A SELECTION OF TEN CURRENT READINGS ON TOPICS RELATED TO FUNCTION & DISABILITY IN PRIMARY CARE –

Some available as free full-text and some requiring payment

Selection of readings made by A/Prof Goh Lee Gan

READING 1 – GLOBAL BURDEN OF DISEASE IN YOUNG PEOPLE

Gore FM, Bloem PJ, Patton GC, Ferguson J, Joseph V, Coffey C, Sawyer SM, Mathers CD. Global burden of disease in young people aged 10-24 years: a systematic analysis. Lancet. 2011 Jun 18;377(9783):2093-102. Epub 2011 Jun 7.

URL: http://www.sciencedirect.com/science/article/pii/S0140673611605126 (payment required)

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Erratum in Lancet. 2011 Aug 6;378(9790):486.

Comment in
Lancet. 2012 Jan 7;379(9810):27-8; author reply 28.
Lancet. 2011 Jun 18;377(9783):2058-60.
Lancet. 2011 Jun 18;377(9783):2056.
Lancet. 2012 Jan 7;379(9810):29.

ABSTRACT

BACKGROUND: Young people aged 10-24 years represent 27% of the world's population. Although important health problems and risk factors for disease in later life emerge in these years, the contribution to the global burden of disease is unknown. We describe the global burden of disease arising in young people and the contribution of risk factors to that burden.

METHODS: We used data from WHO's 2004 Global Burden of Disease study.

Cause-specific disability-adjusted life-years (DALYs) for young people aged 10-24 years were estimated by WHO region on the basis of available data for incidence, prevalence, severity, and mortality. WHO member states were classified into low-income, middle-income, and high-income countries, and into WHO regions. We estimated DALYs attributable to specific global health risk factors using the comparative risk assessment method. DALYs were divided into years of life lost because of premature mortality (YLLs) and years lost because of disability (YLDs), and are presented for regions by sex and by 5-year age groups.

FINDINGS: The total number of incident DALYs in those aged 10-24 years was about 236 million, representing 15·5% of total DALYs for all age groups. Africa had the highest rate of DALYs for this age group, which was 2·5 times greater than in high-income countries (208 vs 82 DALYs per 1000 population). Across regions, DALY rates were 12% higher in girls than in boys between 15 and 19 years (137 vs 153). Worldwide, the three main causes of YLDs for 10-24-year-olds were neuropsychiatric disorders (45%), unintentional injuries (12%), and infectious and parasitic diseases (10%). The main risk factors for incident DALYs in 10-24-year-olds were alcohol (7% of DALYs), unsafe sex (4%), iron deficiency (3%), lack of contraception (2%), and illicit drug use (2%).

INTERPRETATION: The health of young people has been largely neglected in global public health because this age group is perceived as healthy. However, opportunities for prevention of disease and injury in this age group are not fully exploited. The findings from this study suggest that adolescent health would benefit from increased public health attention.

FUNDING: None.

 PMID: 21652063 [PubMed - indexed for MEDLINE]

READING 2 – CEREBRAL PALSY IN CHILDHOOD

Reddihough D. Cerebral palsy in childhood. Aust Fam Physician. 2011 Apr;40(4):192-6.

URL: http://www.racgp.org.au/afp/201104/42236 (free full text)

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ABSTRACT
BACKGROUND: Cerebral palsy is the most common cause of physical disability in childhood. While some children have only a motor disorder, others have a range of problems and associated health issues.
OBJECTIVE: This article describes the known causes of cerebral palsy, the classification of motor disorders and associated disabilities, health maintenance, and the consequences of the motor disorder. The importance of multidisciplinary assessment and treatment in enabling children to achieve their optimal potential and independence is highlighted.
DISCUSSION: General practitioners play an important role in the management of children with cerebral palsy. Disability is a life-long problem which impacts on the child, their parents and their siblings. After transition to adult services, the GP may be the only health professional that has known the young person over an extended period, providing important continuity of care.
PMID: 21597527 [PubMed - indexed for MEDLINE]

READING 3 – LIFESTYLE CHANGE AND MOBILITY IN OBESE ADULTS WITH DIABETES

Rejeski WJ, Ip EH, Bertoni AG, Bray GA, Evans G, Gregg EW, Zhang Q; Look AHEAD Research Group. Lifestyle change and mobility in obese adults with type 2 diabetes. N Engl J Med. 2012 Mar 29;366(13):1209-17.

URL: http://www.nejm.org/doi/full/10.1056/NEJMoa1110294 (payment required)

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ABSTRACT
BACKGROUND: Adults with type 2 diabetes mellitus often have limitations in mobility that increase with age. An intensive lifestyle intervention that produces weight loss and improves fitness could slow the loss of mobility in such patients.
METHODS: We randomly assigned 5145 overweight or obese adults between the ages of 45 and 74 years with type 2 diabetes to either an intensive lifestyle intervention or a diabetes support-and-education program; 5016 participants contributed data. We used hidden Markov models to characterize disability states and mixed-effects ordinal logistic regression to estimate the probability of functional decline. The primary outcome was self-reported limitation in mobility, with annual assessments for 4 years.
RESULTS: At year 4, among 2514 adults in the lifestyle-intervention group, 517 (20.6%) had severe disability and 969 (38.5%) had good mobility; the numbers among 2502 participants in the support group were 656 (26.2%) and 798 (31.9%), respectively. The lifestyle-intervention group had a relative reduction of 48% in the risk of loss of mobility, as compared with the support group (odds ratio, 0.52; 95% confidence interval, 0.44 to 0.63; P<0.001). Both weight loss and improved fitness (as assessed on treadmill testing) were significant mediators of this effect (P<0.001 for both variables). Adverse events that were related to the lifestyle intervention included a slightly higher frequency of musculoskeletal symptoms at year 1.
CONCLUSIONS: Weight loss and improved fitness slowed the decline in mobility in overweight adults with type 2 diabetes. (Funded by the Department of Health and Human Services and others; ClinicalTrials.gov number, NCT00017953.).
PMCID: PMC3339039 [Available on 2012/9/29] PMID: 22455415 [PubMed - indexed for MEDLINE

READING 4 – INTEGRATIVE CARE IN REDUCING DISABILITY

Von Korff M, Katon WJ, Lin EH, Ciechanowski P, Peterson D, Ludman EJ, Young B, Rutter CM. Functional outcomes of multi-condition collaborative care and successful ageing: results of randomised trial. BMJ. 2011 Nov 10;343:d6612. doi: 10.1136/bmj.d6612.

URL: http://www.bmj.com/content/343/bmj.d6612?view=long&pmid=22074851 (free full text)

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ABSTRACT

OBJECTIVE: To evaluate the effectiveness of integrated care for chronic physical diseases and depression in reducing disability and improving quality of life.

DESIGN: A randomised controlled trial of multi-condition collaborative care for depression and poorly controlled diabetes and/or risk factors for coronary heart disease compared with usual care among middle aged and elderly people.

SETTING: Fourteen primary care clinics in Seattle, Washington.

PARTICIPANTS: Patients with diabetes or coronary heart disease, or both, and blood pressure above 140/90 mm Hg, low density lipoprotein concentration >3.37 mmol/L, or glycated haemoglobin 8.5% or higher, and PHQ-9 depression scores of ≥ 10.

INTERVENTION: A 12 month intervention to improve depression, glycaemic control, blood pressure, and lipid control by integrating a "treat to target" programme for diabetes and risk factors for coronary heart disease with collaborative care for depression. The intervention combined self management support, monitoring of disease control, and pharmacotherapy to control depression, hyperglycaemia, hypertension, and hyperlipidaemia.

MAIN OUTCOME MEASURES: Social role disability (Sheehan disability scale), global quality of life rating, and World Health Organization disability assessment schedule (WHODAS-2) scales to measure disabilities in activities of daily living (mobility, self care, household maintenance).

RESULTS: Of 214 patients enrolled (106 intervention and 108 usual care), disability and quality of life measures were obtained for 97 intervention patients at six months (92%) and 92 at 12 months (87%), and for 96 usual care patients at six months (89%) and 92 at 12 months (85%). Improvements from baseline on the Sheehan disability scale (-0.9, 95% confidence interval -1.5 to -0.2; P = 0.006) and global quality of life rating (0.7, 0.2 to 1.2; P = 0.005) were significantly greater at six and 12 months in patients in the intervention group. There was a trend toward greater improvement in disabilities in activities of daily living (-1.5, -3.3 to 0.4; P = 0.10).

CONCLUSIONS: Integrated care that covers chronic physical disease and comorbid depression can reduce social role disability and enhance global quality of life.

Trial registration Clinical Trials NCT00468676. PMCID: PMC3213240 PMID: 22074851 [PubMed - indexed for MEDLINE]

READING 5 – INTERVENTIONS INCLUDING EXERCISE MAY IMPROVE PARTICIPATION IN LIFE ROLES IN OLDER PEOPLE

Fairhall N, Sherrington C, Clemson L, Cameron ID. Do exercise interventions designed to prevent falls affect participation in life roles? A systematic review and meta-analysis. Age Ageing. 2011 Nov;40(6):666-74. Epub 2011 Jul 14.

URL: http://ageing.oxfordjournals.org/content/40/6/666.long (payment required)

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ABSTRACT

BACKGROUND: the World Health Organization describes individuals' functioning at a societal level as 'participation'. Despite being a key component of functioning and an important goal of rehabilitation, participation is not measured

consistently in ageing research. The aim was to evaluate the extent to which measurement of participation has been reported in trials of fall prevention interventions and to determine the effect of exercise interventions on participation in life roles.
METHODS: systematic review with meta-analysis. Randomised controlled trials of exercise interventions that aimed to reduce falls in older people (60+) in community, aged care facilities or hospital settings were included. The outcome of interest was participation in life roles. Trials that measured participation at two time-points were included in the meta-analysis.
RESULTS: ninety-six trials met the review inclusion criteria. Participation was measured in 19 of these trials (20%). Nine instruments were used to measure participation. Fifteen trials, involving 3,616 participants, were included in the meta-analysis. The pooled estimate of the effect of interventions including exercise indicated a small improvement in participation (Hedges' g = 0.16, 95% confidence interval = 0.04-0.27, P = 0.006). Meta-regression showed multifactorial intervention with an exercise component had a larger effect than exercise intervention alone, but the difference was not statistically significant (effect on Hedges' g = 0.22, 95% CI = -0.05 to 0.50, P = 0.10). CONCLUSION: interventions including exercise may improve participation in life roles in older people. The International Classification of Functioning, Disability and Health may be a useful framework for understanding the broader impact of falls prevention interventions.
SYSTEMATIC REVIEW REGISTRATION: ACTRN12610000862044. PMID: 21764816 [PubMed - indexed for MEDLINE]

READING 6 – DISABILITY PREVENTION PROGRAMME FOR COMMUNITY-DWELLING FRAIL OLDER PERSONS

Daniels R, van Rossum E, Metzelthin S, Sipers W, Habets H, Hobma S, van den Heuvel W, de Witte L. A disability prevention programme for community-dwelling frail older persons. Clin Rehabil. 2011 Nov;25(11):963-74. Epub 2011 Aug 17.

URL: http://cre.sagepub.com/pmidlookup?view=long&pmid=21849375 (free full text)

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ABSTRACT
OBJECTIVE: To describe and justify a primary care interdisciplinary programme for community-dwelling frail older people aimed to prevent disability. BACKGROUND: Disability is a negative outcome of frailty among older persons. Policy reports and research studies emphasize the need for programmes to reduce disability progression. Between 2008 and 2010 we developed such a programme.
DEVELOPMENT: Following the Intervention Mapping protocol, a research team and a multidisciplinary professional developed the programme. Literature reviews and an expert meeting led to identification of basic elements, theory-based methods and practical tools.
THE PROGRAMME: The general practitioner and the practice nurse comprise the core team that can be extended by other professionals such as occupational and physical therapist. The programme includes six steps: (1) screening, (2) assessment, (3) analysis and preliminary action plan, (4) agreement on an action plan, (5) execution of the action plan (toolbox parts) and (6) evaluation and follow-up. The main features are: identifying risks for developing disability and targeting risk factors using professional standards and the 5A Behavioural Change Model to support self management, and identifying problems in performing activities and enhancing meaningful activities based on the Model of Human Occupation. Screening, individual assessment, tailor-made and client-centred care, self-management support, case management and interdisciplinary cooperation are important principles in delivering the programme.
DISCUSSION: The disability-prevention programme seems promising for addressing the needs of frail older people for independent living and for targeting risk factors. Its feasibility and effects are currently being tested in a randomized controlled trial.
PMID: 21849375 [PubMed - indexed for MEDLINE]

READING 7 – RESISTANCE EXERCISE FOR THE AGING ADULT

Peterson MD, Gordon PM. Resistance exercise for the aging adult: clinical implications and prescription guidelines. Am J Med. 2011 Mar;124(3):194-8.

URL: http://www.sciencedirect.com/science/article/pii/S0002934310009277 (payment required)

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ABSTRACT
Sarcopenia and weakness are known to precipitate risk for disability, comorbidity, and diminished independence among aging adults. Resistance exercise has been proposed as a viable intervention to elicit muscular adaptation and improve function. However, the reported prevalence of resistance exercise participation among US adults aged >50 years is very low. This may be largely attributable to inconsistency in study results that fail to fully inform the clinical and public health community of its overall value. Therefore, the purpose of this commentary review is to report the findings of recently published meta-analyses that systematically examined the overall value of resistance exercise among healthy aging adults for strength and lean body mass outcomes. Evidence reveals that not only is resistance exercise very effective for eliciting strength gain and increases in lean body mass, but that there is a dose-response relationship such that volume and intensity are strongly associated with adaptations. These findings reflect and support the viability of progression in resistance exercise dosage to accommodate optimal muscular adaptive response. Progressive resistance exercise should thus be encouraged among healthy adults to minimize degenerative muscular function associated with aging.

PMID: 21396499 [PubMed - indexed for MEDLINE]

READING 8 – REHABILITATION REDUCES ACUTE EXACERBATIONS IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Burtin C, Decramer M, Gosselink R, Janssens W, Troosters T. Rehabilitation and acute exacerbations. Eur Respir J. 2011 Sep;38(3):702-12. Epub 2011 Jun 30.

URL: http://erj.ersjournals.com/cgi/pmidlookup?view=long&pmid=21719481 (payment required)

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ABSTRACT
Recent evidence indicates that acute exacerbations of chronic obstructive pulmonary disease aggravate the extrapulmonary consequences of the disease. Skeletal muscle dysfunction, a sustained decrease in exercise tolerance, enhanced symptoms of depression and fatigue are reported. Avoidance of physical activities is likely to be a key underlying mechanism and increases the risk of new exacerbations. Pulmonary rehabilitation is an intervention targeting these systemic consequences. Exercise strategies need to be adapted to the increased feelings of dyspnoea and fatigue. This review aims to describe the systemic consequences of acute exacerbations and compiles evidence for the feasibility and effectiveness of different rehabilitation strategies to counteract these consequences during and/or immediately after the acute phase of the exacerbation.
Resistance training and neuromuscular electrical stimulation have been applied safely in frail, hospitalised patients and have the potential to prevent muscle atrophy. Comprehensive pulmonary rehabilitation, including general exercise training, can be implemented immediately after the exacerbation, leading to a reduction in hospital admissions and an increase in exercise tolerance and quality of life. Self-management strategies play a crucial role in changing disease-related health behaviour and preventing hospital admissions.
PMID: 21719481 [PubMed - indexed for MEDLINE]

READING 9 – PREVENTING READMISSIONS AND LOSS OF FUNCTIONAL ABILITY

Courtney MD, Edwards HE, Chang AM, Parker AW, Finlayson K, Hamilton K. A randomised controlled trial to prevent hospital readmissions and loss of functional ability in high risk older adults: a study protocol. BMC Health Serv Res. 2011 Aug 23;11:202.

URL: http://www-ncbi-nlm-nih-gov/pmc/articles/PMC3224378/?tool=pubmed (free full text)

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ABSTRACT

BACKGROUND: Older people have higher rates of hospital admission than the general population and higher rates of readmission due to complications and falls. During hospitalisation, older people experience significant functional decline which impairs their future independence and quality of life. Acute hospital services comprise the largest section of health expenditure in Australia and prevention or delay of disease is known to produce more effective use of services. Current models of discharge planning and follow-up care, however, do not address the need to prevent deconditioning or functional decline. This paper describes the protocol of a randomised controlled trial which aims to evaluate innovative transitional care strategies to reduce unplanned readmissions and improve functional status, independence, and psycho-social well-being of community-based older people at risk of readmission.

METHODS/DESIGN: The study is a randomised controlled trial. Within 72 hours of hospital admission, a sample of older adults fitting the inclusion/exclusion criteria (aged 65 years and over, admitted with a medical diagnosis, able to walk independently for 3 meters, and at least one risk factor for readmission) are randomised into one of four groups: 1) the usual care control group, 2) the exercise and in-home/telephone follow-up intervention group, 3) the exercise only intervention group, or 4) the in-home/telephone follow-up only intervention group. The usual care control group receive usual discharge planning provided by the health service. In addition to usual care, the exercise and in-home/telephone follow-up intervention group receive an intervention consisting of a tailored exercise program, in-home visit and 24 week telephone follow-up by a gerontic nurse. The exercise only and in-home/telephone follow-up only intervention groups, in addition to usual care receive only the exercise or gerontic nurse components of the intervention respectively. Data collection is undertaken at baseline within 72 hours of hospital admission, 4 weeks following hospital discharge, 12 weeks following hospital discharge, and 24 weeks following hospital discharge. Outcome assessors are blinded to group allocation. Primary outcomes are emergency hospital readmissions and health service use, functional status, psychosocial well-being and cost effectiveness.

DISCUSSION: The acute hospital sector comprises the largest component of health care system expenditure in developed countries, and older adults are the most frequent consumers. There are few trials to demonstrate effective models of transitional care to prevent emergency readmissions, loss of functional ability and independence in this population following an acute hospital admission. This study aims to address that gap and provide information for future health service planning which meets client needs and lowers the use of acute care services.

TRIAL REGISTRATION NO: Australian & New Zealand Clinical Trials Registry ACTRN12608000202369.

PMCID: PMC3224378 PMID: 21861920 [PubMed - indexed for MEDLINE]

READING 10 – REDUCING HOSPTALISATION-ASSOCIATED DISABILITY

Covinsky KE, Pierluissi E, Johnston CB. Hospitalization-associated disability: "She was probably able to ambulate, but I'm not sure". JAMA. 2011 Oct 26;306(16):1782-93.

URL: http://jama.jamanetwork.com/article.aspx?doi=10.1001/jama.2011.1556 (payment required)

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ABSTRACT

In older patients, acute medical illness that requires hospitalization is a sentinel event that often precipitates disability. This results in the subsequent inability to live independently and complete basic activities of daily living (ADLs). This hospitalization-associated disability occurs in approximately one-third of patients older than 70 years of age and may be triggered even when the illness that necessitated the hospitalization is successfully treated. In this article, we describe risk factors and risk stratification tools that identify older adults at highest risk of hospitalization-associated disability. We describe hospital processes that may promote hospitalization-associated disability and models of care that have been developed to prevent it. Since recognition of functional status problems is an essential prerequisite to preventing and managing disability, we also describe a pragmatic approach toward functional status assessment in the hospital focused on evaluation of ADLs, mobility, and cognition. Based on studies of acute geriatric units, we describe interventions hospitals and clinicians can consider to prevent hospitalization-associated disability in patients. Finally, we describe approaches clinicians can implement to improve the quality of life of older adults who develop hospitalization-associated disability and that of their caregivers.

PMID: 22028354 [PubMed - indexed for MEDLINE]