-based health care research and the crucial role the media has to play in the process of uptake of evidence from health care research.

The Chairman thanked the Cochrane Nigeria team for their efforts to ensure that evidence-based health information is produced and disseminated to the public. He declared that the union is prepared to continue to collaborate with Cochrane Nigeria and participate in related media and public events. Mrs. Dachi Arikpo thanked the Chairman and the Union for the promise of their steadfast support to Cochrane Nigeria and presented an information pack to him.

GELA ANNUAL MEETING IN MALAWI

GELA (Global Evidence Local Adaptation) is a European & Developing Countries Clinical Trials Partnership **(**EDCTP) funded project which aims to enhance evidence-informed guideline recommendations for new-born and young child health in Nigeria, South Africa and Malawi. The management, staff and research team members on the Project, as well as policymakers converged for the first annual GELA Meeting from 24-26th of January, 2023 at the Sunbird Capital Hotel in Lilongwe, Malawi.

The aim of the meeting was to review progress over the first year of the project and plan towards achieving milestones and deliverables. As such, the meeting consisted of working sessions on the various work packages (GELA is organized around seven work packages: Engage, Synthesise, Decide, Share, Learn, Evaluate and Coordinate) as well as in-house training sessions. The training sessions included capacity building on the use of MAGICapp (an authoring and publication platform for guidelines and evidence summaries) and a Clinical Practice Guidelines Simulation Workshop.

The first day of the meeting was flagged off with an opening session during which, the Chief of Health Services, Ministry of Health, Malawi, Dr Queen Dube gave opening remarks. In her speech, she emphasized the need to pay attention to the "how" of guideline implementation.

The annual meeting was attended by members of the various partner country teams including Cochrane South Africa, the South African Medical Research Council, the Norwegian Institute of Public Health, the Norwegian University of Science and Technology, Western Norway University of Applied Science, Stellenbosch University (South Africa), Cochrane Nigeria at the University of Calabar Teaching Hospital, Kamuzu University of Health Sciences (Malawi), Cochrane and the Stiftelsen MAGIC Evidence Ecosystem (Norway). The meeting provided opportunity for a lot of networking among the partners as well as collaboration to move the project forward.

GELA STEERING GROUP - INAUGURAL MEETING

The GELA (Global Evidence, Local Adaptation) Project aims to maximise the impact of evidence for poverty-related diseases by increasing the capacity of decision makers and researchers to use global research to develop locally relevant guidelines for new-born and child health. The project is being carried out in three Sub-Saharan African countries – South Africa, Malawi and Nigeria. The project began in April 2022. In each of these countries steering groups have been appointed to guide the implementation of the project.

The Inaugural Meeting of the Steering Group for the GELA Project in Nigeria took place on 7 December 2022, at the Statement Hotel Abuja. Key objectives of the meeting were to formally inaugurate the steering group and identify priorities for guidelines in new-born and child health in Nigeria. The meeting began with a session of introductions, after which Dr. Emmanuel Effa (Principal Investigator, GELA Project, Nigeria) gave a brief overview of the GELA project.

Dr. Ngozi Azodoh (Director, Health Planning, Research, and Statistics, Federal Ministry of Health, Nigeria) gave a speech in which she expressed joy at the establishment of the steering group. She said that she hoped that the GELA research project would grow and lead to capacity development thereby increasing decision-makers' capacity to use global research for local action and providing evidence for policy decisions.

The representative of the Minister of State for Health in the person of Dr. David Atuwo (mni), formally inaugurated the GELA Steering group. The inauguration of the steering group was followed by a technical session during Dr. Effa made a presentation of a landscape analysis of the National new born and child health clinical Practice Guidelines in Nigeria, which is research conducted under the GELA Project. The presentation elicited comments from the steering group members and set the tone for the final part of the technical session during which steering group members deliberated on, and selected priority topics for guidelines in New-born and child health in Nigeria. The deliberations were predicated on the results of an initial survey conducted among relevant stakeholders.

ANNOUNCEMENT

Cochrane Colloquium

Each year, the Cochrane Colloquium brings together participants from all over the world to discuss research on significant issues in global health and to advance the practice of evidence-based medicine. As Cochrane commemorates 30 years of providing trustworthy evidence, the theme **"Forward together for trusted evidence"** explores the challenges that lie ahead for the reliability of healthcare data and information.

This event is open to everyone with an interest in the use of evidence in healthcare decision-making, including those involved in its production, co-production, distribution, implementation, and policy-making, as well as people who are making their own healthcare decisions.

Find out more and register for this year's big event in London from 4-6 September 2023.

Register before 1 June for the reduced early bird rate.

KEY DATES

6th March 2023	Stipend Applications open
24th April 2023	Stipend Applications deadline
1st June 2023	Early Registration closes and Cochrane sponsored group registration closes
6th June 2023	Standard Registration begins
2nd August 2023	Standard Registration closes
3rd August 2023	Late Registration opens
3rd September 2023	Satellite events
4th to 6th September 2023	**COCHRANE LONDON**

LOOKING BACK: LOOKING FORWARD

Cochrane's Editor in Chief, Dr. Karla Soares-Weiser published an editorial to mark the end of 2022 and the beginning of Cochrane's 30th anniversary year in 2023.

In Looking back, looking forward: Cochrane at 30 and beyond, Karla celebrates three decades of work as the standard setter for systematic reviewers everywhere. She states that Cochrane has more work to do now and in the future to address equality issues and broaden inclusiveness. By concentrating on important issues including maternal and child health, infectious illnesses, social determinants of health, health disparities, and climate change, we can promote the Sustainable Development Goals and address global concerns. Looking forward, Cochrane has much to aspire to and achieve as we build on the strong traditions of collaboration, independence and innovation.

The editorial also provided the first look at Cochrane's updated 30th anniversary celebration logo.

COCHRANE LAUNCHES NEW OPEN ACCESS JOURNAL

The first open access journal published by Cochrane is open for submission.

According to Michael Brown, the editor of the new journal, the new *Cochrane Evidence Synthesis and Methods* journal enables us to publish varied forms of evidence synthesis, methods research, and research on other areas crucial to evidence synthesis. It gives Cochrane groups and collaborators who, up until now, were unable to publish their research in a Cochrane journal a platform to disseminate research that goes beyond systematic reviews.

Systematic Reviews Trivia

1. **Which of the following is not always required in sytematic review?**
   A. Protocol Development
   B. Search Strategy
   C. Involvement of more than one author
   D. Meta-Analysis

2. **Systematic review of evidence from qualitative studies is also known as a meta-analysis.**
   A. True
   B. False

3. **Which of the following are steps in conducting a systematic review?**
   A. Formulate a question and develop protocol
   B. Conduct Search
   C. Select Studies
   D. Assess study quality and extract data
   E. All of the above

4. **Where can you register the protocol of your systematic review?**
   A. Cochrane
   B. National Health Research Council of your Country
   A. ClinicalTrial.gov
   B. PROSPERO
   C. A OR D

5. **What does "S" stand for in the acronym PICOS?**
   A. Selection
   B. Search
   C. Systematic Review
   D. Study Design

6. **Which of the following cannot be calculated for continuous variables?**
   A. Absolute Mean Difference
   B. Standardized Mean Difference
   C. Response Ratio

7. **A forest plot displays effect estimates and confidence intervals for both individual studies and meta-analyses.**
   A. True
   B. False

8. **Which is/are the advantage/s of the meta-analyses?**
   A. To improve precision
   B. To answer questions not posed by the individual studies
   C. To settle controversies arising from apparently conflicting studies or to generate new hypotheses
   D. All of the above

9. **In inverse-variance method, larger studies are given more weight than smaller studies.**
   A. True
   B. False

10. **Which of the following method is done with inverse -variance method?**
    A. Fixed effect method for meta-analysis
    B. Random effects methods for meta-analysis
    C. Both
    D. None

ANSWERS: DBEEDCADAC

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