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Newsletter of Cochrane Nigeria, Calabar Institute of Tropical Diseases Research and Prevention, University of Calabar Teaching Hospital

GLOBAL EVIDENCE SUMMIT – 2017



For the first time ever, Cochrane, the Campbell Collaboration, Joanna Briggs Institute, International Society for Evidence Based Health Care and Guidelines International Network came together to hold the Global Evidence Summit from 13-16th September 2017. The premiere event drew more than 1300 delegates from 75 countries. The theme of the Summit "Using evidence, improving lives" was explored through a number of plenaries, oral sessions, workshops and meetings. The event took place in Cape Town, South Africa where the team at Cochrane South Africa helped to make the event an excellent one.

Each day of the summit began with a plenary handled by world class speakers. The first plenary "Evidence for Africa: How evidence is changing communities across one continent looked at how Africa deals with evidence from policy to practice. A recurring issue throughout the summit was the evidence ecosystem and the need for networks and evidence sharing to promote the use of evidence in policy. This was explored extensively on day 2, during the plenary titled "Breaking down the



Nigerians at the Global Evidence Summit



Some members of the Nigerian Contingent with Mark Wilson (Cochrane CEO)



Tamara Kredo and Jimmy Volmink at Gala Dinner



L-R – Charles Wisyonge (Director, Cochrane South Africa) with Joe Okebe and Solange Durao

silos: Digital and trustworthy evidence eco-system" which focused on how the use of new evidence can be promoted through sharing of evidence and use of advanced technologies. The use of evidence for handling emerging crises and how international collaborations and innovations in research can facilitate emergency preparedness was addressed in plenary 3 titled – Evidence for emerging crisis: How international collaboration and innovation can solve global humanitarian crises, such as Ebola. In addition a plenary was devoted to the issue of promoting evidence in a post-truth world. This plenary dealt with how evidence can be presented in the most persuasive way to promote its uptake by the public, politicians and press in a post-truth world. The final plenary for the summit looked at the role evidence can play in achieving a more equitable world.



Ready for Drum Fun at Welcome Reception

It was not all work at the summit. A number of colourful and thrilling social events were organized. Highlights of the social events were the performance by Drum Café at the welcome reception and the Marimba band at the Gala Dinner. Other social events enjoyed by the Summit attendees were gumboot dancing, leisure tours around Cape Town and the Anne Anderson walk.



Drum Café performing at the Welcome Reception

Many other events took place during the summit. These included interviews by COSAT/Children's Radio Foundation with some of the key speakers at the Summit. During the interviews, the children asked questions relating to science and its practical application. A key event that took place at the Summit, which cannot go unmentioned was the formal launching of the Cochrane African Network (CAN) on 15 September 2017. The Cochrane African Network was established to increase the use of best evidence to inform health care decision making in sub Saharan Africa. The CAN launch was attended by participants from 17 countries and provided an opportunity for stakeholders to network and share ideas for moving forward.



Members of Cochrane Africa Network putting heads together on how to take the Network forward



TECHNICAL SUMMARY

PROPHYLACTIC ANTIBIOTICS FOR PREVENTING PNEUMOCOCCAL INFECTION IN CHILDREN WITH SICKLE CELL DISEASE

Background

Sickle cell disease (SCD) is a genetic haemoglobin disorder, which causes red blood cells to deform (become sickled) when they give up oxygen. These sickled blood cells can lead to tissue and organ damage and complications, such as stroke, splenic infarction and severe pain crises. Persons living with SCD are particularly susceptible to infection of the respiratory tract and septicaemia. In children under the age of three years, infection is the major cause of death. As a result of the vulnerability of children to pneumococcal infection, an effective prophylactic antibiotic regimen is needed. Possible regimens to prevent pneumococcal infection involve daily oral use or monthly intramuscular injections of penicillin.

Objectives

To assess the effectiveness of antibiotic prophylaxis against pneumococcus in children with SCD in relation to: incidence of infection; mortality; drug related adverse events (as reported in the included studies) to the individual and the community; the impact of discontinuing at various ages on incidence of infection and mortality.

Main Results

- Three trials (N=880) were included in the review. Two were conducted in the USA and one in Jamaica.
- Ages of children in the trials ranged between 3 months to five years.
- Interventions assessed were prophylactic antibiotics compared to placebo, no treatment or a comparator treatment.

- The primary outcomes of interest were: number of participants developing *Streptococcus pneumoniae* (*S. pneumoniae*) infection confirmed with cultures, and deaths

- The secondary outcomes were: adverse drug effects; antibiotic-resistant organisms isolated; requirement for other courses of antibiotics; compliance with antibiotic prophylaxis measured by counting doses and urine samples

Main Results

Number of participants developing *S. pneumoniae* infection, confirmed with cultures:

- **Initiation of penicillin treatment versus placebo**

Penicillin may reduce pneumococcal infection in children compared to placebo (OR 0.37, 95% CI 0.16 to 0.86; $I^2=69\%$, low-quality evidence, two trials, 457 children).

- **Penicillin prophylaxis versus withdrawal of penicillin prophylaxis**

Little or no difference was observed between children who had withdrawal of penicillin prophylaxis compared to those who continued (OR 0.49, 95% CI 0.09 to 2.71; low-quality evidence, one trial, 400 children).

Deaths

- **Initiation of penicillin treatment versus placebo**

Initiation of penicillin treatment made little or no difference in reducing the number of deaths compared to placebo (OR 0.11, 95% CI 0.01 to 2.11; low-quality evidence, one trial).

- **Penicillin prophylaxis versus**

withdrawal of penicillin prophylaxis

The one trial which assessed this comparison showed little or no difference in the number of deaths in children who continued penicillin prophylaxis and in children who prophylaxis was withdrawn (OR 0.99, 95% CI 0.14 to 7.10; low-quality evidence, 400 participants). Two deaths occurred in the penicillin group due to acute sickle chest syndrome and two as a result of stroke in the placebo group; no deaths were directly associated with infection.

Adverse drug effects

- **Penicillin prophylaxis versus withdrawal of penicillin prophylaxis**

In the one trial (400 participants) there were three recorded incidences of nausea and vomiting (one in the placebo group), and two localized reactions to vaccines (low quality evidence).

Antibiotic-resistant organisms isolated

- **Penicillin prophylaxis versus withdrawal of penicillin prophylaxis**

There was little or no difference in incidence between groups, although there was a non-significant increased likelihood of children in the penicillin group to carry multiple-drug resistant pneumococci compared to the control group (low-quality evidence, one trial, 400 participants).

Requirement for other courses of antibiotics

- **Penicillin prophylaxis versus withdrawal of penicillin prophylaxis**

There was little or no difference between groups in their requirement for additional courses of antibiotics

(OR 0.94, 95% CI 0.55 to 1.61; low-quality evidence, one trial, 400 participants)

Compliance with antibiotic prophylaxis

• **Initiation of penicillin treatment versus placebo**

Due to variations in the way this outcome was assessed in the included studies meta-analysis of data was not practicable.

Conclusion

The results of the review showed that penicillin prophylaxis reduces the incidence of pneumococcal infections in children with sickle cell disease below the age of five years. In addition there was no significant increase in risk of infection with withdrawal of prophylactic penicillin in children older than five years. However more observational data

may help to elucidate the risk of infection in children when penicillin prophylaxis is withdrawn.

Rankine-Mullings AE, Owusu-Ofori S. Prophylactic antibiotics for preventing pneumococcal infection in children with sickle cell disease. Cochrane Database of Systematic Reviews 2017, Issue 10. Art. No.: CD003427. DOI: 10.1002/14651858.CD003427.pub4.

PLAIN LANGUAGE SUMMARIES

INTERVENTIONS TO INCREASE THE NUMBER OF TUBERCULOSIS CASES BEING DIAGNOSED

This review summarized trials evaluating the effects of interventions aiming to increase the diagnosis of tuberculosis and reduce the number of undiagnosed tuberculosis cases in communities. After searching for relevant trials up to 19 December 2016, we included 17 studies conducted in sub-Saharan Africa (nine studies), Asia (six studies), and South America (two studies).

Why does tuberculosis go undiagnosed and how might programmes improve this?

Tuberculosis is a chronic infectious disease that affects over 10 million people worldwide, with an estimated four million tuberculosis patients remaining undiagnosed each year. Interventions such as outreach tuberculosis screening with or without health promotion that actively screen for tuberculosis among individuals presenting with symptoms of tuberculosis, may increase detection of microbiologically confirmed tuberculosis cases. These interventions may improve

treatment outcomes by increasing the number of tuberculosis patients who are cured and complete treatment. However, we do not know if these interventions reduce either tuberculosis treatment failure, or tuberculosis-associated death or long-term tuberculosis burden in moderate- and high-tuberculosis settings.

What the research says

House-to-house screening for active tuberculosis, and organizing tuberculosis diagnostic clinics nearer to where people live and work, may increase tuberculosis case detection in settings where the prevalence of undiagnosed disease is high (*low-certainty evidence*). These people may have higher levels of treatment success and lower levels of default from treatment (*low-certainty evidence*).

There was insufficient evidence to determine if health promotion activities alone increase tuberculosis case detection (*very low-certainty evidence*).

There was also insufficient evidence to determine if sustained improvements in case detection impact on long-term tuberculosis prevalence, as the only study to

POWDERED VITAMINS AND MINERALS ADDED TO FOODS AT THE POINT-OF-USE REDUCES ANAEMIA AND IRON DEFICIENCY IN PRESCHOOL- AND SCHOOL-AGE CHILDREN

Background to the question

Approximately one billion people worldwide are deficient in at least one vitamin or mineral (also known of micronutrients). Iron, vitamin A, zinc and iodine deficiencies are very frequent among children of preschool (aged 24 months to less than 5 years) and school age (5 to 12 years of age), limiting their health and daily physical performance. Anaemia, the condition in which red blood cells have limited capacity to carry oxygen, frequently results after prolonged iron deficiency.

Point-of-use fortification with powdered vitamins and minerals has been proposed as a public health intervention to reduce micronutrient deficiencies in children. In this process, a powdered premix containing iron, and possibly other vitamins and minerals, is added to foods either during or after cooking, or immediately before consumption to improve their nutritious value but not their flavour or colour. In some

cases, point-of-use fortification is also known as home fortification.

Review question

What are the effects of point-of-use fortification of foods with iron-containing micronutrient powders (MNP) alone, or in combination with other vitamins and minerals, on nutrition, health and development among children of preschool and school age (24 months to 12 years of age) compared with no intervention, a placebo (dummy pill) or regular iron-containing supplements (as drops, tablets or syrup)?

Study characteristics

This review included 13 trials with 5810 participants from Latin America, Africa and Asia. All trials compared the provision of MNP for point-of-use fortification with no intervention or placebo. Six trials included participants younger than 59 months of age only, four included only children aged 60 months of age or older, and three trials included children both younger and older than 59 months of age. MNPs contained from two to 18 vitamins and minerals. We searched existing clinical trials in December 2016 and ongoing trials in April 2017. We also contacted relevant institutions for additional information upon publication of the protocol and in April 2017.

Key results

The review found that children receiving iron-containing MNP for point-of-use fortification of foods were at significantly lower risk of having anaemia and iron deficiency and had higher haemoglobin concentrations. We did not find any positive or negative effect on diarrhoea or mortality, but the data on these two outcomes were very limited.

Quality of the evidence

We rated the overall quality of the evidence for the provision of multiple MNP versus no intervention or placebo as moderate for anaemia,

iron deficiency and adverse effects. We judged the evidence to be of low quality for haemoglobin, mortality and diarrhoea, and to be very low-quality for ferritin. In general, the most common risk of bias in the studies was the lack of blinding for participants, personnel and outcome assessors.

Authors' conclusions

Point-of-use fortification of foods with MNPs containing iron reduces anaemia and iron deficiency in preschool- and school-age children and seems feasible for public health purposes. However, future research should aim to increase the body of evidence on mortality, morbidity, developmental outcomes and adverse effects. Due to the lack of trials, we were unable to determine at this time if this intervention has comparable effects to those observed with iron supplements (provided as drops, tablets or syrup).

Reference

De-Regil LM, Jefferds MED, Peña-Rosas JP. Point-of-use fortification of foods with micronutrient powders containing iron in children of preschool and school-age. *Cochrane Database of Systematic Reviews* 2017, Issue 11. Art. No.: CD009666. DOI: 10.1002/14651858.CD009666.pub2.

HEALTH SYSTEM AND COMMUNITY LEVEL INTERVENTIONS FOR IMPROVING ANTENATAL CARE COVERAGE AND HEALTH OUTCOMES

What is the issue?

The World Health Organization recommends at least four antenatal visits for all pregnant women. Almost half of pregnant women worldwide miss out on this level of care, and this is more problematic in low- and middle-income countries.

Why is this important?

Healthcare during pregnancy is a priority because poor antenatal attendance is associated with

delivery of low birth weight babies and more newborn deaths. Antenatal care also provides opportunity for nutritional and health checks, such as whether a woman has a disease like malaria or has been exposed to infectious diseases such as HIV (human immunodeficiency virus) or syphilis.

What evidence did we find?

We reviewed randomised controlled trials that tested ways to improve the uptake of antenatal care during pregnancy. Some trials tested community-based interventions (media campaigns, education on self and infant care or financial incentives for pregnant women to attend antenatal care), while other trials looked at health systems interventions (home visits for pregnant women or provision of equipment for clinics). We included 34 trials with approximately 400,000 women. Most trials took place in low- and middle-income countries, and most trials were conducted in a way that made us feel confident about trusting the published reports. We assessed 30 of the 34 trials as of low or unclear overall risk of bias. The quality rating (*high, moderate* or *low*) shows our level of confidence that the result is robust and meaningful.

Trials comparing one intervention with no intervention

Single interventions only marginally improved the numbers of women attending four antenatal visits (*high quality*). Interventions did not improve rates of maternal death (*low quality*), baby deaths (*moderate quality*) or low birth weight (*high quality*). Even so, interventions led to modest improvements in the number of women who had at least one antenatal visit (*moderate quality*) and who delivered in a health facility (*high quality*). The number of women who received intermittent preventive treatment for malaria was not reported.

Trials comparing two or more interventions with no intervention

Combined interventions did not improve the number of women with four or more visits (*low quality*), or reduce maternal deaths (*moderate quality*). Nor did it increase the number of women who delivered in a health facility (*moderate quality*). However, more women who received combined interventions had one or more antenatal visits (*moderate quality*); there were also fewer baby deaths (*moderate quality*) and fewer low birth weight babies (*moderate quality*). The number of women who received intermittent preventive treatment for malaria was not reported.

We found no evidence that trials of community interventions worked differently from trials of health systems interventions.

Trials comparing one intervention

with another intervention - there were no trials for this comparison.

Trials comparing one intervention with a combination of interventions - There was no difference in the number of women attending four or more antenatal visits (and at least one visit), maternal deaths, baby deaths, the number of deliveries in a health facility or the number of women who received intermittent preventive treatment for malaria.

What does this mean?

Single interventions may improve antenatal care coverage (women attending at least one visit and women attending four or more visits) and encourage women to give birth to their babies in health facilities. Combined interventions may also improve antenatal care coverage (at

least one visit), reduce baby deaths and reduce the number of babies born with low birth weight.

We recommend that further studies of pregnant women and women in their reproductive years use combinations of interventions to maximise impact and look at outcomes that are important to the women themselves, such as maternal and baby deaths or ill health and the use of healthcare services.

Reference

Mbuagbaw L, Medley N, Darzi AJ, Richardson M, Habiba Garga K, Ongolo-Zogo P. Health system and community level interventions for improving antenatal care coverage and health outcomes. *Cochrane Database of Systematic Reviews 2015, Issue 12*. Art. No.: CD010994. DOI: 10.1002/14651858.CD010994.pub2.

RECENT EVENTS

INTRODUCTION TO COCHRANE SYSTEMATIC REVIEWS AND EVIDENCE-BASED MEDICINE WORKSHOP IN ENUGU



Cochrane Nigeria collaborated with the College of Medicine, University of Nigeria (UNN) to hold a two-day Introductory workshop, on Cochrane Systematic reviews and Evidence Based Medicine. The workshop took place at the Research Resource Centre of the University of Nigeria Teaching Hospital, Enugu from 30 November – 1 December 2017. A total of 25 medical doctors from a wide range of specialties attended the workshop.

Dr. Ifeanyichukwu Ezebialu, Dr. George Eleje, Dr. Emmanuel Effa and Mrs. Moriam Chibuzor facilitated various sessions at the workshop. The workshop covered a wide range of topics including introduction to Evidence Based Medicine, searching for studies, risk of bias assessment and introduction to meta-analysis.

The participants were very enthusiastic and expressed a high level of satisfaction with the workshop.

The Provost of the College of medicine, Professor Ernest Onwasigwe, gave a speech during the workshop during which he commended the Cochrane Nigeria team for coming to share their knowledge on systematic reviews with the participants. He also commended the participants on their enthusiasm to learn. He expressed the desire for continued collaboration between Cochrane Nigeria and UNN.

The following new and updated reviews, published recently in the Cochrane Library, were authored or co-authored by Nigerians.

New Review

- Prophylactic intravenous calcium therapy for exchange blood transfusion in the newborn **by Tinuade A Ogunlesi, Foluso EA Lesi and Olabisi Oduwole**. Issue 10, 2017.

Other Recent Reviews

- Fluid replacement therapy for acute episodes of pain in people with sickle cell disease **by Uduak Okomo**

and **Martin M Meremikwu**. Issue 7, 2017.

- Hepatitis B immunoglobulin during pregnancy for prevention of mother-to-child transmission of hepatitis B virus **by Ahizechukwu C Eke, Gerorge U Eleje, Uzoamaka A Eke, Yun Xia and Jiao Liu**. Issue 2, 2017.
- Ethosuximide, sodium valproate or lamotrigine for absence seizures in children and adolescents **by Francesco Brigo and Stanley C Igwe**, Issue 2, 2017
- Short-acting erythropoiesis-stimulating agents for anaemia in predialysis patients **by Deirdre Hahn, Christopher I Esezobor, Noha Elserafy, Angela C Webster and Elisabeth M Hodson**. Issue 1, 2017.

What's New

Cochrane recently launched two new platforms to help people get involved in Cochrane and to provide greater support for Cochrane Review authors.

- **Cochrane Crowd** is a platform that provides a means for anyone to participate in the work of Cochrane by helping with small tasks that contribute to the production of systematic reviews. To get involved in the Cochrane crowd and become a Cochrane Citizen Scientist, visit <http://crowd.cochrane.org>

- **TaskExchange:** TaskExchange is a platform recently launched by Cochrane that connects people who need help with their Cochrane reviews with people who have the time and expertise to help.

Three things you can do on task exchange:

- Build a profile so you can be seen by those looking for help**
- Post a task:** You can let people with appropriate skills know that you need help with a particular task and when you need it.
- Respond to a task:** You can offer to help a Cochrane review author with a task for which you possess the necessary skills or expertise.

- **Cochrane Classmate:** Cochrane ClassMate is a toolkit that enables trainers and educators of evidence based healthcare to use Cochrane micro-tasks to support their course learning objectives. For a webinar on Cochrane Classmate visit:

<http://training.cochrane.org/resource/cochrane-classmate-webinar>

Announcements

- **Cochrane Africa Officially Launched** – Cochrane Africa, which is a network of Cochrane entities in Africa has been officially launched. The vision of the network is **to increase the use of best evidence to inform healthcare decision making across the sub-Saharan African continent. The network consists of three hubs (Southern and Eastern Africa hub, West Africa hub and the Francophone Africa hub) and a coordinating unit at Cochrane South Africa. For more details visit:** <http://www.cochrane.org/news/cochrane-africa-network-healthcare-decision-making-launches-across-sub-saharan-africa>

- **Cochrane Recommends Covidence for new reviews:** Covidence is one of Cochrane's new tools for conducting systematic reviews. Covidence is free to use for all Cochrane Review authors and enables author teams to upload search results, screen abstracts and full text, complete data collection, conduct risk of bias assessment, resolve disagreements and export data into RevMan or Excel with greater ease. For more information about Covidence go to: <http://community.cochrane.org/tools/review-production-tools/covidence/about-covidence>

To access Covidence visit: https://www.covidence.org/sign_in and sign in with your Cochrane user name and password.

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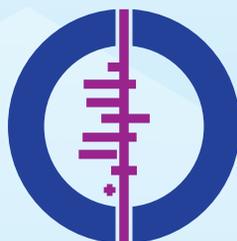
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