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

# FOOD FORTIFICATION

## FOR THE PREVENTION OF IRON DEFICIENCY ANAEMIA IN CHILDREN

Anaemia is a condition characterized by low blood haemoglobin. It results when there are insufficient red blood cells to meet an individual's physiologic needs or when the oxygen carrying capacity of the cells is insufficient. Iron deficiency is the most common cause of anaemia and accounts for about 50% of cases of anaemia. Two billion people globally are anaemic. Those mostly affected are young children and women of childbearing age (especially pregnant women). In 2011, it was estimated that approximately 300 million children had anaemia. And in developing countries it is estimated that approximately 40% of preschool children are anaemic[1].

Iron deficiency anaemia (IDA) has considerable adverse health consequences for both individuals and economies of nations. It affects the social and economic development of a nation by reducing the working capacity of individuals. The greatest effects of IDA are ill health, death and lost earnings. In children, IDA has debilitating effects resulting in poor cognitive and motor development and increased risk of illness and death.

The World Health Organization (WHO) has proposed a three-pronged approach which is feasible and cost effective to combat anaemia: Increased iron intake, control of infections and improvement of nutritional status. One of the methods that have been proposed for achieving this is the use of micronutrient powders which are multiple vitamins and minerals in powdered form that can be sprinkled onto foods. De-Regil and her colleagues conducted a Cochrane systematic review[2] to assess the efficacy of point-of-use (home) fortification of foods with iron-containing micronutrient powders to improve the nutrition and health of children under two years of age. Eight trials conducted in low-income countries in Asia, Africa and the Caribbean and involving 3748 children were included in the review. The researchers found that compared to no intervention or placebo, home fortification of foods with micronutrient powders led to a reduction in anaemia by 31% (moderate quality evidence) and reduced iron deficiency by 51% (high quality evidence). However there was no effect on growth. In addition, the studies reported no deaths.

According to a report by the WHO[3], Nigeria has a high prevalence of anaemia especially among children. The report states that an estimated 71% of children aged 6-59 months in Nigeria have anaemia while 4.8% have severe anaemia. Overall, the report rates the level of public health significance of anaemia in Nigeria as severe. There is therefore a need for us to scale up public health interventions to

reduce the burden of anaemia in our country. Home fortification of foods with multiple micronutrient powders should be considered and promoted as a viable option for reducing anaemia among young children in Nigeria.

**References**


1. http://www.who.int/nutrition/topics/ida/en/
2. De-Regil LM, Suchdev PS, Vist GE, Walleser S, Peña-Rosas JP. Home fortification of foods with multiple micronutrient powders for health and nutrition in children under two years of age. Cochrane Database of Systematic Reviews 2011, Issue 9. Art. No.: CD008959. DOI: 10.1002/14651858.CD008959.pub2.
3. WHO. The global prevalence of anaemia in 2011. Geneva: World Health Organization; 2015.


EVIDENCE AT YOUR FINGERTIPS
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TECHNICAL SUMMARY

# SUBSIDISING ARTEMISININ-BASED COMBINATION THERAPY IN THE PRIVATE RETAIL SECTOR

**Background:**

Malaria is a major cause of ill health and death in Africa. The most common form of malaria is uncomplicated *Plasmodium falciparum* malaria. The World health Organization recommends the use of artemisinin-based combination therapy (ACT) for the treatment of uncomplicated malaria. Although these drugs are very effective and can prevent the development of antimalarial resistance, only one out of five drugs used to treat malaria in endemic countries are ACTs. One of the reasons for this is the high prices of ACTs in the retail sector. ACT subsidy programmes which seek to reduce the retail price of ACTs by subsidizing the price of ACTs at the manufacturer's level have been established. Due to the high cost of these programmes, it is important to ensure that these programmes lead to the intended outcomes.

**Objectives:** To assess the effect of programmes that include ACT price subsidies for private retailers on ACT use, availability, price and market share.

**Main Results**

- Four trials (five articles) were included in the review. Two were cluster randomized trials and two were non-randomized cluster trials. All the studies were conducted in rural districts in Kenya, Uganda and Tanzania .

- Participants in one trial were children under five years of age while the other three trials included both adults and children.

- Interventions assessed in the included trials were

  *ACT subsidies combined with supportive interventions (retail outlet provider training, community awareness and mass media campaigns) provided to private retailers versus no subsidies or

  *ACT price vouchers to purchase subsidized ACTs from retail outlets provided to households versus no subsidies.

- The primary outcome of interest was ACT use; Secondary outcomes were ACT availability, ACT price, ACT market share, Use of older antimalarial drugs.

- ACT subsidies combined with supportive interventions versus no subsidies:

  *ACT subsidy programmes increased ACT usage in children under five years of age by 25 percentage points (95% CI 14.1 to 35.9 percentage points; one study, high certainty evidence).

  *ACT subsidy programmes increased the percentage of retail outlets stocking ACTs for children under

five years of age by 31.9 percentage points (95% CI 26.3 to 37.5 percentage points; one study, high certainty evidence).

*ACT subsidy programmes decreased the median price for ACT prescribed for children under five years of age by US$ 0.84 (median cost per ACT course without subsidy: US$ 1.08 versus with subsidy: US$ 0.24; one study, high certainty evidence)

*ACT subsidy programmes increased market share of ACTs among children under five years of age by between 23.6 and 63.0 percentage points (One study, high certainty evidence).

*The ACT subsidy programmes decreased the use of older antimalarial drugs (such as amodiaquine and sulphadoxine-pyrimethamine) among children under five years of age by 10.4 percentage points (95% CI 3.9 to 16.9 percentage points; 1 study, high certainty evidence)

*None of the studies measured adverse effects of ACT subsidies.

•**ACT vouchers versus no subsidies:** Compared to an access rate of 19% in the control group, subsidies of 80% or more increased the likelihood that a malaria-like illness was treated with an ACT by 16 to 23 percentage points (representing an 85% to 118% increase). However, subsidies were associated with a high rate of over-treatment of malaria:

- **Conclusion**

The review showed that ACT price subsidies (of 90% or more) improved the use, availability and prices of ACTs for children under five years of age, the market share of ACTs and reduced the use of older, less effective antimalarial drugs.

Incorporation of subsidies into national programmes should be done after taking into consideration individual country contexts. In malaria endemic countries efforts to scale up subsidy programmes should be complemented with policies to strengthen the health system such as improved drug chain supply, subsidized rapid diagnostic test kits and training on malaria case management.

**Reference**

*Opiyo N, Yamey G, Garner P. Subsidising artemisinin-based combination therapy in the private retail sector. Cochrane Database of Systematic Reviews 2016, Issue 3. Art. No.: CD009926. DOI: 10.1002/14651858.CD009926.pub2.*

# PLAIN LANGUAGE SUMMARIES

## Interleukin-2 as an adjunct to antiretroviral therapy for HIV-positive adults

### Why did we do this review?

HIV is still a major cause of death worldwide, particularly in Africa. HIV multiplies in the blood and damages the immune system. Therefore if HIV-positive, one is more vulnerable to contract infections. The current drug treatment, antiretroviral therapy (ART), stops the virus from multiplying thereby allowing the body's immune system to recover. Interleukin- 2 (IL-2) is a protein in the body which helps the process of multiplication of white blood cells which are the cells that fight infections. Although IL-2 increases the amount of white cells we do not know if by increasing these we can add additional benefits to the use of ART alone. The aim of this Cochrane Review was to find out if using an extra treatment with antiretroviral therapy (ART), namely IL-2, compared to using ART alone can reduce illness and death in HIV-positive adults.

### Key messages

We found that IL-2 causes an increase in the CD4 immune cells (*high certainty evidence*). However, there is no difference in important effects such as death and other infections (*high certainty evidence*). There is probably an increase in side-effects for those people using IL-2 (*moderate certainty evidence*). Our findings do not support

further use of IL-2 as an add-on treatment to ART in HIV-positive adults.

**Main results**

After conducting a comprehensive search on 26 May 2016, we included 25 eligible trials conducted in six countries. There was no difference in the number of deaths between the IL-2 group and those that got ART alone (6 trials, 665 participants, *high certainty evidence*). Seventeen of 21 trials reported an increase in the CD4 cell count with the use of IL-2 compared to ART alone using different measures. Overall, there was no difference in the proportion of participants with a suppressed viral load of less than 50 cells/mL (5 trials, 805 participants, *high certainty evidence*) or less than 500 cells/mL by the end of the trials (4 trials, 5029 participants, *high certainty evidence*). Overall there may be little or no difference in the incidence of opportunistic infections (7 trials, 6141 participants, *low certainty evidence*). There was probably an increase in grade 3 or 4 adverse events (6 trials, 6291 participants, *moderate certainty evidence*). None of the included trials reported on adherence.

***Reference***

*Onwumeh J, Okwundu CI, Kredo T. Interleukin-2 as an adjunct to antiretroviral therapy for HIV-positive adults. Cochrane Database of Systematic Reviews 2017, Issue 5. Art. No.: CD009818. DOI: 10.1002/14651858.CD009818.pub2.*

# Do painkillers rubbed on the skin really work?

**Bottom line**

Diclofenac Emulgel, ketoprofen gel, piroxicam gel, and diclofenac plaster work reasonably well for strains and sprains. For hand and knee osteoarthritis, the nonsteroidal anti-inflammatory drugs (NSAIDs) topical diclofenac and topical ketoprofen rubbed on the skin for at least 6 to 12 weeks help reduce pain by at least half in a modest number of people. For postherpetic neuralgia (pain following shingles), topical high-concentration capsaicin (derived from chili peppers) can reduce pain by at least half in a small number of people.

**Background**

Painkillers rubbed onto the skin are called topical (local) painkillers (analgesics). There has been considerable debate over whether, how, and in what painful condition, they work.

**Study characteristics**

We looked for systematic reviews examining topical painkillers in the *Cochrane Database of Systematic Reviews* (the Cochrane Library) published up to February 2017. Reviews assessed treatment of short-term (acute, less than three months) or long-term (chronic, more than three months) pain conditions. We examined how well the topical painkillers worked, any harm they caused, and whether people dropped out of the studies. We also looked at the quality of the evidence.

**Key results**

Most reviews assessed the effects of a topical painkiller with a topical placebo. A topical placebo is the same as the active material, except that it has no painkiller in it. Using a placebo cancels out the effects that rubbing might have for some of these topical analgesics.

For strains and sprains, several topical NSAID painkillers rubbed on the skin help reduce pain by at least half over about a week in around 1 in 2 to 1 in 5 people. These are diclofenac Emulgel, ketoprofen gel, piroxicam gel, diclofenac Flector plaster, and diclofenac other plaster. How the drugs are made up is important in determining how well they work.

For hand and knee osteoarthritis the NSAID painkillers topical diclofenac and topical ketoprofen rubbed on the skin help reduce pain by at least half over at least 6 to 12 weeks in around 1 in 5 to 1 in 10 people. For postherpetic neuralgia, a single application of topical high-concentration capsaicin can reduce pain by at least half in around 1 in 12 people for 8 to 12 weeks.

There is no good evidence to support any other topical painkiller in any other painful condition.

Topical low-concentration capsaicin caused local side events (such as itching or rash) in 4 in 10 people, and side effects caused withdrawal in 1 in 12

people. Side effects and withdrawal because of side effects were otherwise uncommon or not different from those with a topical placebo. Serious side effects were uncommon.

### Quality of the evidence

The quality of the evidence ranged from high to very low. The main reason for evidence being very low quality was the small number of participants in some studies, which make it impossible (or unsafe) to estimate benefit or harm.

### Reference

*Derry S, Wiffen PJ, Kalso EA, Bell RF, Aldington D, Phillips T, Gaskell H, Moore RA. Topical analgesics for acute and chronic pain in adults - an overview of Cochrane Reviews. Cochrane Database of Systematic Reviews 2017, Issue 5. Art. No.: CD008609. DOI: 10.1002/14651858.CD008609.pub2.*

## Methods of emergency contraception

### Review question

The aim of this Cochrane Review was to evaluate the effectiveness and safety of different methods of emergency contraception to prevent pregnancy following unprotected intercourse.

### Background

Emergency contraception (EC) is using a drug or copper intrauterine device (Cu-IUD) to prevent pregnancy shortly after unprotected intercourse. Several interventions are available for EC. Information on the comparative effectiveness, safety and convenience of these methods is crucial for reproductive healthcare providers and the women they serve. Researchers in Cochrane collected and analyzed all relevant studies to answer this question.

### Study characteristics

We searched 10 English-language and three Chinese-language databases for published studies in any language, in February 2017. We also searched grey literature databases and websites and contacted experts and authors for eligible studies. Studies had to report information on interventions to prevent pregnancy after a single act of unprotected intercourse. We included 115 randomized controlled trials with 60,479 women in this review. Ninety-two trials were conducted in China. The evidence is up-to-date to February 2017.

### Key results

The studies compared 25 different interventions of different types of emergency contraception. The studies showed the following.

Levonorgestrel and mifepristone were more effective than Yuzpe regimen (estradiol-levonorgestrel combination). Our findings suggest that if 29 women per 1000 become pregnant with Yuzpe, between 11 and 24 women per 1000 will do so with the levonorgestrel, and that if 25 women per 1000 become pregnant with Yuzpe, between one and 10 women per 1000 will do so with mifepristone.

Mid-dose mifepristone (25 mg to 50 mg) was probably more effective than levonorgestrel. Low-dose mifepristone (less than 25 mg) was probably less effective than mid-dose mifepristone, but both were more effective than levonorgestrel (two doses of 0.75 mg). Ulipristal acetate (UPA) was also more effective than levonorgestrel.

Levonorgestrel users had fewer side effects than Yuzpe users, and might be more likely to resume menstruation before the expected date. UPA users were probably more likely to resume menstruation after the expected date. Menstrual delay was probably the main adverse effect of mifepristone and seemed to be dose-related. Cu-IUD may be associated with higher risks of abdominal pain than mifepristone.

### Quality of the evidence

The quality of the evidence for the primary outcome (observed number of pregnancies) ranged from moderate to high, and for other outcomes ranged from very low to high. The main limitations were risk of bias (associated with poor reporting of methods), imprecision and inconsistency.

### Reference

*Shen J, Che Y, Showell E, Chen K, Cheng L. Interventions for emergency contraception. Cochrane Database of Systematic Reviews 2017, Issue 8. Art. No.: CD001324. DOI: 10.1002/14651858.CD001324.pub5.*

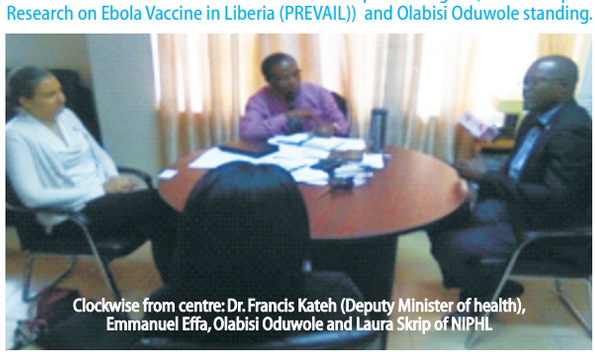
RECENT EVENTS

# COCHRANE AWARENESS RAISING WORKSHOP IN LIBERIA


Group Photo of Participants


Participants during a session with Dr Mosoka Fallah (Deputy Director general, National Public Health Institute of Liberia/ Principal Investigator, Partnership for Research on Ebola Vaccine in Liberia (PREVAIL)) and Olabisi Oduwole standing.

The Cochrane African Network is a network set up to increase the use of best evidence to inform healthcare decision making in the sub-Saharan African region. The network consists of four hubs: the coordinating hub, a francophone hub, West African hub and a Southern and Eastern hub. The West Africa hub is coordinated by Cochrane Nigeria. As part of activities to expand the presence of Cochrane on the continent, Cochrane Nigeria held a 2-day workshop on Evidence based health care and Cochrane Systematic reviews in Liberia on 3-4 August 2017 in collaboration with the National Public Health Institute of Liberia (NPHIL). Thirty seven participants, comprising academia from medical schools, researchers, policy makers and program managers from World health organization (WHO) and the Global Fund attended the workshop. The workshop was officially declared opened by the Deputy Minister of Health, Dr. Francis Kateh.


Clockwise from centre: Dr. Francis Kateh (Deputy Minister of health), Emmanuel Effa, Olabisi Oduwole and Laura Skrip of NIPHL

Dr. Emmanuel Effa (Consultant Nephrologist, University of Calabar Teaching Hospital and Training Coordinator, Cochrane Nigeria) and Dr. Olabisi Oduwole (Research Officer Cochrane Nigeria and Coordinator of CAN West African Hub) facilitated the workshop which took place at the National Public Health Institute of Liberia. As a prelude to workshop, they paid courtesy calls on the honourable Minister of Health, Dr. Bernice Dahn and deputy Minister of health in charge of planning and development, Dr. Yah Zolia who were represented by the Deputy Minister of Health, Dr. Francis Kateh.

Dr. Kateh acknowledged that in all his years in government, this was the first event that would bring all stakeholders such as policy makers, researchers and academia together under one roof. He appealed to Cochrane to sustain the collaborative initiative. The workshop was well received by the participants. Enthusiasm was high and both participants and key stakeholders agreed on the need to take this forward.

# RESEARCH INTEGRITY WORKSHOP


Group Photograph of participants with facilitators


Participants during a group work session

For researchers, the issue of publication ethics and research Integrity are crucial as these ensure the trustworthiness of research findings. This is important because important decisions are often made based on research findings and a large number of people, researchers and the general public rely on them.

Based on the importance of this issue, the Effective Health Care Research Programme consortium recently held a one-day workshop on Research Integrity and publication ethics with researchers from the College of Medical Sciences, University of Calabar. The workshop which took place at the conference hall of the Faculty of Medicine, on 10 July 2017, was attended by forty-four (44) junior and senior researchers including the Heads of department and Deans of the various faculties.

Elizabeth Wager (Publications Consultant, Co-Editor-in-Chief: Research Integrity & Peer Review and Visiting Professor, University of Split) and Anke Rohwer (Researcher at the Centre for Evidence-based Health Care, Stellenbosch University) facilitated the workshop. Dr. Wager, (who has done a lot of work on research integrity and publication ethics and served on the Ethics Committees of The BMJ and the World Association of Medical Editors) drew from her wealth of experience to highlight pertinent issues in research integrity.

The aim of the workshop was to introduce the participants to research integrity and its importance in health research and to promote best practice in authorship attribution, conflicts of interest and avoiding plagiarism.

The workshop was interactive and involved discussion of a number of practical scenarios. The participants benefited from the workshop and some of them expressed the need to spread the knowledge to other junior researchers and students.

## 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:**

  i. **Build a profile so you can be seen by those looking for help**
  ii. **Post a task: You can let people with appropriate skills know that you need help with a particular task and when you need it.**
  iii. **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.**

  To get started go to ***http://taskexchange.cochrane.org/***

- ***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.
- **How can we serve you better** - Please feel free to contact us and let us know how we can tailor the *Info Sheet* to better meet your needs. Send your emails to cochranenigeria@yahoo.co.uk

- Cochrane Priority Review List **July 2017 Update**: The July 2017 revision of the List of Cochrane Priority Reviews is available at - http://www.cochrane.org/news/cochrane-priority-reviews-list-update.

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