Relationship between medication adherence and beliefs around health and medicines in outpatients with cardiovascular disease

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Background

Cardiovascular disease is responsible for a large portion of Australia's chronic disease burden[1]. Drug therapy reduces morbidity and mortality in patients with cardiovascular disease. Despite proven benefits, medication non-adherence remains commonly reported in practice and research[2]. The beliefs that a patient holds in relation to their medications and illness may have an effect on medication adherence[3].

Aims

To investigate the relationship between self-reported medication adherence and beliefs around medicines, illness, and health locus of control, in outpatients with cardiovascular disease

Methods

This prospective, cross-sectional study involved a survey completed by patients attending a cardiac outpatient clinic in a quaternary teaching hospital.

The survey consisted of four validated questionnaires:
- Medication Adherence Questionnaire (MAQ)
- Beliefs About Medicines Questionnaire (BMQ)
- Brief-Ilness Perceptions Questionnaire (B-IPQ)
- Muti-Dimensional Health Locus of Control Scale (MHLC)

Participants were considered non-adherent if they answered "yes:" to at least one question on the MAQ (Figure 1). Differences in responses to the other three questionnaires were analysed between the adherent and non-adherent groups.

Self-reported medication taking scale
1. Do you ever forget to take your medicine?
2. Are you careless at times about taking your medicine?
3. When you feel better do you sometimes stop taking your medicine?
4. Sometimes if you feel worse when you take the medicine, do you stop taking it?
Yes = 0; No = 1

Figure 1: Medication adherence questionnaire[4]

Results

A total of 108 survey participants were recruited over a four month period and 102 completed survey responses were suitable for analysis.

The majority of the participants were male (59.2%), and the mean age was 63 years. The median number of medications was five.

Adherent participants *(n=49)* were older, less concerned about their medicines *(BMQ, p=0.02)*, and had a greater understanding of their medicines and usefulness *(B-IPQ, p=0.03)*, as compared with non-adherent participants *(n=53)*.

Question	Mean Score ± SEM		p-value
	Adherent	Non-adherent	
1. How much does your heart condition affect your life? (0= not at all – 10= a lot)	4.94 ± 0.39	5.264 ± 0.41	0.57
2. How long do you think your heart condition will continue? (0= very short time – 10= forever)	8.1 ± 0.42	7.843 ± 0.4	0.66
3. How much control do you feel you have over your heart condition? (0= no control – 10= a lot)	5.021 ± 0.43	4.509 ± 0.38	0.37
4. How much do you think treatment can help your heart condition? (0= no help – 10= very helpful)	8.22 ± 0.3	7.137 ± 0.35	0.02
5. How much do you experience symptoms from your heart condition? (0= never – 10= a lot)	4.1 ± 0.4	4.34 ± 0.34	0.65
6. How concerned are you about your heart condition? (0= not concerned – 10= very concerned)	5.08 ± 0.49	5.981 ± 0.4	0.15
7. How well do you feel you understand your heart condition? (0= not at all – 10= very clearly)	7.34 ± 0.33	6.245 ± 0.39	0.03
8. How much does your heart condition affect you emotionally? (0= not at all – 10= a lot)	3.48 ± 0.42	4.314 ± 0.49	0.18

Figure 2: Brief Illness Perceptions Questionnaire scores for adherent and non-adherent patients

	Mean Score ± SEM		p-value
	Adherent	Non-adherent	
Necessity Score	19.78 ± 0.62	18.81 ± 0.65	0.28
Concern Score	11.53 ± 0.55	13.38 ± 0.58	0.02

Figure 3: Beliefs About Medicines Questionnaire scores for adherent and non-adherent patients

Conclusions

In this sample of outpatients with cardiovascular disease, adherent patients had weaker concern beliefs around their medicines, and stronger beliefs around the benefits of taking their medicines, compared with non-adherent patients.

Eliciting an individual's beliefs towards their medicines and illness can inform the design and implementation of personalised strategies to optimise medication adherence.

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