

'Ask Your GP to Check Your BP' Public Awareness Campaign in Perth, Western Australia



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Raising awareness of the importance of high blood pressure (BP) and the potential value of having a personal BP check by a general practitioner among manual industrial ('blue-collar') workers aged 40-65 years.

METHOD

A prospective case-control study in 3700 blue-collar employees in 10 worksites was conducted in Perth, Western Australia. A workplace program comprising workshops, a variety of promotional materials and free BP testing was conducted between February and April 1998, and cases and controls were exposed to radio messages, newspaper advertisements and a media launch.

RESULTS

Two random samples of 1600 blue-collar workers were given a structured questionnaire before and at the end of the 10-week campaign to determine their self-report of a BP recorded in the last two years, the source of the BP recording and their awareness of the intervention and its message. The response rate to the questionnaires was 28% before the intervention and 28% after the intervention. A high proportion (85%) of respondents had already had their BP checked in the previous two years, and the intervention failed to improve upon that, despite it prompting 8% (27/332) of respondents who were exposed to the intervention to have their BP measured.

CONCLUSIONS

Most blue-collar workers in the study had had their blood pressure checked within the previous two years, showing that workplace health promotion is alive and well in the sites studied. However, most were not aware that high BP can be present (and causing vascular damage) without causing symptoms.

SO WHAT?

Future health education and promotion campaigns should focus specifically on worker's knowledge of asymptomatic damage, as well as on strategies for accessing 'hard to reach' groups such as the unemployed and employees of small firms.

KEY WORDS

high blood pressure, general practice, industrial workers

Background

Atherosclerotic vascular disease of the brain, heart and limbs is a significant public health problem in Australia. One strategy for reducing the burden of vascular disease within the community is the 'population or mass' approach, which aims to reduce the prevalence and mean level of important modifiable risk factors and thus the prevalence of disease in the community.¹ As high blood pressure (BP) is a major causal risk factor for atherosclerotic vascular disease, we aimed to raise awareness in a section of the community of metropolitan Perth, Western Australia, about BP by encouraging them to attend their general practitioner (GP) and to ask their GP to check their BP. We targeted middle-aged manual industrial ('blue-collar') workers who, we believed, would be predominantly male and have a high prevalence of undiagnosed hypertension and who might benefit from our intervention.^{2,3}

The aim of this study was to raise awareness of the importance of hypertension and the potential value of having a personal BP check by a GP in a defined sample of manual industrial workers aged 40-65 years.

Methods

Cohort assembly

In July/August 1997, 26 large blue-collar workplaces in the metropolitan area of Perth, Western Australia were invited by letter and follow-up telephone call to participate in a workplace health promotion campaign focused on hypertension. Ten workplaces responded positively: three building supplies companies with 1100, 100 and 100 employees; three city councils (800, 200, 150); a drink producer (500);

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two cement producers (350, 100) and a power station (300). A cohort of 3700 blue-collar employees was assembled from the 10 working sites. Three thousand two hundred and fifty employees from six of the worksites (the building supplies companies and city councils) were invited to be exposed to the intervention; the 450 controls were employees from the other four worksites which agreed not to be involved in the intervention.

Pre-intervention assessment

In November 1997, prior to the intervention, a standardised 20-item multiple-choice questionnaire was developed. This included questions on previous history of blood pressure measurement, history of hypertension, knowledge of high blood pressure signs and risk factors and awareness of any campaigns related to preventing high blood pressure. It was piloted with five blue-collar employees.

In December 1997, the questionnaire was distributed by the employer/supervisor at each of the 10 worksites to 1600 of the 3700 employees. In most worksites the questionnaires were distributed randomly with the pay slip of the employees.

All respondents were offered entry into a prize draw for \$100 cash in return for completing and returning their questionnaire. The work supervisors encouraged workers to return the questionnaires by verbal reminders and written requests on noticeboards.

Interventions

Between February 1998 and April 1998, the 3250 subjects were invited to participate in the program. Details of the intervention are shown in figure 1.

The cases and the controls were also exposed to a series of radio advertisements (37 per week for three weeks on Radio 6PR/IX), a state-wide series of newspaper advertisements (in the *West Australian* newspaper every Saturday for three weeks) and a

FIGURE 1. Intervention

At least one workshop (group education session by a health promotion officer about the importance of high BP as a modifiable risk factor for vascular events and asking your GP to check your BP).
Free BP testing by a health promotion officer.
Literature about the relationship between BP and stroke and the importance of asking your GP to check your BP.
Message in pay-slips (of all employees at the six worksites of the cases).
Articles in workplace newsletters (distributed to all employees at the six worksites of the cases).
Publications and poster displays in central locations within the six worksites (e.g. the cafeteria) and on pinboards and noticeboards in high traffic areas around the six worksites of the cases.

media launch, which received prime time coverage on state-wide television, state and community newspapers, state radio news broadcasts, radio interviews and national radio on 12 February 1998.

Perth metropolitan GPs and pharmacists were informed of the forthcoming newspaper and radio advertisements and attended seminars by Graeme Hankey on stroke prevention.

Post-intervention assessment

The effect of the intervention was assessed by a multiple-choice questionnaire which was identical to the pre-intervention questionnaire but contained additional questions on campaign awareness, message recall and intentions and action in relation to the campaign message.¹ The questionnaire was distributed to 1600 cases (n=1250) and controls (n=350) in May 1998, two months after the intervention.

Analysis

Odds ratios (OR) and their 95% confidence intervals (95%CI) were calculated using standard methods.

Results

Compliance with intervention

Three hundred and ninety-one (12%) of the 3250 cases who worked at the six sites where the intervention was offered attended the workshops and 262 (8%) underwent BP testing. Of these 262 volunteers, 89% had blood pressure recordings less than 140/90, 8% had recordings between 140/90 and 160/95, and 3% had recordings higher than 160/95.

Questionnaire response rates

The pre-intervention questionnaire was completed and returned by 455 (28%) of the 1600 workers from the 10 working sites. The post-intervention questionnaire was completed and returned by 447 (28%) of the 1600 workers from the 10 working sites, of whom 332 were in the intervention group (27% response) and 115 were controls in the non-intervention group (33% response).

Questionnaire results

The results of the pre- and post-intervention questionnaires are shown in table 1. Among those who responded to the questionnaire, the post-intervention exposed group (cases) were not matched for age and gender with the pre-intervention group or with the post-intervention non-exposed group (controls). The cases as a group were significantly younger than the controls (47% compared with 62% older than 40 years, OR = 1.8, 95%CI = 1.2 to 2.8). The cases exposed to the intervention also comprised a significantly greater proportion of men than the pre-intervention group (72% compared with 55%, OR = 2.1, 95%CI = 1.6 to 2.8).

A high proportion (85%) of respondents to the pre-intervention questionnaire reported having had their BP checked in the previous two years. After the intervention, there was no improvement in the proportion who reported having had their BP checked in the previous two years among the cases (82%) or controls (90%), despite the fact that 8% (27/332) of cases and 4%

TABLE 1. Key results of the pre- and post-intervention questionnaires

	Pre-intervention	Post-intervention	
		Exposed	Not exposed
Evaluation			
Surveyed	1600	1250	350
Responded	455 (28%)	332 (27%)	115 (33%)
Demographics			
Age 40+ years	237 (52%)	156 (47%)	71 (62%) ^(a)
Male	250 (55%)	239 (72%) ^(b)	74 (64%)
Primary outcome measures			
BP measured in past 2 years	385 (85%)	271 (82%)	103 (90%)
BP measured ever	434 (95%)	320 (94%)	111 (97%)
BP measured by GP	293 (68%)	186 (59%)	54 (48%)
Diagnosed with hypertension	87 (20%)	56 (18%)	20 (18%)
Other significant outcomes			
Aware of campaign/intervention	118 (26%)	209 (63%) ^(c)	40 (35%)
Aware of message to 'ask GP to check BP'	1 (1%)	76 (37%) ^(d)	12 (30%)
Reported BP check	-	27 (13%)	5 (13%)
Hypertension has symptoms	355 (78%)	262 (79%)	91 (79%)

Note: Percentages are of respondents to each question

^(a) Significantly higher than the group exposed to the intervention (OR=1.8, 95%CI=1.2 to 2.8).

^(b) Significantly higher than the pre-intervention group (OR=2.1, 95%CI=1.6 to 2.8).

^(c) Significantly higher than the pre-intervention group (OR=4.8, 95%CI=3.6 to 6.6) and the non-exposed post-intervention group (OR=3.2, 95%CI=2.1 to 5.0).

^(d) Significantly higher than the pre-intervention group (OR=135, 95%CI=19 to 975) and the non-exposed post-intervention group (OR=2.6, 95%CI=1.3 to 4.9).

(5/115) of controls who responded said that they had their BP checked as a direct and immediate consequence of the campaign (OR = 1.95, 95%CI = 0.7 to 5.2). A high proportion (79%) of all respondents indicated that they thought that high BP always causes symptoms (that is, it would not be present without symptoms).

Discussion

The rationale for carrying out this health promotion campaign among blue-collar workers was based on our impression from the literature and practice that middle-aged men are reluctant to seek medical help to evaluate and monitor their health.³ In order to find a relevant target audience of these workers, we approached major working sites whose employees were predominantly blue-collar workers. However, it was not until after we had conducted the pre-intervention questionnaire and had completed the intervention that we identified that many of them had

their own independent worksite health promotion activities. The participants in this study were probably not representative of blue-collar workers who are employed outside large institutions or who are unemployed.

The selection of the worksites that were to be exposed and not exposed to the intervention was not random. Six of the worksites were only willing to be involved if their workers were exposed to the intervention (that is, only four of the sites were willing to act as the 'controls'). Such selection bias almost certainly influenced our results. In addition, the groups ('cases' and 'controls') evaluated were all blue-collar workers but only approximately half to two-thirds of the respondents (52%–62%) were part of our primary target group of middle-aged blue-collar workers. The results are therefore more representative of the general blue-collar work force than the target group specifically.

Among the cohorts from the 10 sites

who agreed to collaborate, the response rate of the employees to all questionnaires was expectedly low (28%) given the methods of distribution (by the employer), return (voluntarily by the worker) and anonymity of the worker (making tracing impossible).

The higher proportion of younger men among the cases who responded to the post-intervention questionnaire (than the controls and pre-intervention group) may have biased the results toward a lower rate of BP measurement in that group (that is, young men are less likely to go to their GP than older men or women³).

The proportion of subjects recalling a prior BP measurement within the previous two years in the pre-intervention group (85%) was higher than we had anticipated. Although it is not known what proportion of these individuals had their BP measured as part of a worksite initiative (rather than the individual's initiative), we suspect, from discussion at the workshops, that a

substantial proportion had their BP checked at worksite health checks.

About two-thirds of the cases reported that they were aware of the 'Ask Your GP to Check Your BP' campaign and about one-third (37%) reported that thought they had understood the message; however, only 8% reported having acted on it and had their BP checked. Although relatively small, this rate of action is encouraging given that the majority of respondents reported having a BP check in the previous two years, and compares favourably with response rates that have been reported through health sponsorship (which are usually around 1–2%^{5,6}). The sample may be biased by a high proportion of responders who are 'willing to please' (response bias), however.

About 80% of respondents surveyed before and after the intervention answered the question 'what do you think are the most common symptoms of high blood pressure?' with a response which indicated that they thought that high BP caused symptoms, albeit generally non-specific (for example, headaches 57–61%, sleeping difficulties 18–26% or nausea 17–22%). The response is inconsistent with the facts about hypertension which are that it is generally asymptomatic unless it is complicated by malignant hypertension, renal failure or a major vascular event.

Conclusion

The 'Ask Your GP to Check Your BP' campaign succeeded in prompting fewer than 8% of blue-collar workers to go to their GP and have their BP checked. This is mainly because many blue-collar workplaces now appear to be implementing health programs, including regular BP checks, for their workforces, which we did not anticipate.

We were surprised that most people do not know that high BP is asymptomatic, and suggest that future health education and promotion endeavours should focus specifically on campaigns to dispel

this ignorance among the general public. Furthermore, strategies for accessing 'hard to reach' groups, such as the unemployed and employees of small firms, need to be developed as these people are more likely to be unaware of their BP and the potential to lower it and therefore their risk of vascular events.

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