

You won't know if you don't ask: discrepancy and ambivalence in attitudes toward behavior change

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Abstract

Background: Behavior change is challenging following an acute cardiac event and commonly individuals are ambivalent.

Aim: To describe the experience of behavior change of survivors of an acute cardiac event.

Method: Semi-structured interviews were undertaken with 25 participants attending three cardiac rehabilitation (CR) programs. An inductive process of qualitative thematic analysis was used to analyze the transcripts.

Results: Analysis revealed ambivalence to change, misconceptions, and confusion about terminology. Discrepancies between what participants felt they *should* be doing, and what they actually *were* doing reflected their ambivalence. Further inconsistencies were reflected in participants' misunderstandings and confusion regarding disease processes and management of heart disease.

Conclusions: These findings reflect the misconception and ambivalence regarding behavior change that individuals experience. Clinicians may require greater skills in detecting conflicting or ambivalent discourse in order to support patients through sustainable health behavior change.

Key words: ambivalence, behavior change, cardiac rehabilitation

Word count: 2, 691

Discrepancy and ambivalence in attitudes toward behavior change in cardiac rehabilitation

Background

Despite a decline in cardiovascular mortality over recent decades, cardiovascular disease (CVD) remains the leading global cause of death and loss of disability-adjusted life years.¹ Considered primarily a ‘disease of lifestyle’, coronary heart disease (CHD), the most common manifestation of CVD, is amenable to risk factor modification and reduction.^{2, 3}

Cardiac rehabilitation (CR) is an effective approach for cardiovascular risk reduction,⁴⁻⁷ with national and international professional cardiovascular bodies recommending CR attendance as an essential component of the contemporary management of persons with CHD.⁸⁻¹² Despite impressive rates of initial behavior change in people attending CR programs, many fail to maintain the gains achieved.¹³⁻¹⁶ Most worrying are the declines in physical activity, with up to 60% of people with CHD failing to comply with physical activity recommendations.^{15, 17-19} There may be an assumption, based on the small percentage of eligible individuals who actually attend CR, despite its free availability in Australia, for example, that these people are motivated to reduce their risk of a future cardiac event by adopting and maintaining health-enhancing behaviors. Although behavioral changes may be made in the period immediately following the cardiac event and throughout the CR program, maintenance of these behaviors often remains a significant challenge.²⁰ This is evident through weight gain and decreased self-reported activity levels.²¹ It seems that previous motivation levels (perhaps related to the recent experience of fear of death or incapacity) decline sharply. What is not known is why these individuals seem to drift back to inertia. This paper describes CR attendees’ beliefs and attitudes toward changing selected behaviors, with the hope of elucidating the processes by which they experience and understand their health and

behaviors. This investigation took place as part of a study examining the impact of motivational interviewing on resolving ambivalence and facilitating behavior change. Although motivational interviewing techniques were used during interviews with patients, the crux of this paper focuses on the individual's thoughts and experience of changing behaviors during the early stages of cardiac rehabilitation.

By examining in-depth their meanings of behavior change, we can better understand what we need to do as health professionals to assist patients to maintain healthy behaviors learned in CR. This study has explored patients' thinking, understanding, and behaving, to obtain their perspective on changing to be healthier and what factors/thinking patterns impact on achieving recommendations made by health professionals.

Methods

Participants

Participants were part of an on-going randomized controlled trial funded by the Australian Research Council (LP 0560501) designed to evaluate the effectiveness of motivational interviewing. Fluency in, and ability to understand English was required in order to give informed consent, complete study instruments with minimal assistance, and participate in motivational interviewing sessions.

Data Collection

This study took place in three comprehensive, out-patient, nurse-led CR services in Sydney, Australia. A detailed account of the motivational interviewing intervention has been reported elsewhere.²² All interviews for this project were conducted by a single interviewer, an experienced cardiac nurse, who undertook a 2-day motivational interviewing training program, followed by a further 6 days of training throughout the

duration of the study. With the consent of participants, the intervention sessions were audio taped and transcribed verbatim.

Analysis of transcripts

Twenty-five participant interviews were randomly selected for transcription.

Participants were asked to identify an area of behavior change that they wished to address. We addressed physical activity as this is a behavior integral to many risk reducing behaviors including weight loss, smoking cessation and improving a sense of well being.

The twenty-five transcripts were assessed by an independent reviewer from a different university who used the global clinician ratings component of the Motivational Interviewing Treatment Integrity (MITI) 3.0, a coding system to assess integrity of MI techniques. The coder rated interviews on demonstration of MI spirit (the extent to which evocation, collaboration, and autonomy/support were apparent) and interviewer behaviors including giving information, MI adherence, MI non-adherence, asking closed and open questions, and providing simple and complex reflections. Scores reflect the coder's overall judgment of these dimensions. Practitioner competency is reflected in scores of 4.0 or higher.

Although MI was the style of interviewing used to collect data, this paper reports on a qualitative analysis of the interviews focusing on participants' meanings of behavior change. Data from each interview were coded, labeled, and organized into categories based upon common meanings leading to the emergence of major themes relating to exploring participants' perceptions and reactions to changing behavior. An inductive process of qualitative thematic analysis was used to interpret the study data.²³

Three investigators, experienced in qualitative research, reviewed the transcripts and developed coding frameworks. An iterative process of revisiting the data and seeking

validation from the words of participants enabled themes to emerge. Emerging themes were again validated through reviewing transcripts and arriving at consensus with co-researchers. Driving principles for the analysis included striving to appreciate participants' reactions to having to change behaviors within their daily lives, what meanings these changes held for them, and the implications for health professionals' interactions and communication with patients. The relevant university and health service human research ethics committees approved the study. Following transcription, identifying material was deleted.

Results

MITI scores ranged from 4.1 to 5.0, indicating that motivational interviewing techniques were appropriately administered. The mean age of the 25 participants was 61 years and 16 participants (64%) were male. The overarching theme which emerged involved contradictions evident in patient discourse about their disease, management, and behavior change efforts, which was expected given the motivational interviewing techniques employed. These contradictions took the form of 1) ambivalence to change, where participants were aware of their conflicting thoughts and behaviors and 2) misconceptions and misunderstandings that participants were unaware of regarding beliefs they held about their health and behavior change. Both types of contradictions highlight patient-related barriers to behavior change and self-management (Figure 1).

Contradictions in discourse reflect ambivalence to change

Participants discussed their thoughts on implementing behavior change to reduce their risk of having another cardiac event and improve their health. Prominent in participants' discussions, even those who seemed quite motivated, were discrepancies between what they *should do* and what they actually *were doing*. For example, one man described his thoughts on why he was not exercising:

I know I have to organize myself to go back to how I used to be, but I don't. I've got a set of exercises on video called gentle exercises. You can do them in front of the TV. I love them, I want to do them, but I don't. It's crazy. (Geoff)

In this excerpt, Geoff voices his bemusement with the discrepancies he recognizes within his own thoughts and behaviors. Although he has the knowledge, resources, and capacity to facilitate health improvement and risk reduction, he does not act. By engaging in such meta-cognitive processes, the participants began to reflect on their own thoughts and behaviors, becoming more self-aware, yet frustrated with an inability to resolve discrepancies between their own knowledge and behaviors. In some cases, it was only through further probing that they revealed their feelings. For example, Bruce discussed the need to reduce weight as a method of controlling hypertension:

I want to lose weight to keep my blood pressure under control, but then I'm not going to drive myself mad over it because I've been pretty good since the week before my operation in hospital...I've probably lost three maybe four kilos. (Bruce)

Bruce's ambivalence was evident in this excerpt, yet he seemed resigned to impose limits on his efforts to change. When explored further with the interviewer, Bruce revealed that he was actually rather disappointed by this perceived meager weight loss and expressed little confidence in achieving his goals. The period of increased self-awareness and self-examination highlights critical time points where communication with health professionals may progress a person's readiness, or act as a catalyst to change. Participants' dialogue reflected vacillation between desire and lack of motivation to engage in healthy behaviors, as depicted in the following quote:

I think I should be doing more, but I don't want to do any more. (Glen)

Through engaging in dialogue and providing a complex, reflective statement, MI techniques can assist individuals in exploring their views.

How do you feel about that statement that you feel you're not doing enough in light of what I've just shared with you about the Heart Foundation guidelines and I suggested to you that you're actually doing more than what the guidelines suggest? (Interviewer)

One woman depicted her perception of her internal struggle:

It's like a tug-of-war with yourself...It's like the devil and the good person (Kerry).

Kerry portrays her internal dialogue and behaviors as a struggle between the positive and negative sides of her psyche. The 'good person' exercises and eats healthily, while the 'devil' is idle and overindulges. These views reflect the ambivalence and internal struggle of many of the participants as they strive to do the right things yet experience internal and external barriers.

Contradictions in discourse reflect misconceptions

In contrast to participants voicing their mixed feelings regarding changing their health behaviors, discrepancies were not always consciously recognized. In fact, it was revealed through dialogue with several participants that they misunderstood or misconceived information pertaining to healthy eating guidelines. For example, participants described daily food intake and physical activity, thinking they were doing the right thing. The reality, however, reflected extensive misconceptions as evident in the following excerpt from Dave who has an 11-year history of Type 2 diabetes and more recently, CVD. When asked about diet-related behavior, Dave stated:

"...this week, for example, I went out on Monday night and had a mild curry and then a fruit flan with a little bit of cream on top which I thought was alright but I got up the next morning and I was 12.2 (blood glucose)... I've since gone back to normal. I've got to have my rockmelon before I go to bed. That must be a low GI or something." (Dave)

Despite the duration of Dave's diabetes, it appears that fundamental misconceptions pervade his understanding of nutrition and diet which directly impact on his ability to

self-manage. Dave's remarks signal his divergent meanings for general health concepts, as seen in the following excerpt:

"...I've come here (CR) and started exercising, which I never used to do. I've never exercised in all my life. I was always physically fit though." (Dave)

One may assume that exercise is a necessary component of being physically fit. These incongruous statements underscore the importance of exploring these issues with patients. Misconceptions were also evident regarding medications and weight management.

Contradictory discourse of cardiovascular disease

Another facet of misconceptions that emerged from discussions with participants involved the language and terminology of CVD. The following exchange depicts the interviewer attempting to clarify a detected misconception in Geoff's discussion of his diagnosis and therapeutic intervention:

Interviewer: So, you haven't had a heart attack or anything like that, but you do have coronary artery disease, having had the angioplasty and the stent put in.

Geoff: I get angry when they say that because I'm supposed to be fixed. (Geoff)

Geoff struggles to reconcile his incongruous experience and outcome. He has CAD despite having undergone a procedure. To him, being 'fixed' meant being cured and requiring no further treatments. Although it is Geoff who is using the term 'fixed', other participants reported that their health providers had used this word to depict positive outcomes. In using this language, health providers perhaps are attempting to simplify, comfort, and reassure patients while rationalizing the necessity of invasive procedures. Again, this example emphasizes the importance of clear patient-provider communication. During the discussion the interviewer is able to provide clarification:

What it tells us is that you do have the process of narrowing of the arteries so the vessels that they've worked on may be open, but it doesn't mean that that

process hasn't affected or is still affecting other vessels...your mind may not be as unmuddled as you want it, but you're managing. . (Interviewer)

Yes, that's the word. I am managing the problem. I'm not fixing it but I'm managing it – (Geoff)

Discussion

The findings of this study demonstrate that discrepancies concerning participants' desires, motivations, understandings, and actions towards behavior change are common and should be anticipated. Discrepancies between what one *should* be doing and what one actually *was* doing reflected ambivalence toward change, which was apparent in patients who presented as motivated to change. This is an important factor to note.

Nurses, experts in patient education, have greater difficulty than other disciplines in utilizing MI techniques because patient education (providing information to patients from an expert), as nurses know it, is quite the antithesis of MI strategies.^{24, 25}

Therefore, providing information alone without seeking information regarding an individual's desires, abilities, reasons and needs can be a futile exercise.²⁶

Further inconsistencies were evident in individual discussion which reflected their misunderstandings and confusion regarding disease processes and management of CVD. Despite, or consequent of, the abundance of information provided to participants as part of Phase 1 cardiac rehabilitation and an individualized assessment, they were confused or unaware of appropriate behaviors. External sources such as the media (and untrustworthy websites, e.g. message boards) may contribute to this confusion and impact patients' beliefs and behaviors.

Even the language used by health professionals can produce confusion or result in misunderstandings in patients. Use of 'curative' language to describe outcomes of procedures may result in patients having unrealistic expectations of their health status,

which can thus impact on disease management, a phenomenon evident in patients who have had percutaneous coronary intervention (e.g. coronary stents).²⁷

Another factor emerging from the data was the complexity of patient-provider communication and the means through which patient education and counseling was delivered. Potentially conflicting information can contribute to the sense of ambivalence and potential delegation of responsibility. For example, patients attributing heart disease to genetic causes may diminish their sense of control to determine their own destiny. The motivational interviewing intervention highlighted participants' perceptions and attitudes towards lifestyle change.

Processing events following an acute coronary event is often a daunting time for patients and their families. A range of emotions are experienced during this time including denial, guilt, fear, relief, and depression. In parallel with coping and adjusting to a potentially life-limiting illness, individuals are required to adjust their lifestyle to address modifiable cardiovascular risk factors. What is increasingly evident is that knowledge alone does not equate to behavior change - rather, behavior change is a complex and multifaceted process dependent on a range of factors, both intrinsic and extrinsic to the individual. Although CR is an effective and widely endorsed model of secondary prevention for CHD, as in any model of behavior change, intervention promoting adherence to recommendations and sustaining these over the longer term is challenging. In a potentially motivated group of individuals - that is, patients consenting to not only attend CR, but also participate in a clinical trial - a high degree of ambivalence regarding behavior change and confusion was evident. These findings emphasize the importance of ensuring that individuals have a realistic expectation of their condition and prognosis and that health professionals use appropriate counseling strategies. Achieving this understanding may require clinicians to develop greater skills

in detecting conflicting or ambivalent discourse and support the person through sustainable health behavior modification.

Conclusions

This article has focused on the contradictions and discrepancies voiced by participants to illustrate that these are useful opportunities to improve patient understanding and behaviors. Clinicians need to ask the right questions and appreciate that during discussions with patients, it is generally more important to listen more and talk less. These data also represent the struggle for effective behavior change as well as discrepancies to improve disease management. This struggle, in turn, underscores the importance of using effective techniques such as motivational interviewing to assist patients to explore and resolve ambivalence. These findings have implications for the training of health professionals and also affording time and opportunities to hear the stories of patients. Excerpts from interviews represent examples which may be very familiar to health professionals. In future interactions with patients, similar statements may signal the need for additional communication or intervention and the anticipation of ambivalence and discrepancy.

References

1. Writing Group, M.; Lloyd-Jones, D.; Adams, R. J.; Brown, T. M.; Carnethon, M.; Dai, S.; De Simone, G.; Ferguson, T. B.; Ford, E.; Furie, K.; Gillespie, C.; Go, A.; Greenlund, K.; Haase, N.; Hailpern, S.; Ho, P. M.; Howard, V.; Kissela, B.; Kittner, S.; Lackland, D.; Lisabeth, L.; Marelli, A.; McDermott, M. M.; Meigs, J.; Mozaffarian, D.; Mussolino, M.; Nichol, G.; Roger, V. L.; Rosamond, W.; Sacco, R.; Sorlie, P.; Stafford, R.; Thom, T.; Wasserthiel-Smoller, S.; Wong, N. D.; Wylie-Rosett, J.; on behalf of the American Heart Association Statistics Committee and Stroke Statistics, S., Heart Disease and Stroke Statistics--2010 Update: A Report From the American Heart Association. *Circulation* **2010**, 121, (7), e46-215.
2. Yusuf, S.; Hawken, S.; Ôunpuu, S.; Dans, T.; Avezum, A.; Lanus, F.; McQueen, M.; Budaj, A.; Pais, P.; Varigos, J.; Lisheng, L., Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): Case-control study. *Lancet* **2004**, 364, (9438), 937-952.
3. Haskell, W. L., Cardiovascular Disease Prevention and Lifestyle Interventions: Effectiveness and Efficacy. *Journal of Cardiovascular Nursing* **2003**, 18, (4), 245-255.
4. Clark, A. M.; Hartling, L.; Vandermeer, B.; McAlister, F. A., Meta-analysis: Secondary prevention programs for patients with coronary artery disease. *Annals of Internal Medicine* **2005**, 143, (9), 659-72.
5. Jolliffe, J. A.; Rees, K.; Taylor, R. S.; Thompson, D.; Oldridge, N.; Ebrahim, S., Exercise-based rehabilitation for coronary heart disease. *Cochrane database of systematic reviews (Online)* **2001**, (1), CD001800-CD001800.
6. Taylor, R. S.; Brown, A.; Ebrahim, S.; Jolliffe, J.; Noorani, H.; Rees, K.; Skidmore, B.; Stone, J. A.; Thompson, D. R.; Oldridge, N., Exercise-based rehabilitation for patients with coronary heart disease: Systematic review and meta-analysis of randomized controlled trials. *American Journal of Medicine* **2004**, 116, (10), 682-692.
7. Williams, M. A.; Ades, P. A.; Hamm, L. F.; Keteyian, S. J.; LaFontaine, T. P.; Roitman, J. L.; Squires, R. W., Clinical evidence for a health benefit from cardiac rehabilitation: An update. *American Heart Journal* **2006**, 152, (5), 835-41.
8. Department of Health Coronary heart disease: National Service framework for coronary heart disease - modern standards and service models. Chapter 7 - cardiac rehabilitation.
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4094275 (15 April 2007),
9. Leon, A. S.; Franklin, B. A.; Costa, F.; Balady, G. J.; Berra, K. A.; Stewart, K. J.; Thompson, P. D.; Williams, M. A.; Lauer, M. S., Cardiac rehabilitation and secondary prevention of coronary heart disease: An American Heart Association scientific statement from the Council on Clinical Cardiology (Subcommittee on Exercise, Cardiac Rehabilitation, and Prevention) and the Council on Nutrition, Physical Activity, and Metabolism (Subcommittee on Physical Activity), in collaboration with the American Association of Cardiovascular and Pulmonary Rehabilitation. *Circulation* **2005**, 2007, (April 14), 369-376.
10. National Heart Foundation of Australia and Australian Cardiac Rehabilitation Association, Recommended framework for cardiac rehabilitation. In National Heart Foundation of Australia and Australian Cardiac Rehabilitation Association: Canberra, 2004.
11. Smith Jr, S. C.; Allen, J.; Blair, S. N.; Bonow, R. O.; Brass, L. M.; Fonarow, G. C.; Grundy, S. M.; Hiratzka, L.; Jones, D.; Krumholz, H. M.; Mosca, L.; Pasternak, R. C.; Pearson, T.; Pfeffer, M. A.; Taubert, K. A.; AHA/ACC; National Heart, L.; Blood,

- I., AHA/ACC guidelines for secondary prevention for patients with coronary and other atherosclerotic vascular disease: 2006 update: Endorsed by the National Heart, Lung, and Blood Institute. *Circulation* **2006**, 113, (19), 2363-72.
12. Piepoli, M. F.; Corrà, U.; Benzer, W.; Bjarnason-Wehrens, B.; Dendale, P.; Gaita, D.; McGee, H.; Mendes, M.; Niebauer, J.; Zwisler, A.-D. O.; Schmid, J.-P., Secondary prevention through cardiac rehabilitation: from knowledge to implementation. A position paper from the Cardiac Rehabilitation Section of the European Association of Cardiovascular Prevention and Rehabilitation. *European Journal of Cardiovascular Prevention & Rehabilitation* **2010**, 17, (1), 1-17
10.1097/HJR.0b013e3283313592.
13. Arrigo, I.; Brunner-LaRocca, H.; Lefkovits, M.; Pfisterer, M.; Hoffmann, A., Comparative outcome one year after formal cardiac rehabilitation: The effects of a randomized intervention to improve exercise adherence. *European Journal of Cardiovascular Prevention & Rehabilitation* **2008**, 15, (3), 306-311.
14. Gupta, R.; Sanderson, B. K.; Bittner, V., Outcomes at one-year follow-up of women and men with coronary artery disease discharged from cardiac rehabilitation: What benefits are maintained? *Journal of Cardiopulmonary Rehabilitation & Prevention* **2007**, 27, (1), 11-18.
15. Moore, S. M.; Dolansky, M. A.; Ruland, C. M.; Pashkow, F. J.; Blackburn, G. G., Predictors of women's exercise maintenance after cardiac rehabilitation. *Journal Of Cardiopulmonary Rehabilitation* **2003**, 23, (1), 40-49.
16. Salamonson, Y.; Everett, B.; Davidson, P.; Andrew, S., Magnitude of change in cardiac health-enhancing behaviours 6 months following an acute myocardial infarction. *European Journal of Cardiovascular Nursing* **2007**, 6, (1), 66-71.
17. Blanchard, C. M.; Reid, R. D.; Morrin, L. I.; Beaton, L. J.; Pipe, A.; Courneya, K. S.; Plotnikoff, R. C., Barrier self-efficacy and physical activity over a 12-month period in men and women who do and do not attend cardiac rehabilitation. *Rehabilitation Psychology* **2007**, 52, (1), 65-73.
18. Bock, B. C.; Carmona-Barros, R. E.; Esler, J. L.; Tilkemeier, P. L., Program participation and physical activity maintenance after cardiac rehabilitation. *Behavior Modification* **2003**, 27, (1), 37-53.
19. Zhao, G.; Ford, E., S.; Li, C.; Mokdad, A., H, Are United States adults with coronary heart disease meeting physical activity recommendations? *American Journal of Cardiology* **2008**, 101, 557-561.
20. Willich, S. N.; Muller-Nordhorn, J.; Kulig, M.; Binting, S.; Gohlke, H.; Hahmann, H.; Bestehorn, K.; Krobot, K.; Voller, H., Cardiac risk factors, medication, and recurrent clinical events after acute coronary disease. A prospective cohort study. *European Heart Journal* **2001**, 22, (4), 307-313.
21. Smith, K. M.; Arthur, H. M.; McKelvie, R. S.; Kodis, J., Differences in sustainability of exercise and health-related quality of life outcomes following home or hospital-based cardiac rehabilitation. *European Journal of Cardiovascular Prevention & Rehabilitation* **2004**, 11, (4), 313-319.
22. Everett, B.; Davidson, P. M.; Sheerin, N.; Salamonson, Y.; DiGiacomo, M., Pragmatic insights into a nurse-delivered motivational interviewing intervention in the outpatient cardiac rehabilitation setting. *Journal of Cardiopulmonary Rehabilitation & Prevention* **2008**, 28, (1), 61-64.
23. Denzin, N. K.; Lincoln, Y. S., The discipline and practice of qualitative research. In *The Sage handbook of qualitative research*, 3rd ed.; Denzin, N. K.; Lincoln, Y. S., Eds. Sage: Thousand Oaks, CA, 2005; pp 1-32.
24. Moyers, T. B., History and happenstance: how motivational interviewing got its start. *Journal of Cognitive Psychotherapy* **2004**, 18, (4), 291-298.

25. Moyers, T. B.; Martin, T.; Manuel, J. K.; Hendrickson, S. M. L.; Miller, W. R., Assessing competence in the use of motivational interviewing. *Journal of Substance Abuse Treatment* **2005**, 28, (1), 19-26.
26. Miller, W. R.; Rollnick, S., Talking oneself into change: motivational interviewing, stages of change, and therapeutic process. *Journal of Cognitive Psychotherapy* **2004**, 18, (4), 299-308.
27. Sampson, F.; O'Cathain, A.; Goodacre, S., Feeling fixed and its contribution to patient satisfaction with primary angioplasty: A qualitative study. *European Journal of Cardiovascular Nursing* **2009**, 8, (2), 85-90.

Summary and Implications

- Despite participating in cardiac rehabilitation, patients may still be conflicted about maintaining or adopting healthy behaviors or carry misconceptions regarding these changes.
- Contradictions and discrepancies voiced by patients are opportunities to improve their understanding and behaviors.
- Exploring ambivalence underscores the importance of using techniques such as motivational interviewing to assist patients to explore and resolve discrepancy
- This has implications for the training of health professionals and also affording time and opportunities to hear the stories of patients and identify areas in need of clarification, further probing or support.

Figure. Contradictions in patient discourse and implications for provider intervention

