27. The impact of HIV and antiretroviral therapy on TB risk in children: a systematic review and meta-analysis.

26. Vitamin D supplementation to prevent acute respiratory tract infections: systematic review and meta-analysis

25. High-Intensity Interval Training Interventions in Children and Adolescents: A Systematic Review.

24. Medication-taking experiences in attention deficit hyperactivity disorder: a systematic review.

23. Effectiveness of pre-operative clown intervention on psychological distress: A systematic review and meta-analysis.


19. Delayed breastfeeding initiation and infant survival: A systematic review and meta-analysis.


17. Influence of different intravenous lipid emulsions on growth, development and laboratory and clinical outcomes in hospitalised paediatric patients: A systematic review.

16. Interventions to Improve the Response of Professionals to Children Exposed to Domestic Violence and Abuse: A Systematic Review.


14. Adverse events in women and children who have received intrapartum antibiotic prophylaxis treatment: a systematic review.

13. The Effectiveness of Psychosocial Interventions for Psychological Outcomes in Paediatric Oncology: A Systematic Review.

12. Development of research priorities in paediatric pain and palliative care.

11. Early infant male circumcision: Systematic review, risk-benefit analysis, and progress in policy.

10. Growth hormone prescribing and initial BMI SDS: Increased biochemical adverse effects and costs in obese children without additional gain in height.

9. Growing up with perinatal HIV: changes in clinical outcomes before and after transfer to adult care in the UK.

8. Clinic variation in glycaemic control for children with Type 1 diabetes in England and Wales: a population-based, multilevel analysis.

7. Where are the opportunities for an earlier diagnosis of primary intracranial tumours in children and young adults?


5. Effectiveness and tolerability of Perampanel in children, adolescents and young adults with refractory epilepsy: A UK national multicentre study.


3. A systematic review of economic evaluations of CHW interventions aimed at improving child health outcomes.

2. Paediatric hypoglycaemia; are we investigating appropriately and adequately?

1. Efficacy and safety of normal saline instillation and paediatric endotracheal suction: An integrative review.
28. Interventions to reduce inequalities in vaccine uptake in children and adolescents aged <19 years: a systematic review.... Page 16

Full search strategy ................................................................. Page 17
# Results
Saved Results

## 1. Efficacy and safety of normal saline instillation and paediatric endotracheal suction: An integrative review.

**Authors**
Schults, Jessica; Mitchell, Marion L; Cooke, Marie; Schibler, Andreas

**Source**
Australian critical care: official journal of the Confederation of Australian Critical Care Nurses; Mar 2017

**Publication Date**
Mar 2017

**Publication Type(s)**
Journal Article Review

**PubMedID**
28347624

**Database**
Medline

**Abstract**
OBJECTIVE To synthesise research findings regarding the efficacy and safety of normal saline instillation (NSI) during endotracheal suction in the paediatric intensive care unit. 

DATA SOURCES The Cochrane Library, PROSPERO, the National Health Service Centre for Reviews and Dissemination, PubMed and Cumulative Index to Nursing and Allied Health (CINAHL) databases were systematically searched. Subject headings included "suctioning, endotracheal", "suction", "sodium chloride", "normal saline" and "paediatrics". Additional references were sourced from hand searches of journal article reference lists and Google Scholar.

METHOD An integrative, systematic approach was used to qualitatively synthesise study results in the context of paediatric intensive care nursing practice. Data were extracted using a standardised data extraction form. Quality assessment was performed independently by two reviewers.

RESULT Three studies met pre-defined inclusion criteria. Quality of all study methods was 75% on the Mixed Method Appraisal Tool, although reporting quality varied. Overall, there was a scarcity of high quality evidence examining NSI and paediatric endotracheal suction. Outcome measures included oxygen saturation (SpO2), serious adverse events (author/s defined) and ventilation parameters (author/s defined). Endotracheal suction with NSI was associated with a transient decrease in blood oxygen saturation; research protocols did not include interventions to mitigate alveolar derecruitment. Studies were not powered to detect differences in endotracheal tube (ETT) occlusion or ventilator associated pneumonia (VAP).

CONCLUSION NSI was associated with a transient decrease in oxygen saturation. In children with obstructive mucous, NSI may have a positive effect. Practices which maximise secretion removal and mitigate the negative physiological interactions of ETS have been poorly evaluated in the paediatric population. High quality, powered, clinical trials are needed to determine the safety and efficacy of normal saline instillation and to inform clinical practice.

## 2. Paediatric hypoglycaemia: are we investigating appropriately and adequately?

**Authors**
Ramsden, Louise; Wright, Katherine; Natarajan, Anuja

**Source**
Postgraduate medical journal; Sep 2017; vol. 93 (no. 1103); p. 519-522

**Publication Date**
Sep 2017

**Publication Type(s)**
Journal Article

**PubMedID**
28389437

**Database**
Medline

Available at [Postgraduate Medical Journal](https://www.bmj.com/content/93/1103/519) from BMJ Journals - NHS
INTRODUCTION Pediatric hypoglycaemia is a relatively common medical emergency. To allow identification of the underlying cause, investigations need to be performed urgently prior to treatment being given. Careful consideration is needed to ensure correct patient selection, as inadequate investigations have further cost and patient safety implications.

METHODS 49 cases of proven or suspected hypoglycaemia (glucose ≤2.6 mmol/L) were identified via the laboratory. Clinical notes, laboratory investigations and results were reviewed.

RESULTS Only 41% of patients (15 neonates, 5 children) required investigation with a ‘Hyposcreen’. Of these 20 patients, 3 had no investigations performed. In the remaining patients the cause for hypoglycaemia was identifiable, but 6 had investigations regardless. In total 23 patients had ‘Hyposcreen’ but only 2 were complete. Intermediary metabolites (96%), lactate (100%), cortisol (100%), insulin (83%) and growth hormone (87%) were taken most commonly with urine samples (52%) and ammonia (30%) taken least often. 40% cortisol, 29% insulin and 56% intermediary metabolite results were abnormal affecting 10 patients, but only 5 had follow-up. A total of £6977 was spent on investigations, of which £1630 has subsequently been found to be unnecessary. If investigations in the 23 children had been complete, this would have totalled £2700 of unnecessary expenditure.

CONCLUSIONS Investigations for hypoglycaemia are generally incomplete (91%) or inappropriate (21%). This has major cost implications for both the National Health Service and the individual who is investigated inadequately or incorrectly. We need national evidence-based guidance for investigation thresholds and normal ranges to help avoid inappropriate investigations and delay in diagnosis.

3. A systematic review of economic evaluations of CHW interventions aimed at improving child health outcomes.

Authors Nkonki, L; Tugendhaft, A; Hofman, K
Source Human resources for health; Feb 2017; vol. 15 (no. 1); p. 19
Publication Date Feb 2017
PubMedID 28245839
Database Medline
Available at Human Resources for Health from BioMed Central

Abstract Evidence of the cost-effectiveness of community health worker interventions is pertinent for decision-makers and programme planners who are turning to community services in order to strengthen health systems in the context of the momentum generated by strategies to support universal health care, the post-2015 Sustainable Development Goal agenda. We conducted a systematic review of published economic evaluation studies of community health worker interventions aimed at improving child health outcomes. Four public health and economic evaluation databases were searched for studies that met the inclusion criteria: National Health Service Economic Evaluation Database (NHS EED), Cochrane, Paediatric Economic Evaluation Database (PEED), and PubMed. The search strategy was tailored to each database. The 19 studies that met the inclusion criteria were conducted in either high income countries (HIC), low-income countries (LIC) and/or middle-income countries (MIC). The economic evaluations covered a wide range of interventions. Studies were grouped together by intended outcome or objective of each study. The data varied in quality. We found evidence of cost-effectiveness of community health worker (CHW) interventions in reducing malaria and asthma, decreasing mortality of neonates and children, improving maternal health, increasing exclusive breastfeeding and improving malnutrition, and positively impacting physical health and psychomotor development amongst children. Studies measured varied outcomes, due to the heterogeneous nature of studies included; a meta-analysis was not conducted. Outcomes included disease- or condition-specific outcomes, morbidity, mortality, and generic measures (e.g. disability-adjusted life years (DALYs)). Nonetheless, all 19 interventions were found to be either cost-effective or highly cost-effective at a threshold specific to their respective countries. There is a growing body of economic evaluation literature on cost-effectiveness of CHW interventions. However, this is largely for small scale and vertical programmes. There is a need for economic evaluations of larger and integrated CHW programmes in order to achieve the post-2015 Sustainable Development Goal agenda so that appropriate resources can be allocated to this subset of human resources for health. This is the first systematic review to assess the cost-effectiveness of community health workers in delivering child health interventions.


Authors Hodgson, David; Baguelin, Marc; van Leeuwen, Edwin; Panovska-Griffiths, Jasmina; Ramsay, Mary; Pebody, Richard; Atkins, Katherine E
Source The Lancet. Public health; Feb 2017; vol. 2 (no. 2); p. e74
Publication Date Feb 2017
PubMedID 28299371
Database Medline
Abstract

BACKGROUND In 2013 England and Wales began to fund a live attenuated influenza vaccine programme for individuals aged 2-16 years. Mathematical modelling predicts substantial beneficial herd effects for the entire population as a result of reduced influenza transmission. With a decreased influenza-associated disease burden, existing immunisation programmes might be less cost-effective. The aim of this study was to assess the epidemiological effect and cost-effectiveness of the existing elderly and risk group vaccination programme under the new policy of mass paediatric vaccination in England.

METHODS For this cost-effectiveness analysis, we used a transmission model of seasonal influenza calibrated to 14 seasons of weekly consultation and virology data in England and Wales. We combined this model with an economic evaluation to calculate the incremental cost-effectiveness ratios, measured in cost per quality-adjusted life-years (QALY) gained.

FINDINGS Our results suggest that well timed administration of paediatric vaccination would reduce the number of low-risk elderly influenza cases to a greater extent than would vaccination of the low-risk elderly themselves if the elderly uptake is achieved more slowly. Although high-risk vaccination remains cost-effective, substantial uncertainty exists as to whether low-risk elderly vaccination remains cost-effective, driven by the choice of cost-effectiveness threshold. Under base case assumptions and a cost-effectiveness threshold of £15,000 per QALY, the low-risk elderly seasonal vaccination programme will cease to be cost-effective with a mean incremental cost-effectiveness ratio of £22,000 per QALY and a probability of cost-effectiveness of 20%. However, under a £30,000 per QALY threshold, the programme will remain cost-effective with 83% probability.

INTERPRETATION With the likely move to decreased cost-effectiveness thresholds, reassessment of existing risk group-based vaccine programme cost-effectiveness in the presence of the paediatric vaccination programme is needed.

FUNDING National Institute for Health Research, the Medical Research Council.

5. Effectiveness and tolerability of Perampanel in children, adolescents and young adults with refractory epilepsy: A UK national multicentre study.

Authors Swiderska, N; Tan, H J; Rajai, A; Silwal, A; Desurkar, A; Martland, T

Source Seizure; Sep 2017; vol. 52 ; p. 63-70

Publication Date Sep 2017

Publication Type(s) Journal Article

PubMedID 28992560

Database Medline

Abstract

PURPOSE Perampanel is one of the latest antiepileptic drugs (AEDs) approved for the treatment of focal and generalised epilepsy in individuals with epilepsy aged 12 years and older. There is sparse data on the use of Perampanel in children under 12. We conducted a study amongst paediatric neurologists in the United Kingdom to investigate its effectiveness and tolerability as an adjunctive therapy in children of all ages with refractory epilepsy.

METHODS Data was collected via an online questionnaire sent to paediatric neurologists in the UK. Data gathered, prospective in 62 (64.5%) and retrospective in 34 (35.5%) patients, included changes in seizure frequency from baseline and unwanted effects at 3, 6 and 12 months follow-up. Only patients with a minimum follow-up of six months were included.

RESULTS Ninety six patients (48 females) with refractory epilepsy from 11 of 29 tertiary centres were included. Median [IQR] (range) age was 14 years 11 months [12 years, 16 years 6 months] (11 months-24 years 5 months). Seventy three (76%) had focal epilepsy, sixteen (17%) generalised, and seven (7%) patients both generalised and focal epilepsy. The responder rate, ≥50% seizure reduction from baseline, was 19% at both 6 and 12 months, 19% and 24% for focal seizures, and 25% and 7% for generalised seizures at these time points respectively. The retention rate was 42% at 12 months. Treatment was discontinued due to unwanted effects in 29 (36.7%) of the 79 patients with follow-up data available up to 12 months: 30% due to challenging behaviour, 14% dizziness, and 7.6% somnolence.

CONCLUSION Perampanel was fairly effective in a heterogeneous group of 96 children and adolescents with very refractory epilepsy. The rate of adverse events leading to discontinuation was considerable in this group.


Authors Rees, Philippa; Edwards, Adrian; Powell, Colin; Hibbert, Peter; Williams, Huw; Makeham, Meredith; Carter, Ben; Luff, Donna; Parry, Gareth; Avery, Anthony; Sheikh, Aziz; Donaldson, Liam; Carson-Stevens, Andrew

Source PLoS medicine; Jan 2017; vol. 14 (no. 1); p. e1002217

Publication Date Jan 2017

Publication Type(s) Journal Article

PubMedID 28095408

Database Medline

Available at PLOS Medicine from Public Library of Science (PLoS)
Available at PLOS Medicine from Europe PubMed Central - Open Access
Abstract

BACKGROUND
The UK performs poorly relative to other economically developed countries on numerous indicators of care quality for children. The contribution of iatrogenic harm to these outcomes is unclear. As primary care is the first point of healthcare contact for most children, we sought to investigate the safety of care provided to children in this setting.

METHODS AND FINDINGS
We undertook a mixed methods investigation of reports of primary care patient safety incidents involving sick children from England and Wales’ National Reporting and Learning System between 1 January 2005 and 1 December 2013. Two reviewers independently selected relevant incident reports meeting prespecified criteria, and then descriptively analyzed these reports to identify the most frequent and harmful incident types. This was followed by an in-depth thematic analysis of a purposive sample of reports to understand the reasons underpinning incidents. Key candidate areas for strengthening primary care provision and reducing the risks of systems failures were then identified through multidisciplinary discussions. Of 2,191 safety incidents identified from 2,178 reports, 30% (n = 658) were harmful, including 12 deaths and 41 cases of severe harm. The children involved in these incidents had respiratory conditions (n = 387; 18%), injuries (n = 289; 13%), nonspecific signs and symptoms, e.g., fever (n = 281; 13%), and gastrointestinal or genitourinary conditions (n = 268; 12%), among others. Priority areas for improvement included safer systems for medication provision in community pharmacies; triage processes to enable effective and timely assessment, diagnosis, and referral of acutely sick children attending out-of-hours services; and enhanced communication for robust safety netting between professionals and parents. The main limitations of this study result from underreporting of safety incidents and variable data quality. Our findings therefore require further exploration in longitudinal studies utilizing case review methods.

CONCLUSIONS
This study highlights opportunities to reduce iatrogenic harm and avoidable child deaths. Globally, healthcare systems with primary-care-led models of delivery must now examine their existing practices to determine the prevalence and burden of these priority safety issues, and utilize improvement methods to achieve sustainable improvements in care quality.

8. Clinic variation in glycaemic control for children with Type 1 diabetes in England and Wales: a population-based, multilevel analysis.

Authors
Charalamopoulos, D; Amin, R; Warner, J T; Muniz-Terrera, G; Mazarelo Paes, V; Viner, R M; Stephenson, T

Source
Diabetic medicine : a journal of the British Diabetic Association; Aug 2017

Publication Date
Aug 2017

Publication Type(s)
Journal Article

PubMedID
28779502

Database
Medline

Available at Diabetic medicine : a journal of the British Diabetic Association from Weston Area Health Trust Library (lib309325) Local Print Collection [location]: Weston Area Health Trust Library.
Abstract

AIM To understand the scope for improving children’s glycaemic outcomes by reducing variation between clinics and examine the role of insulin regimen and clinic characteristics.

METHODS Cross-sectional analysis of 2012-2013 National Paediatric Diabetes Audit data from 21,773 children aged <19 years with Type 1 diabetes cared for at 176 clinics organized into 11 regional diabetes networks in England and Wales. Variation in HbA1c was explored by multilevel models with a random effect for clinic. The impact of clinic context was quantified by computing the percentage of total variation in HbA1c which occurs between clinics (intraclass correlation coefficient; ICC).

RESULTS Overall, 69 of the 176 diabetes clinics (39%) had a glycaemic performance that differed significantly from the national average after adjusting for patient case-mix with respect to age, gender, diabetes duration, deprivation and ethnicity. However, differences between clinics accounted for 4.7% of the total variation in HbA1c. Inclusion of within-clinic HbA1c standard deviation led to a substantial reduction in ICC to 2.4%. Insulin regimen, clinic volume and diabetes networks had a small or moderate impact on ICC.

CONCLUSIONS Differences between diabetes clinics accounted for only a small portion of the total variation in glycaemic control because most of the variation was within clinics. This implies that national glycaemic improvements might best be achieved not only by targeting poor centres but also by shifting the whole distribution of clinics to higher levels of quality.

10. Growth hormone prescribing and initial BMI SDS: Increased biochemical adverse effects and costs in obese children without additional gain in height.

Authors Hawcutt, Daniel B; Bellis, Jennifer; Price, Victoria; Povall, Anne; Newland, Paul; Richardson, Paul; Peak, Matthew; Blair, Jo

Source PloS one; 2017; vol. 12 (no. 7); p. e0181567

Publication Date 2017

Publication Type(s) Journal Article

PubMedID 28715498

Database Medline

Available at PLoS ONE from Public Library of Science (PLoS)
Available at PLoS ONE from Europe PubMed Central - Open Access
11. Early infant male circumcision: Systematic review, risk-benefit analysis, and progress in policy.

**Abstract**

BACKGROUND Reombinant human growth hormone (rhGH) treatment in children is usually prescribed using actual body weight. This may result in inappropriately high doses in obese children. METHODS Retrospective audit of all paediatric patients treated with rhGH 2010-14 at a tertiary paediatric hospital in the UK. Change in height SDS and IGF-I SDS during the first year of treatment was stratified by initial BMI SDS in a mixed cohort, and a subgroup of GH deficient (GHD) patients. Alternative doses for those BMI SDS ≥2.0 (Obese) were calculated using BSA, IBW and LBW. RESULTS 354 patients (133 female) received rhGH, including 213 (60.2%) with GHD. Obesity was present in 40 patients (11.3%) of the unselected cohort, and 32 (15.0%) of the GHD cohort. For GHD patients, gain in height SDS was directly related to BMI SDS, except in obese patients (p<0.05). For both the entire cohort, and GHD patients only, IGF-1 SDS was significantly higher in obese patients (p=0.0001 for both groups). Cross sectional data identified 265 children receiving rhGH, 81 (30.5%) with a BMI-SDS ≥1.75. Alternate prescribing strategies for rhGH prescribing in obese patients suggest a saving of 27% - 38% annually. CONCLUSIONS Gain in IGF-I SDS is greater in obese children, and is likely to be related to relatively higher doses of rhGH. Additional gain in height was not achieved at the higher doses administered to obese children. Alternative dosing strategies in the obese patient population should be examined in rigorous clinical trials.

**Authors**
Morris, Brian J; Kennedy, Sean E; Wodak, Alex D; Mindel, Adrian; Golovsky, David; Schriever, Leslie; Lumbers, Eugenie R; Handelsman, David J; Ziegler, John B

**Source**
World Journal of clinical pediatrics; Feb 2017; vol. 6 (no. 1); p. 89-102

**Pubmed ID**
28224100

**Database**
Medline


12. Development of research priorities in paediatric pain and palliative care.

**Abstract**

AIM To determine whether recent evidence-based United States policies on male circumcision (MC) apply to comparable Anglophone countries, Australia and New Zealand. METHODS Articles in 2005 through 2015 were retrieved from PubMed using the keyword “circumcision” together with 36 relevant subtopics. A further search was performed for articles published in 2016. Searches of the EMBASE and Cochrane databases did not yield additional citable articles. Articles were assessed for quality and those rated 2+ and above according to the Scottish Intercollegiate Grading System were studied further. The most relevant and representative of the topic were included. Bibliographies were examined to retrieve further key references. Randomized controlled trials, recent high quality systematic reviews or meta-analyses (level 1++ or 1+ evidence) were prioritized for inclusion. A risk-benefit analysis of articles rated for quality was performed. For efficiency and reliability, recent randomized controlled trials, meta-analyses, high quality systematic reviews and large well-designed studies were used if available. Internet searches were conducted for other relevant information, including policies and Australian data on claims under Medicare for MC. RESULTS Evidence-based policy statements by the American Academy of Pediatrics (AAP) and the Centers for Disease Control and Prevention (CDC) support infant and later age male circumcision (MC) as a desirable public health measure. Our systematic review of relevant literature over the past decade yielded 140 journal articles that met our inclusion criteria. Together, these showed that early infant MC confers immediate and lifelong benefits by protecting against urinary tract infections having potential adverse long-term renal effects, phimosis that causes difficult and painful erections and “ballooning” during urination, inflammatory skin conditions, inferior penile hygiene, candidiasis, various sexually transmissible infections in both sexes, genital ulcers, and penile, prostate and cervical cancer. Our risk-benefit analysis showed that benefits exceeded procedural risks, which are predominantly minor, by up to 200 to 1. We estimated that more than 1 in 2 uncircumcised males will experience an adverse foreskin-related medical condition over their lifetime. Wide-ranging evidence from surveys, physiological measurements, and the anatomical location of penile sensory receptors responsible for sexual sensation strongly and consistently suggested that MC has no detrimental effect on sexual function, sensitivity or pleasure. United States studies showed that early infant MC is cost saving. The evidence supporting early infant MC has further strengthened since the positive AAP and CDC reviews. CONCLUSION Affirmative MC policies are needed in Australia and New Zealand. Routine provision of accurate, unbiased education, and access in public hospitals, will maximize health and financial benefits.

**Authors**
Liossi, Christina; Anderson, Anna-Karenia; Howard, Richard F; NIHR CRN-C CSG in Pain and Palliative Care

**Source**
British journal of pain; Feb 2017; vol. 11 (no. 1); p. 9-15

**Pubmed ID**
28386399

**Database**
Medline

Available at [British Journal of Pain](https://pubmed.ncbi.nlm.nih.gov/28386399/) from Europe PubMed Central - Open Access
Abstract
Priority setting for healthcare research is as important as conducting the research itself because rigorous and systematic processes of priority setting can make an important contribution to the quality of research. This project aimed to prioritise clinical therapeutic uncertainties in paediatric pain and palliative care in order to encourage and inform the future research agenda and raise the profile of paediatric pain and palliative care in the United Kingdom. Clinical therapeutic uncertainties were identified and transformed into patient, intervention, comparison and outcome (PICO) format and prioritised using a modified Nominal Group Technique. Members of the Clinical Studies Group in Pain and Palliative Care within National Institute for Health Research (NIHR) Clinical Research Network (CRN)-Children took part in the prioritisation exercise. There were 11 clinically active professionals spanning across a wide range of paediatric disciplines and one parent representative. The top three research priorities related to establishing the safety and efficacy of (1) gabapentin in the management of chronic pain with neuropathic characteristics, (2) intravenous non-steroidal anti-inflammatory drugs in the management of post-operative pain in pre-schoolers and (3) different opioid formulations in the management of acute pain in children while at home. Questions about the long-term effect of psychological interventions in the management of chronic pain and various pharmacological interventions to improve pain and symptom management in palliative care were among the ‘top 10’ priorities. The results of prioritisation were included in the UK Database of Uncertainties about the Effects of Treatments (DUETS) database. Increased awareness of priorities and priority-setting processes should encourage clinicians and other stakeholders to engage in such exercises in the future.

13. The Effectiveness of Psychosocial Interventions for Psychological Outcomes in Paediatric Oncology: A Systematic Review.
Authors
Coughtrey, Anna; Millington, Amy; Bennett, Sophie; Christie, Deborah; Hough, Rachael; Su, Merina; Constantiniou, Matthew; Shafran, Roz
Source
Journal of pain and symptom management; Sep 2017
Publication Date
Sep 2017
Publication Type(s)
Journal Article Review
PubMedID
28962919
Database
Medline
Available at Journal of Pain and Symptom Management from Weston Area Health Trust Library (lib309325)
Local Print Collection [location]: Weston Area Health Trust Library.
Abstract
CONTEXT
This review summarises the current randomised controlled trials literature on psychological and physical outcomes of psychosocial interventions in paediatric oncology. OBJECTIVES to evaluate the effectiveness and impact of psychosocial interventions in children with cancer. METHODS a search of the literature resulted in a total of 12 randomised clinical trials which have evaluated psychosocial interventions in children under 18 years with current and previous diagnoses of cancer. The mean age of patients ranged between 7 to 18 years. Outcome measures included psychological (e.g. symptoms of anxiety, depression, quality of life, self-esteem) and physical (e.g. symptomatology, treatment adherence, pain). Interventions identified included cognitive–behavioural therapy (CBT; n=4), joint CBT and physical exercise therapy (n=1), family therapy (n=2), therapeutic music video (n=2), self-coping strategies (n=1), a wish fulfilment intervention (n=1), and joint family therapy and CBT (n=1). RESULTS Nine studies reported statistically significant improvements on psychological outcomes. These findings suggest that psychosocial interventions are effective at reducing anxiety and depressive symptoms as well as improving quality of life. Additionally, six studies found psychosocial interventions to have positive impact on physical symptoms and wellbeing, including a reduction in procedural pain and symptom distress. CONCLUSION These findings suggest that mental health needs in paediatric oncology patients can and should be addressed, which will lead to better mental and physical health outcomes.

14. Adverse events in women and children who have received intrapartum antibiotic prophylaxis treatment: a systematic review.
Authors
Seedat, Farah; Stinton, Chris; Patterson, Jacoby; Geppert, Julia; Tan, Bee; Robinson, Esther R; McCarthy, Noel Denis; Uthman, Olalekan A; Freeman, Karoline; Johnson, Samantha Ann; Fraser, Hannah; Brown, Colin Stewart; Clarke, Alleen; Taylor-Phillips, Sian
Source
BMC pregnancy and childbirth; Jul 2017; vol. 17 (no. 1); p. 247
Publication Date
Jul 2017
Publication Type(s)
Journal Article
PubMedID
28747160
Database
Medline
Available at BMC Pregnancy and Childbirth from BioMed Central
Available at BMC Pregnancy and Childbirth from Europe PubMed Central - Open Access
**15. Population effectiveness of the pentavalent and monovalent rotavirus vaccines: a systematic review and meta-analysis of observational studies.**

**Authors**
Hungerford, Daniel; Smith, Katie; Tucker, Angela; Iturria-Gómaraz, Miren; Vivancos, Roberto; McLeonard, Catherine; A Cunliffe, Nigel; French, Neil

**Source**
BMC infectious diseases; Aug 2017; vol. 17 (no. 1); p. 569

**Abstract**
BACKGROUND Rotavirus was the leading cause of acute gastroenteritis (AGE) in infants and young children prior to the introduction of routine vaccination. Since 2006 there have been two licensed vaccines available, with successful clinical trials leading the World Health Organization to recommend rotavirus vaccination for all children worldwide. In order to inform immunisation policy we have conducted a systematic review and meta-analysis of observational studies to assess population effectiveness against acute gastroenteritis.

METHODS We systematically searched PubMed, Medline, Web of Science, Cinhal and Academic Search Premier and grey literature sources for studies published between January 2006 and April 2014. Studies were eligible for inclusion if they were observational measuring population effectiveness of rotavirus vaccination against health care attendances for rotavirus gastroenteritis or AGE. To evaluate study quality we used the Newcastle-Ottawa Scale for non-randomised studies, categorising studies by risk of bias. Publication bias was assessed using funnel plots. If two or more studies reported a measure of vaccine effectiveness (VE), we conducted a random effects meta-analysis. We stratified analyses by World Bank country income level and used study quality in sensitivity analyses.

RESULTS From 2364 unique records, 30 studies were included. Despite a wide range of adverse events reported in 17 observational studies and 13 randomised controlled trials (RCTs), the evidence was inconsistent and at high risk of bias. Only one RCT investigated the long-term effects of IAP reporting potentially serious outcomes such as cerebral palsy; however, it had limited applicability and unclear biological plausibility. Seven observational studies showed that IAP for maternal GBS colonisation alters the infant microbiome. However, study populations were not followed through to clinical outcomes, therefore clinical significance is unknown. There was also observational evidence for increased antimicrobial resistance, however studies were at high or unclear risk of bias.

CONCLUSIONS The evidence base to determine the frequency of adverse events from intrapartum antibiotic prophylaxis for neonatal GBS disease prevention is limited. As RCTs may not be possible, large, better quality, and longitudinal observational studies across countries with widespread IAP could fill this gap.

TRIAL REGISTRATION CRD42016037195.

**16. Interventions to Improve the Response of Professionals to Children Exposed to Domestic Violence and Abuse: A Systematic Review.**

**Authors**
Turner, William; Hester, Marianne; Broad, Jonathan; Szilassy, Eszter; Feder, Gene; Drinkwater, Jessica; Firth, Adam; Stanley, Nicky

**Source**
Child abuse review (Chichester, England : 1992); 2017; vol. 26 (no. 1); p. 19-39
Exposure of children to domestic violence and abuse (DVA) is a form of child maltreatment with short- and long-term behavioural and mental health impact. Health care professionals are generally uncertain about how to respond to domestic violence and are particularly unclear about best practice with regards to children's exposure and their role in a multiagency response. In this systematic review, we report educational and structural or whole-system interventions that aim to improve professionals' understanding of, and response to, DVA survivors and their children. We searched 22 bibliographic databases and contacted topic experts for studies reporting quantitative outcomes for any type of intervention aiming to improve professional responses to disclosure of DVA with child involvement. We included interventions for physicians, nurses, social workers and teachers. Twenty-one studies met the inclusion criteria: three randomised controlled trials (RCTs), 18 pre-post intervention surveys. There were 18 training and three system-level interventions. Training interventions generally had positive effects on participants' knowledge, attitudes towards DVA and clinical competence. The results from the RCTs were consistent with the before-after surveys. Results from system-level interventions aimed to change organisational practice and inter-organisational collaboration demonstrates the benefit of coordinating system change in child welfare agencies with primary health care and other organisations. Implications for policy and research are discussed. © 2015 The Authors. Child Abuse Review published by John Wiley & Sons Ltd.‘We searched 22 bibliographic databases and contacted topic experts.’KEY PRACTITIONER MESSAGESWe reviewed published evidence on interventions aimed at improving professionals' practice with domestic violence survivors and their children.Training programmes were found to improve participants' knowledge, attitudes and clinical competence up to a year after delivery.Key elements of successful training include interactive discussion, booster sessions and involving specialist domestic violence practitioners.Whole-system approaches aiming to promote coordination and collaboration across agencies appear promising but require funding and high levels of commitment from partners. ‘Training programmes were found to improve participants' knowledge, attitudes and clinical competence up to a year after delivery.’

17. Influence of different intravenous lipid emulsions on growth, development and laboratory and clinical outcomes in hospitalised paediatric patients: A systematic review.

Authors: Edward, Roy-Rosshan; Innes, Jacqueline K; Marino, Luise V; Calder, Philip C
Source: Clinical nutrition (Edinburgh, Scotland); Jul 2017
Publication Date: Jul 2017
Publication Type(s): Journal Article Review
PubMedID: 28712532
Database: Medline

BACKGROUND & AIMSFats in the form of lipid emulsions (LEs) are an integral part of intravenous nutrition. The fatty acid composition of different LEs varies. The exact composition of a LE may influence cell and tissue function and clinical outcome. Currently, it is not clear which LE might be best for paediatric patients. We conducted a systematic review of the effects of different intravenous LEs in hospitalised paediatric patients.METHODSRandomised controlled trials published in a peer reviewed journal, written in the English language, and comparing two or more different intravenous LEs in hospitalised paediatric patients were included. Data on outcomes of relevance (growth, development, laboratory and clinical outcomes) were extracted, collated and interpreted.RESULTSThirty-one articles involving 1522 infants or children were included. Most outcomes were not affected by the nature of the LE used. LEs containing fish oil, a source of omega-3 fatty acids, improved outcome of retinopathy of prematurity, decreased liver cholestasis and increased blood omega-3 fatty acid levels. LEs containing olive oil increased blood oleic acid level and had a cholesterol lowering effect.CONCLUSIONBlood fatty acids are influenced by the nature of the intravenous LE used in hospitalised paediatric patients. Most studies suggest limited differences in relevant laboratory or clinical outcomes or in growth in paediatric patients receiving different LEs, although several studies do find benefits from including fish oil or olive oil. There is a need for larger trials to fully evaluate the effects of the available LE types in hospitalised paediatric patients.


Authors: Prayle, Andrew P; Cox, Tessy; Smith, Sherie J; Rycroft-Malone, Joanne; Thomas, Kim S; Hughes, Dyfrig A; Smyth, Alan R
Source: Thorax; Apr 2017
Publication Date: Apr 2017
Publication Type(s): Letter
PubMedID: 28446662
Database: Medline

Available at Thorax from BMJ Journals - NHS
Available at Thorax from BMJ Journals
Abstract

Cochrane Reviews summarise best evidence and should inform guidelines. We assessed the use of Cochrane Reviews in the UK guidelines for paediatric respiratory disease. We found 21 guidelines which made 1025 recommendations, of which 96 could be informed by a Cochrane Review. In 38/96 recommendations (40%), some or all of the relevant Cochrane Reviews were not cited. We linked recommendations to 140 Cochrane Reviews. In 37/140 (26%) cases, the guideline recommendation did not fully agree with the Cochrane Review. Guideline developers may fail to use Cochrane Reviews or may make recommendations which are not in line with best evidence.

19. Delayed breastfeeding initiation and infant survival: A systematic review and meta-analysis.

Authors
Smith, Emily R; Hurt, Lisa; Chowdhury, Randip; Sinha, Bireshwar; Fawzi, Wafaie; Edmond, Karen M; Neovita Study Group

Source
PloS one; 2017; vol. 12 (no. 7); p. e0180722

Publication Date
2017

Publication Type(s)
Journal Article Review

PubMedID
28746353

Database
Medline

Available at PloS ONE from Public Library of Science (PLoS)
Available at PloS ONE from Europe PubMed Central - Open Access

Abstract
OBJECTIVE To assess the existing evidence regarding breastfeeding initiation time and infant morbidity and mortality. STUDY DESIGN We conducted a systematic review and meta-analysis. We searched Pubmed, Embase, Web of Science, CINAHL, Popline, Lilacs, AIM, and Index Medicus to identify existing evidence. We included observational studies and randomized control trials that examined the association between breastfeeding initiation time and mortality, morbidity, or nutrition outcomes from birth through 12 months of age in a population of infants who all initiated breastfeeding. Two reviewers independently extracted data from eligible studies using a standardized form. We pooled effect estimates using fixed-effects meta-analysis.

RESULTS We pooled five studies, including 136,047 infants, which examined the association between very early breastfeeding initiation and neonatal mortality. Compared to infants who initiated breastfeeding ≤1 hour after birth, infants who initiated breastfeeding 2-23 hours after birth had a 33% greater risk of neonatal mortality (95% CI: 13-56%, I² = 0%), and infants who initiated breastfeeding ≥24 hours after birth had a 2.19-fold greater risk of neonatal mortality (95% CI: 1.73-2.77, I² = 33%). Among the subgroup of infants exclusively breastfed in the neonatal period, those who initiated breastfeeding ≥24 hours after birth had an 85% greater risk of neonatal mortality compared to infants who initiated <24 hours after birth (95% CI: 29-167%, I² = 33%).

CONCLUSIONS Policy frameworks and models to estimate newborn and infant survival, as well as health facility policies, should consider the potential independent effect of early breastfeeding initiation.


Authors
Gadian, Jonathan; Kirk, Emma; Holliday, Kate; Lim, Ming; Absoud, Michael

Source
Developmental medicine and child neurology; Feb 2017; vol. 59 (no. 2); p. 136-144

Abstract
AIM A systematic literature review of intravenous immunoglobulin (IVIG) treatment of paediatric neurological conditions was performed to summarize the evidence, provide recommendations, and suggest future research. METHOD A MEDLINE search for articles reporting on IVIG treatment of paediatric neuroinflammatory, neurodevelopmental, and neurodegenerative conditions published before September 2015, excluding single case reports and those not in English. Owing to heterogeneous outcome measures, meta-analysis was not possible. Findings were combined and evidence graded. RESULT Sixty-five studies were analysed. IVIG reduces recovery time in Guillain-Barré syndrome (grade B). IVIG is as effective as corticosteroids in chronic inflammatory demyelinating polyradiculoneuropathy (grade C), and as effective as tacrolimus in Rasmussen syndrome (grade C). IVIG improves recovery in acute disseminated encephalomyelitis (grade C), reduces mortality in acute encephalitis syndrome with myocarditis (grade C), and improves function and stabilizes disease in myasthenia gravis (grade C). IVIG improves outcome in N-methyl-d-aspartate receptor encephalitis (grade C) and opsonoclonus-myoclonus syndrome (grade C), reduces cataplexy symptoms in narcolepsy (grade C), speeds recovery in Sydenham chorea (grade C), reduces tics in selected cases of Tourette syndrome (grade D), and improves symptoms in paediatric autoimmune neuropsychiatric disorder associated with streptococcal infection (grade B). INTERPRETATION IVIG is a useful therapy in selected neurological conditions. Well-designed, prospective, multi-centre studies with standardized outcome measures are required to compare treatments.


Authors
Al Rawahi, Said Hartih; Asimakopoulou, Koula; Newton, Jonathon Timothy

Source
BMC psychology; Jul 2017; vol. 5 (no. 1); p. 25

Authors: Kwon, Joseph; Kim, Sung Wook; Ungar, Wendy J; Tsiplova, Kate; Madan, Jason; Petrou, Stavros
Source: Medical decision making : an international journal of the Society for Medical Decision Making; Oct 2017 ; p. 272989X17732990
Publication Date (PubMed): Oct 2017
Publication Type(s): Journal Article
PubMedID: 28990449
Database: Medline

Abstract: BACKGROUND A common feature of most reviews or catalogues of health utilities has been their focus on adult health states or derivation of values from adult populations. More generally, utility measurement in or on behalf of children has been constrained by several methodological concerns. The objective of this study was to conduct the first comprehensive systematic review and meta-analysis of primary utility data for childhood conditions and descriptors, and to determine the effects of methodological factors on childhood utilities.

METHODS The review followed PRISMA guidelines. PubMed, Embase, Web of Science, PsycINFO, EconLit, CINAHL and Cochrane Library were searched for primary studies reporting health utilities for childhood conditions or descriptors using direct or indirect valuation methods. The Paediatric Economic Database Evaluation (PEDE) Project was also searched for cost-utility analyses with primary utility values. Mean or median utilities for each of the main samples were catalogued, and weighted averages of utilities for each health condition were estimated, by valuation method. Mixed-effects meta-regression using hierarchical linear modeling was conducted for the most common valuation methods to estimate the utility decrement for each health condition category relative to general childhood population health, as well as the independent effects of methodological factors.

RESULTS The literature searches resulted in 272 eligible studies. These yielded 3,414 utilities when all sub-groups were considered, covering all ICD-10 chapters relevant to childhood health, 19 valuation methods, 12 respondent types, 8 modes of administration, and data from 36 countries. A total of 1,191 utility values were obtained when only main study samples were considered, and these were catalogued by health condition or descriptor, and methodological characteristics. 1,073 mean utilities for main samples were used for fixed-effects meta-analysis by health condition and valuation method. Mixed-effects meta-regressions estimated that 53 of 76 ICD-10 delineated health conditions, valued using the HUI3, were associated with statistically significant utility decrements relative to general population health, whereas 38 of 57 valued using a visual analog scale (VAS) were associated with statistically significant VAS decrements. For both methods, parental proxy assessment was associated with overestimation of values, whereas adolescents reported lower values than children under 12 y. VAS responses were more heavily influenced by mode of administration than the HUI3.

CONCLUSION Utilities and their associated distributions, as well as the independent contributions of methodological factors, revealed by this systematic review and meta-analysis can inform future economic evaluations within the childhood context.

23. Effectiveness of pre-operative clown intervention on psychological distress: A systematic review and meta-analysis.

Authors: Zhang, Yongfu; Yang, Yuan; Lau, Wing Yt; Garg, Samradhvi; Lao, Jianxin
Source: Journal of paediatrics and child health; Mar 2017; vol. 53 (no. 3); p. 237-245
Publication Date (PubMed): Mar 2017
Publication Type(s): Meta-analysis Journal Article Review
PubMedID: 27734555
Database: Medline

Abstract: BACKGROUND Theories of behavior change are essential in the design of effective behaviour change strategies. No studies have assessed the effectiveness of interventions based on psychological theories to reduce sugar intake related to dental caries. The study assessed the effect of interventions based on Social Cognition Models (SCMs) on sugar intake in adults, when compared with educational interventions or no intervention.

METHODS A range of papers were considered: Systematic review Systematic Reviews with or without Meta Analyses; Randomised Controlled Trials; Controlled Clinical Trials and Before and after studies, of interventions based on Social Cognition Models aimed at dietary intake of sugar in adults. The Cochrane database including: Oral Health Group's Trials Register (2015), MEDLINE (from 1966 to September 2015), EMBASE (from 1980 to September 2015), PsycINFO (from 1966 to September 2015) were searched. RESULTS No article met the full eligibility criteria for the current systematic review so no articles were included. CONCLUSION There is a need for more clinical trials to assess the effectiveness of interventions based on psychological theory in reducing dietary sugar intake among adults.
Abstract

AIM
This study aims to provide an overview of the current knowledge available on the effectiveness of pre-operative clown intervention on psychological distress in children and parents.

METHODS
PubMed, MEDLINE, Embase and PsycINFO databases were searched to identify relevant studies. Systematic review procedures were followed including a quality assessment. Meta-analysis of suitable studies was conducted.

RESULTS
Eight studies were included; six reported that clown intervention reduced children's pre-operative anxiety, while one found that children's pre-operative distress levels were unchanged. Two studies suggested that clown therapy decreased parents' state anxiety, while three others found inconsistent results. No differences were found on parents' trait anxiety score. Meta-analysis of the available data confirmed that clown intervention has a great effect to reduce children's pre-operative distress (six articles, 341 children, Hedges' g = 0.867, 95% confidence intervals: 0.374-1.360, P = 0.001), and also had a small-to-medium effect on reducing parents' state anxiety (five articles, 329 parents, Hedges' g = 0.338, 95% confidence intervals: 0.112-0.564, P = 0.003).

CONCLUSIONS
While significant variability existed between studies, the meta-analysis confirmed the effectiveness of pre-operative clown therapy on reducing psychological distress in children and parents. Larger randomised controlled trials and cross-cultural studies should be conducted to investigate the effectiveness of clown therapy in greater detail.

24. Medication-taking experiences in attention deficit hyperactivity disorder: a systematic review.

Authors
Rashid, Mohammed A; Lovick, Sophie; Llanwarne, Nadia R

Source
Family practice; Sep 2017

Publication Date
Sep 2017

Publication Type(s)
Journal Article

PubMedID
28973393

Database
Medline

Abstract

Background
Although attention deficit hyperactivity disorder (ADHD) is a common condition for which pharmacotherapy is considered an effective treatment, guidelines on the treatment of ADHD have been challenging to implement. Considering the views of patients and caregivers involved in medication-taking could help shed light on these challenges.

Objective
This review combines the findings of individual studies of medication-taking experiences in ADHD in order to guide clinicians to effectively share decisions about treatment.

Methods
Five databases (MEDLINE, Embase, PsycINFO, SCOPUS and CINAHL) were systematically searched for relevant published research articles. Articles were assessed for quality using a Critical Appraisal Skills Programme checklist, and synthesis was performed using meta-ethnography.

Results
Thirty-one articles were included in the final synthesis, comprising studies of caregivers, paediatric patients and adult patients across seven countries. Findings were categorized into five different constructs, including coming to terms with ADHD, anticipated concerns about medication, experiences of the effects of medication, external influences and the development of self-management. The synthesis demonstrates that decisions surrounding medication-taking for ADHD evolve as the child patient enters adulthood and moves towards autonomy and self-management. In all parts of this journey, decisions are shaped by a series of 'trade-offs', where potential benefits and harms of medication are weighed up.

Conclusions
This review offers a comprehensive insight into medication-taking experiences in ADHD. By considering the shifting locus of decision-making over time and the need for individuals and families to reconcile a variety of external influences, primary care and mental health clinicians can engage in holistic conversations with their patients to share decisions effectively.

25. High-Intensity Interval Training Interventions in Children and Adolescents: A Systematic Review.

Authors
Eddolls, William T B; McNarry, Melitta A; Stratton, Gareth; Winn, Charles O N; Mackintosh, Kelly A

Source
Sports medicine (Auckland, N.Z.); Jun 2017

Publication Date
Jun 2017

Publication Type(s)
Journal Article Review

PubMedID
28643209

Database
Medline
BACKGROUND Whilst there is increasing interest in the efficacy of high-intensity interval training in children and adolescents as a time-effective method of eliciting health benefits, there remains little consensus within the literature regarding the most effective means for delivering a high-intensity interval training intervention. Given the global health issues surrounding childhood obesity and associated health implications, the identification of effective intervention strategies is imperative.

OBJECTIVES The aim of this review was to examine high-intensity interval training as a means of influencing key health parameters and to elucidate the most effective high-intensity interval training protocol.

METHODS Studies were included if they: (1) studied healthy children and/or adolescents (aged 5-18 years); (2) prescribed an intervention that was deemed high intensity; and (3) reported health-related outcome measures.

RESULTS A total of 2092 studies were initially retrieved from four databases. Studies that were deemed to meet the criteria were downloaded in their entirety and independently assessed for relevance by two authors using the pre-determined criteria. From this, 13 studies were deemed suitable. This review found that high-intensity interval training in children and adolescents is a time-effective method of improving cardiovascular disease biomarkers, but evidence regarding other health-related measures is more equivocal. Running-based sessions, at an intensity of >90% heart rate maximum/100-130% maximal aerobic velocity, two to three times a week and with a minimum intervention duration of 7 weeks, elicit the greatest improvements in participant health.

CONCLUSION While high-intensity interval training improves cardiovascular disease biomarkers, and the evidence supports the effectiveness of running-based sessions, as outlined above, further recommendations as to optimal exercise duration and rest intervals remain ambiguous owing to the paucity of literature and the methodological limitations of studies presently available.

26. Vitamin D supplementation to prevent acute respiratory tract infections: systematic review and meta-analysis of individual participant data.

Authors
Martineau, Adrian R; Jolliffe, David A; Hooper, Richard L; Greenberg, Lauren; Aloia, John F; Bergman, Peter; Dubnov-Raz, Gal; Esposito, Susanna; Gamnaa, Davaasambuu; Ginde, Adit A; Goodall, Emma C; Grant, Cameron C; Griffiths, Christopher J; Janssens, Wim; Laaksi, Ilkka; Manaseki-Holland, Semira; Mauger, David; Murdoch, David R; Neale, Rachel; Rees, Judy R; Simpson, Steve; Steimach, Iwona; Kumar, Geeta Trilok; Urashima, Mitsuyoshi; Camargo, Carlos A

Source BMJ (Clinical research ed.); Feb 2017; vol. 356 ; p. i6583

Abstract
Objectives To assess the overall effect of vitamin D supplementation on risk of acute respiratory tract infection, and to identify factors modifying this effect. Design Systematic review and meta-analysis of individual participant data (IPD) from randomised controlled trials. Data sources Medline, Embase, the Cochrane Central Register of Controlled Trials, Web of Science, ClinicalTrials.gov, and the International Standard Randomised Controlled Trials Number registry from inception to December 2015. Eligibility criteria for study selection Randomised, double blind, placebo controlled trials of supplementation with vitamin D3 or vitamin D2 of any duration were eligible for inclusion if they had been approved by a research ethics committee and if data on incidence of acute respiratory tract infection were collected prospectively and prespecified as an efficacy outcome. Results 25 eligible randomised controlled trials (total 11 321 participants, aged 0 to 95 years) were identified. IPD were obtained for 10 993 (96.6%) participants. Vitamin D supplementation reduced the risk of acute respiratory tract infection among all participants (adjusted odds ratio 0.88, 95% confidence interval 0.81 to 0.96; P for heterogeneity <0.001). In subgroup analysis, protective effects were seen in those receiving daily or weekly vitamin D without additional bolus doses (adjusted odds ratio 0.81, 0.72 to 0.91) but not in those receiving one or more bolus doses (adjusted odds ratio 0.97, 0.86 to 1.10; P for interaction=0.05). Among those receiving daily or weekly vitamin D, protective effects were stronger in those with baseline 25-hydroxyvitamin D levels <25 nmol/L (adjusted odds ratio 0.30, 0.17 to 0.53) than in those with baseline 25-hydroxyvitamin D levels ≥25 nmol/L (adjusted odds ratio 0.75, 0.60 to 0.95; P for interaction=0.006). Vitamin D did not influence the proportion of participants experiencing at least one serious adverse event (adjusted odds ratio 0.98, 0.80 to 1.20, P=0.83). The body of evidence contributing to these analyses was assessed as being of high quality. Conclusions Vitamin D supplementation was safe and it protected against acute respiratory tract infection overall. Patients who were very vitamin D deficient and those not receiving bolus doses experienced the most benefit. Systematic review registration PROSPERO CRD42014013953.

27. The impact of HIV and antiretroviral therapy on TB risk in children: a systematic review and meta-analysis.

Authors
Dodd, P; Prendergast, A J; Beecroft, C; Kampmann, B; Seddon, J A

Source Thorax; Jun 2017; vol. 72 (no. 6); p. 559-575

Abstract
Objectives To assess the overall effect of HIV and antiretroviral therapy on the risk of tuberculosis (TB) in children. Design Systematic review and meta-analysis. Data sources Medline, EMBASE, Cochrane CENTRAL, AMED, and WHO IPI. Search strategy Medline: 3020 records identified; 2811 records remained after applying search filters; 2092 records were unique after removing duplicates. Analysis 21 studies were deemed suitable. This review found that antiretroviral therapy decreases the risk of TB among children infected with HIV, and that this effect is stronger in children on less than optimal antiretroviral therapy. Conclusions In children infected with HIV, antiretroviral therapy reduces the risk of TB. Evidence for the impact of antiretroviral therapy on the risk of TB in children infected with HIV is currently limited to observational studies. Further studies are needed to confirm this finding and to explore the mechanisms by which antiretroviral therapy reduces the risk of TB in children infected with HIV.
Abstract

BACKGROUND: Children (<15 years) are vulnerable to TB disease following infection, but no systematic review or meta-analysis has quantified the effects of HIV-related immunosuppression or antiretroviral therapy (ART) on their TB incidence. OBJECTIVES: Determine the impact of HIV infection and ART on risk of incident TB disease in children. METHODS: We searched MEDLINE and Embase for studies measuring HIV prevalence in paediatric TB cases (‘TB cohorts’) and paediatric HIV cohorts reporting TB incidence (‘HIV cohorts’). Study quality was assessed using the Newcastle-Ottawa tool. TB cohorts with controls were meta-analysed to determine the incidence rate ratio (IRR) for TB given HIV. HIV cohort data were meta-analysed to estimate the trend in log-IRR versus CD4%, relative incidence by immunological stage and ART-associated protection from TB. RESULTS: 42 TB cohorts and 22 HIV cohorts were included. In the eight TB cohorts with controls, the IRR for TB was 7.9 (95% CI 4.5 to 13.7). HIV-infected children exhibited a reduction in IRR of 0.94 (95% credible interval: 0.83-1.07) per percentage point increase in CD4%. TB incidence was 5.0 (95% CI 4.0 to 6.0) times higher in children with severe compared with non-significant immunosuppression. TB incidence was lower in HIV-infected children on ART (HR: 0.30; 95% CI 0.21 to 0.39). Following initiation of ART, TB incidence declined rapidly over 12 months towards a HR of 0.10 (95% CI 0.04 to 0.25). CONCLUSIONS: HIV is a potent risk factor for paediatric TB, and ART is strongly protective. In HIV-infected children, early diagnosis and ART initiation reduces TB risk. TRIAL REGISTRATION NUMBER: CRD42014014276.

28. Interventions to reduce inequalities in vaccine uptake in children and adolescents aged <19 years: a systematic review.

Authors: Crocker-Buque, Tim; Edelstein, Michael; Mounier-Jack, Sandra
Source: Journal of epidemiology and community health; Jan 2017; vol. 71 (no. 1); p. 87-97
Publication Date: Jan 2017
Publication Type(s): Journal Article Review
PubMedID: 27535769
Database: Medline
Abstract: In high-income countries, substantial differences exist in vaccine uptake relating to socioeconomic status, gender, ethnic group, geographic location and religious belief. This paper updates a 2009 systematic review on effective interventions to decrease vaccine uptake inequalities in light of new technologies applied to vaccination and new vaccine programmes (eg, human papillomavirus in adolescents). METHODS: We searched MEDLINE, Embase, ASSIA, The Campbell Collaboration, CINAHL, The Cochrane Database of Systematic Reviews, Epipi Centre, Eric and PsychINFO for intervention, cohort or ecological studies conducted at primary/community care level in children and young people from birth to 19 years in OECD countries, with vaccine uptake or coverage as outcomes, published between 2008 and 2015. RESULTS: The 41 included studies evaluated complex multicomponent interventions (n=16), reminder/recall systems (n=18), outreach programmes (n=3) or computer-based interventions (n=2). Complex, locally designed interventions demonstrated the best evidence for effectiveness in reducing inequalities in deprived, urban, ethnically diverse communities. There is some evidence that postal and telephone reminders are effective, however, evidence remains mixed for text-message reminders, although these may be more effective in adolescents. Interventions that escalated in intensity appeared particularly effective. Computer-based interventions were not effective. Few studies targeted an inequality specifically, although several reported differential effects by the ethnic group. CONCLUSIONS: Locally designed, multicomponent interventions should be used in urban, ethnically diverse, deprived populations. Some evidence is emerging for text-message reminders, particularly in adolescents. Further research should be conducted in the UK and Europe with a focus on reducing specific inequalities.
## Search Strategy

### Strategy 309087

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