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Evaluation of participants' experiences with a non-restrictive minimally-structured lifestyle intervention

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Abstract

While there is increasing evidence that group-based lifestyle-focussed interventions may provide more realistic, effective and cost-effective alternatives to intensive, individualised dietary counselling and exercise training, relatively little is known about individuals' preferences for and perceptions of these programs. This paper reports the results of qualitative interviews conducted with participants of a lifestyle intervention trial (*Shape up for Life*© (SufL) aimed to improve body composition and metabolic health through long-term non-restrictive behaviour modification. Purposive sampling was used to identify 22 participants who participated in detailed interviews regarding their expectations of the intervention, perceptions of benefits and their experience post-intervention and capacity to maintain the lifestyle changes. The results indicate that in general participants are focussed on weight loss as a goal, even when the intervention offered and provided other benefits such as improved fitness and body shape and composition. The individuals who benefited most from the intervention typically had lower baseline knowledge about dietary and exercise guidelines. While the relatively non-restrictive nature of SufL provided flexibility for participants, many participants perceived that a more structured program may have assisted in achieving weight loss goals.

Keywords: Obesity, lifestyle intervention, weight loss, metabolic syndrome

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Introduction

There is increasing focus on identifying methods for sustainable management of weight and metabolic risk factors. Recent studies suggest that group-based lifestyle-focussed interventions may provide realistic, effective and cost-effective alternatives to intensive, individualised dietary counselling and exercise training [1-7]. However, relatively little is known about participants' experience of and preferences for such interventions.

The lifestyle intervention trial (*Shape up for Life*© (SufL) aimed to improve body composition and metabolic health through long-term non-restrictive behaviour modification [8]. This paper reports the results of a qualitative study conducted as an adjunct to SuFL. The non-restrictive nature of the SufL intervention is relatively novel and little is known about how participants experience an environment in which weight loss per se is not a primary goal. Our objective in interviewing SufL participants was to examine their experiences of and preferences for such a program.

The *Shape up for Life*© intervention (SufL)

Participants in the intervention were 153 adults living in a regional community in South Australia, recruited through advertisements and assessed as meeting international criteria for metabolic syndrome (MetS) [9]. Eligible volunteers were randomised to a control or one of two intervention groups. All participants were offered customary lifestyle recommendations at baseline through the provision of written national guidelines for healthy eating and physical activity recommendations [10].

The intervention consisted of a structured 16-week program of lifestyle management and physical activity sessions, with participants given free choice over their dietary and physical activity behaviour. The program included educational and practical sessions and

was partly modelled on the Stanford model of Chronic Disease Self-Management (CDSM) [11]. The focus of the sessions was on managing food choices and engagement in physical activity.

Dietary messages emphasised the need to improve the quality and variety of dietary intake and included sessions on balancing energy intake with expenditure, glycemic index, reducing intake of salt and saturated fat and increasing food variety from recommended food groups. Practical sessions included food-label reading, shopping for healthy food, recipe ideas, and better 'takeaway' and eating-out options. In general, participants were encouraged to eat to their energy needs without intentional calorie reduction. Participants were also offered free samples of healthy foods (wholegrain bread, high fibre cereal, tinned plain and flavoured tuna and unsalted peanuts) with no obligation to consume these products.

The primary message for participants in relation to physical activity was to increase their level of physical activity by any appropriate means [10]. Participants had access to a well-equipped gym, and were encouraged to attend a 1-hour exercise class once a week (made available at a range of times) which incorporated exercises that could be employed at home. Following the 16 week program, one intervention group attended bimonthly group support sessions for a further eight months. Participants' health status was assessed at baseline, 16 weeks and 12 months.

Method

Preferences were elicited in a stated preference survey which is reported elsewhere [12], and through structured interviews with a sub-sample of participants. 27 participants were identified through purposive sampling, to cover a range of ages, single and family

households, and outcomes. Five could not be contacted or did not return calls, providing a final sample of 22.

Interviews of approximately 45 minutes were conducted by a researcher not involved in the SufL program to ensure participants could discuss their experiences confidentially. Participants were first asked to discuss their current program preferences and whether these had changed over the 12 months. Next, they were asked to recall their decision to volunteer for the intervention and to describe their experiences during the program. The final stage of the interview focussed on the period following the initial 16 week intervention when participants had no/reduced support.

Interviews were transcribed, and then reviewed and analysed by three of the authors based on five themes: attribute preferences and their importance to, and consistency with, actual behaviour; motivations for joining the program; expectations and outcomes and each participant's response to these; barriers and facilitators for maintenance of lifestyle change; and major factors that influenced lifestyle-related behaviour. Each interview was analysed by at least two authors and five by all three to ensure general agreement in the interpretation of participants' responses.

Results

Tables 1 and 2 summarise interviewees' demographic characteristics and attendance behaviour and key interventions outcomes. Results for the full intervention sample are included for comparison, but are reported elsewhere [8]. Interviewees had a slightly higher attendance rate at exercise and group sessions.

Table 1: Interviewee and intervention selected demographics and attendance over initial 16 weeks

	Sample (n)	Shift work (n)	Married/ couple (n)	Children <12 yrs (n)	HH income <$40 K (n)	Average age	Exercise attend%	Info attend%
Female	17	3	12	14	7	44.8	66.1	81.4
Male	5	4	4	2	0	43.8	64.1	76.3
All	22	7	16	16	7	44.6	65.6	80.2
Stdev						*8.2*	*20.7*	*14.6*
Intervention	103	26	76	63	34	45.9	59.6	76.9
Stdev						*10.30*	*25.4*	*22.6*

Table 2: Changes in key physical characteristics (interview sample (*n=22*) and intervention[a])

	Baseline to 16 weeks					Baseline to 12 months				
	BMI *kg/m²*	BFat%	LDL *mmol/L*	Gluc *mmol/L*	PWC75 watts/kg	BMI *kg/m²*	BFat%	LDL *mmol/L*	Gluc *mmol/L*	PWC75 watts/kg
Female	-1.12	-1.62	-0.18	-0.14	0.19	-0.34	0.08	-0.41	0.03	0.18
Male	-0.66	-0.64	-0.14	-1.09	0.15	-0.78	-0.06	-0.11	-0.56	0.06
All	-1.02	-1.40	-0.17	-0.36	0.18	-0.44	0.05	-0.34	-0.11	0.14
Stdev	*1.06*	*1.42*	*0.68*	*0.78*	*0.18*	*1.61*	*1.81*	*0.61*	*0.50*	*0.13*
Intervention	-0.95	-1.30	-0.32	-0.24	0.16	-0.69	-0.65	-0.43	-0.27	0.20
Stdev	*0.13*	*0.20*	*0.07*	*0.08*	*0.02*	*0.21*	*0.26*	*0.07*	*0.07*	*0.02*

Expectations and outcomes and their consequences

Participants' expectations on entering SufL were heavily skewed towards losing weight despite the program's advertised focus on lifestyle change concentrating on healthy body shape and metabolic health. For most, the emphasis on weight loss continued throughout the study and a lack of, or less than expected weight loss was a source of considerable disappointment for some participants, even if they felt fitter and had improved their body shape and metabolic health.

C: I was disappointed.. that I didn't lose weight, I thought I was doing all the right things and you know, I was feeling much better so my cardiovascular is probably fine. Um, yeah it's alright to say that I've lost inner weight but to me, I couldn't see it, you know. I

would have liked to have lost some weight, so obviously I was not doing something right.

H:…and I still have trouble with [lack of weight loss], like, shaping is great but I can't understand why the weight doesn't come off with the shaping if that makes sense. I know it's to do with lean muscle and all that but I think that's what frustrated me the most after our 16 weeks and .. I'd only lost 5 kilos and that really frustrated me .. I'd gone down heaps in size, but my weight hadn't really budged all that much and then I became very frustrated. … because after 4 months you are still in the mindset of 40 years of weight loss, not shape.

The observation made by H on "mindset" highlights the difficulty faced by program providers in redirecting participants' expectations about achievement to encompass a range of healthy outcomes. Both participants had achieved a positive outcome and yet were left with a feeling of failure; a sentiment that is prevalent in other studies [13-14]. Among the interviewees half of the12 re-gainers and three of the 10 maintainers had unmet weight/bodyfat loss expectations. For maintainers a particular frustration was slow or no weight loss after initial success.

B1: [after the intervention] I got a bit deflated … cause I put on 3 kilos and I was doing the same exercises and the same eating… I couldn't work out how that was possible so I stopped weighing myself and started eating more (laughs)….Once they checked my body, they said that my body fat had actually gone down and what I was putting on was muscle, I felt like an idiot cause I , I didn't realise that, I, I just I got depressed and I didn't bother because it was too hard

Individuals attempting to lose weight experience weight plateaus during the course of their weight reduction for a variety of reasons. While awareness of the potential reasons

for failure to lose weight may have made no difference to B1's outcome, placing greater stress on body composition and other health indicators, and access to these measures, may assist some individuals to achieve and maintain improved physical and cardio-metabolic fitness. For some, the latter outcomes may be more readily achievable [15].

Direct benefits from participation in the program

While all interviewees indicated they had benefited from the intervention, the primary beneficiaries were individuals who initially had poor knowledge of healthy eating, physical activity and fitness. The knowledge they gained during the information sessions was clearly important in moving them towards a healthier lifestyle.

> *B: food was the hardest [thing to change] because I suppose when you look at it in reality I've been eating just rubbish with so many calories and full of fat. I wouldn't have thought of it. So I think coming here and doing the group sessions and getting to know what sort of foods carry what. I think that's what has improved in me I think.*

The intervention also linked participants with people who were in similar situations.

> *B: If I had someone around me that would do the same thing as I'm doing* [would be supportive] *I think more than anything, I mean I've got friends and everything and most of them are quite large people too.. Um, some of them don't care what they eat, whereas I'm a bit different. I want to know what I'm eating and what I'm not eating.*

Indirect benefits (ripple effect)

There was evidence that families benefited from the intervention in the form of weight loss and improved nutrition as a result of a member's participation. Similar results have

been reported by Gorin et al [16]. In their role as primary food provider women instituted nutritional changes for the whole family for reasons of efficiency as much as for health:

R: Because we've changed the whole family not just me pretty much, because it's just too hard to do, I'm not doing 10 meals a day (laughs) absolutely not.

T: Well my wife actually heard about it and we all tried to get in [but only he did]…[my family] actually got involved from what I was doing and actually my wife looks great and I look like a (laughs). So she's dancing and I didn't, I mean she just started doing everything.

This intervention was targeted at participants only; the influence on the family was incidental to the study and mostly diet related. While the flow-on effects from increased knowledge and changes in nutrition are potentially substantial, recent research suggests that the active involvement of family can have a negative effect on outcomes, particularly in relation to increased physical activity [16].

Maintenance of lifestyle changes and its obstacles

The interviews revealed similar factors contributing to relapse following interventions to improve lifestyle and metabolic health as have been reported in previous research [17-18]. Individuals who maintained some weight loss over the 12 month period were more likely to have "buddied" with another participant, to have expressed an interest in achieving long term weight management, to have built exercise into their routine and to enjoy exercise. Those who were unsuccessful were more likely to have been looking for a quick fix, to have had unrealistic expectations of weight loss and to actively dislike exercising.

For some participants, failure to maintain an initial improvement in cardio-metabolic health indicators and weight loss was a consequence of undue euphoria at initial success and/or adopting other lifestyle-related goals such as quitting smoking. In the quotes below both participants chose to give up smoking around the 16-week period. D2 subsequently failed on both counts but V was not smoking at 12 months.

D2: whereas I could have kept munching out on the carrots and stuff like that, I was taking chips….. I thought I'm 100 kilo, I'm not going to gain any weight .. that's pretty much why I gave up smoking because well ok I've overcome one hurdle, I'll try and take the second hurdle and the hurdles were too close and I tripped up on the first and just went oh stuff the second [smoking].

V: … I've stopped smoking and the big impetus was that I'd committed to the group that I would really cut down and I stopped …. at one stage I was feeling down on myself because I hadn't managed to keep the weight off,.. but in the end I gave myself permission to do that because I stopped smoking … and I think doing this program has helped me to do that otherwise I'm very tough on myself and [project leader] has always been really good on you can only do a certain change and do small steps instead of trying to do big things.

There were also clear external impediments to maintenance of lifestyle changes as a result of disruptions to routine. Shift work often posed a challenge for maintaining an exercise routine.

B1: I can come to the gym after night shift no problems at all but , I'll be here at 7.30am I'll be home in bed by 9am but when I work dayshift 12 hours shifts I'm out of bed at 5.20am and I don't get home until 7.30pm and I just don't feel like doing anything else,

by the time I've had tea and talk to the wife and kids it's I'm back into bed at a quarter to ten so my day is taken up.

Another source of impediment was disruption due to family upheavals or illness:

J: I was really sick with the flu, the doctor said I had pneumonia so that kind of knocked a lot of it on the … back to what I normally eat. Still skim milk and the [low cholesterol]butter and that all stayed but um, it was like you know I can't be bothered cooking so it was take away and yeah so all those old habits came flooding back, for quite awhile.

It is possible that illness may have been given as an excuse for relapsing, but this does not diminish it as a source of disruption to routine and loss of exercise initiative. Illnesses, injuries and pregnancies were common reasons given for participants' accruing weight in the past.

Preferences for lifestyle program attributes

At baseline most participants' preferences were for high levels of support, supervised exercise, and targeted diets (except calorie counting) which essentially reflected their expectations of the program. At 16 weeks there was a shift in favour of the intervention diet, although more structured forms were still popular. There was a clear move away from supervised to self-directed exercise and group exercise was the least preferred. Preference for high levels of support also declined but re-emerged as a preference at 12 months for many participants. B1 was typical of that pattern:

B1: The only two commonalities were the maximum exercise and the regular checks. I don't trust myself 4-6 months. I've proven that cause, while we were going through with

the group studying and coming and meeting every week I actually lost about 6 kilos but as soon as the group disbanded and I was left to run myself and even though I, I stuck to my eating plan um, my exercise dwindled a bit..

Jeffery and Levy [19] argue that the benefits to individuals of positive social reinforcement and monitoring by health professionals decline over time; there was evidence of this among SufL participants. The re-emergence of preferences for support at 12 months suggests that intervention fatigue may be alleviated by incorporating breaks in long term programs. However, the interviews revealed that participants differed in the frequency and form of support they preferred which may explain why program repetition has been unsuccessful [20]. Less confident participants and those with little environmental support missed the group sessions in which they could discuss their problems and maintain close contact with staff:

For other participants the support needed was in the form of a commitment to a goal or obligation and the ability to review progress and behaviour. Such individuals are self confident but aware of the need for external support.

A: and yes again there is a fortnightly or one monthly check up [rather than 6 months] which although I am doing it on my own there is still that commitment there to you know to be ..be good.. and …. like when you get yourself into a mindset and you keep doing what you were doing and then it might take somebody else to say you know you may try this or have you tried this or consider this. Yes I do like that support.

Diet preferences

While the dietary approach advocated by the intervention was popular and seen by most as easy to adopt, daily serves and weekly meal plans were still prominent in dietary preferences because they were perceived as easy to follow and provided a goal to work

towards. This is in contrast to the intervention's dietary advice which was for participants to adopt a healthy sustainable dietary change as an end in itself.

J2: No target and no menu, well that's just defeating the purpose I think. No target and no menus but smaller doses in quantity and type of foods eaten each day…. (hesitates) Maybe to me, it's like there is no goal there….

D1: [what I would like is] they sit you down and set you a menu. Ok this is how many calories you'll have this month or this week or this day. Try and stick to it. And they give you all the [food] that we've been given and you start into it as well. I reckon that would probably work better

Cost was not a significant factor in choosing a program at baseline but did become important for some participants at the end of the program. This can be attributed, in part, to the loss of the free food samples that had been provided to acquaint participants with options for healthy eating.

B2: the cost gets so much greater with the better quality like if you want to buy yogurt for instance, you buy the better quality yogurt, you can get a little tub that cost's you $5 or I can buy a kilo that costs me $3.40 so there's a big cost there you know a couple of dollars and you only get half the amount… it's just out of the budget; it's totally out of the budget.

Physical activity

Cost was also an issue in relation to organised exercise for lower income participants but more prominent in the interviews was a reluctance to join a commercial gym because of

self-consciousness (mostly women). Several participants expressed an active dislike of exercise and chose programs in the scenarios based on the minimal exercise possible. Consistent with other studies, participants, particularly younger families with a working mother and/or where one or both parents were shift workers, perceived themselves as time poor and unable to exercise [21]. With few exceptions, participants saw exercise as something you take time out to do formally. Incidental physical activity, while encouraged during the program, was rarely mentioned in interviews. Exercising with friends was also seen as a problem for some because it was often unreliable. Buddying was seen as a better solution because there was a shared experience and this was important (F).

B2: You know what the exercise thing is with me? To have time because I go to work. I work shift work so I go to work,… and I finish at 3 well my kids get out at 3.10 so I'm home here at 3.10 and I start homework, ….

F: and I didn't know X at all before we came here ... But we are both as determined as each other I would say... I don't think either of us would have come as often if we hadn't buddied up.

Discussion

The focus on weight loss and its impact on efforts to improve lifestyle is an increasing feature in the literature [22,15]. This intervention emphasised the importance of body composition and metabolic health as opposed to weight loss; while some participants did incorporate this into their thinking, a more systematic study of factors which influence such attitudes is needed. One element to be considered is that weight is the most readily available and understood measure for individuals and may explain their tendency to use it as an indicator of progress.

SufL was designed for the management of obesity and metabolic syndrome, allowing free choice of diet and exercise. However, many participants were goal-focused and seeking more structure and more substantial outcomes. For these individuals SufL might be more effective as a post-weight loss program designed to assist in the adjustment to a lifestyle that will sustain weight loss and direct their focus to a broader set of health indicators. Previous research has shown that while individuals are more likely to persevere with a less restrictive regime of lifestyle change, more restrictive regimes are needed to achieve rapid and significant weight loss [14].

Programs like SufL provide access to valuable information for lower socio-economic groups and there may be significant spillover effects for other family members, particularly children. However, it is not possible to quantify either the extent to which this occurred, or whether the flexibility of the program increased the likelihood that the effects will be long term. Previous research indicates that spillover effects can be significant and some measure of this in all interventions of this type would assist in calculating the full cost-benefits of such programs and their comparison [16].

Consistent with Jeffery and Levy, participants in SufL experienced fatigue with attending group sessions [19]. However, there was a renewed interest in support at 12 months albeit with specific preferences for its format. In previous research participants have been allocated to a support format [23-24]. This research suggests that self-selected support formats may be beneficial *following* a structured program.

SufL aimed to provide participants with a range of options for changing lifestyle through advice and practical demonstrations, provision of healthy foods and a gym and exercise classes. Although participants perceived cost as a barrier to exercise, relatively few regularly used the free gym following the 16 week intervention [8]. Others bought gym equipment for home or walked and cycled but for most, exercise had lapsed by the 12

month point. The provision of food samples introduced some participants to new foods. Affordability is particularly relevant for rural communities and requires further research [25].

SufL was conducted as a University research project; while this increased its perceived credibility it also heightened expectations of outcomes. The program may need to be replicated in a different setting away from the possible effects associated with participants' perceptions of being involved in research [21,26].

This study is based on a modest sample from a relatively small intervention in a rural setting. Thus some observations may not be representative of the population in general. The sample also comprised those who returned for assessments at 12 months with one exception who had withdrawn at 4 months. The findings are consistent with earlier studies and anecdotal evidence from staff suggests that the issues encountered by the interviewees are consistent with those for other participants in the study; including those who withdrew early.

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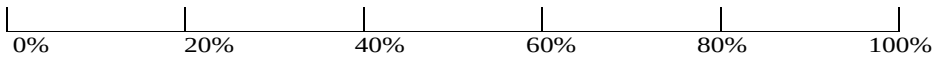
Appendix: Example of a hypothetical program

D3

	Plan A	Plan B	Plan C
Amount of exercise	30 minutes each day. 5-6 days per week.	No daily commitment but 3 hours over a week.	45 minutes each day. 5-6 days per week.
Where you exercise	You commit to a group exercise program at a club/gym/community centre.	You commit to a structured program designed for you to do on your own	You arrange to exercise with a friend(s) or attend group classes but no specific program
Diet plan	No targets or fixed menus but small adjustments in quantity and type of food eaten each day.	Weekly diet plan with a range of meal options that you can choose from.	Daily target of calories or energy and carbohydrates. Specific menu for each day.
Monitoring	Fortnightly or 1 month checks.	4-6 month checks.	Fortnightly or 1 month checks.
Estimated cost	No extra cost	No extra cost	$15 per week
Likely outcome	Steady weight loss each week of about 1/4 kg. Body Shape improved (eg. down 1 clothes size in first 4 months)	Steady weight loss each week of about 1/2 kg. Body Shape improved (eg. down 1 clothes size in first 4 months)	Steady weight loss each week of about 1/4 kg. No obvious change in body shape for the first 4 months but increased fitness and wellbeing.

Q1: Which of the three (3) Plans do you: MOST LIKE Plan ___

Q2: Which do you: LEAST LIKE Plan ___

Q3: You are looking for an exercise and diet plan that you could maintain for ONE (1) YEAR? Is the plan you MOST prefer one that you could maintain for this time? (If NO circle 0%. Otherwise circle how confident you are that you can maintain the plan)