

Казахский Национальный Медицинский Университет им.С.Д.Асфендиярова  
Кафедра: политики и управления здравоохранением

# Тема проекта: Вспомогательные вещества для лечения туберкулеза легких

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ОМ-09-047-01

Проверила: Куржангулова А.М.

Алматы 2012

# Клинический вопрос

- Больной М., 32 лет, был направлен в клинику с диагнозом туберкулез легких. Ему была назначена традиционная противотуберкулезная терапия, а также цинк и витамин А как вспомогательные вещества. Перед врачом встал вопрос: «будет ли эффект от применения цинка и витамина А при лечении туберкулеза легких?»

# PICO

- P- больной туберкулезом легких
- I- применение цинка и витамина А как вспомогательных веществ
- C- сравнение с группой больных туберкулезом, принимающих плацебо
- O- КЛИНИЧЕСКИЕ, РЕНТГЕНОЛОГИЧЕСКИЕ И ЛАБОРАТОРНЫЕ ПОКАЗАТЕЛИ, СМЕРТЕЛЬНЫЙ ИСХОД

# Ключевые слова

- vitamins/pulmonary tuberculosis
- витамины/туберкулез легких

# Главная страница сайта PubMed

The screenshot shows the PubMed homepage in a Mozilla Firefox browser. The browser's address bar displays [www.ncbi.nlm.nih.gov/pubmed/](http://www.ncbi.nlm.nih.gov/pubmed/). The page features a search bar with the text "PubMed" and a "Search" button. Below the search bar, there is a notification: "Limits Activated: Humans, Randomized Controlled Trial" with links to "Change" and "Remove". The main content area is titled "PubMed" and includes a description: "PubMed comprises more than 21 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites." The page is organized into three columns of links: "Using PubMed" (Quick Start Guide, Full Text Articles, FAQs, Tutorials, New and Noteworthy), "PubMed Tools" (Mobile, Citation Matchers, Clinical Queries, Topic-Specific Queries), and "More Resources" (MeSH Database, Journals in NCBI Databases, Clinical Trials, E-Utilities, LinkOut). The footer contains a breadcrumb trail "You are here: NCBI > Literature > PubMed" and a "Write to the Help Desk" link. A navigation menu at the bottom lists categories like "GETTING STARTED", "RESOURCES", "POPULAR", "FEATURED", and "NCBI INFORMATION". The Windows taskbar at the bottom shows the system clock at 11:36 and several open applications.

# Поиск по заданной теме

vitamins/pulmonary tuberculosis/ - PubMed - NCBI - Mozilla Firefox

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W Ретинол — Википедия x vitamins/pulmonary tuberculosis/ - PubMed... x +

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Results: 1 to 20 of 28 << First < Prev Page 1 of 2 Next > Last >>

1. [Increased risk of lung cancer in men with tuberculosis in the alpha-tocopherol, beta-carotene cancer prevention study.](#)

Shiels MS, Albanes D, Virtamo J, Engels EA.  
Cancer Epidemiol Biomarkers Prev. 2011 Apr;20(4):672-8. Epub 2011 Feb 18.  
PMID: 21335509 [PubMed - indexed for MEDLINE]  
[Related citations](#)

2. [High-dose vitamin D\(3\) during intensive-phase antimicrobial treatment of pulmonary tuberculosis: a double-blind randomised controlled trial.](#)

Martineau AR, Timms PM, Bothamley GH, Hanifa Y, Islam K, Claxton AP, Packe GE, Moore-Gillon JC, Daramalingam M, Davidson RN, Milburn HJ, Baker LV, Barker RD, Woodward NJ, Venton TR, Barnes KE, Mullett CJ, Coussens AK, Rutterford CM, Mein CA, Davies GR, Wilkinson RJ, Nikolayevskyy V, Drobniewski FA, Eldridge SM, Griffiths CJ.  
Lancet. 2011 Jan 15;377(9761):242-50. Epub 2011 Jan 5.  
PMID: 21215445 [PubMed - indexed for MEDLINE]  
[Related citations](#)

3. [Thibela TB: design and methods of a cluster randomised trial of the effect of community-wide isoniazid preventive therapy on tuberculosis amongst gold miners in South Africa.](#)

Fielding KL, Grant AD, Hayes RJ, Chaisson RE, Corbett EL, Churchyard GJ.  
Contemp Clin Trials. 2011 May;32(3):382-92. Epub 2010 Dec 28.  
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Update of... vitamins/p... проект-Ася проект-1 ... narubayev... EN 11:47

# Выбор бесплатных статей

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1. Nutr J. 2010 Sep 28;9:41.  
PMID: 20920186 [PubMed - indexed for MEDLINE] **Free PMC Article**  
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4.  [Vitamin D status and antimicrobial peptide cathelicidin \(LL-37\) concentrations in patients with active pulmonary tuberculosis.](#)  
Yamshchikov AV, Kurbatova EV, Kumari M, Blumberg HM, Ziegler TR, Ray SM, Tangpricha V.  
Am J Clin Nutr. 2010 Sep;92(3):603-11. Epub 2010 Jul 7.  
PMID: 20610636 [PubMed - indexed for MEDLINE] **Free PMC Article**  
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5.  [Adjunctive micronutrient supplementation for pulmonary tuberculosis.](#)  
Armijos RX, Weigel MM, Chacon R, Flores L, Campos A.  
Salud Publica Mex. 2010 May-Jun;52(3):185-9.  
PMID: 20485880 [PubMed - indexed for MEDLINE] **Free Article**  
[Related citations](#)

6.  [Vitamin D as supplementary treatment for tuberculosis: a double-blind, randomized, placebo-controlled trial.](#)  
Wejse C, Gomes VF, Rabna P, Gustafson P, Aaby P, Lisse IM, Andersen PL, Glerup H, Sodemann M.  
Am J Respir Crit Care Med. 2009 May 1;179(9):843-50. Epub 2009 Jan 29.  
PMID: 19179490 [PubMed - indexed for MEDLINE] **Free Article**  
[Related citations](#)

7.  [A trial of the effect of micronutrient supplementation on treatment outcome, T cell counts, morbidity, and mortality in adults with pulmonary tuberculosis.](#)  
Villamor E, Mugusi F, Urassa W, Bosch RJ, Saathoff E, Matsumoto K, Meydani SN, Fawzi WW.  
J Infect Dis. 2008 Jun 1;197(11):1499-505.  
PMID: 18471061 [PubMed - indexed for MEDLINE] **Free PMC Article**  
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8.  [The effect of vitamin D as supplementary treatment in patients with moderately advanced pulmonary tuberculous lesion.](#)  
Nursyam EW, Amin Z, Rumende CM.  
Acta Med Indones. 2006 Jan-Mar;38(1):3-5.  
PMID: 16479024 [PubMed - indexed for MEDLINE] **Free Article**

11:59

# Выбор интересующей статьи

vitamins/pulmonary tuberculosis/ - PubMed - NCBI - Mozilla Firefox

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Ланцет. 2011 Jan 15;377(9761):242-50. Epub 2011 Jan 5.  
PMID: 21215445 [PubMed - indexed for MEDLINE]  
[Related citations](#)

3. [Thibela TB: design and methods of a cluster randomised trial of the effect of community-wide isoniazid preventive therapy on tuberculosis amongst gold miners in South Africa.](#)  
Fielding KL, Grant AD, Hayes RJ, Chaisson RE, Corbett EL, Churchyard GJ.  
Contemp Clin Trials. 2011 May;32(3):382-92. Epub 2010 Dec 28.  
PMID: 21193066 [PubMed - indexed for MEDLINE]  
[Related citations](#)

4. [The effect of vitamin A and zinc supplementation on treatment outcomes in pulmonary tuberculosis: a randomized controlled trial.](#)  
Visser ME, Grewal HM, Swart EC, Dhansay MA, Walz G, Swanevelder S, Lombard C, Maartens G.  
Am J Clin Nutr. 2011 Jan;93(1):93-100. Epub 2010 Nov 10.  
PMID: 21068353 [PubMed - indexed for MEDLINE] **Free Article**  
[Related citations](#)

5. [Randomized controlled trial of zinc and vitamin A as co-adjuvants for the treatment of pulmonary tuberculosis.](#)  
Lawson L, Thacher TD, Yassin MA, Onuoha NA, Usman A, Emeryonu NE, Shenkin A, Davies PD, Cuevas LE.  
Trop Med Int Health. 2010 Dec;15(12):1481-90. doi: 10.1111/j.1365-3156.2010.02638.x. Epub 2010 Oct 19.  
PMID: 20958890 [PubMed - indexed for MEDLINE] **Free Article**  
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6. [Zinc and vitamin A supplementation fails to reduce sputum conversion time in severely malnourished pulmonary tuberculosis patients in Indonesia.](#)  
Pakasi TA, Karyadi E, Suratih NM, Salean M, Darmawidjaja N, Bor H, van der Velden K, Dolmans WM, van der Meer JW.  
Nutr J. 2010 Sep 28;9:41.  
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7. [Vitamin D status and antimicrobial peptide cathelicidin \(LL-37\) concentrations in patients with active pulmonary tuberculosis.](#)

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Vitamin D status and antimicrobial peptide cathelicidin (LL-37) c [Am J Clin Nutr. 2010]  
A trial of the effect of micronutrient supplementation on trea [J Infect Dis. 2008]  
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# Переход к тексту статьи

The screenshot shows a Mozilla Firefox browser window displaying a PubMed article page. The address bar shows the URL: [www.ncbi.nlm.nih.gov/pubmed/20958890](http://www.ncbi.nlm.nih.gov/pubmed/20958890). The page title is "Randomized controlled trial of zinc and vitamin A as co-adjuvants for the treatment of pulmonary tuberculosis." The article is from Trop Med Int Health, 2010 Dec;15(12):1481-90. doi: 10.1111/j.1365-3156.2010.02638.x. Epub 2010 Oct 19.

The article title is "Randomized controlled trial of zinc and vitamin A as co-adjuvants for the treatment of pulmonary tuberculosis." The authors are Lawson L, Thacher TD, Yassin MA, Onuoha NA, Usman A, Emeryonu NE, Shenkin A, Davies PD, Cuevas LE. The article is from Zankli Medical Centre, Abuja, Nigeria.

**Abstract**  
**OBJECTIVE:** To assess the efficacy of weekly zinc or zinc plus retinol as adjuncts for the treatment of pulmonary tuberculosis.  
**METHODS:** Double-blind, randomized, placebo-controlled trial in 350 patients >15 years old with smear-positive tuberculosis in Nigeria (ISRCTN36636609). In addition to antituberculous treatment, patients were randomly allocated to weekly supplements of zinc (90 mg), zinc plus retinol (5000 IU) or placebos for 6 months. Primary outcomes were time to sputum smear conversion and resolution of radiographic abnormalities.  
**RESULTS:** After 8 weeks of treatment, 68% had achieved sputum smear conversion, and the median conversion time was 6.5 weeks. Hazard ratios (HR, 95%CI) for sputum conversion relative to the placebo group were not significant for zinc (1.07, 0.92-1.29) or zinc plus retinol (0.89, 0.76-1.07). Significant predictors of time to sputum conversion were lung abnormality score, sputum smear grade, age and serum C-reactive protein. HIV co-infection and gender were not independent predictors of time to sputum conversion. There were no significant differences between supplement groups in clinical, radiological or laboratory outcomes at 2 months or 6 months. There were 9, 9 and 2 deaths in patients receiving zinc, zinc plus retinol or placebos, respectively. Mortality in those who received zinc (HR 1.71, 0.88-3.58) or zinc plus retinol (HR 1.54, 0.78-3.26) did not differ significantly from those who received placebos. Most deaths occurred in patients co-infected with HIV.  
**CONCLUSIONS:** Supplementation with zinc or zinc plus retinol did not lead to better outcomes than placebos, and caution is warranted regarding routine micronutrient supplementation, particularly in patients co-infected with HIV.

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PMID: 20958890 [PubMed - indexed for MEDLINE] [Free full text](#)

**Related citations**  
Zinc and vitamin A supplementation fails to reduce sputum conversion tin [Nutr J. 2010]  
Micronutrient supplementation for pulmonary tuberc [Salud Publica Mex. 2010]  
A double-blind, placebo-controlled study of vitamin A and zinc su [Am J Clin Nutr. 2002]  
[Review](#) [Problems in the treatment of patients with pulmonai [Probi Tuberk. 1997]  
[Review](#) [Treatment of tuberculosis of the aged]. [Nihon Naika Gakkai Zasshi. 2000]

**Cited by 1 PubMed Central article**  
Baseline predictors of sputum culture conversion in pulmonary [PLoS One. 2012]

**Related information**  
Related Citations  
Compound (MeSH Keyword)


# Переход по ссылке к полному тексту статьи

The screenshot displays a web browser window with the following elements:

- Browser Tabs:** Three tabs are open, with the active one being "Randomized controlled trial of zinc and vitamin A as co-adjuncts for the treatment of pulmonary tuberculosis - Lawson - 2010 - Tropical Medicine & International Health".
- Address Bar:** The URL is [onlinelibrary.wiley.com/doi/10.1111/j.1365-3156.2010.02638.x/abstract](http://onlinelibrary.wiley.com/doi/10.1111/j.1365-3156.2010.02638.x/abstract).
- Search Engines:** "mail.ru" and "Яндекс" search engines are visible in the top bar.
- Page Header:** The article title is "Randomized controlled trial of zinc and vitamin A as co-adjuncts for the treatment of pulmonary tuberculosis".
- Authors:** Lovett Lawson<sup>1</sup>, Tom D. Thacher<sup>2</sup>, Mohammed A. Yassin<sup>3</sup>, Ndubusi A. Onuoha<sup>4</sup>, Auwal Usman<sup>5</sup>, Nnamdi E. Emenyonu<sup>6</sup>, Alan Shenkin<sup>7</sup>, Peter D. O. Davies<sup>8</sup>, Luis E. Cuevas<sup>3</sup>.
- Journal Information:** Tropical Medicine & International Health, Volume 15, Issue 12, pages 1481-1490, December 2010.
- Article Tools:** Includes options like "Get PDF (186K)", "Save to My Profile", "E-mail Link to this Article", "Export Citation for this Article", "Get Citation Alerts", "Request Permissions", and "Share".
- Navigation:** Tabs for "Abstract", "Article", "References", and "Cited By" are present. The "Article" tab is selected.
- Keywords:** micronutrient; infection; tuberculosis; adult; Nigeria; clinical trial.
- Summary:** Objective: To assess the efficacy of weekly zinc or zinc plus retinol as adjuncts for the treatment of pulmonary tuberculosis.
- Methods:** Double-blind, randomized, placebo-controlled trial in 350 patients >15 years old with smear-positive tuberculosis in Nigeria (ISRCTN36636609). In addition to antituberculous treatment, patients were randomly allocated to weekly supplements of zinc (90 mg), zinc plus retinol (5000 IU) or placebos for 6 months. Primary outcomes were time to sputum smear conversion and resolution of radiographic abnormalities.
- Footer:** The Windows taskbar at the bottom shows the system clock as 11:53 and several open applications.


## Название статьи

- **Randomized controlled trial of zinc and vitamin A as co-adjuvants for the treatment of pulmonary tuberculosis**
- Рандомизированное контролируемое исследование цинка и витамина А в качестве одного из вспомогательных веществ для лечения туберкулеза легких



**Исследователи:** Lovett Lawson, Tom D. Thacher,  
Mohammed A. Yassin, Ndubusi A. Onuoha, Auwal Usman, Nnamdi  
E. Emenyonu, Alan Shenkin, Peter D. O. Davies, Luis E. Cuevas

● **Место проведения исследования:**  
Zankli Medical Centre, Abuja, Nigeria

- 
- **Objective:** to assess the efficacy of weekly zinc or zinc plus retinol as adjuncts for the treatment of pulmonary tuberculosis.
  - **Цель:** оценка эффективности еженедельного применения цинка или цинк плюс ретинол в качестве добавки для лечения туберкулеза легких.

# Methods

Double-blind, randomized, placebo-controlled trial in 350 patients >15 years old with smear-positive tuberculosis in Nigeria.

In addition to antituberculous treatment, patients were randomly allocated to weekly supplements of zinc (90 mg), zinc plus retinol (5000 IU) or placebos for 6 months.

# Методы

Двойное слепое, рандомизированное, плацебо-контролируемое исследование у 350 пациентов > 15 лет с положительным мазком туберкулеза в Нигерии.

В дополнение к противотуберкулезной терапии, пациенты были рандомизированы на еженедельные добавки цинка (90 мг), цинка плюс ретинол (5000 МЕ) или плацебо в течение 6 месяцев.

# Results

- After 8 weeks of treatment, 68% had achieved sputum smear conversion, and the median conversion time was 6.5 weeks. Relative risk (RR, 95% **confidence interval**) for sputum conversion relative to the placebo group were not significant for zinc (1.07, 0.92–1.29) or zinc plus retinol (0.89, 0.76–1.07). There were no significant differences between supplement groups in clinical, radiological or laboratory outcomes at 2 months or 6 months. There were 9, 9 and 2 deaths in patients receiving zinc, zinc plus retinol or placebos, respectively. Mortality in those who received zinc (RR 1.71, 0.88–3.58) or zinc plus retinol (RR 1.54, 0.78–3.26) did not differ significantly from those who received placebos.



# Результаты

- После 8 недель лечения, 68% достигли преобразования мокроты, а среднее время преобразования 6,5 недель. Относительный риск (ОР, 95% доверительный интервал) для преобразования мокроты по сравнению с группой плацебо не был статистически значимым для цинка (1.07, 0.92-1.29) и цинк плюс ретинол(вит.А) (0.89, 0.76-1.07). Никаких существенных различий между группами дополнения в клинических, рентгенологических или лабораторных результатах на 2-м или 6-м месяцах не было. Существовали 9, 9 и 2 смертельных исхода у пациентов, получавших цинк, цинк плюс ретинол или плацебо, соответственно. Смертность у тех, кто получил цинк (1,71 RR, 0.88-3.58) и цинк плюс ретинол (1,54 RR, 0.78-3.26) не сильно отличаются от тех, кто получал плацебо.

- **Conclusion**: supplementation with zinc or zinc plus retinol did not lead to better outcomes than placebos, and caution is warranted regarding micronutrient supplementation
- **Заключение**: добавки с цинком или цинк плюс ретинол не привели к лучшим результатам, чем плацебо, и осторожность в отношении витаминов и микроэлементов оправдана

# Выводы

- Тип исследования- двойное слепое, рандомизированное, плацебо-контролируемое
- Исследованию можно доверять, т.к. принимало участие 350 человек, больных туберкулезом легких.
- В дальнейшей своей практике я буду знать, что от применения цинка и витамина А, как вспомогательных веществ при лечении туберкулеза легких, не будет никаких улучшений в состоянии больного.