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Pippa Burns

University of Wollongong, prhb62@uowmail.edu.au

Sandra C. Jones

University of Wollongong, sandraj@uow.edu.au

Donald C. Iverson

University of Wollongong, iverson@uow.edu.au

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Recommended Citation

Burns, Pippa; Jones, Sandra C.; and Iverson, Donald C., "The impact of self-efficacy on asthma management amongst older Australian adults" (2011). *Faculty of Social Sciences - Papers*. 224.
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The impact of self-efficacy on asthma management amongst older Australian adults

Abstract

Rationale: Australian asthma rates are high by international standards causing greatest mortality amongst older adults.

This paper looks at the relationships between perceived self-efficacy (belief in oneself) to manage the physical discomfort or pain caused by asthma and also the emotional distress caused by asthma and: reported health status; asthma quality of life for both mood and breathlessness; asthma management practices; and emergency health care use for asthma in adults aged 55 years and over.

Methods: A 20 page survey exploring the health beliefs, behaviours and attitudes of older Australians, was mailed to 9,000 people, (response rate = 46.8%). Participants were recruited through a random sample obtained from the Australian Electoral Roll Office.

Results: Correlations show that people who reported high physical or emotional self-efficacy were more likely to report better health and quality of life. They were less likely to report that asthma had interfered with their day-to-day activities or that they had utilised emergency health care for asthma. Regular asthma reviews with their general practitioner, owning an asthma action plan, having received asthma education and regularly monitoring asthma control did not appear to be related to self-efficacy.

Summary: These results indicate that neither physical nor emotional self-efficacy are significantly correlated with popular asthma self-management strategies. However, both physical and emotional self-efficacy were significantly correlated with health rating, quality of life for breathlessness and mood and the impact of asthma on their day-to-day activities. Factors that increase older adults' asthma self-efficacy need to be further investigated.

Keywords

older, amongst, management, australian, asthma, adults, efficacy, self, impact

Disciplines

Education | Social and Behavioral Sciences

Publication Details

Burns, P., Jones, S. C. & Iverson, D. (2011). The impact of self-efficacy on asthma management amongst older Australian adults. 10th national emerging researchers in ageing conference: Abstracts and proceedings (pp. 112-116). Australia: Emerging Researchers in Ageing.

THE IMPACT OF SELF-EFFICACY ON ASTHMA MANAGEMENT AMONGST OLDER AUSTRALIAN ADULTS

BURNS Pippa, JONES Sandra C & IVERSON Don

Centre for Health Initiatives, University of Wollongong

Abstract

Rationale: Australian asthma rates are high by international standards causing greatest mortality amongst older adults.

This paper looks at the relationships between perceived self-efficacy (belief in oneself) to manage the physical discomfort or pain caused by asthma and also the emotional distress caused by asthma and: reported health status; asthma quality of life for both mood and breathlessness; asthma management practices; and emergency health care use for asthma in adults aged 55 years and over.

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Summary: These results indicate that neither physical nor emotional self-efficacy are significantly correlated with popular asthma self-management strategies. However, both physical and emotional self-efficacy were significantly correlated with health rating, quality of life for breathlessness and mood and the impact of asthma on their day-to-day activities. Factors that increase older adults' asthma self-efficacy need to be further investigated.

Rationale

Asthma is a disease of the airways characterised by wheezing, breathlessness, chest tightness and persistent cough (Australian Institute of Health and Welfare, 2006). It is caused by chronic inflammation of the airways which can be triggered by allergens and irritants. Australian asthma rates are high by international standards, surpassed only by those in New Zealand and the UK (Masoli, Fabian, Holt, & Beasley, 2004). Approximately 10% of people in Australia (over two million people) having an asthma diagnosis (Australian Institute of Health and Welfare, 2010).

While asthma is often thought of as a childhood disease, it can develop during the adult years and causes greatest mortality amongst older adults (Comino, 2010). While the number of asthma related deaths has decreased by over one-third in the last decade, over three-quarter of asthma deaths still occur in people aged over sixty (Comino, 2010). The management and diagnosis of asthma in older adults is complicated by the ageing process which is frequently accompanied by cognitive and physical decline (Jones et al., 2011). Primarily, breathlessness is often seen as a normal sign of ageing and its effects are not perceived as severely as in younger populations (Barnard, Pond, & Usherwood, 2005). Secondly, the development of co-morbidities complicates both the diagnosis and management of asthma with disease symptoms often being similar to those of other chronic diseases, particularly chronic obstructive pulmonary disease (COPD), and the potential complication of adverse drug interactions (King & Hanania, 2010).

Currently there is no cure for asthma, however, symptoms can be effectively managed to reduce morbidity and increase quality of life (Baptist, Deol, Reddy, Nelson, & Clark, 2010). In Australia, asthma management is generally achieved through a combination of medication and patient education. The Asthma Cycle of Care is promoted as the optimal management approach for people, with moderate to severe asthma, to manage their disease in collaboration with their GP. It includes regular visits to the GP, provision of an asthma action plan and asthma education. The effectiveness of asthma self-management is dependent upon: the person's physical and cognitive ability; their desire to manage their disease; and their attitudes and beliefs around asthma and their medications (Goeman & Douglass, 2007).

Little is known about the effectiveness of current management approaches amongst older adults, as this population is routinely excluded from large scale asthma studies and clinical trials (Stupka & deShazo, 2009).

This paper looks at the relationships between perceived asthma self-efficacy and reported health status; asthma quality of life for both mood and breathlessness; asthma management practices; and emergency health care use for asthma in adults aged 55 years and over. This age bracket was chosen as the 55-69 years age range often represents the years where daily routine changes, due to retirement, but a person's health has not yet started to deteriorate dramatically (Australian Institute of Health and Welfare, 2010). Intervening at this point is essential in terms of the preventative healthcare approach in order to ensure that people are provided with the necessary education, skills and resources to manage their condition before it causes deterioration in their health and wellbeing.

Methods

A 20 page survey exploring the health beliefs, behaviours and attitudes of older Australians was developed based on the literature around older adults, asthma and asthma self-management. The tool was initially reviewed by asthma experts

for content validity. Cognitive interviews, in the form of think-alouds, were conducted with 13 people obtained through convenience sampling. As a result of this process changes to the order of the questions, response scales and survey binding were made. The survey was subsequently piloted with a convenience sample ($n=118$) obtained through community groups and on public transport. Initial analysis resulted in further question refinement and the final survey totalled 79 questions over 20 pages. The survey utilised the breathlessness and mood sub-scales from the Sydney Asthma Quality of Life Scale (Marks, Dunn, & Woolcock, 1992) and two questions taken from the Self-Efficacy for Managing Chronic Disease 6-Item Scale (Lorig, 2001).

The survey was mailed out to 9,000 adults aged 55 years and over, across three regions of NSW; Cunningham and Throsby (the Illawarra), Hunter and Newcastle (Newcastle), and Farrer and Riverina (Wagga-Wagga and Broken Hill). Participants were recruited through a random sample obtained from the Australian Electoral Roll Office, based on their age, gender and area of residence. An amended version of Dillman's tailored design method was used in order to maximise response rates (Dillman, 2000). The initial survey package included a letter of invite, a survey and a reply paid envelope. The surveys were coded and a research assistant kept track of the surveys that were returned. A reminder postcard was sent to non-responders once the initial influx of completed surveys subsided. Approximately four weeks later another survey package was sent to people that had not responded.

Results to date

A response rate of nearly 46.8% was achieved, with women being slightly over represented (54.8%). Nearly one in five respondents (17.6%) had been told by a health professional that they had asthma. People from culturally and linguistically diverse backgrounds (CALD) comprised 6.3% of the sample and 1.1% of respondents identified as Aboriginal or Torres Strait Islander.

From the surveys received, 466 (11%) people had been told by a health professional that they had asthma AND reported symptoms of, or treatment for, asthma in the last 12 months. Subsequent data analysis focussed on this subset of respondents with "current asthma".

Analysis using Pearson's Correlations show that people reporting high asthma self-efficacy for either managing the physical discomfort and pain of asthma or for managing the emotional distress caused by asthma were more likely to: rate their health highly (variable reverse coded) and report that asthma had minimum impact on their day-to-day activities (variable reverse coded). The quality of life sub-scales for breathlessness and mood were both significantly positively correlated with the two self-efficacy indicators, signifying that high self-efficacy was more likely to occur with high quality of life (table 1).

Point-biserial correlations were conducted on the data looking at health service use and asthma management as these data were categorical. The asthma management questions were all scored one for “yes” and two for “no”. Responses coded as “don’t know” or “other” were discarded for these analyses.

People reporting high self-efficacy were significantly less likely to have accessed emergency primary health care, presented at the Emergency Department or been hospitalised for asthma in the previous 12 months (table 1). However, asthma education, regular GP reviews of asthma, owning an asthma action plan and monitoring asthma control (behaviours promoted by the Asthma Cycle of Care) did not appear to be significantly correlated with self-efficacy (table 1).

Table 1: Correlations between self-efficacy and the impact and management of asthma

	Self efficacy - physical discomfort or pain	Self efficacy - emotional distress
Self efficacy - physical discomfort or pain		.792**
Self efficacy - emotional distress	.792**	
Asthma Impact		
Health rating	.365 ^{1**}	.406 ^{1**}
QoL - Breathlessness	-.391**	-.390**
QoL - Mood	-.372**	-.408**
Interfered with day-to-day activities	.405 ^{1**}	.418 ^{1**}
Health Service Use in Previous 12 months		
Urgent GP visit about asthma	.245**	.269**
ED visit about asthma	.151**	.119**
Hospital admission for asthma	.161**	.158**
Asthma Management		
Regular asthma review with GP	.016	.033
Asthma education	-.056	-.050
Asthma action plan	-.041	-.022
Monitor asthma control	.036	.043

Note: n ranged between 415 - 461 due to missing data

* p < .05 (1-tailed); ** p < .01 (1-tailed)

¹Scales reverse coded

Implications for policy and practice

Discovering the factors that are associated with increased self-efficacy has the potential to improve health outcomes for people with asthma. In real terms this is likely to result in health care cost savings.

Summary

The results indicate that neither physical nor emotional self-efficacy are significantly correlated with standard asthma self-management strategies.

However, significant correlations were found between both physical and emotional self-efficacy and the outcome factors measured: health rating, quality of life for both breathlessness and mood and the impact of asthma on their day-to-day activities. Therefore, factors that increase older adults' asthma self-efficacy, potentially improving their perceived health and quality of life, need to be further investigated. The discovery of such factors has the potential to improve the quality of life experienced by older adults with asthma and could be leveraged by primary health care practitioners and asthma self-management education channels.

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