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The Green Prescription and older adults: what do general practitioners see as barriers?

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ABSTRACT

INTRODUCTION: Limited research exists that has examined the barriers that older adults (those aged 65 years and older) can encounter when given a Green Prescription (GRx). This study aimed to identify what general practitioners (GPs) perceived their older-aged patients' barriers were with regard to carrying out a GRx. This study also identified the strategies that GPs used to assist their older-aged patients in overcoming barriers to physical activity engagement.

METHODS: Fifteen GPs from the Auckland region of New Zealand were interviewed individually. An inductive thematic approach was used to analyse data.

FINDINGS: GPs identified chronic health conditions, fear of injury, transportation constraints, set routines and lack of confidence as being barriers that some of their older-aged patients have encountered when considering whether to become more physically active and, also, when engaging in actual physical activity.

CONCLUSION: Physical activity interventions, such as the GRx programme, can have an important role in helping confer health-related gain for low-active older adults. To ensure that such interventions are successful on a long-term basis, practitioners need to be aware of the barriers that their older-aged patients can encounter when given a prescription for physical activity.

KEYWORDS: Green Prescription; older adults; physical activity, primary health care

Introduction

Engagement in regular physical activity can help prevent, delay, or manage non-communicable diseases and conditions.¹ Physical activity engagement in later life can contribute to prolonged independence in the tasks of daily living, as physical, cognitive, and psychological functioning is maintained or improved.¹⁻³

Research indicates that the majority of older New Zealanders (those aged 65 years and older) are not engaging in levels of physical activity conducive to health-related gain.⁴⁻⁵ A population-based survey reported that 34% of older New Zealanders met national guidelines of achieving 30 minutes of moderate-intensity physical activity on five or

more days of the week, 42% engaged in some physical activity, and 24% were found to be inactive.⁵

The primary health care setting has been found to be an appropriate setting in which to implement a physical activity intervention for older adults (those aged 65 years and older). A number of physical activity interventions that have been carried out within the primary care setting have been efficacious in increasing physical activity and health-related gain in previously low-active older adults.⁶⁻⁸ Research indicates that, as a group, older adults are more likely to value, respect, and comply with their general practitioner's (GP's) health promotion advice compared to younger age groups.^{7,9,10}

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To help increase population-based levels of physical activity in New Zealand, the Green Prescription (GRx) programme was launched in the late 1990s. A GRx is a prescription for physical activity that is administered by a GP or practice nurse, and is based on national guidelines of achieving 30 minutes of moderate-intensity physical activity on five or more days of the week.^{11,12} A GRx runs for a three-month period, during which time the individual receives monthly telephone-based support for physical activity and written support materials (via mail) from a patient support counsellor. The individual has access to certain discounted physical activity programmes and exercise facilities.¹²

A GRx is predominantly administered to manage or to prevent conditions such as hypertension, Type 2 diabetes, high cholesterol, cardiovascular disease and obesity.¹³ The GRx programme has been shown to be efficacious in increasing both physical activity and health-related gain over a 12-month period in previously low-active older adults.^{14,15}

Older adults are a diverse group and research indicates that demographic factors relating to the existence of chronic health conditions, mobility problems, weight status, increased age, ethnicity, gender, and socioeconomic status can influence perceived barriers to physical activity initiation and maintenance.^{16,17} To ensure that public health interventions such as the GRx are successful on a long-term basis and help confer health-related gain for older adults, more information is required about the potential barriers that older adults can encounter when given a GRx.

To date, limited research exists that has examined older-aged patients' barriers to the GRx programme. Therefore, the aims of the present study were twofold: firstly, to identify what GPs encountered as being their older-aged patients' barriers to carrying out a GRx; and secondly, to identify the strategies that GPs used to assist their older-aged patients in overcoming barriers to physical activity engagement.

Methods

The present study was a substudy of a study that examined GPs' views and experiences of

WHAT GAP THIS FILLS

What we already know: The primary care setting is an ideal venue in which to counsel older adults on physical activity. The Green Prescription is efficacious in increasing physical activity and health-related gain in previously low-active older adults who have taken part in controlled intervention studies (namely, randomised controlled trials).

What this study adds: This study found that general practitioners (GPs) were aware of certain barriers that their older-aged patients encounter when considering becoming physically active and, also, when engaging in physical activity. These GPs also employed a number of practical strategies to help deal with these barriers to physical activity. GPs continue to have an important role in counselling their older-aged patients on physical activity.

counselling on physical activity through the GRx programme.¹⁸ The original study¹⁸ focused on five main topic areas:

1. Why general physical activity advice was imparted
2. GRx use (i.e. GPs' perceived benefits and barriers to GRx use, and why GRxs were administered)
3. GPs' views and experiences of GRx use for the management of depression
4. GRx use with older patients (i.e. those aged 65 years and older), and
5. GPs' own physical activity levels.

The original paper published on the study findings¹⁸ did not report on older adults, as this content warranted a separate paper. In turn, both GP studies were part of the substantive Healthy Steps study, a randomised controlled trial that examined the efficacy of a pedometer-based versus standard time-based GRx in increasing physical activity and quality of life in 330 low-active, community-dwelling older adults.¹⁹⁻²¹

Participants

Fifteen GPs (5 male and 10 female) from the Auckland region of New Zealand participated in the original study.¹⁸ Participants ranged in age from 36 to 64 years (mean age=50.8 years, SD=7.1 years), and had been practising medicine in general practice settings between one and 30 years (mean=22.1 years, SD=10.3 years). All 15

participants worked in urban, primary care practices. There was a range in the frequency in which participants issued a GRx. Nine participants were issuing a GRx on a weekly basis, four participants were issuing a GRx on a monthly basis, and two participants had stopped issuing a GRx.

Measures

The interview schedule for the original GP study¹⁸ is documented in Table 1. As mentioned previously, the original GP study comprised five distinct topic areas. The topic area that focused on GRx use with older-aged patients is the basis for the present study. A structured interview schedule was developed for the original GP study.¹⁸ The questions were guided by existing literature relating to GRx use.¹³ Questions were open-ended and were designed to allow for discussion and elaboration by participants.

Procedure

A GP database from The University of Auckland was used to recruit participants. Recruitment of participants was based solely on geographical location. An equal number of potential participants from North, East, West and South Auckland were sent a letter of invitation and an information sheet detailing the study and providing the researchers' contact details. A total of 80 letters of invitation were mailed out to potential participants to obtain the 15 positive responders. GPs who were interested in participating in the study replied by fax or telephone. Each participant was interviewed separately at their place of work by the same member of the research team, with the interview lasting between 20 and 30 minutes. All interviews were audiotaped for later transcription. Informed written consent was obtained from each participant at the time of their interview. This study was approved by the Auckland University of Technology's Ethics Committee (Ethics approval number: 06/185).

Data Analysis

All 15 interviews were audiotaped and transcribed. An inductive thematic approach was used to analyse data. This method allowed for findings (main themes and subthemes) to

emerge from the data (raw text) in a systematic way that is designed to ensure the credibility and trustworthiness of findings.²² Compared to a deductive methodology, an inductive methodology identifies recurrent and/or significant themes that emerge from the raw data. Also, an inductive thematic approach is less complicated than other qualitative approaches and, hence, can be understood by a larger readership.²² Transcripts were analysed using Auerbach and Silverstein's (2003) approach to thematic analysis.²³ Four steps were involved in the data analysis process:

1. reading and re-reading each transcript several times under each topic area
2. identifying text within a particular topic area where several participants used the same or similar words, concerns, or experiences to convey the same idea
3. coding and naming the actual themes that emerged from the raw text (transcripts), and
4. having all members of the research team verify the themes that were identified to reduce individual researcher bias.

Auerbach and Silverstein²³ refer to this process of verification as the justifiability and transparency of the data analysis. This means that other researchers know the process by which data were analysed and how themes were coded.

Findings

Data were examined under two main topic areas:

1. What GPs perceived their older-aged patients' barriers to be in relation to carrying out a GRx, and
2. The strategies that GPs used to assist their older-aged patients to overcome barriers to physical activity engagement.

The main themes and subthemes for each topic area are outlined, and the main quotes that illustrate participants' views and experiences are included.

Three main themes emerged regarding what GPs perceived their older-aged patients' barriers were in relation to carrying out a Green Prescription.

Perceived barriers were related to chronic health conditions and fear of injury, transportation constraints, as well as set routines and lack of confidence.

Theme 1: Chronic health conditions and fear of injury

A number of GPs discussed how the existence of certain chronic health conditions needed to be taken into account and accommodated when prescribing physical activity for some of their older-aged patients. The following quotes illustrate this:

You have to be careful about what health conditions they've got. (GP 4)

There are the barriers of their medical condition. They have arthritis, various things like that. I think it would be unwise for them to partake in that without lots of caution. (GP 8)

The following two quotes illustrate how barriers to physical activity for some older-aged patients are centred around fear of injury, especially if they have a chronic health condition, or have had a heart attack or stroke in the past. These quotes also demonstrate how GPs try to deal with this salient (and sometimes common) dilemma:

It's usually trying to say to them, this isn't a barrier to you exercising, because a lot of people have sore backs, or have got high blood pressure, and are a bit short of breath. They will say, 'I can't exercise because of this', and you have to turn it around and say, 'No this is the very reason that you have to exercise.' (GP 4)

The only barrier is their perception that they shouldn't be exercising. People who may have had a heart attack, or a bit of a stroke, or something. They get a bit nervous as they regain their confidence. So it's talking to people saying, 'just listen to your body and to start slow and work up.' (GP 12)

The following quotes highlight how certain chronic health conditions can limit engagement in certain types of physical activities. Some GPs discussed how they found solutions around this by prescribing alternative physical activities for their older patients to engage in:

Table 1. Interview schedule

Topic area	Questions
Physical activity advice in the primary care setting	Why do you give out physical activity advice to your patients?
Green Prescription use	What do you feel are the benefits of Green Prescription use?
	As a GP what barriers do you encounter when you are thinking about writing out a Green Prescription for a patient?
	There are differing thoughts in relation to whether a Green Prescription is designed more to prevent a condition or to manage a condition; what are your thoughts?
Green Prescription use for depression	What are your thoughts on Green Prescriptions being written for mental health conditions such as depression?
Green Prescription use with older adults	Do you write Green Prescriptions for older adults (aged 65 years and older)?
	What conditions do you write Green Prescriptions for?
	As a GP what barriers do you encounter when thinking about writing a Green Prescription for an older patient?
	What actual barriers do you encounter with older patients when you write out a Green Prescription for them?
	How do you deal with these barriers or issues?
GPs' own physical activity levels	Do you yourself engage in a sport or recreational activity, such as walking?

Things like skin conditions. I've had several patients who wanted to get into the pool but they get rashes to the chlorine. So you have to find some different form of exercise for them. Like a lot of people with osteoarthritis can't do the walking because it's too painful. That's why swimming is good, so that's tricky. (GP 4)

We try and find options, and we may with somebody with severe arthritis say, 'we can give you some anti-inflammatory treatment'. So we try and find solutions. Everything is practical. (GP 8)

Osteoarthritic pain that prevents them from doing exercise. So make sure their pain is under control. So tell them they can use pain medication; pain management reassurance. (GP 15)

Theme 2: Transportation constraints

The majority of GPs emphasised that lack of transport was a salient barrier for some of their older-aged patients in relation to getting to organised GRx programmes or activity venues (e.g. tai chi class, the local swimming pool). The following quotes demonstrate these issues:

I think transport is the biggest one for the older patients. It's hard to actually physically get them there. (GP 7)

They don't have transport to go to these things. It's not in the area. They can't drive because of vision, or a heart condition, or stroke. (GP 9)

The following quotes demonstrate how two GPs have tried to deal with the transport barrier. One GP explained how patients can try and share transport if they live close to someone else who is participating in the same programme. Another GP mentioned the use of mobility vouchers for discounted taxis. The following quotes illustrate this:

I try and suggest that they buddy up. If they do get there, they can reach out to the coordinator. Because often the coordinator knows where other people live. But again, whether or not they do that, because some patients are not socially into big groups. (GP 7)

I usually get them mobility vouchers for cheaper taxis. But mostly they don't want to use them because they still have to pay something. (GP 4)

Two GPs discussed other options for how they dealt with potential transport issues. One GP mentioned that a patient could participate in some type of physical activity close to home, or within the home. Another GP mentioned the importance of tailoring a GRx to meet the specific needs and requirements of individual patients. The following quotes demonstrate this:

I didn't expect them to go to a gym if they had transport problems, because they could just do the physical activity where they live. (GP 11)

As long as you've engineered your programme to suit them personally, you should have dealt with these barriers before writing one. (GP 15)

Theme 3: Set routines and lack of confidence

GPs discussed how some of their older-aged patients have set routines and are less willing to change their daily structure, and how new ideas or activities can be more difficult to assimilate. GPs discussed how the GRx was seen by some of their older-aged patients as being a barrier, as it involved them having to do new activities, and to think in a new or different way. Some GPs also mentioned that a number of their older-aged patients thought of more reasons why they could not engage in physical activity. Some GPs attributed this to a lack of self-confidence. The following quotes highlight these issues:

Sometimes they are less inclined to change their routine. They tend to have developed fairly firm habits for their day. If there was a new concept or idea for them that was sometimes a barrier. (GP 13)

I suppose the differences compared to young people are that they are set in their ways, and they may think that there are extra reasons why they can't exercise. Like they will have a heart attack, they'll feel unpleasant, or faint. (GP 3)

I think that confidence would be the biggest thing. I think that older people are often quite keen to do it properly, but they just think, 'I can't do that,' 'I can't go out walking, what if it's raining?' (GP 1)

A number of GPs discussed their efforts in dealing with the issue of set routines and perceived lack of confidence with some of their older-aged patients. One GP discussed how it was important to find out what a particular patient's aims and goals were around their health management. Another GP discussed how she would demonstrate the actual exercise for some of her older-aged patients. Meanwhile, another GP discussed how she broached the subject of the GRx at each consultation she had with some of her older patients, with the aim being to get these patients used to the idea of undertaking a GRx. The following quotes illustrate these points:

Well it's like any counselling, you explore what they really want to do and what their aims and goals are, and see whether they can see a connection between exercise and then their goals. (GP 3)

I think they lack confidence to try new things, and that's where I will often use that Otago Falls Programme. I sometimes just demonstrate it. (GP 1)

Repetition. So each time I would see them, I would just mention, 'have you thought about it,' or 'have you considered,' or 'remember last time we talked about the Green Prescription.' So that just brief mentions of it over time sometimes would help. (GP 13)

Discussion

The GPs in the present study addressed the importance of taking chronic health conditions into account when prescribing physical activity for their older-aged patients. GPs discussed how certain conditions could limit engagement in certain types of physical activity. A number of GPs discussed how they have found practical solutions around prescribing physical activity and tailoring a GRx in relation to the chronic health conditions of individual patients. For example, if an older-aged patient had osteoarthritis, water-based physical activities were seen as more suitable than a prescription for walking (e.g. trying to minimise pain and discomfort). This approach appeared consistent with that of an earlier GRx study²⁴ that examined the attitudes of patients aged 43–78 years of age in relation to receiving a GRx.

Fear of injury was a common barrier that many GPs came across when trying to encourage their older-aged patients who had an existing chronic health condition (e.g. cardiovascular disease, arthritis) to participate in regular physical activity. This finding is consistent with the literature, whereby older adults who have an existing chronic health condition perceive that engagement in physical activity may exacerbate their current condition and cause more harm than good.^{25–27} In the present study, some GPs mentioned how they have discussed the importance of physical activity engagement as a form of health management for a patient's chronic health condition. This finding is important as a number of studies have demonstrated that older adults do value, consider, and adhere to physical activity advice or prescription that has been recommended by their GP.^{6–8,14}

Lack of transport was identified as a barrier that could prevent some older adults from engaging

in physical activity. Earlier studies^{16,27} that have examined barriers to physical activity engagement in older adults have also identified lack of transportation as a potential barrier for some groups of older adults (e.g. ethnic minority older adults). In the present study, transportation constraints were related to being unable to get to organised GRx programmes and other physical activity or exercise venues (e.g. tai chi classes, community swimming pools). GPs discussed how they tried to problem-solve this barrier with their older-aged patients. One GP mentioned the use of mobility taxi vouchers, and another mentioned sharing transport with other exercise attendees who lived in the same area. Two GPs highlighted the importance of tailoring a GRx to meet the needs of individual patients. For those older-aged patients with transport difficulties, this related to prescribing physical activity that could be

A number of GPs discussed how they have found practical solutions around prescribing physical activity and tailoring a GRx in relation to the chronic health conditions of individual patients.

undertaken close to home, or within the home. All of these strategies used by various GPs helps highlight how the GRx programme can be individually tailored, and designed to accommodate older individuals' needs.²⁴

Having set routines was identified as being a barrier to physical activity engagement for some older adults. GPs discussed how some of their older-aged patients had set routines and were not readily open to something that was 'different' and a new concept for them. In line with this finding, there is some evidence that suggests that some older adults do not have a basic understanding about the health-related benefits of regular physical activity.^{3,28} These beliefs may reflect the fact that many of these individuals grew up in a time when physical activity and exercise engagement were seen as recreational pursuits.¹⁰ The GPs in the present study discussed a number of strategies they have used to try to deal with these perceived

barriers; notably, trying to find a match between their older-aged patients' health management aims and goals through some form of physical activity. Also mentioned was the importance of repetition, and how referring to the GRx at each consultation may help some older-aged patients become more comfortable and knowledgeable with the concept of carrying out a GRx.

Some GPs mentioned that lack of confidence also acted as a barrier to physical activity engagement for some of their older-aged patients. Perceived lack of confidence in one's ability to successfully engage in a physical activity is closely tied to self-efficacy. Self-efficacy is a cognitive process that underpins motivation and behavioural change.²⁹ It relates to the extent to which an individual believes they can successfully complete a particular task.^{10,30} A number of studies³¹⁻³³ have found an association between high self-efficacy and long-

urban and suburban areas. GPs practising in rural areas may encounter different barriers.

Conclusion

The GPs in the present study identified a number of barriers that their older-aged patients encounter when considering whether to become physically active and undertake a GRx. The GPs also discussed the various practical strategies they have employed to help deal with these barriers. As a group, GPs have an important and influential role in encouraging and supporting their older-aged patients to engage in regular physical activity. Future work in this area needs to focus on the frequency with which GPs counsel their older-aged patients on physical activity and administer GRxs. Also, there needs to be a focus on how environmental factors, such as transportation constraints can act as barriers to physical activity engagement for some groups of older adults.

Also mentioned was the importance of repetition, and how referring to the GRx at each consultation may help some older-aged patients become more comfortable and knowledgeable with the concept of carrying out a GRx.

term physical activity participation in older adults. In line with the concept of self-efficacy, one GP mentioned that she would sometimes demonstrate a particular exercise to her older-aged patients. This process can certainly help an older adult become more comfortable and confident in carrying out certain GP-endorsed exercise techniques.

A particular strength of this study is the type of methodology employed. This study was designed to allow GPs to discuss and elaborate on their views and experiences of counselling their older-aged patients about physical activity within the context of an existing, efficacious nationwide physical activity programme. Limitations of the present study were that we did not interview the GPs' older-aged patients. The GPs' perceptions and perspectives may not be that of their patients. Also, all 15 GPs had practices within Auckland

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COMPETING INTERESTS

None declared.