

Self-management in older adults with chronic illness: Do illness representations play a regulatory role?

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Abstract

A greater number of older adults now live with chronic illness. This poses a significant public health problem because older adults are at high risk for chronic illness-related mortality and morbidity. In the study, for self-management in older adults with chronic illness, 76 respondents (39.47% women; mean age, 64.53 ± 6.93 years) participated and nine subscales (illness consequences, illness coherence, illness timeline—cyclical, personal control, treatment control, illness representations, illness identity and causal attributions) of the illness perception questionnaire—revised (IPQ-R) were administered. Multivariable linear regression analyses explored the associations between illness perception, wellness-focused coping and illness-focused coping, as measured by chronic pain coping inventory. Higher scores on the subscales causal attributions, illness coherence, illness representations and personal control scales were associated with several scores of coping strategies chosen by chronically ill older persons. This self-regulatory model may provide a useful guide for the development of effective interventions tailored to older adults.

Keywords: Chronic illness, coping strategies, illness perceptions, older adults, self-regulatory model.

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1. Introduction

The world's population is ageing rapidly. Between 2000 and 2050, the proportion of the world's older adults is estimated to double from about 11%–22%. In absolute terms, this is an expected increase from 605 million to 2 billion people over the age of 60. Older people face special physical and mental health challenges which need to be recognised (WHO, 2013). In Algeria, approximately 15% of adults aged 60 and over suffer from one chronic condition (Algerian Health Ministry, 2013). Older adults with multiple chronic illnesses report having poorer health and more difficulty in functioning than older people with just one chronic disease.

The self-regulatory model of illness representations of Leventhal, Nerenz and Steele (1984) or the common-sense model (CSM) seeks to explain the wide variation in disease course and illness response in individuals with the same disease. The model states that patients construct their own implicit commonsense beliefs about their illness, which guide the development of action plans/coping procedures consistent with these beliefs and, in turn, influence medical, psychological and behavioural outcome variables (Scharloo et al., 1998). Comprehensive studies of illness beliefs, explicitly adopting the self-regulatory model, are lacking, but there is limited research to show that older adults' beliefs are prospectively predictive of dietary self-care. This study explores the relationships between illness beliefs and coping strategies chosen by the patient. It was hypothesised that the self-regulatory model would help identify beliefs that are central to older adults' experiences of chronic illness and its management. Clark et al. (1991) defined self-management as a series of daily tasks assumed by individuals to manage the physical health and cope with the psychosocial distress generated by their chronic disease. Individuals need to collaborate with their physicians and other health-care professionals and seek their advice in self-management at the home environment (Clark et al., 1991).

The self-regulation model of health and illness (Leventhal Nerenz & Steele, 1984) provides an explanation for different behavioural and emotional responses to chronic illnesses. According to the model, people make sense of a health threat by developing their own cognitive and emotional perceptions (i.e., beliefs) of a health threat. These perceptions then guide coping behaviours which in turn determine outcomes, including quality of life (Hagger & Orbell, 2003; Moss-Morris, 2002). Major components include perceptions of how the illness was *caused*, how long it will last (*timeline*), what the *consequences* of the illness are for life, the symptoms that are associated with the illness (*identity*) and how the condition is *controlled* or *cured* by one's own behaviour or treatment (Petrie & Weinman, 2012). Perceptions develop from exposure to a variety of social and cultural information (Cameron & Moss-Morris, 2010). Patients with the same medical condition can have widely different perceptions of their condition (Petrie & Weinman, 2006). The self-regulation model is a dynamic model: outcomes of behaviours generated by perceptions are appraised on an ongoing basis, which may result in the modification of perceptions (Wearden & Peters, 2008). A meta-analysis by Hagger and Orbell (2003) has demonstrated consistent relationships between psychological distress as an outcome and perceptions of greater consequences, lower control/cure beliefs and longer timeline in patients with various medical conditions. A recently published longitudinal study by Kaptein et al. (2010) has provided support for the predictive power of illness perceptions in patients with osteoarthritis, by demonstrating an association between changes in illness perceptions and changes in functional status over a 6-year follow-up (Kaptein et al., 2010).

Older adults can develop different coping strategies and styles towards the stressors, based on the appraisal of their internal and external coping resources (Ruth & Coleman, 1996). In their book *Stress, Appraisal, and Coping*, Lazarus and Folkman (1984) further suggested that coping strategies could be mainly divided into problem-focused coping and emotion-focused coping. By the definition, problem-focused coping refers to a more active strategy which aims to alter the stressful situations through the problem-solving process, while the emotion-focused coping emphasises an emotion regulation and management in responding to the stressors. The two different coping strategies reflect different

appraisals of a stressful event and the coping resources at one’s disposal: people adopt the problem-focused coping when they appraise the stressors as being changeable by individuals; instead, they apply emotion-focused coping when they believe they can do nothing to modify the stressful event but only control their own emotional responses. (Lazarus, 1998; Lazarus & Folkman, 1984).

The purpose of this study was to examine the relationship between illness representations and coping strategies in a random sample of older Algerian. We postulated that chronic psychological, behavioural and biological beliefs impacted on the coping strategies chosen by chronically ill older persons.

2. Methods

2.1. Participants

A sample of 76 persons having a chronic illness, 39.47% women. The majority of the participants were married (76.31%), 5.26% were divorced and 18.42% were widows. Concerning education, 60.53% of the participants reported never having attended school, 26.31% said they achieved primary school education, 10.53 % had a middle school level and 2.63% were secondary school graduates. The majority of the participants have a median economic level, 78.95%. Four illness groups were from the regions of Arris and Batna. All patients can read and write the Arabic language and had a medical diagnosis of their condition to be included in the study. All eligible patients who attended the clinic were invited to participate. The characteristics of the four illness groups are presented in Table 1.

Table1. Characteristics of patient samples

Illness group	N	Gender (%)	Length of illness mean (SD) years	Age mean (SD) years
Asthma	6	7.89	67.67 (11.6)	27.67 (7.64)
Diabetes	16	21.05	8.5 (5.76)	67.63 (10.47)
HBP	48	63.16	10.5 (7.45)	64.5 (7.49)
Chronic kidney disease	6	7.89	11.33 (10.0)	63.0 (5.2)

3. Measures

3.1. The illness perception questionnaire revised

Development of the illness perception questionnaire revised (IPQ-R)

The IPQ-R is divided into three sections, with the identity and causal dimensions presented separately from the remaining dimensions. The identity scale is presented first and consists of the 12 commonly experienced symptoms included in the original IPQ: pain, nausea, breathlessness, weight change, fatigue, stiff joints, sore eyes, headaches, upset stomach, sleep difficulties, dizziness and loss of strength. Two new symptoms, sore throat and wheeziness, were added to the list. The instructions for this scale were also altered. The IPQ-R firstly asks patients to rate whether or not they have experienced each symptom since their illness using a yes/no response format. They are then asked whether or not they believe the symptom to be specifically related to their illness using the same format. The sum of the yes-rated items on this second rating forms the illness identity subscale. The general symptom experience subscale is not included in the IPQ-R but was used in the current study to assess the validity of the identity subscale. In the following section, the identity, consequences, timeline acute/ chronic, timeline cyclical, coherence and emotional dimensions of the IPQ-R are rated on the original 5-point Likert type scale: strongly disagree, disagree, neither agree nor disagree, agree and strongly agree. The causal dimension is presented as a separate section which uses the same Likert-type scale. The number of attribution items was extended from 10 to 18 (Moss-Morris et al.,

2002). These subscales had adequate internal consistency in the prior study of Arabic version (Aberkane, 2017), and in the present sample (Cronbach’s alpha ranging from 0.77 to 0.82).

3.2. The chronic pain coping inventory (CPCI-42)

The 64-item self-report chronic pain coping inventory (CPCI) (Jensen, Turner, Romano & Strom, 1995) assessed the ways in which participants cope with chronic pain and illness. Respondents are asked on how many days in the past week they used each of 64 chronic illness coping strategies. The CPCI is composed of eight scales: guarding (Cronbach’s α for the current study = 0.68), resting (α = 0.61), asking for assistance (α = 0.67), relaxation (α = 0.60), task persistence (α = 0.72), exercise/stretching (α = 0.58), use of coping self-statements (α = 0.63) and seeking social support (α = 0.60). Scale scores are derived by averaging items within a respective scale, with higher scores indicating greater use of the particular coping strategy. The developers of the CPCI posited that three scales (guarding, resting and asking for assistance) comprise the construct of ‘illness-focused coping,’ while four scales (relaxation, task persistence, exercise/stretching and use of coping self-statements) comprise the construct of ‘wellness-focused coping’ (Jensen et al., 1995). The seeking social support scale of the CPCI was hypothesised to be separate from the illness-focused and wellness-focused coping constructs (Jensen et al., 1995), The CPCI, a 42-item abbreviated version of the CPCI, had good psychometric properties (Romano, Jensen & Turner et al., 2003).

4. Results

Correlation coefficient between illness perception and the coping strategies chosen by patients was significant from ($r = -0.35, p < 0.05$) to ($r = -0.45, p < 0.01$) Correlation coefficient between each of subscales of illness perception with the coping strategies chosen is summarised in Table 2.

Table 2. Correlation between subscales of illness perception with the coping strategies chosen in the sample

Variables	Illness-focused coping,	Wellness-focused coping
Timeline acute/chronic	0.26	-0.20
Illness Coherence	0.20	-0.15
Timeline cyclical	0.24	-0.24
Consequences	-0.12	0.09
Personal control	0.04	-0.37*
Treatment control	0.30	-0.16
Emotional representations	0.15	0.04
Illness Identity	0.35*	-0.30
Psychological attribution	0.43*	-0.29
External attribution	0.37*	-0.39*
Medical attribution	0.38*	-0.45**
Biological attribution	0.04	-0.41*
Behavioural attribution	-0.14	-0.08

Pearson correlation coefficient * $p < 0.05$; ** $p < 0.01$

Predictability and the effect of each of illness perception subscales on the coping strategies chosen by chronically ill older persons were tested by multiple variable regression test and its results are shown in Table 3.

Table 3. Regression analysis in predicting coping strategies chosen of sample

Variables	R ²	Adjusted R ²	F	B standardised
wellness-focused coping				
Emotional representations	0.57	0.32	5.74**	0.66
Personal control	0.66	0.44	6.08**	-0.53
Illness Coherence	0.73	0.54	7.62**	-0.50
illness-focused coping,				
Psychological attribution	0.28	0.25	9.81**	0.63
Behavioural attribution	0.43	0.39	9.23**	-0.40

** $p \leq 0.01$

As it is indicated in Table 2, regression coefficients showed that predictability was dedicated to five subscales of external attributions, behavioural attributions, emotional representations, illness coherence and personal control.

5. Discussion

In this study, we have described illness perceptions in a cohort of older adults with chronic illness using a well-validated measure IPQ-R (Moss-Morris et al., 2002) based on the components of the CSM (Aberkane, 2017; Leventhal, Brissette & Leventhal 2003) and found that illness perception, particularly the view that chronic illness has significant self-management in daily life, is associated with coping strategies. Because the ageing is a process that leads to a decline in health status and limits the activity of the old people. Despite this, old people remain curious to maintain their privacy with little or no external influence, they want to live an independent life and go around by themselves (Duner & Nordstrom, 2004). The elderly are challenged by the outcome of the ageing process but to keep moving with life, coping strategies become an essential way out. In this study, old people try to develop some coping skills such as engaging themselves in some other things around them. This includes trying to accept current situation, seeking out for help or services and also giving back to the best of their ability a sense of appreciation (Duner & Nordstrom, 2004). Furthermore; coping is categorised based on individual perspectives and its applications depend on the state of health and nature of the elderly people. Coping style could be problem (illness) focused, emotion-focused, active, adaptive, avoidant, problem solving, corrective or preventive. Illness-focused coping is when the elderly can change the situation caused by the ageing process and direct efforts specifically to the main health status. When the elderly cannot change the situation, they rather change their perceptions about the health situation and try to give it another meaning that is future promising, such coping is called emotion-focused (Duner & Nordstrom, 2004). Wellness-focused coping is an ability to improve one's health condition or minimise further damage to the body by applying physical efforts to regain back one's health. Old people tend to be naturally inactive due to their worsened state of health and fear of risking their life. Due to this, some of them lose interest in going through a series of activities that come with coping strategies. Therefore, keeping fit remains a major problem of some old people. In active coping, the idea is directed towards gaining control over one's health situation. Besides, this could be a move to change an unfavourable condition, dealing with one's emotions through seeking beneficial information or by avoiding the situation from taking control over one's life. This is done by seeking for something else to do or by socialising with people (Windsor, 2009). Pain could be managed by the cognitive-behavioural approach, meanwhile, acceptance of pain is gaining awareness as an adaptive tool in coping with some diseases that come with pain. Acceptance is described as taking faith about the situation and direct attention to improving one's life while the pain is still there (Gagliese & Melzack, 1997).

In one of the studies conducted on heart patients where it indicated how important the issues of external attribution and his feeling of self-control, in addition to the partner's internal attribution and self-control which is opposite to the patient's denial. As a result, there is an increase in the perception

of things that may reduce the heart attack, moreover, it has been found that this kind of perception is one of the important indicators in forecasting successfully re-adjustment and rehabilitation of patients, and is more important than the traditional physical indicators used by doctors to predict rehabilitation (Taylor, 2011). The controllability of a chronic illness representation indicates whether or not patients believe their illness can be controlled or cured. This control includes perceptions of personal and treatment controllability. Patients with a strong perception of personal controllability believe that their individual efforts at managing chronic illness will help control progression of the disease (Carrie, Nancy & Reynolds, 2010). In addition, adaptation plays an important role in coping, proactivity involved in adjustments helps reducing stressors and it enhances the health outcome in a positive way (Kahana & Kahana, 2001). Illness-focused coping has also been mentioned in most of the reviewed articles as coping strategies that work for age-related changes which failed to be managed by illness-focused coping. The elderly with incurable diseases like cancer or those that are physically or mentally unfit to engage in any active coping usually adopt adaptive approach. They try to adapt to this condition by changing their perception about the condition through having hope and accepting the situation the way it is. The religious ones become stronger in beliefs with prayer and hope for possible better life. There is a redefinition of self. They also try to avoid going through unstable mood by acting as if the situation does not really exist. Meanwhile, due to their inability to play their previous roles as usual, they have no other option than to release both the family and societal responsibilities to the people. The potential negative illness representations consequences of chronic illness have been avoided, because the treatment was successful. The chronic illness was caught in time. In this respect, psychosocial theories can offer insights into the variables affecting chronic illness coherence perceived. The most prominent approach in the context of illness coherence draws based on the self-regulation model. This theory assumes that illness coherence perception is an attempt to cope with illnesses which results from parallel wellness-focused coping of one's illnesses. According to the theory, individual's chronic illness coherence is more likely if self-care makes sense within the individual concept of illnesses, considering previous experience with illnesses and medication, potential outcomes of medication adherence and personal beliefs about illnesses.

Results of a research on psychological solution as regards immune system confirmed that keeping the body fit, having adequate rest and practicing openness are workable coping skills (Olff, 1999). Coping strategy applicable to this situation may require the inclusion of disease progression and individual feelings (Towsley, Beck & Watkins, 2007). Prior studies state that coping strategies rests majorly on a new perception of life, attitude and mindset. Most of the time, chronic pain in the elderly never goes off. When the elderly keep complaining about pain, it increases the bad feelings which indirectly worsen the health. In this regard, trying to believe that the pain is not really there and get busy with some other activities help (Dysvik, Natvig, Eikeland & Brattberg, 2005). Furthermore, Bagheri-Nesami, Rafii and Haghdoost Oskouie (2010) see ageing as an unavoidable gradual process of body deterioration and the best way to approach it is by increasing association with others, personal control, avoidance, dropping responsibilities, managing one's negative behaviour and problem solving through change in lifestyles (Bagheri-Nesami, Rafii & Haghdoost Oskouie, 2010). The success of these coping procedures (wellness-focused coping responses) will be appraised, and subsequent self-regulating processes will be adjusted accordingly.

6. Conclusion

In this study, wellness-focused coping responses that evolved as a result of the research share the same features with the self-regulatory among chronically ill older persons. These features are change of illness representations about health status and death, having hope in life, acceptance of the situation they find themselves; moderate social interactions, exercise, getting busy with simple tasks, therapy, rest, education, good living, acquiring wisdom through education; seeing oneself in a new way with the belief of having no disability; less fear for life and death.

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