What Works In Motivating And Changing Employees' Health Behaviour

Synopsis of the evidence of effectiveness and cost-effectiveness

Contents

Part I. – A Review Of Effectiveness Of Workplace Health Promotion Interventions On Physical Activity And What Works In Motivating And Changing Employees' Health Behaviour

Objectives

The purpose of this review was to identify effective and motivating factors for interventions that were workplace based or initiated from the employer, that aimed to increase physical activity of employees, and were applicable to England.

Methods

The review followed the protocols set out by NICE[1]. Twelve electronic databases were searched for studies published since 1996. Screening of retrieved papers was two staged. Titles and abstracts were first screened. The full papers of those studies that passed this initial process were then screened. At both stages a 20% sample were screened by a second reviewer. Those studies included in the review went on to a data extraction process and quality assessment. Each study was given a rating of ++ (high) + or – (low) according to the definitions given within the protocol. Studies were categorised according to physical activity intervention type, delivery, setting and population, barriers, facilitators and motivators to providing and maintaining physical activity interventions. Within each of these categories evidence was provided using a narrative synthesis, supported by evidence tables, drawing out the key features of each study.

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[1] Contained within NICE. 2006. Public Health Guidance: Development Process and Methods March 2006. London

Review of Effectiveness

This review identified 33 studies (38 publications). These were grouped into five key areas: systematic effectiveness reviews of workplace physical activity interventions; stair walking interventions; walking interventions; active travel; and other (including interventions such as counselling/motivational interviewing, health checks/screening, health promotion messages/information, led activity sessions, active travel or combinations of all of these (i.e. multi-component programmes)).

Evidence of Effectiveness

Stair Walking

Seven studies reported the promotion of workplace stair walking and aimed to assess how effective the use of health signs (posters); or health messages/information (written, email or doctor's email) were in increasing stair walking/climbing with respect to lift usage.

Overall the studies ranged in design and quality with four being before and after studies (Kerr et al., 2001 (+); Titze et al., 2001 (-); Auweele et al., 2005 (-); Eves et al., 2006 (-)); two controlled before and after studies (Adams and White et al., 2002 (+); Badland et al., 2005 (-)) and one an interrupted time series study (Marshall et al., 2002 (++). With the exception of one study (Badland et al, 2005) measurement consisted of behavioural observation of stair/lift usage in a worksite setting rather than objective tracking of individual physical activity behaviour. Three of the studies (Auweele et al, 2005; Eves et al, 2006, Titze et al, 2001) used overt rather than covert methods of observation in the form of, for example, a person sitting behind a desk. This may have influenced behaviour and therefore these studies have been given a (-) quality rating.

Baseline data varied widely with 158,350 observational counts for stair and lift usage being counted (as well as staff self reported data n=53) in the best quality study (Marshall et al., 2002(++)) with some of the smaller scale studies only having a few thousand observational counts for stair and lift usage (Titze

et al., 2001 - 3,486 counts; Auweele et al., 2005 - 3,146 counts). Another methodological weakness was the lack of control over who entered the building during the observational periods and not being able to distinguish employees in the sample counts. Two studies (Adams and White et al., 2002; Marshall et al., 2002) reported including visitors and students as well as employees amongst their sample without being able to report the proportions of each who were appearing in the count. Two studies (Titze et al., 2001; Marshall et al., 2002) have attempted to use automatic counting devices on lifts and stairs (which may be less intrusive than direct observation) but there have been inconsistencies between these when correlated with observational data (Titze et al., 2001).

Two studies showed initial increase in stair walking that declined to baseline levels at follow up. Marshall et al., (2002 (++)) was characterised by having a much more extensive sample than the other included studies, a longer intervention period (12 weeks) and a comparator period within the study design. This study concluded that the intervention had an initial significant increase on stair walking (ascent and descent) (1.05 adjusted ORs, 1.01-1.10 CI, p=0.02) but declined back to baseline over the study period (12 weeks).

Similarly, Auweele et al., (2005) reported a significant increase in stair use, for female employees, when a health sign was used (Chi square (1) =12.97, p<.001) and with a follow up doctor's email (Chi square (1) =15.58, p<.001). However, as with Marshall et al's study, this increased stair usage declined back to baseline over the study period (7 weeks).

Two studies reported significant increases in stair use which were sustained between baseline and follow up - Titze et al, (2001)(p=0.028, follow up at two to three weeks after the four months intervention period) and Eves et al., (2006) (follow up at two weeks after the six week intervention period). In the latter study, a significant effect on stair climbing (ascent) was seen (OR 1.12, p<0.05) with a greater effect in the overweight, and a significant effect on stair descent (OR 1.15, p<0.005).

Kerr at al., (2001) reported no significant intervention effect for stair climbing but there was a significant increase in stair descent (OR 1.21, CI 1.07-1.37).

Two papers showed reductions in stair use/step count. Adams and White (2002) report an increase in stair use from 20.1% of all upward journeys at baseline to 20.6% at week one, followed by a decrease to 19.5% in week four. Neither of the changes are significant (p=0.77 (baseline and week one) and p=0.74 (baseline and week four)). Similarly Badland et al (2005) report that effect sizes for step counts ranged from trivial (0.04) to moderate (-0.79) (Cohen effect) with the majority of effect sizes being small and negative. When poster were visible in their worksites mean step counts decreased.

Evidence statement 1

There is evidence from four studies [1,2,3,4] that the use of posters/signs can increase stair (instead of lift) use. However, in two of these studies stair usage declined back to baseline levels at follow up[1] or by the end of the study period[4] suggesting that the effectiveness of these posters is short term. In addition two studies [5,6]reported a decline in stair use/step count. Further study is required.

[1] Marshall et al., 2002 (++ interrupted time series); [2] Kerr et al (+ before and after); [3]Eves et al., 2006; [4]Auweele et al., 2005 (both - before and after); [5] Adams and White, 2002 (+ control before and after); [6]Badland et al., 2005 (- control before and after)

Walking Interventions

Four studies, aiming to increase walking (step counts) in employees (but not as part of active travel) met the inclusion criteria for this review – two of which were UK based (Murphy et al., 2006; Gilson et al., 2007); one was based in

Australia (Thomas et al., 2006) and one in Canada (Chan et al., 2004). Again all were considered to have applicability to UK workplace populations.

Overall, two studies used an RCT (individual) design (Murphy et al., 2006 (-); Gilson et al., 2007 (+)) and the other two were before and after studies (Chan et al., 2004 (+); Thomas et al., 2006 (-)). Three of the studies (Chan et al., 2004; Murphy et al., 2006; Gilson et al., 2007) measured physical activity objectively with pedometers (giving daily step counts of employees). However, all the studies relied on self-reported step counts/walking activity which could result in bias and over-estimation.

The study by Gilson et al., (2007) aimed to assess the impact of two different types of walking intervention (baseline participants n= 70). This study showed a significant intervention effect with both intervention groups compared with controls ($p<0.008$, $n2 = 0.17$ – walking on routes; $p<0.005$, $n2 = 0.17$ – walking in task). Small non-significant changes were reported in % body fat, waist circumference and blood pressure. Chan et al., (2004) reported an average daily step count increase from 7,029 ± 3,100 to a plateau of 10,480 ± 3,224 (steps per day were averaged weekly and the change in average number of steps over the 12 week programme modelled; the model allowed for an acclimatisation period where steps stabilised in to a plateau. The plateau reported was reached in a mean time of 3.96 ± 3.28 weeks). Significant decreases were reported in BMI, waist girth and resting heart rate ($p<0.001$ for all).

Murphy et al reported significantly more steps on days of prescribed walking compared to rest days ($p<0.001$) but the sample size is small (n=37) and it is not clear that the mean number of steps, say, per week has increased. Thomas et al report a 10% increase in the number of steps taken per day and a 25% increase in the average number of days that participants reached 10,000 steps. At follow up 63% of participants reported maintained or increased levels of walking and 65% reported changes to routine to increase physical activity. However significance levels were not reported for this study.

Evidence statement 2

There is evidence from studies in the public sector that work place walking interventions that focus on: facilitated goal setting[1, 3], diaries and self monitoring[1,2,3] and walking routes[4] can produce positive results, increasing step count.

[1] Chan et al., 2004 (+ before and after study); [2] Murphy et al., 2006 (- individual RCT); [3] Thomas et al., 2006 (- before and after study); [4] Gilson et al., 2007 (+ individual RCT)

Active Travel

Three studies were identified for inclusion, all of which primarily aimed to increase the active travel of employees (Mutrie et al., 2002; Wen et al., 2005; Gatersleben and Appleton, 2007). Two were UK studies (Mutrie et al., 2002; Gatersleben and Appleton, 2007), and one was an Australian study (Wen et al., 2005). All were based within large public sector organisations.

Mutrie et al (2002), an individual RCT, was judged to be rated (+). The study was well designed and had an appropriate sample size (baseline participants n= 295). Wen et al's., (2005) study was a before and after design and was rated (-) as it lacked a comparator group, and also had a small sample at baseline (n=68). Gatersleben and Appleton's (2007) qualitative study on the motivators and barriers towards cycling to work, due to limited detail of data analysis, was only rated (-).

Mutrie et al's (2002) intervention to increase walking and cycling to work through the use of written health materials reported a significant effect with the intervention group (received pack), who were almost twice as likely to report walking to work as the control (received pack at 6 months) after 6 months (OR 1.93, 95% CI 1.06-3.52). Twenty five percent of the intervention group were regularly, actively commuting at 12 month follow up, however the intervention had no significant effect on cycling. The authors concluded that the results

may have limited generalisability as participants were mainly economically advantaged women.

Wen et al., (2005) assessed the impact of a social marketing campaign on active travel (walking and cycling) to work. Although no significant increase in reported active travel to work at 12 weeks was found, there was a significant reduction in the proportion of staff who reported driving to work 5 days/week (p=0.012). The final study by Gatersleben and Appleton, (2007) reported some important barriers to continued cycling to work such as dangerous roads and bad weather. However, such findings have previously been reported in the cycling literature and are not surprising.

Evidence statement 3

There is evidence from one UK public sector workplace[1] that a walking and cycling to work campaign, through use of written health materials distributed to employees, can increase walking to work (but not cycling to work) in economically advantaged women.

[1.] Mutrie et al., 2002 (+ individual RCT)

Other - including multi-component programmes

Sixteen studies[2] in this section included counselling/motivational interviewing, health checks/screening, health promotion messages/information, led activity sessions, active travel or combinations of all of these (i.e. multi-component programmes). Of these, three were from the UK (Pert, 1997; Hanlon et al., 1998; Addley et al., 2001); seven were from Europe (Perkio-Makela, 1999; Talvi et al., 1999; Titze et al., 2001; Proper et al., 2004; Aittasalo et al., 2004; Osteras and Hammer, 2006; Sjogren et al., 2006); three from Australia

[2] Proper et al, 2003 and Proper et al 2004 report on the same study.

(Marshall et al., 2003; Rice and Saunders, 2001; Lee and White, 2006; two from Canada (O'Loughlin et al., 1996; Plotnikoff et al., 2005) and just one from New Zealand (Cook et al., 2001).

Only two studies scored the highest rating for quality (++) – an RCT (cluster) by Proper et al., (2003; 2004) which aimed to test the effectiveness of individual counselling at work on physical activity; and an RCT (individual) by Marshall et al., (2003) which assessed the effectiveness of health messages (delivered through different media) on physical activity and stage of readiness for physical activity. There were six others which scored (+) for quality – two randomised controlled trials (individual) (Cook et al., 2001; Aittasalo et al., 2004); an RCT (cluster) (Sjogren et al., 2006); two controlled before and after studies (O'Loughlin et al., 1996; Titze et al., 2001) and one qualitative study (Rice and Saunders, 2001). The rest were ranked (-) in terms of study quality. Although some had a large baseline sample (Addley et al., 2001; Plotnikoff et al., 2005) this did not translate into a high ranking for quality. For many studies in this section it was difficult to attribute intervention effects to any particular component of the intervention due to their complexity (multi-component). In several instances increasing physical activity was only one of the primary objectives of the intervention.

Six studies in this part of the review evaluate workplace health checks or screening. All reported increase physical exercise. In all studies the change in physical activity is self reported. O'Loughlin et al (1996) found that subjects exposed to health screening significantly increased leisure time physical activity ($p=0.05$). However, it cannot be ascertained whether this change was sustained over time as the study period including follow up was only four months. Pert (1997) reports after health screening, physical assessment and interview with physiotherapist an increase in participants taking regular exercise but sample size is small (n=49 at baseline and n=29 at six month follow up) and lack of a more scientific approach compromises the validity of the study. Hanlon et al (1998) also reports positive results. In this study of workplace screening, groups receive different health information and feedback. Fifty six percent of those who received a health check and returned

for the follow up reported one or more desired behaviour change, with an increase in physical activity being the most common. Addley et al (2001) report on a UK study of in which participants were given a health assessment. Following assessment participants were given healthy living literature and a printed personalised analysis of their performance with suggestions on how to make positive changes in those lifestyle areas requiring improvement. Participants self-reported physical activity/exercise per week. The findings show an increase exercise rate of 62%. However, there may be a self selection bias and healthy worker effect.

Osteras and Hammer (2006) report on an intervention that contains health screening, a motivational interview and counselling. The findings showed that physical activity had increased significantly ($p<0.001$) from pre-post test, according to days per week that participants performed physical activity (exceeding 10 minutes) at moderate to high intensity (mean 2.5 days/week to mean 2.9 days/week). However, there was no documentation on the type, time and intensity of physical activity during experimental period. Another study to combine screening and counselling is Talvi et al (1999) who compare the effectiveness of screening and counselling versus screening and health promotion materials. The findings show that participants of both groups report exercising more vigorously post intervention (24% and 18% respectively); and a statistically significant difference between the groups ($p=0.06$).

Counselling was also the focus of two further studies, Aittasalo et al., (2004) and Proper et al., (2003; 2004). Proper et al report on the effectiveness of individual counselling at the worksite in increasing physical activity, fitness and health. The counsellor offered tailored information, advice and planning on physical activity and diet based on the individual's stage of change (the control group received written information on lifestyle). The findings showed a significant positive intervention effect for energy expenditure ($p=0.003$) and cardio-respiratory fitness where submax heart rate significantly declined in the intervention group (Proper et al, 2003) ($p=0.001$).

Aittasalo et al (2004) focussed on the long term effects of counselling on sedentary employees' leisure time physical activity and whether comprehensive fitness testing brings additional effects to counselling. The study found no statistically significant difference between the groups in any of the physical activity measures. There was a slight increase in LTPA energy expenditure at 12 month follow up in the whole group (including control) (p=0.011). There was a similar trend in fulfilment of FPA recommendation for the whole group at both follow ups (p=0.034 and p=0.0003) and in the fulfilment of HEPA recommendation at 12 month follow up (p=0.049).

One study (Titze et al., 2001), brought together many of the components included in the interventions described in this and the previous sections. The study aimed to increase the percentage of individuals who were regularly engaged in moderate-vigorous physical activity. The intervention itself was design by participants in each workplace (office) included in the study subject to their requirements. The interventions included written health and physical activity information, action days to encourage commuting or stair climbing, led walks, fitness testing and counselling. The results reported that control groups had significantly lower median of energy expenditure (1389 kcal vs. 1590 kcal, p=0.046).

Evidence statement 4

a. There is evidence from six studies to suggest that work place health screening can have a positive impact on physical activity[1,2,3,4,5,6.] However, whilst all six studies included a health check or assessment, other components of the intervention differed; these included, for example, counselling[4,6], which makes it difficult to attribute effects to a single factor.

b. There is evidence from four studies[4,6,7,8] that suggests workplace counselling has positive effects on physical activity. Of the two studies[7,8] that focus solely on counselling, the first[7] shows positive effects on increasing physical activity compared to the control. The

other, whilst showing positive improvements, shows no difference between groups receiving counselling, counselling and fitness testing or the control group[8]. Two other studies [4,6], are multi-component interventions that included counselling, motivational interview and health screening which make it difficult to attribute effects to a single factor.

c. Evidence from one study[9] suggests that employee designed interventions, that include written health and physical activity information, active commuting, stair climbing, led walks, fitness testing and counselling (all as required) can have a positive improvement on physical activity.

[1] O'Loughlin et al., 1996 (+ controlled before and after); [2] Pert, 1997 (- before and after study); [3]Hanlon et al., 1998 (- cross sectional survey); [4]Talvi et al., 1999 (- controlled before and after); [5] Addley et al., 2001 (- cross sectional survey); [6] Osteras and Hammer, 2006 (- before and after study); [7] Proper et al., 2003 (++ cluster RCT); [8] Aittasalo et al., 2004 (+ individual RCT); [9]Titze et al., 2001 (+ control before and after)

Two studies explored the effect on physical activity of health information or messages. The first, Marshall et al (2003) evaluated how the promotion of physical activity interventions delivered by print (letters and leaflets) versus delivery by e-mail and a website campaign influence physical activity and progression through the stages of motivational readiness. The study found no significant differences between groups and, although there was an increase in physical activity participation in both groups at follow up there was no significant increases in total physical activity when analysed by intention to treat. They concluded that health messages had no intervention effect on physical activity although 26% of both groups (intervention and control) reported progressing through at least one stage of the stage of change model. The second study, Plotnikoff et al (2005) report on the efficacy of an e-mail intervention on the promotion of physical activity and nutrition in a workplace

context. The results show that the intervention group (who received the e-mails) significantly increased their total activity levels at follow-up (p=0.01, whereas the control group significantly reduced their total activity levels at follow-up (p=0.01). Both groups engaged in higher physical activity levels at the workplace.

One further study, Cook et al (2001) sought to evaluate the effectiveness of a health promotion intervention targeting dietary behaviours and physical activity. Information was delivered to participants by way of workshop sessions. In addition there were nutritional displays in cafeteria. The results showed a significant increase in level of physical activity from baseline to 12 months in intervention group (p<0.000), whilst there was a significant decrease in physical activity in the control group over the same period (p=0.002).

Evidence statement 5

a. There was conflicting evidence from two studies[1,2] regarding the effectiveness of health messages delivered by e-mail. The first study reported increases in participation in physical activity by those receiving information by print or electronically, but when analysed by intention to treat there was no significant increase in total physical activity.; the second reported positive results on physical activity for health messages received by e-mail. Further study is required.

b. There is evidence from one study[3] that health information delivered by way of regular workshops increases participants' level of physical activity. However, further study is required as the ethnic composition of the sample may limit the applicability of the findings to the UK.

[1]Marshall et al., 2003 (++ individual RCT); [2]Plotnikoff et al., 2005 (- controlled before and after); [3]Cook et al., 2001 (+ individual RCT)

Two studies reported on led group exercise sessions. Perkio-Makela (1999) report on group physical exercise (aerobic training: gymnastics: muscular strength, stretching and relaxation) and training of work plus lifting techniques delivered to a group of female farmers. The study found a short/medium term improvements in physical activity but this had decrease back to baseline levels within three years. Lee and White (2006) report on a minimal exercise programme for middle aged working women. The intervention comprised of weekly aerobic sessions over a twelve week period. The authors report positive feedback of the programme but no significant effects for physical activity.

Sjogren et al (2006) also reported on a physical exercise intervention but rather than led sessions this was non-supervised. The intervention consisted of light resistance training. The authors report that the physical activity did not have a significant effect on subjective physical well-being and no significant physical exercise intervention or light resistance training effects were found for psychosocial functioning or general subjective well being.

Evidence statement 6

There is evidence in one study[1] to suggest that group led exercise sessions can bring positive improvements to physical activity levels for women, but these improvements are not sustained in the medium to long term. However the applicability and transferability of the intervention requires further study.

[1] Perkio-Makela, 1999 (- individual RCT)

Systematic Reviews

A total of three reviews were identified for inclusion in the review of effectiveness. The reviews examined the effectiveness of workplace interventions which aimed to increase physical activity in employees. Two of

these were of good quality (+). One (Dishman et al., 1998) concluded that workplace physical activity interventions have a small, non-significant positive effect on physical activity or fitness. The other (Proper et al., 2003) concluded that there was a significant intervention effect for physical activity but this was made on the basis of only two high quality studies. Both (Dishman et al., 1998, Proper et al., 2003) reported that the methodological quality of the published literature was poor, with many authors also using only self-reported physical activity to measure outcomes.

Evidence statement 7

There is inconclusive, review-level evidence that workplace physical activity interventions have a significant effect on physical activity.

Workplace - Settings & Populations

- *Does the type of workplace influence effectiveness?*

Evidence Statement 8

No evidence was presented that indicates type of workplace influenced the effectiveness of physical activity interventions.

- *What are the most effective and appropriate interventions for different sectors of the workforce such as men and women, younger and older workers, minority ethnic groups and temporary/casual workers?*

Evidence Statement 9

No evidence was presented that physical activity interventions were more appropriate for different *sectors* of the workforce based on gender, ethnicity or for temporary/casual workers.

One study reports differences in effectiveness across age groups (Pert, 1997). This intervention comprised of health screening, a physical assessment and interview with a physiotherapist. Effectiveness was found to be highest in

those over 35 years but no details are given of statistical significance and the lack of a more scientific approach in implementation of the project compromises the validity of the study.

- *Does effectiveness vary according to the type of job people do?*

Evidence Statement 10

Three studies[1,2,3] suggest that workplace physical activity interventions are more effective for sedentary workers.

[1]Titze et al., 2001 (- before and after); [2]Eves et al., 2006 (- before and after); [3]Thomas et al., 2006 (- before and after)

Eves et al (2006) study of a poster intervention to increase stair walking report a greater effect in people who are overweight. However, measurement of weight status is subjective and may be subject to error. Thomas et al (2006) report in their evaluation of a walking programme that those with the lowest step count at baseline achieved the greatest increase (on average 53%) but the study relies on self reported data. Similarly Titze et al (2001) report on a multi-component and found that participants with a low level of physical activity at baseline were seen to have a statistically significant greater increase in physical activity than those with higher baseline figures. However, the effectiveness refers only to those employees willing to complete a questionnaire at baseline. The sample is self-selected, relatively young and well educated therefore generalisability is limited.

Intervention Design, Delivery, and Duration

- *How does the way it (the intervention) is delivered influence effectiveness?*

Evidence statement 11

Evidence from two walking interventions studies[1,2] and one active travel intervention[3] suggests self-directed interventions are effective.

[1]Thomas et al, 2006 (- before and after); [2]Gilson et al, 2007 (+ individual RCT); [3]Mutrie et al 2002 (+ individual RCT)

- *Does the length and/or intensity of the intervention influence its impact?*

Evidence Statement 12

Evidence for the influence on effectiveness of duration and intensity of physical activity of is inconclusive in stair walking, walking and active travel interventions. However, evidence from five other studies[1,2,3,4,5] suggest a moderate effect of interventions of over 6 months duration.

[1]Cook et al., 2001 (+ individual RCT); [2]Proper et al., 2004; 2003 (++ cluster RCT); [3]Plotnikoff et al., 2005 (- control before and after); [4]Osteras and Hammer, 2006 (- before and after); [5]Pert 1997 (- before and after)

- *Does the degree to which employees are involved in the planning, implementation and review of interventions influence their effectiveness?*

Evidence statement 13

There is no evidence that involvement of employees in planning, implementation and review of the physical activity intervention influences the effectiveness of those interventions.

Barriers, Facilitators & Motivators

- *What are the barriers and facilitators to implementation – for both employers and employees?*

Evidence statement 14

Seven studies[1,2,3,4,5,6,7] reported employees perceived barriers to the implementation of work place physical activity interventions. Barriers fell into two categories: negative perceptions and physical barriers. These included time, physical fitness levels and expense. Physical barriers to cycling to work were particularly pertinent including state and lack of cycle paths, weather, pollution and cycle locking facilities. No factors were cited by the employers as barriers to the implementation of physical activity interventions.

Evidence statement 15

Nine studies[1,2,3,4,5,6,7,8,9] gave details of employees' cited facilitators to the implementation of interventions that focus on physical environment (improvements in facilities and convenience of location); incentive schemes and flexible work practices. In three stair walking studies employees found the poster interventions encouraged stair walking, were a good idea and thought provoking. No factors were cited by the employers as facilitators to the implementation of physical activity interventions.

[1]Kerr et al, 2001 (- before and after); [2]Adams and White, 2002 (+ control before and after); [3]Eves et al, 2006 (- before and after); [4]Mutrie et al, 2002 (+ individual RCT); [5]Gatersleben and Appleton, 2007 (- qualitative); [6]Rice and Saunders, 2001 (+ qualitative); [7]Pert, 1997 (- before and after); [8]Thomas et al, 2006 (- before and after); [9]Lee and White, 2006 (- individual RCT).

- *What are the key components of the intervention that motivate individuals to become more physically active?*

Evidence statement 16

One study[1] reported that a motivating factor for becoming more physically active cited by employees was that the intervention was worthwhile and enjoyable.

[1]Thomas et al, 2006 (- before and after)

- *How can employers be encouraged to promote physical activity at work?*

Evidence statement 17

There were no opinions given by employers that explained how employers could promote physical activity in the workplace.

Some interesting evidence is presented on what are perceived to be the barriers and facilitators of implementing physical activity interventions in the workplace which may be valuable in identifying 'why' an intervention is successful or not. However, overall relatively little information was collected on such 'qualitative' aspects of the intervention studies, and the information that was collected came from employees only. The major gap identified in the included literature was regarding perspectives of the employer.

References of included studies

Included in the final review (n= 38)

Number of studies (n=33)

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Part II. – Workplace Health Promotion: How to Encourage Employees to be Physically Active: A Rapid Review of Economic Literature

Methods

Literature searches were carried out by a team from Cardiff University and included searches of economic databases and grey literature. The University of York team also had access to the search results for the parallel effectiveness review being undertaken by the team from Salford University.

The economic search identified a total of 434 titles. The effectiveness search results were filtered using cost and economic terms and the resultant database contained 512 titles. Studies were excluded from the review if they were not the primary source of data and/or contained no cost information.

The titles, and where appropriate/available abstracts, were scanned for relevance and full copies of 26 studies were assessed for inclusion, with seven identified as being relevant for this review. Data were extracted from the studies and tabulated into evidence tables.

Results

Overall there was limited recent evidence on the economic benefits of workplace interventions that promote physical activity. A total of seven studies were included in the review and only one of these was published within the last nine years. A summary of the characteristics of the reviewed studies is presented in Table 1.

Table 1: Summary of reviewed studies

Study	Year	Type of Analysis*	Quality	Country
Physical Activity Counselling and Education				
Erfurt et al	1992	CEA	+	USA
Oldenburg et al	1995	CEA	+	Australia
Proper et al	2004	CEA	+	Netherlands
Physical Activity Facility				
Shephard et al	1992	CEA	-	Canada
Physical Fitness Programme				
Bell et al	1992	CEA	+	USA
Brown et al	1992	CEA	-	USA
Goetzel et al	1998	CEA	+	USA

* CEA = cost-effectiveness analysis

Conclusion

There is no strong economic evidence to support the implementation of workplace interventions that promote physical activity. Further, the applicability of the results may be limited as all studies were conducted outside of the UK.

Included Studies

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