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Can Compliance with Non-Pharmacological Treatments for Cardiovascular

Disease be Improved?

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Abstract

Objective: To critically review the literature regarding the effectiveness of interventions aimed at improving cardiovascular patients' compliance with non-pharmacological treatments.

Data Sources: Medline, Healthplan and Psychlit were searched from 1985 to 1996; the bibliographies of located studies were searched; Australian government departments and non-government organisations were contacted; and two experts examined the resulting study list.

Study Selection: Twenty seven studies evaluating interventions aimed at increasing compliance with non-pharmacological treatments for cardiovascular disease, which randomly allocated patients to groups and were published in English, were included.

Data Extraction: These trials were critically appraised against eight methodological criteria and, subsequently, classified as of good, fair or poor quality. Information about target groups, samples, trialed intervention strategies and their effectiveness was extracted from the 18 good and fair quality trials. Inter-rater reliability was high on the 20% of references double-coded.

Data Synthesis: The 18 studies reviewed described the effectiveness of 27 intervention strategies at improving compliance with dietary, smoking cessation, exercise, weight loss, stress reduction, general lifestyle, relaxation and blood pressure screening programs. Tentative recommendations were made for or against most trialed strategies: partner-focussed and structural strategies showed the most consistent benefits; physician-focussed strategies were unanimously unsuccessful; and patient-focussed strategies were of mixed benefit.

Conclusions: The methodological quality of many of the located trials was less than optimal. Therefore, further good quality, randomised trials are necessary in order to clarify the effectiveness of those strategies identified as potentially useful in this review.

Keywords: cardiovascular, patient compliance, non-pharmacological treatments, review.

Introduction

Many factors have been linked to low compliance with cardiovascular treatments, including various patient, physician, disease, treatment, setting and patient-physician relationship characteristics(1-3). Consequently, various interventions have been developed and tested in attempts to counteract these factors and to maximise patients' compliance with recommended treatments(4-6). While the results of these trials are somewhat varied, there appears a consensus that multiple strategy interventions are more effective than single strategy interventions at increasing compliance, especially with long-term treatments(3,5-9). However, there is little evidence to indicate whether all strategies of these complex interventions are required or which, if any, are the most effective. Similarly, many of the trials conducted, and included in subsequent literature reviews, have not been randomised trials, making it difficult to draw firm conclusions from either the studies or the reviews(4,6,10). Furthermore, most of the more rigorous reviews of this literature were conducted some time ago, leading to questions about current relevance(1,5,11).

Therefore, this review aimed to summarise the recent literature regarding the effectiveness of individual intervention strategies, whether trialed alone or as part of complex interventions, at increasing cardiovascular patients' compliance with non-pharmacological treatments.

Review Methodology

Data Sources

Medline, Healthplan and Psychlit were searched, from January 1985 to March 1996, for English-language papers including the terms (cardiovascular or heart or hypertens*) and (interven* or study or trial*) and (patient-compliance in MeSH). The resulting large number of citations

(1,310 in total) was subsequently searched manually for articles investigating interventions to increase cardiovascular patients' compliance with non-pharmacological treatments or reviews of such studies. The bibliographies of all relevant papers were also searched for additional potentially relevant studies. Health-related government and non-government bodies were also contacted, along with any additional organisations and companies suggested, in an attempt to locate unpublished studies. Finally, a list of the studies identified was sent to an expert on compliance literature and an expert on cardiovascular literature with requests for details of potentially relevant omitted studies.

Study Selection

For inclusion in this review, a study must have:

- Involved people with diagnosed cardiovascular disease, hypertension or hypercholesterolemia.
- Implemented an intervention aimed at increasing their compliance with a non-pharmacological treatment.
- Reported results on patient compliance.
- Randomly allocated patients to treatment conditions.

Data Extraction: Study Quality

The methodological quality of located studies was assessed in relation to eight criteria, based largely on those developed by Haynes et al (1979)(1): selection and description of the study sample, specification of the illness or condition, type of compliance measures, description of the therapeutic regimen, definition of compliance, description of the intervention, consent rate and loss to follow-up rate. Table 1 summarises the basic and bonus points achievable within each of

these criteria. Compliance measures were rated separately for each target behaviour investigated in each study. Where multiple compliance measures were reported for a single target behaviour, the basic score was based on the compliance measure achieving the highest score. Twenty per cent of papers were double-coded by independent reviewers.

INSERT TABLE 1 HERE

Assigning a Quality Percentage to the Studies

Studies could achieve up to 35 points. The score obtained was divided by 35 and multiplied by 100 to give a “Quality Percentage”, which classified each study as follows:

- ***Good Quality*** - Studies with quality percentages of 66.7 or higher.
- ***Fair Quality*** - Studies with quality percentages between 50 and 66.6.
- ***Poor Quality*** - Studies with quality percentages of less than 50.

Only good and fair quality studies progressed to the next stage of this review.

Data Extraction: Study Results

Data were extracted from good and fair quality studies about the patient groups targeted, samples achieved and the nature and effectiveness of the strategies trialed. Where control groups received some intervention strategies, the effectiveness of only additional strategies received by the intervention groups was assessed. Similarly, where two or more intervention arms were involved, the effectiveness of only unique components of each arm was assessed.

Data Synthesis

Wide variations in the nature of the interventions, outcome measures, length of follow-up periods and presentation of study results prohibited the use of meta-analyses. Therefore, results were

summarised across all studies having explored each intervention strategy within each target behaviour. Each summary resulted in one of five outcomes: a strong recommendation for, tentative recommendation for, tentative recommendation against, strong recommendation against or no recommendation for or against the intervention strategy.

The decision process involved in determining the appropriate recommendation for each intervention strategy is shown in Figure 1. Briefly, strong recommendations were made only where at least three studies, including at least one of good quality, had investigated the strategy; consistent evidence from numerous fair quality studies resulted in tentative recommendations; and inconsistent evidence resulted in no recommendation for or against the strategy.

FIGURE 1 HERE

Throughout this paper, the number of references cited for any given point may be less than the number of studies being discussed, as some studies involved two or more interventions(12-23).

Review Results

Coding Quality Assurance

Two independent reviewers assigned identical quality classification codes for seven of the eight papers double-coded, giving a kappa of 0.82. There was also almost total agreement regarding the sample, intervention and results information extracted from the included studies.

Study Quality and Inclusion

A total of 29 potentially relevant intervention studies were located(12-40). Of these, 5 (17%) non-randomised trials were excluded(20,26,32,39,40). Many studies evaluated more than one

outcome measure(14,15,21,22,24,27,29,30,33,34,36,37). As compliance measures often varied within these studies, methodological quality was assessed for each of the 52 outcomes assessed across these 24 studies. Table 1 summarises the proportion of these 52 sub-trials scoring in each of the points categories on each quality criteria. The best performances were seen in the definition of compliance, description of the intervention, definition of illness and description of sample criteria. However, performance on the remaining criteria were far below optimal.

Subsequently, another six (21%) studies were excluded for having quality percentages less than 50%(19,28,31,34-36). The results of the remaining 18 studies are reviewed in this paper. They explored interventions aimed at increasing rates of compliance with dietary regimes(13-17,24,29,30,33,37), smoking cessation regimes(12,21-25,29,30,37), exercise regimes(15,21,22,24,29,30,37,38), weight loss programs(15,21,22,33), stress reduction programs(24,29,30), general lifestyle programs(14,27), relaxation programs(18,21) and blood pressure screening(15).

Intervention Effectiveness

Interventions Targeting Dietary Regimes

Ten papers discussed 15 fair quality studies exploring interventions aimed at increasing compliance with dietary regimes(13-17,24,29,30,33,37). Two studies employed single strategy interventions: regular educational counselling for patients(37) and self-monitoring of urine(16). The remaining 13 studies trialed multiple strategy interventions involving 14 different strategies: educational counselling for patients(13,17,24,29,30,33); behavioural counselling for patients(17,24,29,30,33); giving patients written health education materials(15,17); training patients to self-monitor urine samples(13); sending reminder letters to patients(14,15); monitoring

patients' compliance(17,33); giving patients feedback about monitored compliance(17,33); encouraging spouse participation in the dietary regime(13); giving patients diaries to self-monitor their diets(17); behavioural contracting with patients(17); giving patients prompting devices(14); giving patients' physicians prompting devices(14); sending reminder letters to patients' physicians(14); and sending written education materials to patients' physicians(14).

Table 2 summarises the effectiveness of these interventions, as well as giving brief descriptions of each study's target population and sample characteristics. Only five studies found significant improvements in compliance with the recommended dietary regimes(13,24,37). These five studies tested six interventions, all including patient educational counselling: one with the addition of patient behavioural counselling(24); two with the addition of spouse participation in the program(13); and four with the addition of self-monitoring of patients' urine(13).

INSERT TABLE 2 HERE

Interventions Targeting Smoking Cessation Regimes

Nine papers discussed 11 fair quality studies(12,21-24,29,30,37) and one good quality study(25) exploring interventions aimed at increasing compliance with smoking cessation regimes. One study employed a single strategy intervention involving regular educational counselling for patients(37). The remaining eleven studies trialed multiple strategy interventions involving 16 different strategies: educational counselling for patients(12,21,22,24,25,29,30); behavioural counselling for patients(12,21,22,24,25,29,30); giving patients written health education materials(12,22,25); telephone reminder calls to patients(12,25); monitoring patients' compliance(21); encouraging patients to engage in a home exercise program(23); encouraging patients to attend a supervised exercise program(23); giving patients fitness assessments(23);

behavioural contracting with patients(22); giving patients projected coronary heart disease risk assessments(22); giving patients self-help materials(12); giving patients audiovisual materials(22); giving patients nicotine gum(25); training patients to self-monitor their pulse rates(21); and training patients in relaxation techniques(21).

Table 3 summarises the effectiveness of these interventions, as well as giving brief descriptions of each study's target population and sample characteristics. One study found significant improvements in compliance with smoking cessation recommendations(25) but four studies found significantly higher compliance rates among control group patients(12,24).

INSERT TABLE 3 HERE

Interventions Targeting Exercise Regimes

Eight papers discussed six fair quality studies(15,22,24,29,30,37) and three good quality studies(21,38) exploring interventions aimed at increasing compliance with exercise regimes. One study employed a single strategy intervention involving regular educational counselling for patients(37). The remaining seven studies trialed multiple strategy interventions involving 13 different strategies: educational counselling for patients(21,22,24,29,30,38); behavioural counselling for patients(21,22,24,29,30,38); giving patients written health education materials(15,22); sending reminder letters to patients(15,38); monitoring patients' compliance(21); giving patients feedback about monitored compliance(21); behavioural contracting with patients(22,38); giving patients audiovisual materials(22); giving patients projected coronary heart disease risk assessments(22); educational counselling for patients' spouses(38); training patients to self-monitor their pulse rates(21); and training patients in relaxation techniques(21).

Table 4 summarises the effectiveness of these interventions, as well as giving brief descriptions of each study's target population and sample characteristics. Six studies, including all three of good quality, found significant improvements in compliance with the recommended exercise regimes(21,22,37,38). These six studies involved the majority of intervention strategies tested in relation to this target behaviour.

INSERT TABLE 4 HERE

Interventions Targeting Weight Loss Regimes

Four papers discussed five fair quality studies(15,22,33) and two good quality studies(21) exploring interventions aimed at increasing compliance with weight loss regimes. All seven studies trialed multiple strategy interventions involving 11 different strategies: educational counselling for patients(21,22,33); behavioural counselling for patients(21,22,33); giving patients written health education materials(15,22); sending reminder letters to patients(15); monitoring patients' compliance(21,33); giving patients feedback about monitored compliance(21,33); behavioural contracting with patients(22); giving patients audiovisual materials(22); giving patients projected coronary heart disease risk assessments(22); training patients to self-monitor their pulse rates(21); and training patients in relaxation techniques(21).

Table 5 summarises the effectiveness of these interventions, as well as giving brief descriptions of each study's target population and sample characteristics. Three studies found significant improvements in compliance with the weight loss regimes(21,33).

INSERT TABLE 5 HERE

Interventions Targeting Stress Management Regimes

Three papers discussed results from three follow-up points for one fair quality study exploring a multiple strategy intervention aimed at increasing compliance with stress management regimes(24,29,30). This intervention combined educational and behavioural counselling for patients. Table 6 summarises the results from each follow-up period: no significant improvements in compliance were found at any time.

INSERT TABLE 6 HERE

Interventions Targeting General Lifestyle Regimes

Two papers discussed four fair quality studies exploring interventions aimed at increasing compliance with general lifestyle regimes(14,27). All four studies trialed multiple strategy interventions involving 10 different strategies: educational counselling for patients(27); behavioural counselling for patients(27); giving patients written health education materials(27); giving patients audiovisual materials(27); telephone reminder calls to patients(27); sending reminder letters to patients(14); giving patients prompting devices(14); giving patients' physicians prompting devices(14); sending reminder letters to patients' physicians(14); and sending written education materials to patients' physicians(14).

Table 7 summarises the effectiveness of these interventions, as well as giving brief descriptions of each study's target population and sample characteristics. Only one study found a significant improvement in compliance with general lifestyle regimes(27).

INSERT TABLE 7 HERE

Interventions Targeting Relaxation Practice Regimes

Two papers discussed five fair quality studies exploring interventions aimed at increasing compliance with relaxation practice regimes(18,21). All five studies trialed multiple strategy interventions involving nine different strategies: educational counselling for patients(21); behavioural counselling for patients(21); monitoring patients' compliance(21); giving patients feedback about monitored compliance(21); behavioural contracting with patients(18); training patients to self-monitor their pulse rates(21); training patients in relaxation techniques(18,21); training patients individually(18); and training patients in group sessions(18).

Table 8 summarises the effectiveness of these interventions, as well as giving brief descriptions of each study's target population and sample characteristics. Four studies found significant improvements in compliance with the recommended relaxation practice regimes(18,21).

INSERT TABLE 8 HERE

Interventions Targeting Blood Pressure Screening

One paper discussed two fair quality studies exploring interventions aimed at increasing compliance with blood pressure screening(15). Both studies involved sending patients written education materials and reminder letters: in one study, this happened only once while, in the other study, patients received six sets of these materials.

Table 9 summarises the effectiveness of these interventions, as well as giving brief descriptions of each study's target population and sample characteristics. Surprisingly, the once-only intervention resulted in a significant improvement in compliance with the blood pressure screening but the multiple mail-out did not(15).

INSERT TABLE 9 HERE

Review Recommendations

A total of 27 different intervention strategies were trialed in the 18 studies reviewed. Sometimes they were trialed as single strategy interventions but, more often, they formed part of multiple strategy interventions. For ease of discussion, the types of strategies trialed have been divided into four types: patient-focussed interventions (70%), partner-focussed interventions (8%), physician-focussed interventions (11%), and structural interventions (11%).

Table 10 summarises the recommendations for or against each tested intervention strategy, within each of these intervention types, across the eight target behaviours.

INSERT TABLE 10 HERE

Strong recommendations were made for only three intervention strategies within two target behaviours: giving audiovisual materials for smoking cessation and compliance monitoring and feedback for weight loss. This signifies the lack of good quality studies from which to make recommendations. The patient-focussed strategies showed mixed results. Involving patients' partners in treatment programs showed some promise but physician-focussed strategies were consistently unsuccessful. The structural strategies also showed promise, especially when targeting weight loss, relaxation and exercise regimes.

Discussion

This review aimed to critically summarise the evidence and make recommendations regarding the effectiveness of intervention strategies aimed at increasing patient compliance with non-

pharmacological treatments for cardiovascular disease. Unfortunately, the ability to make strong recommendations was hampered by a number of limitations within the studies located.

Limitations of the Studies Located

First, the overall methodological quality of the studies located was poor: more than a third were excluded as they were not randomised trials(20,26,32,39,40) or because they failed to reach the 50% methodological quality cut-off(19,28,31,34-36). Furthermore, only three studies attained quality percentages considered to indicate “good” quality studies(21,25,38).

Second, the reviewed studies relied heavily on subjective outcome measures, such as patients’ self-reported compliance(12,14,15,21-24,26-32,34-37). It is disappointing to see these measures still so widely used, as numerous studies and reviews have outlined the problems with the sensitivity and specificity of self-report for at least 20 years(1,9,41).

Third, the reviewed studies tended to employ small samples: more than half with less than 50 patients per experimental group, increasing the likelihood of Type II errors(13,14,16-18,21-24,27,29,33).

Fourth, the reviewed studies tended to employ rather short follow-up periods: only half followed patients for twelve months or longer(12,14,15,21,22,24,25,29,37). While acknowledging the difficulties of obtaining funding for and conducting long term follow-ups, their absence prohibits recommendations about interventions’ longer term effectiveness.

The generally low quality of studies in this area was particularly disappointing as similar criticisms have been raised in previous reviews of this literature(5,6,10).

Limitations of this Review

First, we included all studies stating random allocation of patients to experimental groups although little information was provided about the randomisation processes employed. Therefore, some of the included studies may have had inadequate concealment of allocation.

Second, as with all reviews, some relevant studies may not have been located. However, the multi-faceted search strategy employed should have minimised the number of such omissions.

Third, the methodological quality scale has not been validated and arbitrary cut-points were used to classify the studies as of poor, fair or good quality. However, given the wide variation in study quality, it was considered necessary to introduce some weighting element when interpreting the results. All criteria and cut-points were specified a priori and 20% of references were double-coded by independent reviewers to ensure objectivity and reliability in classifications.

Overview of Review Findings

Despite the above limitations, we believe this review represents one of the most rigorous conducted of the recent literature. However, only tentative recommendations could be made for or against most of the intervention strategies. Of all the strategies trialed, structural and partner-focussed strategies showed the most consistently positive results. On the other hand, physician-focussed strategies showed a consistent lack of improvement in compliance rates. Patient-

focussed strategies, which comprised the majority of those trialed, showed varying results both within and between target behaviours.

Recommendations for Future Research

The major finding of this review was that, despite literature spanning more than 20 years, it remains difficult to make firm recommendations about the effectiveness of intervention strategies aimed at increasing patients' compliance with non-pharmacological treatments for cardiovascular disease. This inability is largely due to the relatively poor methodological quality of such studies. Therefore, although this review makes some recommendations for or against the use of a number of strategies, further rigorous trials are recommended to confirm or refute these.

It is considered important that, wherever possible, future trials should attempt to overcome the methodological flaws of the existing studies by:

- being randomised, controlled trials, with explicit randomisation protocols.
- having follow-up periods of at least 6 months.
- involving no-intervention, or usual care, control groups.
- employing adequate sample sizes to detect feasible and meaningful significant increases in compliance.
- employing direct, objective measures, wherever possible.
- if objective measures are unavailable or impractical, employing multiple outcome measures or assess the validity of the measures used in a sub-group of patients.

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Table 1: The quality criteria coding schedule and the proportion of the 52 sub-trials obtaining each score.

Points awarded	Sample*	Definition of illness	Measure of compliance#	Description of intervention	Description of regimen	Definition of compliance	Consent rate	Loss to follow-up
Basic Points 4	-	-	Objective, direct & longitudinal OR Immediate & direct taken 3+ times for <input type="checkbox"/> 80% patients. 12%	-	-	-	-	-
3	Adequate demographic description AND Random pop'n sample OR Patients from <input type="checkbox"/> 3 clinics OR Patients from regional program/ referral centre 62%	Replicable diagnostic criteria AND Inclusion and/or exclusion criteria 62%	Immediate & direct 12%	-	-	-	> 80% 35%	< 10% OR Drop-outs counted as non-compliers 40%

Points awarded	Sample*	Definition of illness	Measure of compliance#	Description of intervention	Description of regimen	Definition of compliance	Consent rate	Loss to follow-up
2	As 3 points, but inadequate demographic description 0%	Replicable criteria but no inclusion or exclusion criteria 29%	Objective & indirect 4%	Replicable 81%	Replicable 42%	Replicable cut-point OR Continuous 87%	70 - 80% 4%	10 - 20% 27%
1	Adequate demographic description AND Non-random sample OR Patients from 1-2 clinics 33%	Non-replicable diagnoses only 10%	Subjective 71%	Non-replicable 19%	Non-replicable 35%	Non-replicable cut-point 13%	< 70% 8%	>20% 31%
0	As 1 point, but inadequate demographic description 6%	None / could only be inferred 0%	Not stated 2%	None 0%	None / could only be inferred 23%	None 0%	Not reported OR Volunteers 54%	Not reported 2%

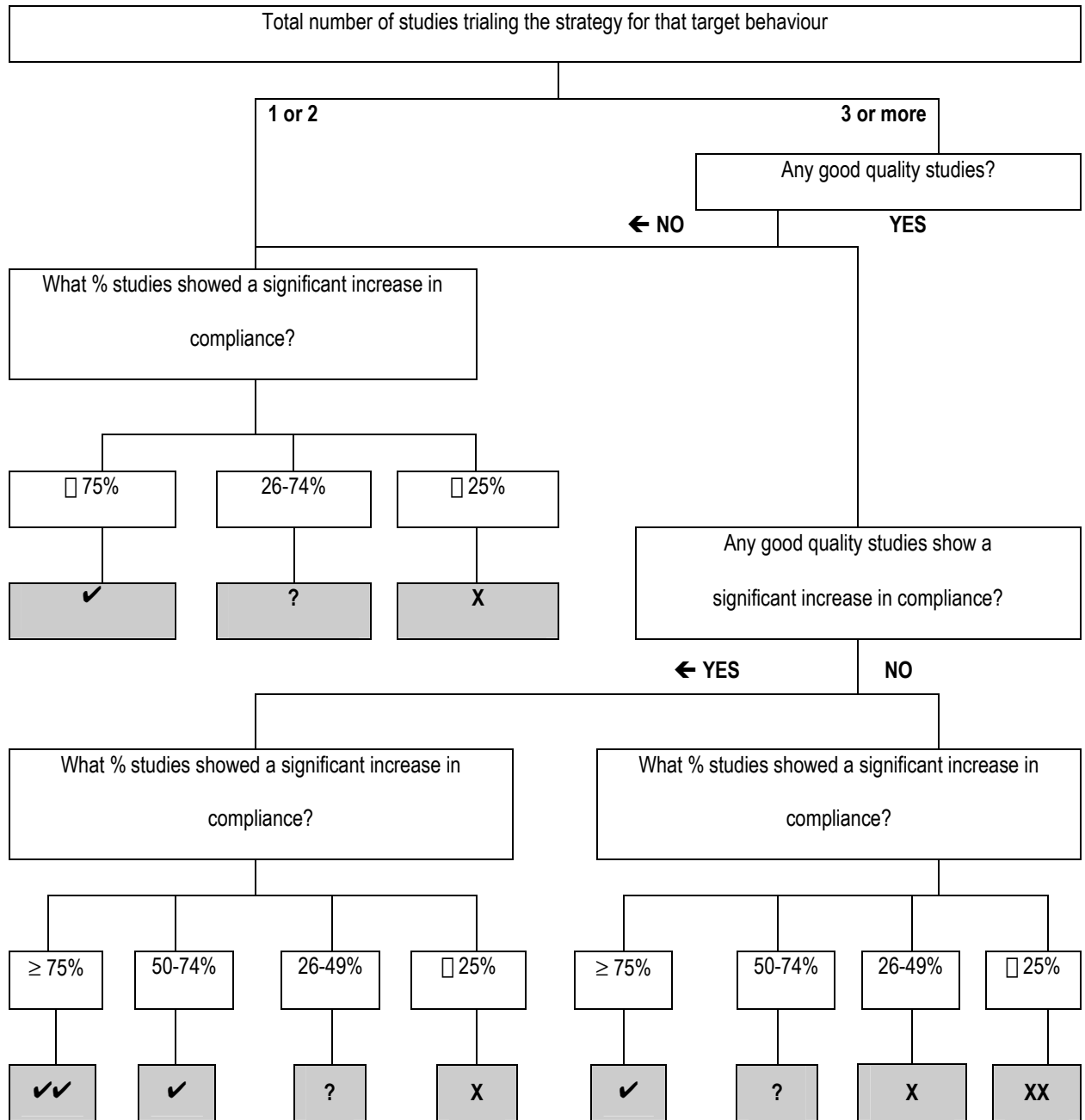
Points awarded	Sample*	Definition of illness	Measure of compliance#	Description of intervention	Description of regimen	Definition of compliance	Consent rate	Loss to follow-up
Bonus Points 1	% patients excluded reported 19%	Co-morbidity described 12%	<i>(codes 2 & 3 only)</i> Taken at random & patient unaware why 25%	-	Co-intervention precluded or noted 0%	-	Reported by group OR Randomised after consent 29%	Reported by group 60%
1	Consecutive patients OR Random sample with □80% follow-up 73%	-	<i>(all codes)</i> Follow-up □ 6 months 81%	-	-	-	-	-
1	Groups' demographics compared at baseline 79%	-	<i>(code 1 only)</i> Measure's validity assessed/ referenced 35%	-	-	-	-	-

Points awarded	Sample*	Definition of illness	Measure of compliance#	Description of intervention	Description of regimen	Definition of compliance	Consent rate	Loss to follow-up
1	Groups' outcomes compared at baseline 75%	-	<i>(all codes)</i> Per extra measure 23% (1 extra) 2% (3 extra)	-	-	-	-	-

* Adequate demographic description required at least age and gender information for recruited patients.

Direct measures included appointment records (for attendance), biochemical markers and drug metabolites. Indirect measures included pill counts. Subjective measures included patient self-report.

Figure 1: The decision tree used in developing recommendations based on the number, quality and results of the studies reviewed.



Key

	Strongly FOR		Tentatively FOR		Neither FOR or AGAINST		Tentatively AGAINST		Strongly AGAINST
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Table 2: The samples, interventions and results of the studies targeting compliance with dietary regimes.

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Meland et al (1994)(16) Norway Q%=62.9	Patients with high BP, according to age & sex based guidelines (salt restricted diet)	C - All patients received verbal & written dietary advice (salt restricted) from their FP. I - As C + asked to self-monitor their urinary chloride concentration on 6 separate occasions.	C - 19 I - 15	C mean=53 I mean=52	C=63% I=53%	1 & 3	<u>1 month</u> I>C, ns <u>3 month</u> I<C, ns
Cupples et al (1994)(37) Ireland Q%=62.9	Patients had angina for \geq 6 months.	I - Educational session delivered by health visitor every 4 months. C - No intervention.	I - 342 C - 346	I mean=63 C mean=64	I=59% C=59%	24	I>C, p<0.0001

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Applegate et al (1992)(33) USA Q%=60.0	Patients with mild hypertension (DBP:85-100 mmHg) & overweight (>114% of ideal weight) (salt & calorie restricted diet)	I - Dietitian-delivered intervention: "Trials of Hypertension Prevention" materials: 8 weekly group sessions & 2 individual sessions in first 10 weeks, followed by 4 monthly groups sessions. Sessions included reviewing patients' food and exercise records, measuring weight & urinary sodium levels & providing feedback & suggestions for further improvement. C - No intervention.	I - 21 C - 26	I mean=65 C mean=64	I=43% C=46%	6	I>C, ns

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Murray et al (1988)(15) USA Q%=54.3	People hypertensive at screening (on BP medication or DBP>89mmHg) (salt restricted diet)	I1 - Patients mailed 1 personalised letter & educational newsletter from the six developed as part of the National High Blood Pressure Education Program. I2 - Patients were mailed all six newsletters from the above program over a 10 week period, each accompanied by a personalised letter. C - No intervention. <i>But they were part of the Minnesota Heart Health Program</i>	I1 - 250 I2 - 250 C - 250	Range:25-74 Mean=52	\cong 50%	9 - 30	<u>Rarely add salt at table</u> I1<C, ns I2>C, ns <u>Rarely eat salty snacks</u> I1>C, ns I2<C, ns

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Gans et al (1994)(14) USA Q%=54.3	People with high screening cholesterol (>239 mg/dL) or with borderline cholesterol (200-239 mg/dL) & 2 other CVD risk factors (unspecified diet)	C - Brief one-on-one counselling: dietary recommendations & referral + self-help kit + results form, including referral recommendations + pocket cholesterol record card. <i>Also in Pawtucket Heart Health Program.</i> I1 - As C + sent 1 personalised reminder letter (including lifestyle goals & referral reminder) + fridge magnet within 4 weeks of their visit. I2 - As C + patient's physician sent letter with patient's results& recommendations & national cholesterol guidelines + addressed reminder postcard for patient. I3 - As C + I1 + I2.	C - 45 I1 - 42 I2 - 39 I3 - 47	C mean=50 I1 mean=54 I2 mean=51 I3 mean=50	C =56% I1=56% I2=55% I3=53%	4 - 12	I1<C, ns I2<C, ns I3>C, ns

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Cohen et al (1991)(13) USA Q%=54.3	Patients with essential hypertension (salt restricted diet) <i>Outcome = urinary Na level at post-test compared to baseline</i>	All patients & their partners attended 3 dietary education sessions over a 6 week period. I1 - Patients & partners asked to follow diet & test urine daily for 12 weeks immediately after education. I2 - Patients & partners asked to follow diet & test urine daily for 12 weeks starting 12 weeks after education. I3 - Patients only asked to follow diet & test urine daily for 12 weeks immediately after education. I4 - Patients only asked to follow diet & test urine daily for 12 weeks starting 12 weeks after education.	I1 - 25 I2 - 27 I3 - 28 I4 - 27	I1 mean=49 I2 mean=51 I3 mean=56 I4 mean=50	I1=72% I2=63% I3=68% I4=78%	3 & 6	<u>3 months</u> I1 - down 24.5% I2 - down 30.9% I3 - down 32.0% I4 - down 42.5% <u>6 months</u> I1 - down 4.7% I2 - down 23.4% I3 - down 30.1% I4 - down 27.4%
Miller et al (1988)(30) USA Q%=54.3	Patients suffering their 1st MI (unspecified diet)	I - 1 nurse-delivered, individual, face-to-face intervention at a 1 month follow-up visit: assessed compliance, discussed physical & psychosocial adjustments & developed health plan regarding target behaviours. C - Usual care.	I - 56 C - 47	Range:30-65	I=73% C=89%	1	I>C, ns

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Miller et al (1989)(29) USA Q%=51.4	"	"	I - 39 C - 42	Range:36-68 Mean=54	81%	12	I<C, ns
Miller et al (1990)(24) USA Q%=51.4	"	"	I - 29 C - 22	Range:37-68 Mean=55	78%	24	I>C, p<0.05

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Mann et al (1987)(17) Canada Q%=51.4	Patients with resting DBP of 91-104mmHg. (salt restricted diet)	<p>I1 - Patients attended 6 weekly, ½ hour, doctor-delivered, individual, face-to-face, task-centred, theory-driven education sessions to teach them knowledge & skills to reduce their salt intake in a variety of situations + instruction booklet summarising session info.</p> <p>I2 - As I1 + patients set one behavioural goal at each session + self-monitoring sheets + review of achievement at each session.</p> <p>C - Patients attended 6 weekly clinic visits but received no structured teaching or goal setting.</p>	I1 - 19 I2 - 19 C - 18	Mean=48½	37½%	3	I1<C, ns I2<C, ns

BP = blood pressure, C = control group, CVD = cardiovascular disease, DBP = diastolic blood pressure, FP = family physician, I = intervention group, MI = myocardial infarction.

ϕ Indicates the direction and the strength (p value) of any difference between the experimental groups (ns = no significant difference).

Table 3: The samples, interventions and results of the studies targeting compliance with smoking cessation regimes.

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Taylor et al (1990)(25) USA Q%=71.4	Patients suffering an acute MI	I - As C + multiple nurse-delivered intervention sessions using "Staying Free" (18 pg self-quitting manual & 2 audiotapes) + tailored advice for high-risk situations + 7 follow-up phone calls over next 5 months + nicotine gum + extra counselling for non-compliers. Total time per patient = ½- 9¾ hours (average = 3½ hours). C - Firm message to quit from physician.	I - 84 C - 82	I mean=52 C mean=53	I=83% C=88%	12	I>C, p<0.001

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Rice et al (1994)(12) USA Q%=65.7	Patients with cardiovascular problems	All interventions were based on the "Smokeless" program - series of 6 self-quitting manuals. I1 - 4 1-hour nurse-delivered, individual, face-to-face intervention sessions over 4 consecutive days & a similar 1-hour maintenance session 1 week later. I2 - As I1 but in small groups, rather than individually. I3 - Patients given 5 envelopes containing separate booklets corresponding to each session described above - to be opened on same timeframe & given reminder phone call to do so each day. C - No intervention.	I1 - 63 I2 - 82 I3 - 62 C - 48	mean=47½	38%	1 & 12	<u>1 month</u> I1>C, ns I2<C, ns I3<C, p<0.01 <u>12 months</u> I1<C, p<0.01 I2<C, p<0.01 I3<C, p<0.01

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Fuchs et al (1993)(21) Israel Q%=62.9	Patients requiring medication to control their BP	<p>All patients received an intensive behavioural modification program, including a tailored plan & goal setting based on their history of risk behaviours, their needs and preferences for foods, activity type and timing, etc. Patients were taught how to take their own pulse rate & guided relaxation imagery techniques. The intervention phase was followed by 1-2 monthly follow-up visits to monitor progress & provide feedback.</p> <p>I1 - Intervention delivered by doctors & nurses during 6 weekly 30-40 minute sessions.</p> <p>I2 - Intervention delivered by nutritionist, exercise instructor & psychologist during 6 weekly 1 hour sessions + 1 booster session 3 months later.</p>	I1 - 24 I2 - 28	I1 mean=57 I2 mean=52	I1=58% I2=50%	11 & 24	<u>11 months</u> I1>I2, ns <u>24 months</u> I1>I2, ns

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Cupples et al (1994)(37) Ireland Q%=60.0	Patients had angina for \geq 6 months.	I - Educational session delivered by health visitor every 4 months. C - No intervention.	I - 342 C - 346	I mean=63 C mean=64	I=59% C=59%	24	I>C, ns
Taylor et al (1988)(23) USA Q%=60.0	Patients admitted to hospital following an acute MI.	All patients were counselled by doctors and nurses about the risks of smoking + given written materials, including tips on quitting. I1 - Treadmill exercise test followed by individual home exercise training. I2 - Treadmill exercise test followed by medically-supervised group exercise training. C1 - Treadmill exercise test but no training. C2 - No exercise testing or training.	I1 - 54 I2 - 53 C1 - 26 C2 - 27	mean=52	100%	5	I1+I2>C1+C2, ns

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Miller et al (1988)(30) USA Q%=57.1	Patients suffering their 1st MI	I - 1 nurse-delivered, individual, face-to-face intervention at a 1 month follow-up visit: assessed compliance, discussed physical & psychosocial adjustments & developed health plan regarding target behaviours. C - Usual care.	I - 56 C - 47	Range:30-65	I=73% C=89%	1	I>C, ns
Miller et al (1989)(29) USA Q%=54.3	"	"	I - 39 C - 42	Range:36-68 Mean=54	81%	12	I<C, ns
Miller et al (1990)(24) USA Q%=54.3	"	"	I - 29 C - 22	Range:37-68 Mean=55	78%	24	I<C, p<0.05

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Lovibond et al (1986)(22) Australia Q%=54.3	People identified as at high risk of coronary heart disease during workplace screenings.	C - Alternate group and individual, 90 minute, therapist-led sessions weekly for 8 weeks & then fortnightly for 16 weeks + feedback about individual risk factors & current CHD risk status + therapist-set long term goals. I1 - As C + regular objective assessment & feedback of current, ideal & projected CHD risk status + detailed educational program (manual, lectures & videos) + therapist-set, tailored, realistic individual short & long term goals + tailored advice about how to achieve goals + training in self-management techniques targeting multiple risk factors. I2 - As I1, except patients had to set their own goals.	C - 20 I1 - 21 I2 - 19	mean=46	76%	12	I1=I2>C, ns

BP = blood pressure, C = control group, CHD = coronary heart disease, I = intervention group, MI = myocardial infarction.

ϕ Indicates the direction and the strength (p value) of any difference between the experimental groups (ns = no significant difference).

Table 4: The samples, interventions and results of the studies targeting compliance with exercise regimes.

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Fuchs et al (1993)(21) Israel Q%=68.6	Patients requiring medication to control their BP	<p>All patients received an intensive behavioural modification program, including a tailored plan & goal setting based on their history of risk behaviours, their needs and preferences for foods, activity type and timing, etc. Patients were taught how to take their own pulse rate & guided relaxation imagery techniques. The intervention phase was followed by 1-2 monthly follow-up visits to monitor progress & provide feedback.</p> <p>I1 - Intervention delivered by doctors & nurses during 6 weekly 30-40 minute sessions.</p> <p>I2 - Intervention delivered by nutritionist, exercise instructor & psychologist during 6 weekly 1 hour sessions + 1 booster session 3 months later.</p>	I1 - 24 I2 - 28	I1 mean=57 I2 mean=52	I1=58% I2=50%	11 & 24	<p><u>11 month</u> I1<I2, both improved</p> <p><u>24 month</u> I1<I2, both improved</p>

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Daltroy (1985)(38) USA Q%=68.6	Patients with a history of angina, MI or CABGS.	I - One tailored educational session for patient and their spouses + behavioural contracting with patients + written reminder to patients + mailed pamphlet. C - Mailed pamphlet only.	I - 84 C - 90	I mean = 53 C mean=54	I=86% C=91%	3	I>C, p<0.05
Cupples et al (1994)(37) Ireland Q%=60.0	Patients had angina for \geq 6 months.	I - Educational session delivered by health visitor every 4 months. C - No intervention.	I - 342 C - 346	I mean=63 C mean=64	I = 59% C = 59%	24	I>C, p<0.0001

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Murray et al (1988)(15) USA Q%=54.3	People at risk of hypertension at screening (DBP>89mmHg or on BP medication)	<p>I1 - Patients were mailed 1 personalised letter & educational newsletter from the six developed as part of the National High Blood Pressure Education Program.</p> <p>I2 - Patients were mailed all six newsletters from the above program over a 10 week period, each accompanied by a personalised letter.</p> <p>C - No intervention. <i>But they were part of the Minnesota Heart Health Program</i></p>	I1 - 250 I2 - 250 C - 250	Range:25-74 Mean=52	\cong 50%	9 - 30	<p><u>Attended exercise class</u></p> <p>I1=C, ns I2>C, p<0.05</p> <p><u>Did vigorous exercise</u></p> <p>I1>C, ns I2>C, ns</p> <p><u>Exercised 3 times a week</u></p> <p>I1<C, ns I2>C, ns</p>

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Lovibond et al (1986)(22) Australia Q%=54.3	People identified as at high risk of coronary heart disease during workplace screenings.	C - Alternate group and individual, 90 minute, therapist-led sessions weekly for 8 weeks & then fortnightly for 16 weeks + feedback about individual risk factors & current CHD risk status + therapist-set long term goals. I1 - As C + regular objective assessment & feedback of current, ideal & projected CHD risk status + detailed educational program (manual, lectures & videos) + therapist-set, tailored, realistic individual short & long term goals + tailored advice about how to achieve goals + training in self-management techniques targeting multiple risk factors. I2 - As I1, except patients had to set their own goals.	C - 20 I1 - 21 I2 - 19	mean=46	76%	6 & 12	<u>6 months</u> I2>C, p<0.05 I1>C, p<0.05 <u>12 months</u> I2>C, p<0.05 I1>C, p<0.05

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Miller et al (1988)(30) USA Q%=54.3	Patients suffering their 1st MI	I - 1 nurse-delivered, individual, face-to-face intervention at a 1 month follow-up visit: assessed compliance, discussed physical & psychosocial adjustments & developed health plan regarding target behaviours. C - Usual care.	I - 56 C - 47	Range:30-65	I=73% C=89%	1	I>C, ns
Miller et al (1989)(29) USA Q%=51.4	"	"	I - 39 C - 42	Range:36-68 Mean=54	81%	12	I>C, ns
Miller et al (1990)(24) USA Q%=51.4	"	"	I - 29 C - 22	Range:37-68 Mean=55	78%	24	I>C, ns

BP = blood pressure, C = control group, CABGS = coronary artery bypass graft surgery, CHD = coronary heart disease, DBP = diastolic blood pressure, I = intervention group, MI = myocardial infarction.

ϕ Indicates the direction and the strength (p value) of any difference between the experimental groups (ns = no significant difference).

Table 5: The samples, interventions and results of the studies targeting compliance with weight loss regimes.

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Fuchs et al (1993)(21) Israel Q%=71.4	Patients requiring medication to control their BP	All patients received an intensive behavioural modification program, including a tailored plan & goal setting based on their history of risk behaviours, their needs and preferences for foods, activity type and timing, etc. Patients were taught to take their own pulse rate & guided relaxation imagery techniques. The intervention phase was followed by 1-2 monthly follow-up visits to monitor progress & give feedback. I1 - Intervention delivered by doctors & nurses during 6 weekly 30-40 minute sessions. I2 - Intervention delivered by nutritionist, exercise instructor & psychologist during 6 weekly 1 hour sessions + 1 booster session 3 months later.	I1 - 24 I2 - 28	I1 mean=57 I2 mean=52	I1=58% I2=50%	11 & 24	<u>11 months</u> I1>I2, both improved <u>24 months</u> I1<I2, both improved

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Lovibond et al (1986)(22) Australia Q%=65.7	People identified as at high risk of coronary heart disease during workplace screenings.	<p>C - Alternate group and individual, 90 minute, therapist-led sessions weekly for 8 weeks & then fortnightly for 16 weeks + feedback about individual risk factors & current CHD risk status + therapist-set long term goals.</p> <p>I1 - As C + regular objective assessment & feedback of current, ideal & projected CHD risk status + detailed educational program (manual, lectures & videos) + therapist-set, tailored, realistic individual short & long term goals + tailored advice about how to achieve goals + training in self-management techniques targeting multiple risk factors.</p> <p>I2 - As I1, except patients had to set their own goals.</p>	C - 20 I1 - 21 I2 - 19	mean=46	76%	6 & 12	<u>6 months</u> I1>I2>C, p<0.05 <u>12 months</u> I1>I2>C, ns

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Applegate et al (1992)(33) USA Q%=60.0	Patients with mild hypertension (DBP:85-100 mmHg) & overweight (>114% of ideal weight)	I - Dietitian-delivered intervention based on the "Trials of Hypertension Prevention" materials: 8 weekly group sessions & 2 individual sessions in first 10 weeks, followed by 4 monthly groups sessions. Sessions included reviewing patients' food and exercise records, measuring weight & urinary sodium levels & providing feedback & suggestions for further improvement. C - No intervention.	I - 21 C - 26	I mean=65 C mean=64	I=43% C=46%	6	I>C, p<0.001

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Murray et al (1988)(15) USA Q%=54.3	People at risk of hypertension at screening (DBP>89mmHg or on BP medication)	<p>I1 - Patients were mailed 1 personalised letter & educational newsletter from the six developed as part of the National High Blood Pressure Education Program.</p> <p>I2 - Patients were mailed all six newsletters from the above program over a 10 week period, each accompanied by a personalised letter.</p> <p>C - No intervention. <i>But they were part of the Minnesota Heart Health Program</i></p>	<p>I1 - 250</p> <p>I2 - 250</p> <p>C - 250</p>	<p>Range:25-74</p> <p>Mean=52</p>	\cong 50%	9 - 30	<p>I1<C, ns</p> <p>I2<C, ns</p>

BP = blood pressure, C = control group, CHD = coronary heart disease, DBP = diastolic blood pressure, I = intervention group.

ϕ Indicates the direction and the strength (p value) of any difference between the experimental groups (ns = no significant difference).

Table 6: The samples, interventions and results of the studies targeting stress management regimes.

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Miller et al (1988)(30) USA Q%=54.3	Patients suffering their 1st myocardial infarction	I - 1 nurse-delivered, individual, face-to-face intervention at a 1 month follow-up visit: assessed compliance, discussed physical & psychosocial adjustments & developed health plan regarding target behaviours. C - Usual care.	I - 56 C - 47	Range:30-65	I=73% C=89%	1	I>C, ns
Miller et al (1989)(29) USA Q%=51.4	"	"	I - 39 C - 42	Range:36-68 Mean=54	81%	12	I<C, ns
Miller et al (1990)(24) USA Q%=51.4	"	"	I - 29 C - 22	Range:37-68 Mean=55	78%	24	I>C, ns

C = control group, I = intervention group.

ϕ Indicates the direction and the strength (p value) of any difference between the experimental groups (ns = no significant difference).

Table 7: The samples, interventions and results of studies targeting compliance with general lifestyle regimes.

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Hamilton et al (1993)(27) Study B USA Q%=60.0	Patients with primary hypertension (SBP>159 or DBP>90 mmHg)	I - 1 30-40 minute nurse-delivered educational intervention during clinic visit & AHA brochure on hypertension & tailored care plan developed & 12 minute video about hypertension & discussion of general risk factors & 1 follow- up phone call to check progress 1 month later. C - Usual care.	I - 17 C - 13	I mean=57 C mean=52	Not reported	6	<u>Patient self-report</u> I>C, p<0.05 <u>Physician report</u> I>C, p<0.005

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Gans et al (1994)(14) USA Q%=54.3	People with high screening cholesterol (>239 mg/dL) or with borderline cholesterol (200- 239 mg/dL) & 2 other CVD risk factors	C - Brief one-on-one counselling session: dietary & referral recommendations + self-help nutrition kit + results form, including referral recommendations + pocket cholesterol record card. <i>Also in Pawtucket Heart Health Program.</i> I1 - As C + sent 1 personalised reminder letter (including lifestyle goals & referral reminder) + fridge magnet within 4 weeks of their visit. I2 - As C + patient's physician sent letter with patient's results, recommendations made & national cholesterol guidelines + pre-addressed reminder postcard to send the patient. I3 - As C + I1 + I2.	C - 45 I1 - 42 I2 - 39 I3 - 47	C mean=50 I1 mean=54 I2 mean=51 I3 mean=50	C =56% I1=56% I2=55% I3=53%	4 - 12	I1>C, ns I2>C, ns I3>C, ns

AHA = American Heart Association, C = control group, CVD = cardiovascular disease, DBP = diastolic blood pressure, I = intervention group, SBP = systolic blood pressure.

ϕ Indicates the direction and strength (p value) of any difference between the experimental groups (ns = no significant difference).

Table 8: The samples, interventions and results of studies targeting compliance with relaxation practice regimes.

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Fuchs et al (1993)(21) Israel Q%=57.1	Patients requiring medication to control their BP	<p>All patients received an intensive behavioural modification program, including a tailored plan & goal setting based on their history of risk behaviours, their needs and preferences for foods, activity type and timing, etc. Patients were taught how to take their own pulse rate & guided relaxation imagery techniques. The intervention phase was followed by 1-2 monthly follow-up visits to monitor progress & provide feedback.</p> <p>I1 - Intervention delivered by doctors & nurses during 6 weekly 30-40 minute sessions.</p> <p>I2 - Intervention delivered by nutritionist, exercise instructor & psychologist during 6 weekly 1 hour sessions + 1 booster session 3 months later.</p>	I1 - 24 I2 - 28	I1 mean=57 I2 mean=52	I1=58% I2=50%	11 & 24	<u>11 months</u> I1>I2, both improved <u>24 months</u> I1>I2, both improved

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Hoelscher et al (1986)(18) USA Q%=54.3	Adult hypertensives (DBP>89mmHg &/or SBP >139 mmHg)	All patients received a 16 minute training session in progressive muscle relaxation & were told to practice at least once a day for the next 10 weeks. I1 - Patients received 4 weekly, 1 hour individual relaxation training sessions with a therapist. I2 - Patients received 4 weekly, 1 hour group (n=4) relaxation training sessions with a therapist. I3 - As I2 + patients made behavioural contracts with their spouses, with rewards &/or punishments for high or low compliance.	I1 - 11 I2 - 12 I3 - 12	51	52%	2½	I1>I2, ns I1>I3, p<0.05 I2>I3, p<0.05

BP = blood pressure, C = control group, DBP = diastolic blood pressure, I = intervention group, SBP = systolic blood pressure.

ϕ Indicates the direction and strength (p value) of any difference between the experimental groups (ns = no significant difference).

Table 9: The samples, interventions and results of studies targeting compliance with blood pressure screening.

Study Ref, Country & Quality %	Target Group#	Experimental Groups & Brief Intervention Summary#	Subjects			Length of follow-up (months)	Compliance Rates ϕ
			N	Age (years)	% male		
Murray et al (1988)(15) USA Q%=54.3	People at risk of hypertension at screening (DBP>89mmHg or on BP medication)	I1 - Patients were mailed 1 personalised letter & educational newsletter from the six developed as part of the National High Blood Pressure Education Program. I2 - Patients were mailed all six newsletters from the above program over a 10 week period, each accompanied by a personalised letter. C - No intervention. <i>But they were part of the Minnesota Heart Health Program</i>	I1 - 250 I2 - 250 C - 250	Range:25-74 Mean=52	\cong 50%	9 - 30	<u>Had BP checked</u> I1>C, p<0.05 I2>C, ns

BP = blood pressure, C = control group, DBP = diastolic blood pressure, I = intervention group.

ϕ Indicates the direction and strength (p value) of any difference between the experimental groups (ns = no significant difference)

Intervention Strategies	Target Behaviour															
	Dietary Regimes		Smoking Cessation		Exercise Regimes		Weight Loss Regimes		Stress Control Regimes		General Lifestyle Regimes		Relaxation Programs		Blood Pressure Screening	
	Recom-mend?*	N studies p<0.05	Recom-mend?*	N studies p<0.05	Recom-mend?*	N studies p<0.05	Recom-mend?*	N studies p<0.05	Recom-mend?*	N studies p<0.05	Recom-mend?*	N studies p<0.05	Recom-mend?*	N studies p<0.05	Recom-mend?*	N studies p<0.05
Supervised exercise program			X	0/1												
Giving a fitness assessment			X	0/2												
Giving prompting devices	X	0/2									X	0/2				
<u>Partner-focussed</u>																
Spouse participation in regime	✓	2/2														
Educational counselling					✓	1/1										
<u>Physician-focussed</u>																
Sending prompt letters	X	0/2									X	0/2				
Sending written education materials	X	0/2									X	0/2				
Sending prompting devices	X	0/2									X	0/2				
<u>Structural</u>																
Giving nicotine gum			✓	1/1												
Monitoring compliance	X	0/2	X	0/2	✓	2/2	✓✓	3/3					✓	2/2		
Giving feedback about monitored compliance	X	0/2	X	0/2	✓	2/2	✓✓	3/3					✓	2/2		

* ✓✓ = Strongly FOR ✓ = Tentatively FOR X = Tentatively AGAINST ? = Neither FOR or AGAINST

Appendix A: Potentially relevant references with insufficient or incorrect source information

1. Ramirez R. Patient compliance: strategies for improvement. *Pharmacy*, 1992;5:26-30.
2. Sclar DA et al. Effectiveness of health education on the utilisation of HMO services: a prospective trial among patients with hypertension. *Primary Cardiology*, 1992;18:35-40.