See below recent articles and other items of interest on Healthy Lifestyles:

Journal articles

If you wish to see the full text, please reply to this email or contact your local health or workplace library.

**Title:** Effect of continuous aerobic vs. Interval training on selected anthropometrical, physiological and functional parameters of adults with Down syndrome.

**Citation:** Journal of Intellectual Disability Research, Apr 2016, vol. 60, no. 4, p. 322-334, 0964-2633 (Apr 2016)

**Author(s):** Boer, P. H., Moss, S. J.

**Abstract:** Background: A large percentage of adults with Down syndrome (DS) are overweight and have extremely low aerobic capacities compared with the general population...
and persons with intellectual disability without DS. Previous aerobic training intervention studies showed limited potential to significantly ameliorate anthropometrical and cardiovascular variables. The primary purpose of this study was to determine the effect of continuous aerobic training (CAT) vs. interval training (IT) on selected anthropometrical, health, physical and functional parameters of adults with DS. Methods: Forty-two adults with DS (25 men and 17 women) and a mean age of 33.8 (8.6) years were randomly allocated to one of three groups (IT, CAT and control). Training was performed for 12 weeks. The IT group performed 1030 s all out sprints with 90 s (1:3 work-rest ratio) of low cadence, low intensity cycling or walking. The CAT group performed continuous cycling and walking at an intensity of 7080% of VO2 peak. Heart rate monitors were used for monitoring training intensities. After 6 weeks of training, the intensity of the CAT was increased to 85% of VO2 peak, whilst the intensity of the IT group remained all out. An increase of 5 min in duration was implemented after 6 weeks for both training groups. To evaluate prepost differences between groups, a repeated analysis of covariance with post hoc Bonferroni test was performed. Results: After 12 weeks of training, body weight and body mass index decreased significantly more in the IT group compared with control and CAT (P < 0.05). Participants in the IT group decreased their body weight from 71.4 8 to 69.4 8 kg and their body mass index from 29.3 4 to 28.5 4 kg/m2. Significant ameliorations for functional parameters and leg strength were shown for CAT compared with control (P < 0.05). Participants in the CAT group improved their performance in the 6 minute walk distance (499 78 to 563 75 m), 8-ft up-and-go (5.9 1.2 to 4.8 0.9) and leg strength (13.1 2 to 15.2 2). VO2 peak and time to exhaustion significantly improved in both the IT and CAT group compared with control (P < 0.01). Moreover, a significant improvement for relative VO2 peak was also determined for IT compared with CAT (P < 0.05). Participants in the IT group increased their VO2 peak from 32 8 to 37 8 mL/min/kg. Submaximal heart rate and VO2 values improved significantly within both exercise groups (P < 0.05). Conclusion: Interval training and CAT can both be pursued by adults with DS to positively impact on various parameters of anthropometry, fitness and functional ability, with IT more appropriate for improving body weight and aerobic capacity. (PsycINFO Database Record (c) 2016 APA, all rights reserved)
Title: Lifestyle interventions for primary prevention of diabetes and cardiovascular disease in people with intellectual disabilities: A systematic review and metaanalysis

Citation: Diabetic Medicine, March 2016, vol./is. 33/(52), 0742-3071 (March 2016)

Author(s): Chalk T.E.W., Dunkley A.J., Gray L.J., Spong R., Gangadharan S.K., Davies M.J., Khunti K.

Language: English

Abstract: Aims: There is a lack of evidence on effectiveness of health interventions in people with intellectual disability (ID). Previous systematic reviews of lifestyle behaviour change interventions in ID have generally been unable to make specific recommendations due to general inadequacies in study design, conduct, and lack of theory basis for intervention. The need for robust multicomponent behaviour change interventions aimed at weight loss, diet and exercise has been highlighted as a priority. We aimed to conduct a systematic review and meta-analysis of literature focused on interventions for prevention of Type 2 diabetes, cardiovascular disease (CVD) and associated risk factors. Method: We searched electronic databases for studies involving multicomponent lifestyle behaviour change interventions (dietary improvement, physical activity and/or weight management) for ID populations. We included studies with a follow-up of at least 24 weeks and outcomes assessing reductions in Type 2 diabetes, CVD, hypertension, hyperlipidaemia or body mass index (BMI). A random effects model was used to pool the change from baseline. Results: Four studies were included, involving 414 participants focused on diet change, weight loss and increasing exercise. Data were limited due to varied reporting and high attrition rates and no data were available for Type 2 diabetes or CVD. The results of the meta-analysis indicated no significant mean differences following the interventions for BMI (kg/m<sup>2</sup>) 0.41 [95% confidence interval (CI) -1.03, 1.85], weight (kg) 2.9 (95% CI -4.91, 10.7) and waist circumference (cm) 3.41 (95% CI -0.37, 7.19). Conclusions: Currently there is a lack of robust studies of interventions for prevention of diabetes and CVD in people with ID.
Publication Type: Journal: Conference Abstract

Source: EMBASE

Title: Rates of Type 2 diabetes, cardiovascular disease and associated risk factors in people with intellectual disability populations: Systematic review and meta-analysis

Citation: Diabetic Medicine, March 2016, vol./is. 33/(73-74), 0742-3071 (March 2016)

Author(s): Chalk T.E.W., Dunkley A.J., Gray L.J., Spong R., Gangadharan S.K., Davies M.J., Khunti K.

Language: English

Abstract: Aims: People with intellectual disabilities (ID) experience a disproportionate burden of health inequalities compared with the general population, including higher rates of obesity. Physical inactivity and sedentary behaviour are both common. As people with ID are now living longer, morbidity due to chronic conditions, including diabetes and cardiovascular disease (CVD), is becoming increasingly important. We aimed to conduct a systematic review and meta-analysis of the existing evidence for the current prevalence of Type 2 diabetes, CVD and associated risk factors in the ID population. Methods: We searched electronic databases for population-based studies (from 2000; English language) reporting proportions of people with Type 2 diabetes, CVD, hypertension, hyperlipidaemia and high body mass index (BMI) in adults with ID. Random effects models were used to pool prevalences. A subsequent meta-analysis was used to compare the prevalence in the general population where studies had provided adequate data. Results: Overall 59 studies were identified. The pooled prevalence of ischaemic disease is 3.7% [95% confidence interval (CI) 0.01, 0.06]; Type 2 diabetes 7.9% (95% CI 0.05, 0.11); hypertension 18.5% (95% CI 0.13, 0.24); overweight 29.2% (95% CI 0.26, 0.33); obesity 27.3% (95% CI 0.23, 0.32). Comparison data showed that only ischaemic disease was more prevalent in the general population [odds ratio 2.27 (95% CI 1.73, 2.97)]. Conclusions: Evidence suggests that prevalence of chronic disease and associated risk factors is similar to that of the general population. However, there may be an influence of under-diagnosis in retrospective datasets. Further screening studies, with general population comparisons, may give truer applicable results.
Title: Lifestyle interventions for primary prevention of diabetes and cardiovascular disease in people with intellectual disabilities: A systematic review and metaanalysis

Citation: Diabetic Medicine, March 2016, vol./is. 33/(52), 0742-3071 (March 2016)

Author(s): Chalk T.E.W., Dunkley A.J., Gray L.J., Spong R., Gangadharan S.K., Davies M.J., Khunti K.

Language: English

Abstract: Aims: There is a lack of evidence on effectiveness of health interventions in people with intellectual disability (ID). Previous systematic reviews of lifestyle behaviour change interventions in ID have generally been unable to make specific recommendations due to general inadequacies in study design, conduct, and lack of theory basis for intervention. The need for robust multicomponent behaviour change interventions aimed at weight loss, diet and exercise has been highlighted as a priority. We aimed to conduct a systematic review and meta-analysis of literature focused on interventions for prevention of Type 2 diabetes, cardiovascular disease (CVD) and associated risk factors. Method: We searched electronic databases for studies involving multicomponent lifestyle behaviour change interventions (dietary improvement, physical activity and/or weight management) for ID populations. We included studies with a follow-up of at least 24 weeks and outcomes assessing reductions in Type 2 diabetes, CVD, hypertension, hyperlipidaemia or body mass index (BMI). A random effects model was used to pool the change from baseline. Results: Four studies were included, involving 414 participants focused on diet change, weight loss and increasing exercise. Data were limited due to varied reporting and high attrition rates and no data were available for Type 2 diabetes or CVD. The results of the meta-analysis indicated no significant mean differences following the interventions for BMI (kg/m<sup>2</sup>) 0.41
[95% confidence interval (CI) -1.03, 1.85], weight (kg) 2.9 (95% CI -4.91, 10.7) and waist circumference (cm) 3.41 (95% CI -0.37, 7.19). Conclusions: Currently there is a lack of robust studies of interventions for prevention of diabetes and CVD in people with ID.

Publication Type: Journal: Conference Abstract

Source: EMBASE

Title: Encouraging overweight students with intellectual disability to actively perform walking activity using an air mouse combined with preferred stimulation

Citation: Research in Developmental Disabilities, August 2016, vol./is. 55/(37-43), 0891-4222;1873-3379 (August 01, 2016)

Author(s): Chang C.-J., Chang M.-L., Shih C.-H.

Language: English

Abstract: This study continues the research on using an air mouse as a physical activity detector. An air mouse is embedded with a MEMS (Micro Electro Mechanical Systems) gyro sensor, which can measure even the slightest movement in the air. The air mouse was strapped to one of each participant's calves to detect walking activity. This study was conducted to evaluate whether four students with intellectual disability who were overweight and disliked exercising could be motivated to engage in walking actively by linking the target response with preferred stimulation. Single-subject research with ABAB design was adopted in this study. The experimental data showed substantial increases in the participants' target responses (i.e. the performance of the activity of walking) during the intervention phases compared to the baseline phases. The practical and developmental implications of the findings are discussed.

Publication Type: Journal: Article

Source: EMBASE
Full Text:
Available from Elsevier in Research in Developmental Disabilities