PulsE

Policy-relevent Evidence

Quarterly eBulletin of public health and health services systematic reviews

In This Issue

Issue 16 May 2011

NEW REVIEWS

FORTHCOMING REVIEWS

OTHER NEWS

NEW REVIEWS

Structured telephone support or telemonitoring programmes for patients with chronic heart failure

Specialised disease management programmes for chronic heart failure (CHF) improve survival, quality of life and reduce healthcare utilisation. The objective of this review was to examine the evidence from randomised controlled trials (RCTs) of structured telephone support or telemonitoring compared to standard practice for patients with CHF in order to quantify the effects of these interventions over and above usual care for these patients. Peer reviewed, published RCTs comparing structured telephone support or telemonitoring to usual care of CHF patients were included. The intervention or usual care could not include a home visit or more than the usual (four to six weeks) clinic follow-up. Primary outcomes included all-cause mortality, all-cause and CHF-related hospitalisations. Other outcomes included length of stay, quality of life, acceptability and cost. Of the 25 full peer-reviewed studies meta-analysed, 16 evaluated structured telephone support, 11 evaluated telemonitoring, and two tested both interventions. Telemonitoring reduced all-cause mortality (RR 0.66, 95% CI 0.54 to 0.81) with structured telephone support demonstrating a non-significant positive effect (RR 0.88, 95% CI 0.76 to 1.01). Both structured telephone support (RR 0.77, 95% CI 0.68 to 0.87) and telemonitoring (RR 0.79, 95% CI 0.67 to 0.94) reduced CHF-related hospitalisations. Several

studies found that both interventions improved quality of life, reduced healthcare costs and were acceptable to patients. Improvements in prescribing, patient knowledge and self-care, and Improvements in prescribing, patient knowledge and self-care, and stage of heart failure (as determined by the New York Heart Association classification) were also observed. The authors concluded that structured telephone support and telemonitoring are effective in reducing the risk of all-cause mortality and CHF-related hospitalisations in patients with CHF; they improve quality of life, evidence-based prescribing, and reduce costs.

Inglis SC, Clark RA, McAlister FA, Ball J, Lewinter C, Cullington D, Stewart S, Cleland JGF. Structured telephone support or telemonitoring programmes for patients with chronic heart failure. *Cochrane Database of Systematic Reviews* 2010, Issue 8.

http://onlinelibrary.wiley.com/o/cochrane/clsysrev/articles/CD007228/frame.html

Systematic review of reviews of intervention components associated with increased effectiveness in dietary and physical activity interventions

To develop more efficient programmes for promoting dietary and/or physical activity change (in order to prevent type 2 diabetes) it is critical to ensure that the intervention components and characteristics most strongly associated with effectiveness are included. The aim of this systematic review of reviews was to identify intervention components that are associated with increased change in diet and/or physical activity in individuals at risk of type 2 diabetes. Systematic reviews of interventions targeting diet and/or physical activity in adults at risk of developing type 2 diabetes were included in the review. Individual analyses from reviews relating effectiveness to intervention components were extracted, graded for evidence quality and summarised. Of 3856 identified articles, 30 met the inclusion criteria and 129 analyses related intervention components to effectiveness. These included causal analyses (based on randomisation of participants to different intervention conditions) and associative analyses (e.g. meta-regression). Overall, interventions produced clinically meaningful weight loss (3-5 kg at 12 months; 2-3 kg at 36 months) and increased physical activity (30-60 mins/week of moderate activity at 12-18 months). Intervention effectiveness was increased by engaging social support, targeting both diet and physical activity, and using well-defined/established behaviour change techniques. Increased effectiveness was also *associated with* increased contact frequency and using a specific cluster of "self-regulatory" behaviour change techniques (e.g. goal-setting, self-monitoring). No clear relationships were found between effectiveness and intervention setting, delivery mode, study population or delivery provider. Evidence on long-term effectiveness suggested the need for greater consideration of behaviour maintenance strategies. The authors concluded that there are specific components which are associated with increased effectiveness in interventions to promote change in diet and/or physical activity. To maximise the efficiency of programmes for diabetes prevention, practitioners and commissioning organisations should consider including these components.

Greaves C J, Sheppard K E, Abraham C, Hardeman W, Roden M, Evans PH and Schwarz P for The IMAGE Study Group. Systematic review of reviews of intervention components associated with increased effectiveness in dietary and physical activity interventions *BMC Public Health* 2011, 11:119

http://www.biomedcentral.com/1471-2458/11/119

Screening for colorectal cancer using the faecal occult blood test, Hemoccult

Colorectal cancer is a leading cause of morbidity and mortality. The introduction of population-based screening programmes may reduce mortality. The objective of this review was to determine whether screening for colorectal cancer using the faecal occult blood test (guaiac or immunochemical) reduces colorectal cancer mortality and to consider the benefits and harms of screening. The review included all randomised trials of screening for colorectal cancer that compared faecal occult blood test on more than one occasion with no screening and reported colorectal cancer mortality. The primary data analysis was performed using group participants who were originally randomised ('intention to screen'), whether or not they

attended screening; a secondary analysis adjusted for non-attendance. The review calculated the relative risks and risk differences for each trial. The authors identified nine articles concerning four randomised controlled trials and two controlled trials involving over 320,000 participants with follow-up ranging from 8 to 18 years. The combined results from the 4 eligible randomised controlled trials shows that participants allocated to FOBT screening had a statistically significant 16% reduction in the relative risk of colorectal cancer mortality (RR 0.84; 95% CI: 0.78-0.90). In 3 studies that used biennial screening there was a 15% relative risk reduction (RR 0.85, 95% CI: 0.78 to0.92) in colorectal cancer mortality. When adjusted for mean screening attendance in the individual studies, there was a 25% relative risk reduction (RR 0.75, 95% CI: 0.66 to 0.84) for those attending at least one round of screening using the faecal occult blood test. The authors concluded that benefits of screening include a modest reduction in colorectal cancer mortality, and a possible reduction in cancer incidence through the detection and removal of colorectal cancers. Harmful effects of screening include the psycho-social consequences of receiving a false-positive result, the potentially significant complications of colonoscopy or a false-negative result, and the possibility of over-diagnosis, leading to unnecessary investigations or treatment.

Hewitson P, Glasziou PP, Irwig L, Towler B, Watson E. Screening for colorectal cancer using the faecal occult blood test, Hemoccult. *Cochrane Database of Systematic Reviews* 2007, Issue 1.

http://onlinelibrary.wiley.com/o/cochrane/clsysrev/articles/CD001216/frame.html

Home care by outreach nursing for chronic obstructive pulmonary disease

Chronic obstructive pulmonary disease (COPD) is characterised by progressive airflow obstruction, worsening exercise performance and health deterioration. It is associated with significant morbidity, mortality and health system burden. The review's objective was to determine the effectiveness of outreach respiratory health care worker programmes for COPD patients. Outcome measures included improvement in lung function, exercise tolerance and health related quality of life (HRQL) of patient and carer, and reduction of mortality and medical service utilisation. The review included randomised controlled trials of COPD patients which examined interventions involving an outreach nurse visiting patients in their homes, providing support, education, monitoring health and liaising with physicians. The review included five new studies in this update, resulting in a total of nine included studies. A meta-analysis of mortality data from eight studies found a non-significant reduction in mortality at 12 months (OR 0.72, 95% CI 0.45 to 1.15). A meta-analysis of four studies that assessed disease-specific HRQL found a statistically significant improvement in HRQL (mean difference -2.61, 95% CI -4.82 to -0.40). Hospitalisations were reported in five studies. There was no statistically significant difference in the number of hospitalisations. Data on GP visits and emergency department presentations were available, however no consistent effect in these was observed with the intervention, largely due to the heterogeneity of the studies. Very few studies provided data on lung function or exercise performance, so there was insufficient evidence to assess impact on these outcomes. The authors concluded that outreach nursing programmes for COPD improved disease-specific HRQL. However the authors could not draw conclusions for the effect on hospitalisations. More research is needed to confirm the usefulness of home visits for people with COPD.

Wong CX, Carson KV, Smith BJ. Home care by outreach nursing for chronic obstructive pulmonary disease. *Cochrane Database of Systematic Reviews* 2011, Issue 3.

http://onlinelibrary.wiley.com/o/cochrane/clsysrev/articles/CD000994/frame.html

Continuous support for women during childbirth

Historically, women have been attended and supported by other women during labour. However in hospitals worldwide, continuous support during labour has become the exception rather than the routine. The primary objective of this review was to assess the effects of continuous, one-to-one intrapartum support compared with usual care. All published and unpublished randomised controlled trials comparing continuous support during labour with usual care were included in the review. Results are of random-effects analyses, unless otherwise noted. Twenty-one trials involving 15061 women were identified and included in the review. Women allocated to continuous support were more likely to have a spontaneous vaginal birth (RR 1.08, 95% CI 1.04 to 1.12) and less likely to have intrapartum analgesia (RR 0.90, 95% CI 0.84 to 0.97) or to report dissatisfaction (RR 0.69, 95% CI 0.59 to 0.79). In addition their labours were shorter (mean difference -0.58 hours, 95% CI -0.86 to -0.30), they were less likely to have a caesarean (RR 0.79, 95% CI 0.67 to 0.92) or regional analgesia (RR 0.93, 95% CI 0.88 to 0.99). There was no apparent impact on other intrapartum interventions, or maternal or neonatal complications. Subgroup analyses suggested that continuous support was most effective when provided by a woman who was neither part of the hospital staff nor the woman's social network, and in settings in which epidural analgesia was not routinely available. The authors concluded that continuous support during labour has clinically meaningful benefits for women and infants and no known harm.

Hodnett ED, Gates S, Hofmeyr GJ, Sakala C, Weston J. Continuous support for women during childbirth. *Cochrane Database of Systematic Reviews* 2011, Issue 2.

http://onlinelibrary.wiley.com/o/cochrane/clsysrev/articles/CD003766/frame.html

Interventions to enhance return-to-work for cancer patients

Cancer survivors may continue to experience fatigue, pain, and depression which may become chronic, causing problems with workforce participation. Cancer survivors are 1.4 times more likely to be unemployed than healthy people. It is therefore important to provide cancer patients with programmes to support the return-to-work process. The objective of the review was to evaluate the effectiveness of interventions aimed at enhancing return-to-work in cancer patients. The review included randomised controlled trials (RCTs) and controlled before-after studies (CBAs) of the effectiveness of psychological, vocational, physical, medical or multidisciplinary interventions enhancing return-to-work in cancer patients. The primary outcome measure was return-to-work rate or sick leave duration. The secondary outcome was quality of life. The review included 18 studies involving 1652 participants. Four types of interventions were found: psychological interventions, interventions aimed at physical functioning, medical interventions, and multidisciplinary interventions which incorporated physical, psychological and vocational components. There was low quality evidence of similar return-to-work rates for psychological interventions compared to care as usual (OR 2.32, 95% CI 0.94 to 5.71). Very low quality evidence suggested that physical training was not more effective than care as usual on improving return-to-work (OR 1.20, 95% CI 0.32 to 4.54). There was low quality evidence from eight studies that approaches to conserve functioning had similar return-to-work rates as more radical treatments (OR 1.53, 95% CI 0.95 to 2.45). Moderate quality evidence showed multidisciplinary interventions involving physical, psychological and vocational components led to higher return-to-work rates than care as usual (OR 1.87, 95% CI 1.07 to 3.27). No differences in the effect of psychological, physical, medical or multidisciplinary interventions compared to care as usual were found on quality of life outcomes. The authors concluded that there is evidence that multidisciplinary interventions may lead to higher return-to-work rates of cancer patients than care as usual. However more high quality RCTs aimed at enhancing return-to-work in cancer patients are needed.

de Boer AGEM, Taskila T, Tamminga SJ, Frings-Dresen MHW, Feuerstein M, Verbeek JH. Interventions to enhance return-to-work for cancer patients. *Cochrane Database of Systematic Reviews* 2011, Issue 2.

http://onlinelibrary.wiley.com/o/cochrane/clsysrev/articles/CD007569/frame.html

Comparison of user groups' perspectives of barriers and facilitators to implementing electronic health records: a systematic review

Electronic health records (EHR) are designed to facilitate the sharing of data across the continuum of health care. Users have an important role to play in implementation processes as they must integrate the EHR system into their work environments. This systematic review aimed to synthesize current knowledge of the barriers and facilitators influencing EHR implementation among its various users, including patients, health care professionals and managers. Studies were included in the review if they had an empirical study design, the intervention was the implementation of a general interoperable EHR, the users' perspective was documented, and barriers and facilitators to EHR implementation were clearly mentioned. 52 studies met the inclusion criteria and were included in the review. The majority of the studies took place in North America. 17 studies exclusively involved physicians, while another 17 involved a variety of health care professionals and the remainder involved patients or health care managers. The level of EHR implementation varied across the studies, with over half of the interventions locally implemented, and others regionally or nationally implemented. The review found ten implementation factors relevant to all user groups, including technical concerns, ease of use, interoperability, privacy, costs, productivity, ability to use EHR, motivation to use EHR, patient and health professional interaction, and workload. The review found that nearly all factors associated with EHR implementation were perceived as being a barrier by some and a facilitator by others. Overall, more barriers than facilitating factors were mentioned. Factors which were more generally considered to be barriers included design or technical concerns, privacy concerns, cost issues, familiarity and ability with EHR. Perceived ease of use, privacy and security, productivity, motivation to use EHRs were also considered by different user groups to be facilitators. The factors most often cited as influencing EHR implementation for specific user groups were: design and technical issues (physicians, health professionals); costs (physicians, managers); perceived usefulness (health professionals, patients); privacy and security concerns, accuracy, and patient-health professional interaction (patients). The authors concluded that the different user groups have unique perspectives of the implementation process, with financial, time-related and technical barriers generally being the most cited barriers to EHR implementation, and perceived usefulness and motivation to use EHRs as the main facilitators to EHR implementation.

McGinn C A, Grenier S, Duplantie J, Shaw N, Sicotte C, Mathieu L, Leduc Y, Legare F and Gagnon M-P Comparison of user groups' perspectives of barriers and facilitators to implementing electronic health records: a systematic review. BMC Medicine 2011, 9:46

http://www.biomedcentral.com/1741-7015/9/46/abstract

FORTHCOMING REVIEWS

Interventions for smoking cessation in Indigenous populations

Indigenous populations bear a disproportionate burden of substance- related morbidity and mortality in comparison to non-Indigenous populations. The prevalence of tobacco use within the Indigenous population is often in fact double that of the relevant non-Indigenous population, with 51% in Australia. Despite the high prevalence of tobacco smoking in Indigenous populations compared to non-Indigenous populations, most research in smoking intervention has occurred in the latter. In view of this gap, systematic consolidation of interventions in this high-risk populace is warranted, to identify features of any effective programs for Indigenous populations. The objective of the review is to evaluate the effectiveness of smoking cessation interventions in Indigenous populations and to summarise these approaches for future cessation programmes and research. Eligible studies will include randomised controlled trials of young people and adults of any age who are indigenous to their country and are current smokers participating in a smoking cessation study. Interventions

will include those which use pharmacotherapy, cognitive and behavioural therapies, alternative therapies, public policy and combination therapies. The primary outcome measure will be smoking cessation, either in terms of continuous abstinence and/or the relevant 'point prevalence' as described by the study.

Carson KV, Brinn MP, Veale A, Esterman AJ, Smith BJ. Interventions for smoking cessation in Indigenous populations (Protocol). *Cochrane Database of Systematic Reviews* 2011, Issue 3.

http://onlinelibrary.wiley.com/o/cochrane/clsysrev/articles/CD009046/frame.html

Interventions for preventing falls in older people: an overview of Cochrane Reviews

The review's aim will be to provide an overview of interventions for preventing falls in older people by summarising the evidence from multiple Cochrane intervention reviews that evaluate the effects of these interventions in different populations of older people. This review will include Cochrane intervention reviews which have been published in the Cochrane Database of Systematic Reviews, but will only include evidence from randomised trials and quasi-randomised trials within these reviews. Fall prevention interventions will include those in the following categories: supervised or unsupervised exercises; medication; surgery; management of urinary incontinence; fluid or nutrition therapy; psychological; environment and assistive technologies; social environment; knowledge/education interventions and any other interventions that do not fall into one of these categories. Interventions tested may belong to one category ('single' intervention) or more than one category ('multiple' and 'multifactorial' interventions). Interventions can be compared with either control interventions (such as standard/usual care) or with another type of intervention aimed at fall prevention. Primary outcome measures will be rate of falls and number of fallers, and secondary outcomes will be severity of falls and adverse events associated with the interventions.

Udell JE, Drahota A, Dean TP, Sander R, Mackenzie H. Interventions for preventing falls in older people: an overview of Cochrane Reviews (Protocol). *Cochrane Database of Systematic Reviews* 2011, Issue 4.

http://onlinelibrary.wiley.com/o/cochrane/clsysrev/articles/CD009074/frame.html

Interventions to optimise prescribing for older people in care homes

Suboptimal prescribing for older people living in care homes is common and may occur due to the prescribing of inappropriate medicines, omission of beneficial medicines or failure to appropriately monitor residents and the effects of their medicines. Interventions designed to improve prescribing for care home residents may have an impact by: discontinuing inappropriate medication; commencing beneficial medicines; ensuring appropriate monitoring of long-term conditions and medicines. Consequently, this may lead to a reduction in adverse drug events, improved quality of life and a reduction in medicine costs. This review will focus on interventions that are concerned with optimising the whole medication regime for care home residents, compared with usual care. These will include: educational interventions aimed at prescribers; medication review services (uni or multi professional conducted by nurses, pharmacists or physicians); case conferencing; and information and communication interventions such as clinical decision support systems. Financial and regulatory interventions will be excluded. The review will include a range of outcome measures including those that are patient-related, health service utilisation and economic. The primary outcome measures for the review will be adverse drug events, hospital admissions, and mortality. Secondary outcome measures will be quality of life, medication-related problems and medication appropriateness.

Alldred DP, Raynor DK, Hughes C, Barber N, Chen TF, Spoor P. Interventions to optimise prescribing for older people in care homes (Protocol). *Cochrane Database of Systematic Reviews* 2011, Issue 4.

http://onlinelibrary.wiley.com/o/cochrane/clsysrev/articles/CD009095/pdf_fs.html

Presentation of aversive visual images in health communication for changing health behaviour

The use of aversive visual images that graphically illustrate the potential health risks or adverse consequences associated with health behaviour has received increasing attention as health promotion strategy. Using aversive visual images to communicate health information may be considered more potent and influential than non-visual means of communication. The primary objective of the review is to estimate the extent to which presentation of visual images of potential health risks or adverse consequences associated with health behaviours may influence health behaviours such as dietary behaviour, physical activity, smoking, alcohol consumption and sun protection behaviour. They will be considered in comparison to the impact of communicating information in a way that does not involve showing the individual such images (such as through purely written or oral communications). Randomised controlled trials, cluster randomised controlled trials, or quasi-RCTs, controlled before and after and interrupted time series studies will be included in the review. Interventions will be of presentation of aversive visual images of potential health risks or adverse consequences associated with a health behaviour, as the sole or principal component. Images in this context are defined as photographs or pictures which are concrete representations of the body's structure, anatomy or pathology. The study participants will be comprised of adults to whom the aversive visual image is directed. Participants' health status will not determine eligibility.

Hollands GJ, Cameron LD, Crockett RA, Marteau TM. Presentation of aversive visual images in health communication for changing health behaviour (Protocol). *Cochrane Database of Systematic Reviews* 2011, Issue 4.

http://onlinelibrary.wiley.com/o/cochrane/clsysrev/articles/CD009086/frame.html

OTHER NEWS

The Launch of PROSPERO (an international register of prospective systematic reviews)

PROSPERO was launched on 22 February, 2011 and is an international database of prospectively registered systematic reviews in health and social care. Key features from the review protocol are recorded and maintained as a permanent record in PROSPERO. This will provide a comprehensive listing of systematic reviews registered at inception, and enable comparison of reported review findings with what was planned in the protocol.

For more information see http://www.crd.york.ac.uk/PROSPERO/