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ANTHELMINTIC DRUGS FOR TREATING ASCARIASIS

Ascaris lumbricoides (roundworm), is a soil-transmitted helminth that affects mostly preschool and school-age children living in low-income areas of tropical and subtropical regions, such as sub-Saharan Africa and Southeast Asia. [1,2] Ascariasis, which is the diseases caused by the worm, affects 807 million–1.2 billion people worldwide.[2] Ascariasis, especially in growing children, is associated with acute and chronic morbidity. People with ascariasis mostly show no symptoms; patients with symptoms usually present with diarrhoea, abdominal pains and vomiting.

Treatment of ascariasis alone or in combination with treatment for other helminth infestations in school children, is associated with improved appetite, weight gain, and physical fitness. Three public health drug treatment policies are recommended by the WHO for helminthic infestations. These are selective treatment, targeted treatment and universal drug treatment.[3] Selective treatment involves individual deworming based on a diagnosis of the infestation; targeted treatment focuses on a specific high-risk group within a given population without prior diagnosis, while universal treatment involves deworming of the whole community irrespective of infestation status.

There are five drugs on WHO Model List of Essential Medicines for treating ascariasis. These are albendazole, mebendazole, levamisole, ivermectin, pyrantel pamoate.[4] Although many anthelmintic drugs exist, the most effective regimen and the optimal doses to treat ascariasis are not well known. Conterno and colleagues[5] conducted a Cochrane Systematic review, which was published in 2020 to compare the efficacy and safety of anthelmintics (albendazole, mebendazole, ivermectin) for treating people with ascariasis.

The systematic review included 30 studies (randomized controlled trials) conducted across 17 countries in Africa, Asia, Central America and the Caribbean. These trials compared the efficacy of anthelmintic drugs in adults and children as single or combined therapy and in single or multiple doses. A total of 6442 children and adults whose ages ranged from 28 days to 82 years were enrolled in these trials.

The authors found that parasitological cure of ascariasis infection at 14-60 days was high when single dose of albendazole, mebendazole or ivermectin was compared to placebo (moderate certainty evidence). Single dose of albendazole was as effective as multiple doses of albendazole (high-certainty evidence) and also as effective as a single dose of mebendazole (high-certainty evidence). There was no difference in the cure rate when single dose of albendazole or single dose of ivermectin was administered (moderate-certainty evidence).The egg reduction rate was high (96-100%) in all treated groups of people for all the anthelmintics assessed. None of the trials reported complications or serious adverse events. The authors concluded that single dose of albendazole, mebendazole and ivermectin all appear to be effective for the treatment of ascariasis.

References

1. https://www.who.int/news-room/fact-sheets/detail/soil-transmitted-helminth-infections
2. https://www.cdc.gov/parasites/ascariasis/epi.html
3. World Health Organization. Helminth control in school -age children: a guide for managers of control programmes. WHO Technical Report Series2011:1-90.
4. The selection and use of essential medicines: report of the WHO Expert Committee on Selection and Use of Essential Medicines, 2019 (including the 21st WHO Model List of Essential Medicines and the 7th WHO Model List of Essential Medicines for Children). Geneva: World Health Organization; 2019 (WHO Technical Report Series, No. 1021). Licence: CC BY-NC-SA 3.0 IGO.
5. Conterno LO, Turchi MD, Corrêa I, Monteiro de Barros Almeida RA. Anthelmintic drugs for treating ascariasis. Cochrane Database of Systematic Reviews 2020, Issue 4. Art. No.: CD010599. DOI: 10.1002/14651858.CD010599.pub2.

EVIDENCE AT YOUR FINGERTIPS

(From the Cochrane Library)

TECHNICAL SUMMARY

PHYSICAL INTERVENTIONS TO INTERRUPT OR REDUCE THE SPREAD OF RESPIRATORY VIRUSES

Background

Epidemic and pandemic viral infections pose a serious threat to public health globally. Over the past two decades there has been severe acute respiratory syndrome (SARS) epidemic in 2003, the Middle East respiratory syndrome (MERS), which began in 2012. There have also been major pandemics such as the H1N1 influenza in 2009 and the coronavirus disease 2019 (COVID-19) caused by SARS-CoV-2.

Acute respiratory infections are responsible for a significant burden of morbidity and cause millions of deaths worldwide, particularly in low-income countries. Preventing the spread of respiratory viruses from person to person may be effective at reducing the spread of outbreaks. Physical interventions, such as the use of masks and physical distancing measures, might prevent the spread of respiratory viruses which are transmitted by large droplets from infected to susceptible people.

Objectives

This review assessed the effectiveness of physical interventions to interrupt or reduce the spread of acute respiratory viruses.

Main Results

- 67 studies (34 RCTs and 33 cluster RCTs) were included in the review. They took place in low-, middle-, and high-income countries worldwide. No studies were conducted during the COVID-19 pandemic.
- Fifteen trials focused on the use of masks. Ten of the 15 trials compared medical/surgical masks to no mask (control). One study compared catechin-treated masks to no mask, and one study included cloth masks versus control.

- Five of the 15 trials compared N95 masks or P2 masks to medical/surgical masks. Four of the 5 trials, were included healthcare workers either in a hospital setting or an outpatient setting.
- Fifteen trials comparing hand hygiene interventions with no hand hygiene that provided sufficient information were included in meta-analyses.
- A further 10 trials that compared a variety of hand hygiene modalities to control provided insufficient information to include in meta-analyses.
- Six ongoing or unpublished studies were identified and three of them evaluated masks in COVID-19.

Medical/surgical masks compared to no masks

- There is low certainty evidence from nine trials (including eight cluster-RCTs and 3507 participants) that wearing a mask may make little or no difference to the outcome of influenza-like illness (ILI) compared to not wearing a mask (risk ratio (RR) 0.99, 95% confidence interval (CI) 0.82 to 1.18.
- There is moderate certainty evidence that wearing a mask probably makes little or no difference to the outcome of laboratory-confirmed influenza compared to not wearing a mask (RR 0.91, 95% CI 0.66 to 1.26; 6 trials; 3005 participants).
- Harms were rarely measured and poorly reported. Two studies during COVID-19 plan to recruit a total of 72,000 people. One evaluates medical/ surgical masks (N = 6000) and one evaluates cloth masks (N = 66,000).

N95/P2 respirators compared to medical/surgical masks

- There is uncertainty over the effects of N95/P2 respirators when compared with medical/surgical masks on the outcomes of clinical respiratory illness (RR 0.70, 95% CI 0.45 to 1.10; very low-certainty evidence; 3 trials; 7779 participants) and ILI (RR 0.82, 95% CI 0.66 to 1.03; low-certainty evidence; 5 trials; 8407 participants). The evidence is limited by imprecision and heterogeneity for these subjective outcomes.
- The use of a N95/P2 respirator compared to a medical/ surgical mask probably makes little or no difference for the objective and more precise outcome of laboratory-confirmed influenza infection (RR 1.10, 95% CI 0.90 to 1.34; moderate-certainty evidence; 5 trials; 8407 participants).
- Harms were poorly measured and reported, but discomfort wearing medical/surgical masks or N95/P2 respirators was mentioned in several studies.
- One ongoing study recruiting 576 people compares N95/P2 respirators with medical surgical masks for healthcare workers during COVID-19.

Hand hygiene compared to control

- In a comparison of hand hygiene interventions with control (no intervention), there was a 16% relative reduction in the number of people with ARIs in the hand hygiene group (RR 0.84, 95% CI 0.82 to 0.86; 7 trials; 44,129 participants; moderate-certainty evidence), suggesting a probable benefit. These studies were conducted in schools, childcare centres, homes, and offices. Few trials measured and reported harms.

Conclusion

The high risk of bias in the trials, variation in outcome measurement, and relatively low compliance with the interventions during the studies hamper drawing firm conclusions and generalising the findings to the current COVID-19 pandemic.

The pooled results of randomised trials did not show a clear reduction in respiratory viral infection with the use of medical/surgical masks during seasonal influenza. There were no clear differences between the use of medical/surgical masks compared with N95/P2 respirators in healthcare workers when used in routine care to reduce respiratory viral infection. The low-moderate certainty of the evidence means that the true effect may be different from the observed estimate of the effect. Hand hygiene is likely to modestly reduce the burden of respiratory illness. Harms associated with physical interventions were under-investigated.

There is a need for large, well-designed RCTs addressing the effectiveness of many of these interventions in multiple settings and populations, especially in those most at risk of ARIs.

Reference

Jefferson T, Del Mar CB, Dooley L, Ferroni E, Al-Ansary LA, Bawazeer GA, Driel ML, Jones MA, Thorning S, Beller EM, Clark J, Hoffmann TC, Glasziou PP, Conly JM. Physical interventions to interrupt or reduce the spread of respiratory viruses. Cochrane Database of Systematic Reviews 2020, Issue 11. Art. No.: CD006207. DOI: 10.1002/14651858.CD006207.pub5.

PLAIN LANGUAGE SUMMARY

ADVANCE PROVISION OF MISOPROSTOL TO PREGNANT WOMEN FOR PREVENTING AND TREATING EXCESSIVE BLOOD LOSS AFTER BIRTH

We set out to determine the safety and effectiveness of giving pregnant women a medication called misoprostol to keep, so they have it ready to prevent or treat excessive bleeding immediately after birth.

What is the issue?

The medications oxytocin and ergometrine are commonly used to help reduce blood loss in the first 24 hours after giving birth. These require a trained health professional to be present as they are given by injection immediately after the birth. They also need to be kept in the refrigerator to remain effective.

Misoprostol is another medication that helps the womb to contract strongly after birth and reduce excess bleeding. It can be given by mouth and does not need refrigeration. This makes it easier to use than oxytocin and ergometrine, in parts of the world where refrigeration and trained health professionals are not readily available. The main side effects of misoprostol are generally self-limiting and do not require treatment with further medication.

Why is this important?

Excessive blood loss, or postpartum haemorrhage, remains the leading cause of maternal death worldwide. Most of these deaths occur in remote settings in Africa and Asia, where resources are poor and home births without a skilled birth attendant are common.

Having misoprostol available for use by pregnant women and community and lay health workers could be a way of avoiding excessive blood loss and death after giving birth. Misoprostol may, however, cause harm to women and their babies if used for other purposes such as to start labour before its natural onset.

What evidence did we find?

We searched for evidence on 19 December 2019. We identified two studies from rural Uganda involving 3214 women who were randomised (assigned by chance) to receive and keep misoprostol tablets or receive standard care for preventing excessive bleeding after birth. However, only 570 of the women enrolled in these studies gave birth outside of a health facility, which is what we were investigating.

We were unable to analyse most of the information from one study as it was not separated out by birth setting (health facility versus non-facility) and not well adjusted for the type of study design. Therefore, the analysed information in our review largely reflects the findings of one study.

No serious maternal ill health or deaths were reported in the two studies. One of the main outcomes of the review, blood loss of at least 1000mL, was not reported. Other results were from one of the studies (299 women) that used a placebo (dummy pill) in the group who did not receive misoprostol. The certainty of the evidence was very low and the findings were variable. It is unclear whether giving women misoprostol in advance affected the number of women who used misoprostol, used it correctly and appropriately, or were referred to a health facility. The number of women who experienced side effects, and newborns with poor outcomes, was not clearly different between those who received misoprostol in advance and those who received standard care.

What does this mean?

Although this update supports the feasibility of a strategy of giving women misoprostol tablets to use after birth outside of a health facility, the evidence on the benefits of this approach remains uncertain. Efforts to scale up this strategy as part of reducing maternal deaths in remote regions should be done cautiously through targeted monitoring and evaluation, or with large-scale research to resolve the uncertainties.

Reference

Oladapo OT, Blum J, Abalos E, Okusanya BO. Advance misoprostol distribution to pregnant women for preventing and treating postpartum haemorrhage. Cochrane Database of Systematic Reviews 2020, Issue 6. Art. No.: CD009336. DOI: 10.1002/14651858.CD009336.pub3

MEDIA ROUND TABLE ON COVID-19

COVID-19 is a rapidly emerging and highly infectious, acute respiratory disease. The first case of Corona virus disease 2019 (COVID-19) occurred in Wuhan, China in December 2019. Since then the virus has spread to various countries around the world resulting in a global pandemic. The World health organization advocates the wearing of face-masks as one of the measures for preventing the spread of Covid-19.

Prof. Angela Oyo-Ita fielding questions from the media practitioners

Cochrane Nigeria held a roundtable with media practitioners in Calabar, Cross River State, on August 7, 2020, in collaboration with the Nigerian Union of Journalists (NUJ), Cross River State Chapter. The topic "Are facemasks, social distancing and hand hygiene effective for preventing the spread of COVID-19" was the focus of the roundtable which held at the Nigerian Union of Journalists Secretariat in Calabar, Cross River State.

Thirteen media practitioners from radio and newspaper houses attended the event. Mrs. Dachi Arikpo (Health Economist and Research Officer, Cochrane Nigeria) gave an overview of COVID-19. She gave a background to the disease and current situation report on the prevalence of the virus globally and in Nigeria. Ekpereonne Esu, (Lecturer, Department of Public health, University of Calabar and Senior Research Associate, Cochrane Nigeria) presented evidence from systematic reviews to address the question "Are facemasks, social distancing and hand hygiene effective for preventing the spread of COVID-19". The media roundtable was rounded off with a question-and-answer session during which Professor Angela Oyo-Ita (Professor, Community Medicine, University of Calabar and Co-Director, Cochrane Nigeria) fielded questions from the journalists.

Dr. Ekpereonne Esu making a presentation

Mrs. Eme Offiong, (a journalist) asking a question

Mrs. Dachi Arikpo giving an Overview of COVID-19

New and Updated Reviews from the Cochrane Library

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

New or Updated Review

- Cervical stitch (cerclage) in combination with other treatments for preventing spontaneous pre- term birth in singleton pregnancies **by** *George U Eleje, Ahizechukwu C Eke, Joseph I Ikechebelu, Ifeanyichukwu U Ezebialu, Princeston C Okam, Chito P Ilika*. Issue 9, 2020.
- Vitamin D, calcium or a combination of vitamin D and calcium for the treatment of nutritional rickets in children **by** *Moriam T Chibuzor, Diepiriye Gra- ham-Kalio, Joy O Osaji, Martin M Meremikwu*. Issue 4, 2020.
- Agricultural and nutritional education interventions for reducing aflatoxin exposure to improve infant and child growth in low- and middle-income countries **by** *Marianne E Visser, Anel Schoonees, Chibundu N Ezekiel, Nicola P Randall, Celeste E Naude*. Issue 4, 2020.

Other Recent Reviews

- Multiple drug combinations of bortezomib, lenalidomide, and thalidomide for first-line treatment in adults with transplant-ineligible multiple myeloma: a network meta-analysis **by** *Vanessa Piechotta, Tina Jakob, Peter Langer, Ina Monsef, Christof Scheid, Lise J Estcourt,* ***Sunday Ocheni,*** *Sebastian Theurich, Kathrin Kuhr, Benjamin Scheckel, Anne Adams, Nicole Skoetz*. Issue 5, 2020.
- Vaccines for preventing rotavirus diarrhoea: vaccines in use **by** *Karla Soares-Weiser, Hanna Bergman, Nicholas Henschke,* ***Femi Pitan****, Nigel Cunliffe*. Issue 10, 2019.
- Intermittent preventive treatment for malaria in infants **by** *Ekpereonne B Esu, Chioma Oringanje, Martin M Meremikwu*. Issue 12, 2019.

ANNOUNCEMENTS

- **Professor Martin Meremikwu** (Director, Cochrane Nigeria) was appointed the new Director of the Calabar Institute of Tropical Diseases Research and Prevention in September 2020.
- **Professor Angela Oyo-Ita** (Co-Director, Cochrane Nigeria) was appointed the Deputy Vice Chancellor (Academic) of the University of Calabar in December 2020.
- **The International Evidence based Health Care Symposium & 4th Cochrane Africa Indaba** will take place in Abuja from 13-15 July 2021.
- **Cochrane Nigeria** was upgraded to full centre status on 16 December 2020 at the last Annual General Meeting of Cochrane.

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