

Use of the Health Belief Model in the prevention of lymphedema after breast surgery

Cal A.*^{1A-E}, Bahar Z.^{2A,E,F}

1. Public Health Nursing Department, Faculty of Health Sciences, Ondokuz Mayıs University, Samsun, Turkey
2. Public Health Nursing Department, Faculty of Nursing, Koc University, Istanbul, Turkey

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ABSTRACT

Lymphedema prevention, which is one of the most common complications after breast cancer treatment, is very important. In Turkey, after breast surgery the levels of maintaining the behaviours of protecting individuals from lymphedema are very low. For this reason, it is necessary to determine the perceptions of the individuals to develop preventive behaviours and the factors affecting these perceptions. Health belief model can be used as a guide in applied nursing interventions aimed at providing protection behaviours of lymphedema in post-surgical individuals.

By means of nursing initiatives which will be applied based on the model; it may be provided for individuals to develop perception of susceptibility and severity towards lymphedema, to increase perceived benefits, to reduce barriers, to improve perception of self-efficacy, and to gain behaviour by using cues to action. This study aims to clarify the use of health belief model based interventions to preventive of lymphedema after breast cancer surgery.

Keywords: Lymphedema, breast cancer, Health Belief Model, nursing

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***Corresponding author:**

Ayşe Cal, Ph.D., Department of Public Health Nursing
Ondokuz Mayıs University Faculty of Health Sciences, Atakum, Samsun, Turkey IL 55139
e-mail: aysecaloglu@hotmail.com Tel.: +905324727550

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INTRODUCTION

Lymphedema, which is now increasing in parallel with the incidence and treatment of breast cancer, has become an important public health problem [1]. The rate of breast cancer related lymphedema up to 40% [2].

Because of lymphedema, individuals are faced with many physical and psychosocial difficulties such as pain, feeling heavy on arm, tension, limitation of movement, difficulty in maintaining daily activities, decrease in coarse and fine motor skills, impairment of work, home and self-care functions as well as difficulties in social activities [1,3-7].

After the development of lymphedema, treatment is not fully feasible; current treatment approaches are aimed at controlling symptoms and reducing complications. Therefore, it is important to develop behaviour that is effective in the prevention of lymphedema in individuals [6,9,10].

Nurses have an important role in the evaluation of lymphedema, information and lymphedema prevention in individuals who have breast cancer treatment [11-13]. The model describes what motivates a person to do or not to do health behaviours, and particularly those that are effective in achieving behaviour [14,15].

The detection of the perceptions underlying the attitudes and behaviours of individuals towards health and the completion of the wrong / incomplete aspects will set them in motion [16]. Thus in this article, it is aimed to describe the health beliefs, attitudes and behaviours that are effective in the prevention of lymphedema protection after the breast cancer treatment in the context of Health Belief Model (HBM).

The Health Belief Model is the oldest, perhaps the most used, guide that has been effective in explaining the factors that affect individuals' health behaviours, how they act to keep their illness under control, and what motivates or prevents the patient's treatment [14,17].

The model used to understand the factors, medical behaviours and symptom management affecting the individual's health behaviours has been used to examine the causes of health behaviours in many cases, most notably breast cancer screenings, prostate, cervical, testicular cancer screening, diabetes management, hypertension medication compliance [16,17].

It has been reported that the most fundamental components of the HBM are susceptibility, severity, benefit and barrier perception, as well as self-efficacy perception and cues to action. By the model the most important variable that prevents behaviour from exhibiting is the distinction between perceived barrier and perceived benefit [14].

Each dimension of the HBM and the variables associated with lymphedema management are presented in Figure 1.

Perceived Susceptibility

It is the perception of any disease or problem that threatens the health of the person [14]. It involves a subjective risk of any situation occurring in the person or beliefs and thoughts about the likelihood of a person having a health problem [18].

The higher the perceived susceptibility, the higher the probability of passing protective cues to action [14]. Therefore, it is necessary to convince the individual that the situation threatening his or her health may exist for more or less always in the lives of individuals [19,20].

The idea that the individual will face a complication of lymphedema at any stage of life shows a sense of susceptibility towards lymphadenopathy. Susceptibility perception is the most basic perception that needs to be developed in order to realize terminal behaviours directed towards protection from lymphedema in the individual.

Perceived Severity

It includes individual assessments of the consequences (death, disability, pain, negative exposure of work, family and social life, etc.) that may result from a disease or illness [14].

This perception is particularly influenced by the individual's health knowledge. If the perceived seriousness is high, the individual is more likely to show protective health behaviour [18]. According to the model, a combination of susceptibility and severity is defined as perceived threat [14,18].

The individual's awareness of the complications of lymphedema and the physical and psychosocial limitations he may experience due to this complication is a perception of severity for lymphedema. Individuals for whom susceptibility and severity perception are supported are more likely to perform perceived threat level and terminal behaviour toward lymphedema.

Perceived Benefit

When the person carries out the recommended protective behaviours, he/she should think about the benefit he/she has [21]. The high perceived benefit indicates the likelihood of a person to practice positive health behaviour. For this reason, it is important to emphasize the importance of maintaining the recommended health behaviour for protecting individuals from disease or the complications that may arise from the disease [14].

Thus, the perceived benefit of the person is reinforced and the probability of controlling health is increasing [22].

Individuals must believe in the effectiveness of these behaviours to prevent lymphedema complications in order to achieve lymphedema protection behaviours. Benefit perception is also crucial for sustaining lifelong protection behaviours. At this point, the positive effects of the individual's protection behaviours on life that carried into effect by him/her should be recognized and the perception of benefit should be supported.

Perceived Barrier

It contains the reasons that prevent it from realizing positive behaviour. If the individual is unable to do although he or she believes that protective health behaviour is protective, this may be based on barriers. Such perception may delay or prevent the implementation of preventive health behaviour [14].

The barriers that individuals perceive to achieve linguistic protection behaviours may be of different qualities and dimensions. The identification of individual-specific barriers to protective behaviours and the attempts to remove these barriers will play a role in exhibiting the terminal behaviour in that individual.

The most important variable that prevents the implementation of the recommended health behaviour is the difference between the perceived barrier and perceived benefit [22].

If perceived susceptibility, severity, and benefit diminish the effect of perceived barriers, behaviour is performed [14].

Perceived Self-Efficacy

It includes individuals' own belief, determination and will regarding the realization of the behaviour. It is important that one feels competent enough to overcome the perceived barriers while realizing the behaviour. For this reason, self-efficacy plays an important role in initiating behavioural change and sustaining behaviour [14].

According to the model, it is possible for individuals to carry out and maintain the protection behaviours of the lymphedema by means of a willingness to overcome the barrier perception to the accompaniment of their own faith and determination.

Cues to Action

These are internal and external stimuli that trigger health-related behaviours and enable the individual to arrive at an individual perception of the health-related threat situation. Internal stimuli include the individual's feelings of illness (pain, fever, etc.) [18].

External stimuli are reminders from health education, media campaigns, health articles published in newspapers and magazines, translated information, and health personnel. The more the individual is alerted or counselled about the potential health problem, the greater the likelihood of showing protective behaviour [18].

According to the model, internal stimuli to provide awareness of possible negative effects of lymphedema on their lives, education and counselling to protect them from lymphedema can be considered as external stimuli. Seeing the difficulties of a woman experiencing similar

treatment procedures with her and eventually developing a complication of lymphedema is an important internal stimulus to realize the need to carry out lymphedema protection behaviours for the individual.

DISCUSSION

There are many studies in the literature that examine the attitudes of individuals to achieve breast cancer prevention behaviors with the HBM [23-25]. The health belief model to prevent the complication of lymphedema has begun to be used in recent years. Zhou *et al.* examined effects of a comprehensive HBM based nursing care program on the quality of life, lymphedema and other complications after breast surgery in their randomized controlled study on women [26].

Cal and Bahar performed a qualitative study based on HBM in order to determine the barrier to prevention of breast cancer-related lymphedema and revealed physical, psychological, and social barriers to lymphedema management [27].

Duan and Li reported HBM intervention could be an effective intervention in the prevention of secondary lymphoedema in women for at least one year after surgery for breast cancer involving dissection of axillary lymph nodes [28]. Cal *et al.* in a randomized controlled study showed that HBM based nursing interventions improve upper extremity functions, lower the frequency of lymphedema and costs [29]. Future studies could use the HBM as theoretical frameworks to examine in the prevention of lymphedema after breast surgery, their attitudes of lymphedema preventive behaviors and their perceptions of subjective norms relating to the behaviors [30].

CONCLUSIONS

It is important for health professionals working in this area to use the Health Belief Model to support individuals in performing lymphedema prevention behaviours that develop after breast cancer treatment. Attempts to achieve protection behaviors will be specific to the individual. In this respect, individuals can develop their self-efficacy by including active cues to action variables in planning, which will be created according to their perceived barriers and benefits by developing perceptions of susceptibility and seriousness about protective behaviours from lymphedema.

Conflicts of interest

The authors declare that they have no conflicts of interest.

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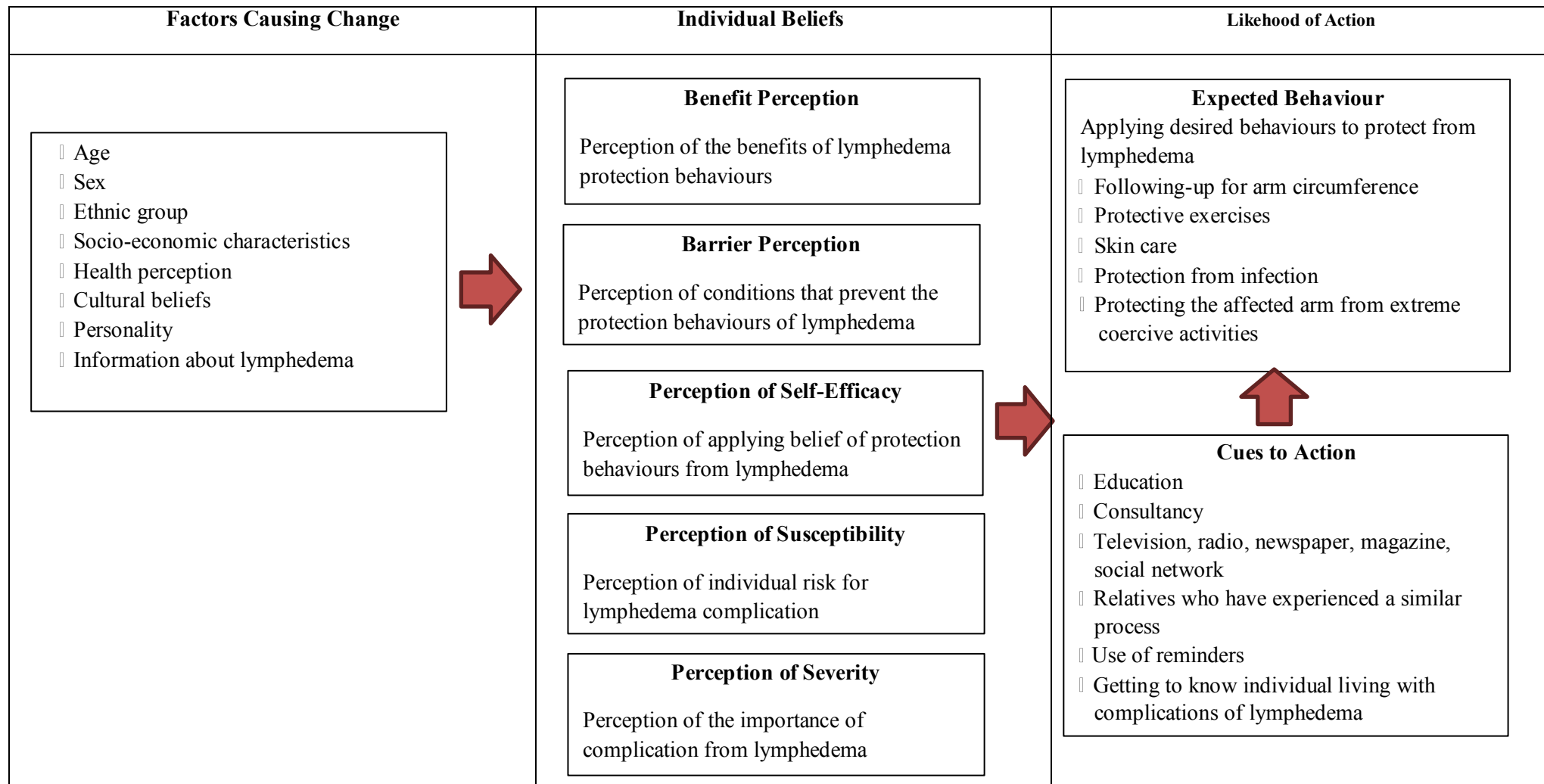


Figure 1. Adaptation of the Health Belief Model to lymphedema management