

Evaluation of a primary care–based programme designed to increase exercise and improve nutrition in patients at risk

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ABSTRACT

INTRODUCTION: Evidence is limited regarding the effectiveness of brief interventions delivered through primary care to improve healthy living and increase physical activity. The Healthy As programme delivering brief interventions programmes in primary care to promote physical activity, improved nutrition and weight management was developed, implemented and assessed. This study aimed to identify aspects of the programme that worked well, those that presented problems or barriers, along with suggestions for improvement.

METHODS: Three provider organisations in Auckland were contracted to deliver the Healthy As intervention in primary care settings. Semi-structured interviews were conducted with those delivering the risk assessments and providing the intervention from each provider organisation. A thematic analysis approach based on grounded theory was used to analyse the emerging key themes.

FINDINGS: The emerging themes related to the holistic nature of the programme, its structure, resources used with participants, engagement of the providers with the participants, and whether the programme was effective in changing behaviour.

CONCLUSION: Initial engagement of participants was found to be particularly important for the success of the Healthy As programme. For a patient-centred approach, good communication between the patient and health provider is required to facilitate shared decision-making and self-management prior to implementation of an intervention. Patients need to indicate whether they want help to make changes. Advice on healthy eating and exercise should not be given in isolation. Patients may also need help with mental health or other lifestyle issues before they can actively engage in exercise or weight reduction programmes.

KEYWORDS: Exercise; general practice; health behavior; motivational interviewing; nutrition therapy; primary health care

J PRIM HEALTH CARE
2014;6(4):312–318.

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Introduction

It is generally accepted that workplace and primary care settings are pivotal locations for promoting and supporting healthy lifestyles. Brief interventions are strategies used in a short consultation that enable patients to increase their awareness and to consider making changes to improve their health and health behaviours. Brief

interventions incorporate skills such as motivational interviewing, problem solving, decision-making, and goal setting. They are based on the transtheoretical model of behaviour change, which assesses an individual's readiness to act on a new, healthier behaviour, and which provides strategies or processes of change through pre-contemplation to action.¹ This model was initially developed with respect to smoking cessation.²

However, the efficacy of brief interventions in workplace and primary care settings for increasing physical activity, improving eating patterns, and maintaining a healthy weight is uncertain. There is limited evidence on the effectiveness of motivational interviewing and brief interventions in assisting patients to become more physically active and to adopt healthier eating patterns.

A randomised controlled trial (RCT) that allocated participants to either receive brochures emphasising walking within local community environments, or to receive the brochures in addition to three telephone calls, found that the addition of the telephone support did not lead to any increases in physical activity beyond that observed for the brochures alone.³ A 1998 systematic review of eight RCTs promoting physical activity in primary care settings found limited evidence from well-designed trials that these were effective in having lasting clinical benefits.⁴ A systematic review conducted in 2001, assessing the effectiveness of advice given in routine primary care consultations on levels of physical activity, found that the evidence did not support this as an effective means of producing sustained increases in physical activity.⁵ However, a 2002 systematic review evaluating the effectiveness of various approaches to increasing physical activity concluded that there is evidence that individually adapted health behaviour change programmes can be effective in increasing levels of physical activity.⁶

Subsequently, a Health Development Agency review, conducted in 2005, reported that brief advice in a health care setting, supported by written materials, can produce a modest, short-term effect on physical activity, and referral to an exercise specialist can lead to longer-term (>8 months) changes. Workplace interventions using either individual-based or group-based behavioural or cognitive approaches, home-based exercise sessions, and those providing support and follow-up appeared to be equally effective in promoting some changes in physical activity.⁷

In 2006, the National Institute for Health and Clinical Excellence (NICE) concluded that there is sufficient evidence to recommend the use of brief interventions in primary care varying 'from basic advice to more extended, individually fo-

WHAT GAP THIS FILLS

What we already know: Primary care settings are important locations for promoting and supporting healthy lifestyles; however, there is limited evidence for the effectiveness of brief interventions to improve healthy living and increase physical activity delivered through primary care.

What this study adds: A holistic programme, dealing with both mental health and lifestyle risk factors and involving people and their families in their own homes, is valued by patients. Nonetheless, patients need to be ready to make lifestyle changes to effectively engage in a behaviour-modification programme.

cused attempts to identify and change factors that influence patients' activity levels'.⁸

There is less evidence for the use of brief interventions to improve healthy eating. A Cochrane review of the effect of different types and frequency of dietary management in adults with Type 2 diabetes concluded that there are no high quality studies on the effectiveness of dietary advice, although the adoption of regular exercise appeared to be a good way to promote better glycaemic control.⁹ An RCT in primary care targeting unhealthy diet and physical inactivity plus tobacco and alcohol misuse, with clinicians taught to provide brief interventions, found a modest increase in intervention delivery, which had returned to baseline by six months, and the effectiveness of the interventions was not assessed.¹⁰

Current evidence regarding brief interventions for promoting physical activity and dietary change is limited and there is no New Zealand data. To address this knowledge gap, we conducted an RCT to assess the effectiveness of delivering brief interventions programmes in primary care to promote physical activity, improved nutrition and weight management.¹¹ This study recruited a total of 313 general practice patients from 12 general practices enrolled in the national cardiovascular disease (CVD) screening programme. Inclusion criteria were: adults aged 35–65 years with a five-year CVD risk of at least 7%, and/or a body mass index (BMI) of at least 33 kg/m² for participants younger than 50 years.

Patients were recruited through general practices. General practitioners (GPs) and practice nurses,

supported by their provider organisation, assisted with recruitment through an audit of patient databases and an invitation to relevant patients to attend a free (no co-payments required) health risk assessment.

Recruited patients were randomly assigned either to usual general practice care or to an additional intervention named Healthy As, based on a Whānau Ora approach, of up to five home-based sessions with a trained health promoter to improve their physical activity and dietary patterns. Healthy As toolkits were issued to three participating provider organisations, with those delivering the programme receiving an in-depth training session focusing on motivational interviewing techniques for nutritional and physical activity promotion and all aspects of programme delivery. Trainers included a physical activity specialist and a dietitian, with input from health promoters who had expertise in delivering health care in the home to the family unit.

The health promoters were supplied with a number of resources, including an in-depth manual on programme delivery, physical activity and nutrition guides, fridge magnets with a range of healthy exercise and eating reminder messages, laminated guides to assist meal planning and serving sizes, parks and recreational spaces brochures, a DVD on healthy food shopping, and pedometers.

A total of 154 patients, recruited via the three provider organisations, were randomised to the Healthy As intervention. The number of home visits per participant varied substantially from none (38 participants) through to the maximum of five (39 participants). The findings of the RCT are published elsewhere.¹¹ In summary, the intervention group showed a modest but significant reduction in BMI, fast-food consumption and five-year CVD risk at four months.

Feedback was sought from the health promoters who delivered the intervention. The aim of this evaluation was to identify aspects of the Healthy As programme that these providers considered worked well, those that presented problems or barriers, plus their suggestions for improvement to the programme.

Methods

Participants and setting

Three Auckland provider organisations (designated A, B and C) delivered the Healthy As intervention. Patients cared for by organisation C were predominantly of Pacific ethnicity and were most likely to receive no, or only one or two home visits. All three organisations provided personnel who were trained to deliver the Healthy As programme to eligible participants recruited within their associated districts. Staff members for each organisation were trained by members of the research team, and were provided with a manual and resources to support the programme. There were three trained providers in one organisation (A) and two in each of the other two (B and C). However, by the end of the study, only one of the three providers in organisation A was delivering the intervention and, hence, available for interview. The two trained providers in organisation B were interviewed separately, whereas the two in organisation C, a Pacific organisation, were interviewed together, at their request.

Design

Semi-structured interviews were conducted with those delivering the risk assessments and providing the intervention from each provider organisation. The interview schedule was informed by a literature review conducted in 2010. The staff members invited to participate in the evaluation were those who had conducted a significant number of the Healthy As programmes and had been involved throughout the programme timeframe.

Analysis

Consent was obtained for audiotaping and independent transcribing of the interviews. Data were pooled for each organisation, with individual participants in the focus groups not identified for reasons of anonymity. A thematic analysis approach based on grounded theory was used to analyse the emerging key themes. Data were collated into table form and themes were independently coded by two researchers, with adjudication until consensus was reached.

Ethics approval was obtained from the Northern X Regional Ethics Committee (Ref. NTX/10/03/014).

Findings

There were five overarching themes that emerged about the Healthy As programme:

1. the importance of it being holistic;
2. its structure;
3. engagement of the providers with the participants;
4. resources used with participants; and
5. whether it was effective in changing behaviour.

Holistic nature of the programme

A major theme was the holistic nature of the programme, involving the whole family in their own environment, being individually tailored to the person's needs and incorporating emotional health and other lifestyle issues, as well as diet and exercise.

You can get the whole family... the children all on board. (Organisation B)

I was connecting with people in their own environment. So you could sense their surroundings, how they lived, who was in the house, how they interacted. (Organisation B)

You must meet the wife and kids or dog... and you're in their home. (Organisation A)

[It's a] great way of implementing healthy lifestyles. However, before that you have to get their behaviour and psychosocial factors sorted. (Organisation C)

He... goes out for walks amongst the trees and has quiet time with God. So instead of calling it a walk, it's his quiet time with God. (Organisation A)

You need to find out what was highly valued, the values in their life. It's only at that stage where they link the changes to be effective. (Organisation A)

Programme structure

A second theme to emerge related to the structure of the programme—its flexibility, the ability to connect with people over time, and the connection, consistency and support that this approach afforded, as well as the fact that it was provided for free.

We had guidelines for the physical and nutritional requirements. But there was lots of latitude. (Organisation A)

Accountability and the support was one of the main factors for the success. (Organisation B)

The affordable part of it was really quite important. (Organisation B)

However, there were also comments that the programme could be tailored to be more applicable to specific cultures.

Our audience we target is Pacific. ...We need to include Pacific things in there because this programme is more of a Palagi [European] way. (Organisation C)

[I wonder whether it] would it have been better if we had a Māori or Pacific worker of the same race. (Organisation B)

Whether or not five sessions was considered appropriate differed significantly between provider organisations. For organisation A, five sessions was considered 'just right'.

The five visits gave you time to see where they were coming from... definitely a consistent connection. (Organisation A)

About the fourth visit kick starts [it] all. Visit five was a revise type scenario, giving some watching steps to take but you start seeing a shift and then they'll go 'bang' [understand]. (Organisation A)

However, organisation C providers thought that five sessions was too many.

You know old people, they don't like long things... Maybe a couple of visits/sessions will be enough. (Organisation C)

One provider in this organisation suggested having one or two sessions run with a group of participants.

I would like to see this programme run in a group instead of one to one... because I think if we have so many clients and we bring them together... and then we could maybe just run it for a seminar time or a workshop type of thing. (Organisation C)

Engaging participants in the programme

Engagement with participants in the programme was also an important issue discussed, including communication, motivation and support.

Not everybody is open to the programme... but if they're open we're able to get out there and sit down and find out about their lifestyle and how we can help them change. (Organisation C)

[We] need different forms of ways to support. It's a way of balancing what they've got going on in life. (Organisation A)

If you know their values, encouragement [can be] utilised differently to address situations. (Organisation A)

I was casual and I wasn't there to judge... and I think that was one of the most important things. (Organisation B)

Some providers had difficulty with scheduling appointments, which took considerable time, and sometimes people did not want to engage.

[What didn't go well was] appointments, chasing the meeting, messages.... huge amounts as there were no email addresses... home phones that didn't have an answer machine, mobile calling, text messages. (Organisation A)

Each time we call to make an appointment they would say 'I will ring you back'... and then you waited and waited. Then you call them back and they say 'oh you know, because my child was sick... and so can you ring me.' And then it drags on and that sort of gives me a signal that they didn't want me to be there again. (Organisation C)

This appeared to be provider organisation specific, as organisation B reported no particular difficulties with arranging appointments.

Obviously there was time [involved], but people were really busy in the weekend or really late at night and that issue was resolved as we passed them onto another provider. (Organisation B)

Programme resources

A further theme related to resources provided to participants. The pictorial components of the programme were especially valued, as were the pedometers requested by organisation A. Some of the written material was not always considered culturally appropriate.

The DVD was good. Strongly agree with the visuals. (Organisation A)

The cards really helped because of the colours and the pictures. (Organisation C)

I asked for pedometers. That was cool because they need to see actual/visuals that they think they're walking. (Organisation A)

[The resources were] a bit wordy. It's ok [when] we're talking but when we leave it with them, especially with the Pacific Island families/clients that we're targeting and if they don't speak the language, or maybe they speak a little bit of English but they can't read; how do they get that message to them? (Organisation C)

The programme resources were also augmented by the providers' own resources. What you've given us wasn't sufficient. (Organisation A)

I supplemented this with relaxation. I had all those other resources. I had a folder that had a huge amounts of resources in which I found really relevant. (Organisation B)

I had a lot of recipes [that were] really low in fat and low in sugar. (Organisation B)

We had some cook books and things like that and they had some healthy food items to show them: Look over here! How many things can you find over

here? It's a lot healthier than this pile... and then they identify it. (Organisation C)

Effectiveness of the programme

The final theme to emerge was the need of providers to see that what they were doing was making a positive difference to the participants. They appreciated seeing them make changes and getting feedback.

Yes I get little 'feedbacks'. For example, [participant] emailed through blood results, specifically the ones where there was a drop. (Organisation A)

The change was that they were increasing what they were doing—physical activity. (Organisation A)

You're looking at small changes over time. (Organisation B)

I went the other day. I saw a blue-top milk on the table and... when I went for the third visit I saw a light blue [lower-fat milk]. Then I thought, 'oh yes, they've made that change.' (Organisation C)

They have their life. They allowed us to go and shift it [help them make changes] so by the time it came to the fourth or fifth visit, that's when you saw change. (Organisation A)

Feedback from the researchers was also wanted, to know whether the programme had been effective.

I was the one that went out there and spoke to those people and it would have been nice if there was feedback. You know, if this person came in and had this check, to know if that [was of] benefit to them like... if there was a feedback to [those of] us that went and saw these people. Did it make any change for them through this programme? (Organisation C)

Discussion

All three provider organisations identified that the holistic nature of the Healthy As programme, dealing with both the mental health and lifestyle risk factors of people and involving people and

their families in their own homes, was a very positive aspect. For two of the organisations, the flexibility of the programme and the fact that it provided consistency, continuity, and support for the participants over time was viewed as valuable. However, the Pacific organisation (C) thought that the programme could be better tailored to meet specific cultural needs, and that five sessions was too long. Maintaining engagement was seen as a major issue for all. Two of the organisations identified making appointments as a barrier, and organisation C had problems with people who did not want to engage in the programme to address changes in their health behaviours.

Programme providers in this study also identified that it is important for advice on healthy eating and exercise not to be given in isolation. Before people can actively engage in exercise or weight reduction programmes, they may need help with mental health or other lifestyle issues.

The resources provided by the programme were valued by the organisations. Of note, the organisation catering for Pacific people preferred the pictorial rather than the written material. All organisations augmented the programme with their own resources.

Providers needed to see that what they were doing was making a positive difference to the participants, with participants making changes to their behaviour and giving them feedback. Providers were also keen to know whether the research had demonstrated that the programme was effective.

Strengths and limitations

A strength of this evaluation is the data it has provided to inform future brief interventions to address physical inactivity and nutritional deficiencies in at-risk patients. A limitation is that,

because it pertained to programme delivery in three specific organisations, the findings cannot be generalised nationally.

Final comments

A key finding of this study was the importance of engaging participants. Although participants had responded to the initial invitation for a free screening consultation, these participants may not have indicated their readiness to make changes.¹² For a patient-centred approach, good communication between the patient and the GP or nurse is required to facilitate shared decision-making and self-management prior to implementation of an intervention. Patients need to indicate whether they want help to make changes.¹³

Programme providers in this study also identified that it is important for advice on healthy eating and exercise not to be given in isolation. Before people can actively engage in exercise or weight reduction programmes, they may need help with mental health or other lifestyle issues. There is an interrelationship between unhealthy behaviours, mental health issues and long-term conditions.¹⁴ People with several chronic diseases are more likely to suffer from depression or anxiety,¹⁵ and these relationships may be two-way.¹⁶ If individuals are able to prioritise the lifestyle changes they wish to make, they are also more likely to engage. For example, patients with problem gambling are more likely than others to also have issues with depression, smoking, excessive drinking and physical inactivity, and may need to address the gambling before they can consider making other changes.¹⁷

The Healthy As programme was a complex intervention involving patients and families in their home settings, with health promoters trained in motivational interviewing and armed with a number of useful resources. Engaging people to make significant changes in their eating and physical activity, however, proved challenging, suggesting that a more holistic approach may be required to facilitate behaviour changes leading to improved health and wellbeing.

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ACKNOWLEDGEMENTS

The authors would like to thank participating practices, patients and their families. Particular thanks to the practice nurses who recruited and followed up the participants and the health promoters who delivered the intervention.

FUNDING

This study was supported by a project grant from the Ministry of Health and the Health Research Council of New Zealand (JV209-PPCR007).

COMPETING INTERESTS

None declared.