Preferred models of cardiac rehabilitation in rural South Australia from a health consumer's perspective

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KEY WORDS

Cardiovascular disease, cardiac rehabilitation, secondary prevention, preferred models, rural, health consumer perspective

ABSTRACT

Objective
To investigate preferred models of cardiac rehabilitation (CR) in rural South Australia from a health consumer's perspective.

Design
Cross-sectional, descriptive pilot study.

Setting
Rural community setting.

Subjects
Convenience sample of 40 (17 male) health consumers from the Riverland.

Main outcome measure
Self-reported preferred models of CR.

Results
A previous heart condition was reported by 57.5% of participants and 7.5% had previously been referred to CR. More than half (52%) considered their condition 'not serious at all' or 'slightly serious' despite reporting a significant cardiac history. Transport, convenience, and flexible programs were raised as major considerations for planning future services. Most participants (69%) listed their local hospital as a preferred program location, with 55% stating they would not use an internet-based program. Overall a group program was preferred to an individual program (46% vs. 36%), with a higher proportion of men preferring an individual program.

Conclusions
The main aim of cardiac rehabilitation is to maximise health and quality of life. However it is vital to consider other characteristics of CR, such as convenience, accessibility, flexibility, and personal beliefs and preferences. Health consumer preferences are therefore an important consideration when designing future programs, to ensure interventions are individualised, and designed to increase access and attendance while minimising barriers. This pilot study provides valuable insight into health consumer preferences for health care professionals and decision makers involved in planning further needs analysis and future cardiac rehabilitation services for rural South Australia. Further research is needed to ensure findings are both rigorous and valid and to ensure the development and implementation of future programs is based on the best available evidence.

INTRODUCTION

Comprehensive cardiac rehabilitation (CR) and ongoing secondary prevention significantly improves health outcomes and quality of life, but is utilised by only a fraction of eligible cardiac patients (National Health Priority Action Council 2006; Clark et al 2004). Research suggests that around 30% of eligible patients participate in structured CR programs in Australia (Sundararajan et al 2004; Farley et al 2003, Scott et al 2003) and internationally (Leon et al 2005; Paquet et al 2005; Daly et al 2002). Rural and remote populations in Australia have a significantly higher incidence of cardiac mortality and morbidity than those in metropolitan areas (Australian Institute of Health and Welfare 2006; Access Economics Pty Ltd 2005). Yet they have poorer access to structured CR programs, despite secondary prevention potentially being most beneficial in these settings where usual care may be less than optimal (Clark et al 2005).

Many rural and remote regions rely on unstructured CR services, which can provide some of the recommended elements of secondary prevention. However, there is wide variability in the implementation and evaluation of these services and large care deficits exist that can negatively impact patient outcomes in vulnerable rural populations (Wachtel et al 2008a, Wachtel et al 2008b; National Health Priority Action Council 2006). Consideration must therefore be given to the introduction and evaluation of a more structured and systematic approach to CR in all rural and remote regions of Australia.

The availability of a program however, does not automatically guarantee patient participation and subsequent health benefits. Despite strong evidence for the benefits of CR, existing services are significantly underutilised by eligible patients. Previously reported barriers to CR include low referral rates, failure of patients to attend despite referral, transport and distance issues, lack of flexibility, and the absence of a structured CR program (Aoun and Rosenberg 2004; Sundararajan et al 2004; Farley et al 2003; Scott et al 2003; Bunker et al 1999). We have been aware of these barriers for some years, yet attendance rates remain disturbingly low.

It has been advocated for many years that knowing a patient's health-related preferences can lead to more effective and less expensive care (Flatley et al 1998). Patient preferences can provide direction for treatment options and tailoring of interventions for specific needs, choices, and abilities (Flatley et al 1998). In addition, patients who are empowered during health interventions are more likely to participate in their own care. It then seems likely the development of CR services that are individualised and relevant to patient needs may increase attendance, and subsequent behaviour change (King et al 2001). Yet little research has been carried out from this perspective, and a gap exists between what traditional programs offer and patients' expressed needs during the recuperating phase following a cardiac event (Paquet et al 2005).

Interventions designed to increase access and attendance need to be developed locally, and should take into account a range of facilitators and barriers (Clark et al 2004). Prior to the introduction of a more structured approach to CR in rural and remote areas, steps should be taken to include one the most important stakeholders, the health consumers, in the development of new services to ensure their relevancy, and to promote willingness and capacity to attend (Clark et al 2004).

AIM

The aim of this pilot study was to investigate preferred models of CR in rural South Australia from a health consumer's perspective. This study follows previous research examining unstructured CR and secondary prevention in rural South Australia (Wachtel et al 2008a, Wachtel et al 2008b).

METHOD / METHODOLOGY

Study design and data collection tool

A cross-sectional, descriptive pilot study was undertaken to examine preferred models of CR in the Riverland Region of South Australia (Riverland) from the perspective of local health consumers. A questionnaire (QA) was developed by the author using the contemporary literature on various facilitators and barriers to CR. The QA consisted of 19 multiple

choice and short answer questions, and included the following categories: demographics, education history, past history of cardiovascular disease, personal belief of seriousness of their condition, past experience with CR services, preferred models of CR and suggestions for CR services specific to the Riverland.

Study participants and ethics approval

Approval for the study was granted by the Flinders University Human Research Ethics Committee. All adult (≥18 years) members of the general public who resided in the Riverland were eligible for inclusion. The Riverland is a three hour drive north-east of the state capital Adelaide, has a population of just under 35,000 people, and consists of five major towns and several smaller communities. Cardiac related health services are provided by four district hospitals and one regional hospital, along with seven general practice clinics throughout the region. Potential participants were approached at a large shopping centre and several of the lawn-bowls sporting facilities in three of the five major Riverland towns.

Data collection

Data were collected over a two day period in September 2007 by two second year medical students (Flinders University). Participants were given a letter of introduction and advised they were not obliged to participate. Completion of the QA was taken as consent, and to maintain anonymity participants were asked not to place identifying information on the QA. A total of 40 participants completed the QA.

Statistical analysis

Data were analysed using the Statistical Package for the Social Sciences. Descriptive statistical analysis was used to calculate frequencies, mean values and range. Correlational analysis was used to determine the relationship between demographic and educational data, and CR utilisation and preferences for different models of care.

FINDINGS

Demographic characteristics

Demographic data are presented in table 1.

Table 1: Demographic characteristics of participants (n = 40)

Category	Number (%)
Male	17 (42.5%)
Female	23 (57.5%)
18 - 34 years	2 (5%)
35 - 54 years	4 (10%)
55 - 64 years	4 (10%)
65 - 74 years	10 (25%)
75 - 84 years	15 (37.5%)
> 85 years	4 (10%)
Not answered	1 (2.5%)
Married	21 (52.5%)
Single	4 (10%)
Widowed	13 (32.5%)
Separated	2 (5%)
Primary School	10 (25%)
High School	22 (55%)
TAFE or similar	5 (12.5%)
University	3 (7.5%)

History of cardiovascular disease and past cardiac rehabilitation usage

Twenty three participants (57.5%), 11 (48%) females and 12 (71%) males, reported a previously diagnosed heart condition. More than half (52%) considered their condition 'not serious at all' or 'slightly serious', despite reporting a significant cardiac history, such as bypass surgeries and heart attacks. There was no strong difference in perception of condition seriousness that could be related to age, sex, marital status and education level (see table 2).

Only three (7.5%) participants reported previous referral to a CR program. Two people attended; one at the regional hospital and one at their local hospital. The participant who did not attend listed 'too far to travel' as the reason.

Preferred models of cardiac rehabilitation

Participants' preferred location for CR programs are outlined in table 3. The majority (69%) indicated that they would prefer to attend at their local hospital, citing convenience and transport issues. However, only seven (19%) stated they would choose a program at their local GP clinic, despite these clinics being located near the hospital in each town.

Table 2: Participant perceptions of seriousness of diagnosed heart condition (n = 23)

Diagnosed heart condition (in persons own words)	Age	Sex	†Marital status	‡Education level	Considered seriousness
High blood pressure	75-84	F	W	HS	Not answered
	>85	F	M	PS	Not serious at all
	75-84	F	W	HS	Not answered
	65-74	M	M	HS	Slightly serious
	55-64	M	M	HS	Not serious at all
Heart fibrillation	>85	F	W	PS	Slightly serious
	65-74	M	M	HS	Slightly serious
Irregular or very rapid heart	75-84	F	M	PS	Unsure
'Slight heart attacks'	65-74	F	W	HS	Not serious at all
'Muscular attack'	65-74	M	S	HS	Slightly serious
Aortic valve regurgitation and angina	55-64	F	M	HS	Slightly serious
Mild heart attack and angina	65-74	M	M	PS	Very serious
Triple bypass with three stents	65-74	M	M	HS	Quite serious
Five bypasses	>85	M	W	PS	Not serious at all
Coronary artery disease, bypass with stents, hypertension	55-64	M	Sep	Uni	Slightly serious
Double bypass	75-84	M	M	Uni	Quite serious
High cholesterol	35-54	M	M	TAFE	Unsure
Chest pain, blockages	75-84	M	M	HS	Extremely serious
Yes (condition not stated)	75-84	F	W	PS	Quite serious
	65-74	F	W	HS	Very serious
	75-84	F	M	TAFE	Slightly serious
	75-84	F	W	HS	Not answered
	75-84	M	M	HS	Not serious at all

† Marital status; M = Married, S = single, W = widowed, D = defacto, Sep = separated ‡ Education level; PS = primary school, HS = high school, Uni = university

Table 3: Preferred Location / Model of Cardiac Rehabilitation (n = 36)

Location / Model	Number (%)
Riverland Regional Health Service Inc	8 (22%)
Local hospital	25 (69%)
Local general practice clinic	7 (19%)
Home based program and home visits by a cardiac nurse	4 (11%)
Self directed program with a manual	3 (8%)
Internet program	1 (3%)
None of the above	1 (3%)

Note: Participants were able to choose multiple preferences; total percentage is greater than 100%

Table 4 outlines participant responses to which CR model they would not utilise. Twelve of 22 participants (55%) said they would not use an internet-based program, with several stating they are 'not into computers'. The six participants (22%) who stated they would not attend a program at the Regional Hospital did not reside in that town, so transport issues may have affected this response. Five participants (23%) stated they would not enrol in a home based program with home visits by a cardiac nurse, with one participant stating they 'did not want someone entering my home'.

Table 4: Cardiac rehabilitation programs participants would NOT attend/use (n = 22)

Health Care Facility/CR Model	Number (%)
Riverland Regional Health Services Inc at Berri	6 (27%)
Their Local General Practice Clinic	1 (5%)
Home based program and home visits by a cardiac nurse	5 (23%)
Internet based program	12 (55%)
Self-directed program with a manual	5 (23%)

Note: Participants were able to choose multiple preferences; total percentage is greater than 100%

Table 5 depicts participant preferences related to group, individual or mixed CR programs according to gender. The highest proportion of participants (46%)

preferred a group program (25% of males and 65% of females) stating it was 'more educational', 'nice to talk to like-minded people', 'like the company', 'can learn from others', and 'more comfortable'. The next highest preference was an individual program (36%), with participants stating they 'don't want to involve other people', 'work better on my own', and that they prefer 'one-on-one conversation'. A much higher proportion of men preferred an individual program (56%) over a group program, with the contrary true of the women (18%).

Table 5: Preference for group, individual or mixed CR program delivery according to sex (n = 33)

	Group Program	Individual Program	A mix of group and individual	Total
Male	4	9	3	16
Female	11	3	3	17
Total	15 (46%)	12 (36%)	6 (18%)	33

Suggestions for improving cardiac rehabilitation services within the region

Two main themes were identified by 15 respondents to this question:

1. Transport issues - all participants suggested the introduction of a regular shuttle bus or other form of transport to and from CR services.
2. Flexible program - six participants (40%) suggested flexible CR programs, and one specifically identified the need to make them available at night as well as during the day.

DISCUSSION

Consistent with previous research this study reported low referral rates, most likely due to the unstructured nature of CR in the Riverland (Wachtel et al 2008a, Wachtel et al 2008b). This is concerning because we know people are much more likely to attend CR when they are actively referred, and when programs are easily accessible (Jackson et al 2005).

Transport, convenience, and flexible programs were raised as major considerations for planning future CR services. This is not surprising given the large geographical distribution of the studied region, and the fact that there is no government-based public transport system available. Urgent consideration must be given to the provision of a more consistent and equitable transport system throughout the region to enable timely access to required health services.

Health consumers are often required to travel large distances to attend central Riverland Regional Health services. It is not unanticipated then that most people listed their local hospital as a preferred venue for CR services. However, despite citing convenience and transport issues to support this choice, only seven participants chose their local GP clinic as their preferred venue, despite these clinics being located near each local hospital. This may be explained either by a belief that hospitals are better equipped to care for cardiac-related illness, a knowledge deficit of services available at their local GP clinic, or a failure to appreciate the exact nature of CR.

Overall, in the current study a group program was preferred over individual programs. There was no significant difference in preferences between groups with respect to age, marital status or education history. However, a much higher proportion of men than women preferred an individual program to a group program. It is known that men are generally less likely to join a support group than women and tend to be unwilling to discuss their medical problems as openly in groups (Barnett 2005). It is important to be aware of these differing communication patterns in order to understand likely participation levels and to design appropriate group programs that involve both genders (Barnett 2005).

More than half of the participants with a previous heart condition considered it 'not serious at all' or 'slightly serious', despite having a significant cardiac history. This finding demonstrates a considerable knowledge deficit. Previous research shows that many people view a heart attack as an acute event rather than a sign of a chronic condition (Alsen et al 2008; Wiles and Kinmonth 2001). Patients have described a 'serious heart attack' as one resulting in death or severe disability and a 'mild heart attack' as one from which they could fully recover (Wiles and

Kinmonth 2001). Illness perception can influence CR attendance (Alsen et al 2008). People who view their cardiac condition as controllable and believe they can prevent recurrence are more likely to attend. Whereas those who see their condition as an isolated acute event, unrelated to their past history, are less likely to attend (Alsen et al 2008). Future research needs to focus on the implementation and evaluation of education strategies to address these and other knowledge deficits.

STUDY LIMITATIONS

Data were collected by two medical students during the Universities Regional Community Week 2007 <http://furcs.flinders.edu.au/education/med_stud/y2/y2.htm>. Time constraints limited data collection to two half-days, limiting the number of participants. The small number of participants, along with convenience sampling from one geographical area reduces statistical significance and consequently limits generalisablility to the studied population. However the findings have potential relevance to similar rural regions with comparable health service provision. The questionnaire was not pilot tested and some questions were left blank, indicating a possible misunderstanding of some questions. No data were collected on the number of people who declined (although anecdotally the data collectors reported that 'most people given a survey completed it'), therefore the participation rate cannot be assessed.

RECOMMENDATIONS

Despite some limitations, this pilot study provides valuable insight into health consumer preferences for health care professionals and decision makers involved in planning future cardiac rehabilitation services for rural South Australia. Further research is needed to ensure findings are both rigorous and valid and to ensure the development and implementation of future programs is based on the best available evidence. The survey tool requires modification to shorten it and reduce duplication of some questions. A more rigorous sampling strategy needs to be implemented to ensure a significant sample. For example participants could be recruited from local GP clinics and hospitals or shopping centres. Finally, a record of people who decline participation needs to be documented in order to calculate participation rates.

CONCLUSIONS

The main aim of CR is to maximise an individual's health and quality of life, and this is most often measured by health outcomes. However it is vital to consider other characteristics of CR programs such as convenience, accessibility, flexibility, and personal beliefs and preferences. People need to understand and accept their condition in order to successfully modify health habits. Patient preferences are therefore an important consideration when designing future CR programs, to ensure interventions are individualised and designed to increase access and attendance and minimise barriers.

This study provides valuable insight into health consumer preferences for CR in a rural region of South Australia for health care professionals and decision makers involved in planning future CR services in rural South Australia.

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